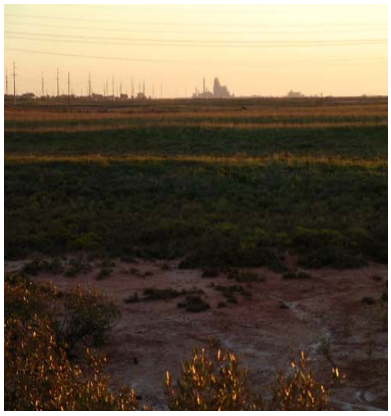
Appendices

Appendix A	BSIA Land Tenure and Interests
Appendix B	GHD Turner River Flood Study
Appendix C	GDH BSIA Traffic Report
Appendix D	GHD BSIA Flora and Fauna Assessment
Appendix E	Department of Environment Regulation Approval

Appendix A: Current Land Use and Interests Report



BOODARIE STRATEGIC INDUSTRIAL AREA

CURRENT LAND USE AND INTERESTS REPORT

HEAD OFFICE:
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

PERTH | KALGOORLIE | KARRATHA | BROOME | KUNUNURRA

WHELANS (WA) PTY LTD ACN 074 363 741
ASSOCIATED OFFICES: ADELAIDE | MELBOURNE | SYDNEY | BRISBANE

SURVEYING | MAPPING | TOWN PLANNING

BOODARIE STRATEGIC INDUSTRIAL AREA

EXECUTIVE SUMMARY

Whelans ref: [14299]
Boodarie SIA Exec Summary.pdf 7/3/2012

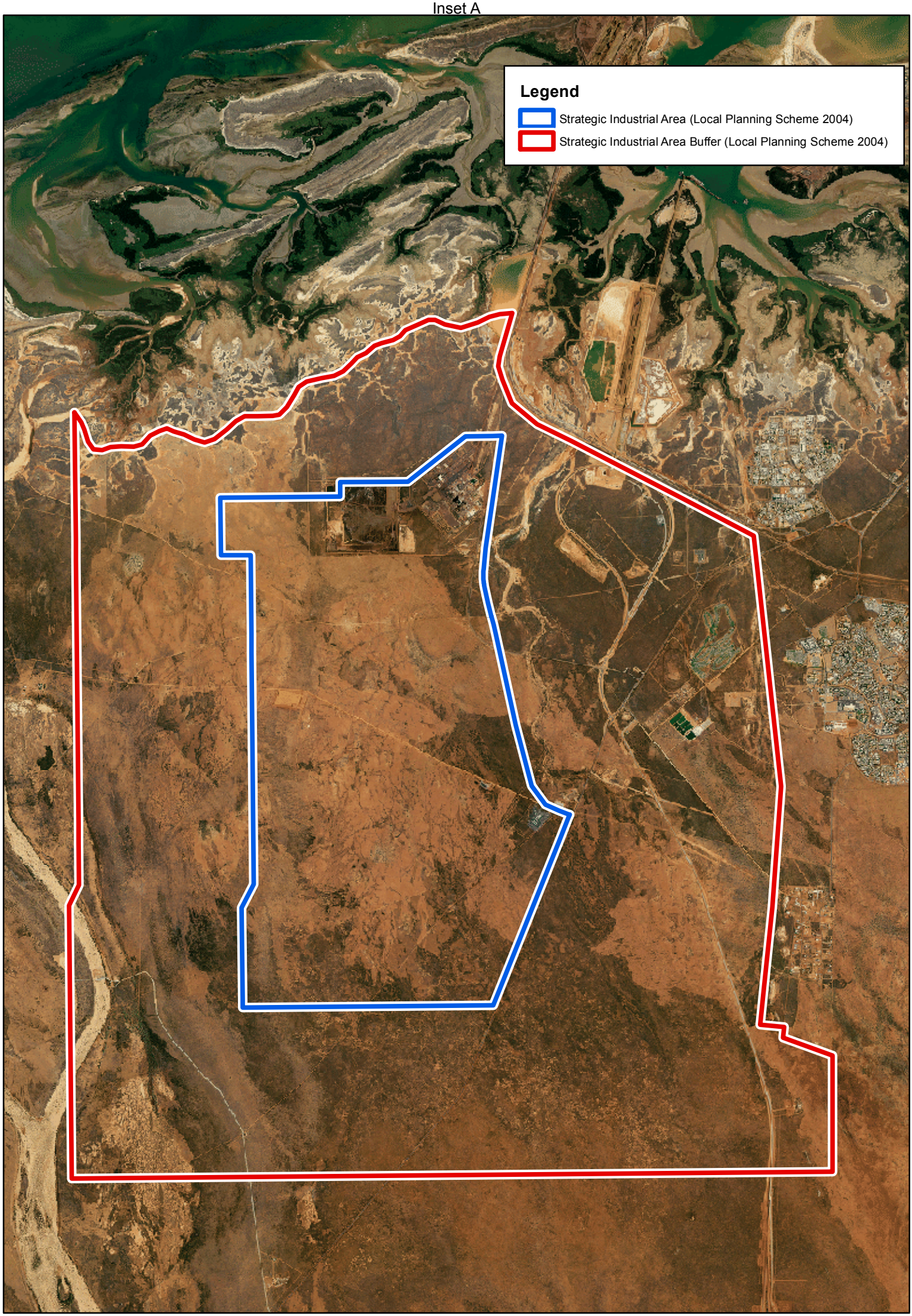
HEAD OFFICE:
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

PERTH | KALGOORLIE | KARRATHA | BROOME | KUNUNURRA

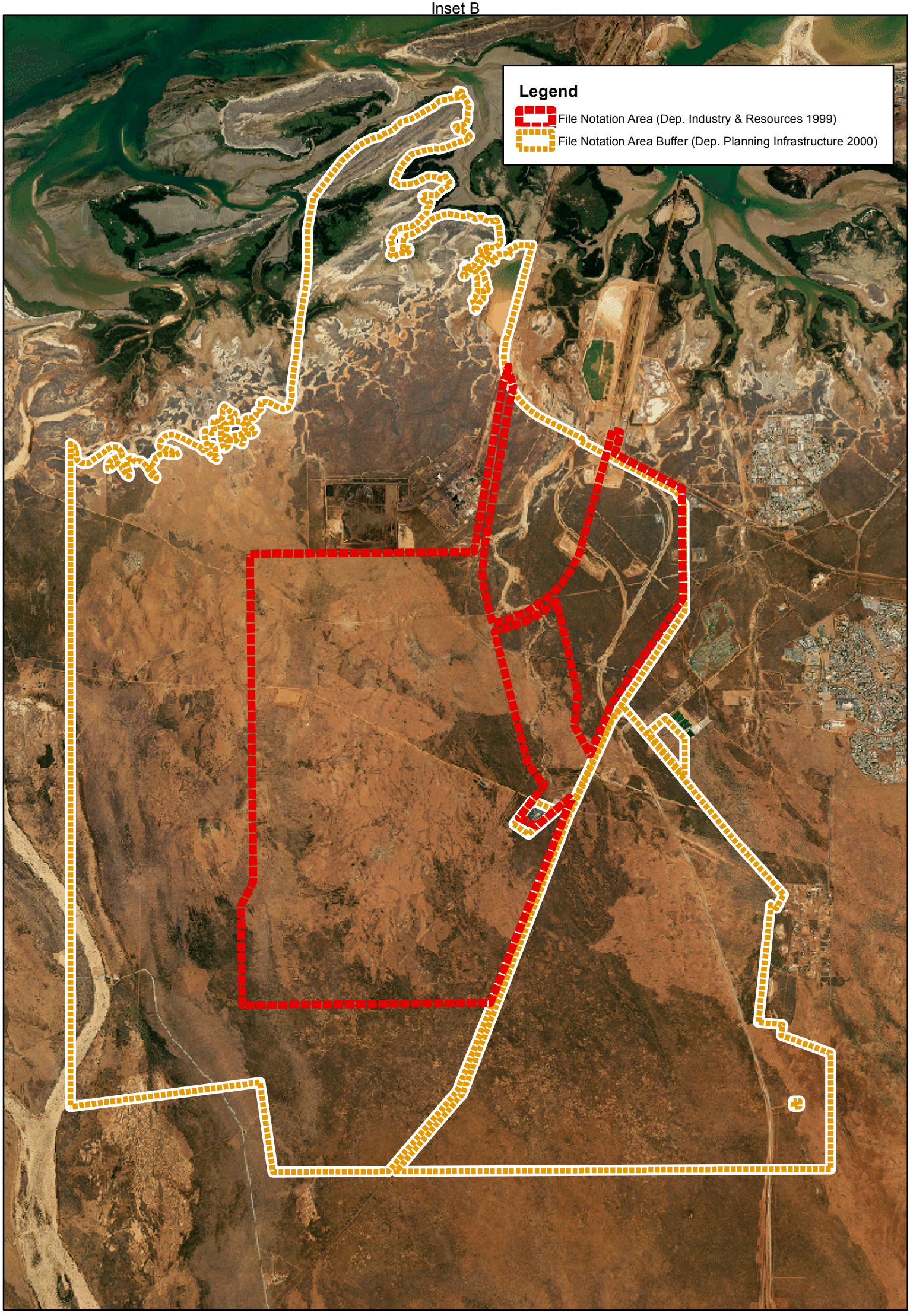
WHELANS (WA) PTY LTD ACN 074 363 741
ASSOCIATED OFFICES: ADELAIDE | MELBOURNE | SYDNEY | BRISBANE

SURVEYING | MAPPING | TOWN PLANNING

Inset A


Legend
Strategic Industrial Area (Local Planning Scheme 2004)
Strategic Industrial Area Buffer (Local Planning Scheme 2004)

Inset B


Legend
File Notation Area (Dep. Industry & Resources 1999)
File Notation Area Buffer (Dep. Planning Infrastructure 2000)

BOODARIE STRATEGIC INDUSTRIAL AREA....1
Inset A....3
Inset B....4
Introduction....8
Key Interests....9
Figure 1 (A1) Land Tenure Overview....14
Figure 2 (A1) Mining Leases Overview....15
Figure 3 BHPB Pastoral Lease....16
Figure 4 BHPB Lease....17
Figure 5 BHPB Exploration License....18
Figure 6 BHPB General Purpose Leases....19
Figure 7 BHPB General Purpose Leases....20
Figure 8 Easement to State Energy Commission....21
Figure 9 Overhead Power Alignment....22
Figure 10 Newcrest Mining Lease....23
Figure 11 Newcrest Mining Miscellaneous License....24
Figure 12 Boodarie to Telfer Gas Pipeline Alignment....25
Figure 13 Easement to Epic Energy....26
Figure 14 Epic Energy Pipeline Alignment....27
Figure 15 The Pilbara Infrastructure Miscellaneous License....28
Figure 16 The Pilbara Infrastructure Miscellaneous License....29
Figure 17 Alinta Dewap Lease....30
Figure 18 Horizon Power Lease....31
Figure 19 Young, Bradford John Mining Lease....32
Figure 20 Croydon Gold Exploration License....33
Figure 21 Ferro Metals General Purpose Leases & Miscellaneous Licenses....34
Figure 22 Hope Downs Management Services Mining Lease....35
Figure 23 Mesa Minerals General Purpose Lease....36
Figure 24 Moly Metals Miscellaneous License....37
Figure 25 Roy Hill Infrastructure Miscellaneous License....38
Figure 26 Reserves....39
Figure 27 Unallocated Crown Land....40
Figure 28 Water Pipe and Underground Communications Cable Alignments....41
Appendix A....42
Easements....
State Energy Commission Easement (F226096)....43
Epic Energy Pilbara Pipeline P/L Easement (G225410)....53
State Energy Commission Easement (H522488)....68
State Energy Commission Easement (H532364)....84
Certificates of Title....

BHPB Lot 47 on Plan 241374 (T LR3060-718) 100
Alinta Dewap PTY LTD Lot 255 on Plan 192056 (T LR3104-330) 104
Unallocated Crown Land Lot 265 on Plan 193736 (T LR3106-96) 108
Reserve Under MO to Water Corp. Lot 273 on Plan 219540 (T LR3109-390) 112
Reserve Under MO to Water Corp. Lot 275 on Plan 219540 (T LR3109-481) 114
Unallocated Crown Land Lot 308 on Plan 193736 (T LR3112-387) 116
Reserve Under MO to Shire of Toodyay. Lot 131 on Plan 220440 (T LR3114-618) 120
Dedicated Road Lot 322 on Plan 192067 (T LR3116-932) 124
Dedicated Road Lot 323 on Plan 220768 (T LR3116-933) 128
Dedicated Road Lot 324 on Plan 220768 (T LR3116-934) 132
Unallocated Crown Land Vested Under Statute Lot 370 on Plan 35619 (T LR3118-753) 136
BHPB Lease Lot 364 on Plan 42164 (T LR3128-641) 138
Reserve Under MO to SLSD Lot 364 on Plan 42164 (T LR3133-415) 140
Newcrest Lease Lot 365 on Plan 42164 (T LR3133-416) 142
Unallocated Crown Land Lot 366 on Plan 42164 (T LR3133-417) 143
Unallocated Crown Land Lot 397 on Plan 28588 (T LR3138-639) 144
Dedicated Road Lot 409 on Plan 28588 (T LR3138-640) 145
Dedicated Road Lot 376 on Plan 220769 (T LR3150-759) 146
Horizon Power Lease Lot 555 on Plan 60836 (T LR3156-351) 148
Reserve Under MO to Port Hedland Port Authority. Lot 556 on Plan 60836 (T LR3156-352) 149
Unallocated Crown Land Lot 487 on Plan 61851 (T LR3157-98) 151
Unallocated Crown Land Lot 600 on Plan 70566 (T LR3159-787) 153
Reserve Under MO to Port Hedland Port Authority. Lot 601 on Plan 70566 (T LR3159-788) 154
Unallocated Crown Land Lot 602 on Plan 70566 (T LR3159-789) 156
Reserve Under MO to Port Hedland Port Authority. Lot 1203 on Plan 70562 (T LR3160-564) 157
Reserve Under MO to Port Hedland Port Authority. Lot 1204 on Plan 70562 (T LR3160-565) 159
Reserve Under MO to Port Hedland Port Authority. Lot 1280 on Plan 70562 (T LR3160-568) 160
Reserve Without MO to State of WA. Lot 1282 on Plan 70562 (T LR3160-569) 161
Dedicated Road Lot 1281 on Plan 70562 (T LR3160-570) 163
Pastoral Leases .....
BHPB Pastoral Lease (t cl 58-1967) 164
Mining Leases .....
BHPB Exploration Licence (E 45/2834) 176
BHPB General Purpose Leases (G 45/62 - G45/256) 178
Young, Bradford John Mining Lease (M 45/681) 272
Croydon Gold PTY LTD Exploration Licence (E 45/2574) 275
Ferro Metals Australia PTY LTD General Purpose Leases (G 45/317 - G 45/318) 277
Ferro Metals Australia PTY LTD Miscellaneous Licence (L 45/218 – L 47/230) 283
Hope Downs Management Services PTY LTD mining Lease (M 45/645) 291
Mesa Minerals PTY LTD General Purpose Leases (G 45/265) 294
Moly Metals PTY LTD Miscellaneous Licence (L 45/200 - L 45/249) 296
Newcrest Mining LTD Miscellaneous Licence (L 45/110) 305

The Pilbara Infrastructure PTY LTD Miscellaneous Licence (L 1SA – L 45/199) 318
Roy Hill Infrastructure PTY LTD Miscellaneous Licence (L 4SA) 322

Introduction

Boodarie is located approximately 10km south west of Port Hedland and is bounded by the Great Northern Highway to the east and the Indian Ocean to the north.

This report has been prepared by Whelans (WA) Pty Ltd for Landcorp and the Department of State Development. This document has been compiled as an ordinance document to set use and development controls, to aid in the decision making for future land use by identifying the key interests and stakeholders. It comprises an outline of the key interests and stakeholders within the area zoned for industrial use and the spatial and temporal limits of these interests.

The File Notation Area ID 0003049 boundary (*refer Inset B*) was established by the Department of Industry and Resources in 1999 for the proposed industrial site. This boundary encompasses the Fortescue Metals Group railway on the north eastern boundary and the central infrastructure corridor for access to the port to the north (east of the centre). The area zoned for industrial use by the Department of Planning Local Strategy Plan has an extended northern boundary which includes the partly demolished Hot Briquette Iron Plant (*refer Inset A*).

This report is based on data derived from Landgate's land tenure database, the Department of Mines and Petroleum's Mining Tenement database for land parcels and tenements within the Boodarie Strategic Industrial Area. It is supplemented by underground service information showing the alignments and locations of overhead and underground services

The report structure takes the form of a written summary of the key interest holders in the Boodarie File Notation Area, followed by a summarised graphical representation of the extent of the holdings, this is supplemented by underground service information where relevant. Overall diagrams showing the land tenure (*Map Figure 1 in sleeve*) and mining tenements (*Map Figure 2 in sleeve*) can be found at the beginning of the summary and should be used to determine the context of each land parcel or tenement. The details of individual land parcels are included in detail including Land Title Certificate, Crown Leases and Easement Documents in Appendix A. Mining Leases are shown in Appendix B. These should be referred to in order to ascertain the specifics of any lease agreements or easements etc. and also as a reference of the legal documents referred to in the main document.

Key Interests

BHP Billiton

BHP Billiton Direct Reduced Iron Pty Ltd has a number of interests in the Strategic Industrial Area. These include a number of Mining Leases, Leasehold and a Pastoral Lease.

Pastoral Lease

Lot 203 on Plan 220594 is a severance lot and comprises seven individual parcels forming a Crown Lease (CL0196700058) from the State of WA to BHP Billiton Direct Reduced Iron Pty. The Pastoral Lease expires on the 30th of June 2015.

Refer A1-A7 on Map Figure 3.

Under Section 8(1) of the Mining Act 1978, pastoral leases are held to be Crown land upon which a person may:

- undertake activities authorised under a Miner's Right, Section 20;
- mark out and/or apply for a mining tenement; and
- carry out exploration or mining activities when a mining tenement has been granted.

Refer to the Department of Mining and Petroleum website (http://www.dmp.wa.gov.au/1641.aspx) for information on Prospecting, Exploration, Mining on Pastoral Leases.

Lease

Lot 47 on Plan 241374 is a Lease from the State of WA to BHP Billiton Direct Reduced Iron Pty which expires on 31st Oct 2012.

Refer B on Map Figure 4.

Mining Leases

BHP Billiton Minerals Pty Ltd has a number of mining leases within the Strategic Area and these have been grouped according to their expiration date.

To the north of the File Notation Area Lease E 45/2834 is an Exploration License and is still pending approval.

Refer Map Figure 5.

Within the eastern boundary of the File Notation Area are several General Purpose Leases which have been taken for use as an Infrastructure Corridor. These expire on the 23rd of Nov 2016.

Refer Map Figure 6.

The northern boundary of the Strategic Industrial Area is abutted by several General Purpose Leases which have been taken by BHPB for the purposes of plant sites, stock pile and residue disposal. These leases expire on the 6th of Aug 2016.

Refer Map Figure 7.

State Energy Commission of Western Australia

Map Figure 8 comprises several easements running south west to north east through the Strategic Industrial Area. These easements are to the State Energy Commission of Western Australia for the purpose of high voltage transmission. Details of the individual portions and their associated Easement documents are in Appendix A. The alignment and location of the existing overhead network through this easement is shown on *Map Figure 9*.

Newcrest Mining Ltd

Newcrest Mining Ltd manages gas flows to Telfer via the Telfer Gas Pipeline (Pilbara Pipeline Pty Ltd) (refer *Map Figure 12*) at the gas compression station on Lot 365 on Plan 42164 as a Lease which expires on the19th of May 2025.

Refer N on Map Figure 10.

In addition to this Newcrest Mining Ltd has a Miscellaneous Mining Lease north of the Boodarie Station Access Road which expires on the 22nd of Oct 2024. This lease has been taken for the purpose of a road, powerline, electricity generation transmission, a distribution facility, storage, distribution or gathering or other transmission facility for gas a storage or transportation facility for minerals or mineral concentrate bores, bore fields or pipeline. Refer to Appendix B (Mine Tenement Summary Report) for details.

Refer Map Figure 11.

Epic Energy

The Pilbara Pipeline Pty Ltd runs from the south west of the Strategic Industrial Area to the Epic Energy Compound to the east of the Strategic Industrial Area. Its tenure is managed by an easement Doc (203 – G225410) to Epic Energy.

Refer Map Figure 13.

The alignment and location of the existing pipeline through this easement is shown on Map Figure 14.

The Pilbara Infrastructure Pty Ltd

The Pilbara Infrastructure Pty Ltd (TPI) is a wholly-owned subsidiary of Fortescue Metals Group (FMG) and is the owner of rail lines which are referred to by the Micellaneous License L 1SA expiring on the 28th of November 2056.

Refer Map Figure 16.

The Miscellaneous License L 45/199 has been taken by TPI for the purposes of a conveyor system, powerline, or pipeline. This lease expires on the 10th of September 2030.

Refer Map Figure 15.

Alinta Dewap Pty Ltd

Lot 255 on Plan 192056 is a Lease to Alinta Dewap Pty Ltd for the operation of the gas fired power station and expires on the 6th of April 2030.

Refer Map Figure 17.

Horizon Power

Lot 555 on Plan 60836 is a Lease to Horizon Power for power station purposes and expires on the 31st of November 2030.

Refer Map Figure 18.

Young, Bradford John

M45/681 is a Mining Lease to Bradford John Young and expires on the 9th of June 2017.

Refer Map Figure 19.

Croydon Gold Pty Ltd

E 45/2574 is an Exploration License to Croydon Gold Pty Ltd. Status is pending.

Refer Map Figure 20.

Ferro Metals Australia Pty Ltd

Pending Miscellaneous Leases

Miscellaneous Licenses (L 45/217, L 45/218 and L 45/230) are leases taken for use as a road, a pipeline, powerline, water management facility, taking water, a meteorological station or storage/transport facility for minerals or mineral concentrate.

Refer Map Figure 21.

Pending General Purpose Leases

Ferro Metals Australia Pty Ltd has General Purpose Leases (G 45/317 and G 45/318) on the eastern boundary of the Strategic Industrial Area for the purposes of an aerodrome, electricity generation facility, tailings dump, storage and handling facilities, concentrates, hydrocarbons, water and associated infrastructure and operating machinery thereon in connection with the mining (refer to Appendix A (Mining Leases) for details).

Refer Map Figure 21.

Hope Downs Management Services Pty Ltd

M 45/645 has a Mining Lease to Hope Downs Management Services Pty Ltd south of Whim Creek Road and expires on the 18th of December 2016.

Refer Map Figure 22.

Mesa Minerals Ltd

G 45/265 has a General Purpose Lease to Mesa Minerals south of Boodarie Station Access Road for the purposes of plant sites, stock pile and residue disposal. The lease expires on the 18th of December 2021.

Refer Map Figure 23.

Moly Metals Australia Pty Ltd

Moly Metals Australia Pty Ltd has a number of Miscellaneous Licenses over the Great Northern Highway on the eastern boundary of the Strategic Industrial Area (L 45/200, L 45/258 and L 45/249).

Active Leases
L 45/200 is a miscellaneous license for the purpose of an access road pipeline (gas and/or water), a powerline, a bore, a borefield or water management facility. This lease expires on the 8th of November 2032.

Pending Leases
L 45/258 is a miscellaneous license for the purpose of a bore, communications facility, pipeline, power generation and transmission facility, a powerline, road or water management facility. This lease is still pending.

L 45/249 is a miscellaneous license for the purpose of a road, a pipeline, a powerline, a communications facility, a bore field, a water management facility or a power generation and transmission facility. This lease is still pending.

Refer Map Figure 24.

Roy Hill Infrastructure Pty Ltd

L 4SA is a Miscellaneous License south of the Strategic Industrial Area and is a Special Railway License for railway and other purposes which expires on the 4th of July 2041.

Refer Map Figure 25.

Reserves

Map Figure 26 indicates the parcels of land which are listed Crown Reserves and in most cases these are under management order.

Lot 1282 on Plan 70562 (R9701) is the only reserve without management order (refer parcel ID: AO on *Map Figure 26*).

Lot 273 and 275 on Plan 21954 (R33016) are under management order to the Minister for Water Resources.

Refer parcel ID: I and J on *Map Figure 26*.

Lot 364 on Plan 42164 (R33593) is under management order to the Town of Port Hedland.

Refer parcel ID: M on *Map Figure 26*.

Lot 601 on Plan 70566 (R50884) is under management order to the Regional Power Corporation.

Refer parcel ID: AK on *Map Figure 26*.

Lot 556 on Plan 60836 (R50528) is under management order to the Port Hedland Port Authority for Harbour Purposes.

Refer parcel ID: V on *Map Figure 26*.

Lot 1203 and 1204 on Plan 70562 (R50892) are under management order to the Port Hedland Port Authority as Memorial under the Contaminated Sites Act of 2003.

Refer parcel ID: AL & AN on *Map Figure 26*.

Lot 1280 on Plan 70562 (R50892) is under management order to the Port Hedland Port Authority.

Refer parcel ID: AM on *Map Figure 26*.

Unallocated Crown Land

Map Figure 27 indicates the parcels of land which are listed as Vacant or Unallocated Crown Land. These parcels are listed as the being the primary interest of the State of WA and may represent areas which may potentially be acquired for development.

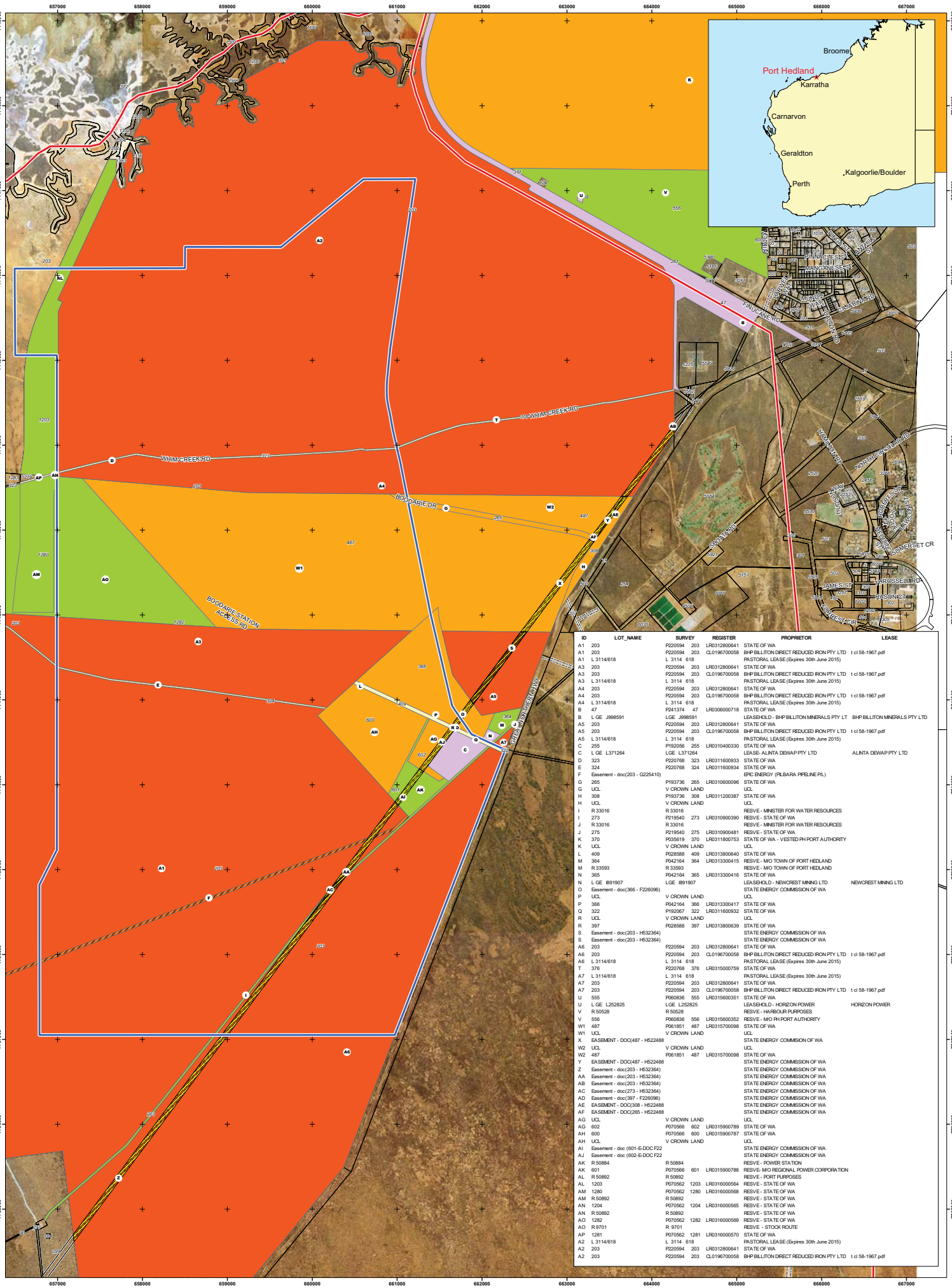
Underground Services

Boodarie has overhead power supply managed by the SECWA easement shown on *Map Figure 8*.
The alignment and location of the existing overhead network through this easement is shown on *Map Figure 9*.

The gas supply line used to supply power to the demolished BHP Billiton Hot Briquette Iron Plant is shown on *Map Figure 14*.

Map Figure 28 indicates the location of underground water pipes servicing the industrial area which runs south west through the southern boundary of the Strategic Industrial Area passing beneath the Great Northern Highway and then running along Shoata Road.

Map Figure 29 indicates the extents of the Telstra underground cable network.



ID	LOT_NAME	SURVEY	REGISTER	PROPRIETOR	LEASE
A1	203	P220594 203	LR03128006 41	STATE OF WA	
A1	203	P220594 203	CL0196700058	BHP BILLITON DIRECT REDUCED IRON PTY LTD	t cl 58-1967.pdf
A1	L 3114/618	L 3114 618		PASTORAL LEASE (Expires 30th June 2015)	
A3	203	P220594 203	LR03128006 41	STATE OF WA	
A3	203	P220594 203	CL0196700058	BHP BILLITON DIRECT REDUCED IRON PTY LTD	t cl 58-1967.pdf
A3	L 3114/618	L 3114 618		PASTORAL LEASE (Expires 30th June 2015)	
A4	203	P220594 203	LR03128006 41	STATE OF WA	
A4	203	P220594 203	CL0196700058	BHP BILLITON DIRECT REDUCED IRON PTY LTD	t cl 58-1967.pdf
A4	L 3114/618	L 3114 618		PASTORAL LEASE (Expires 30th June 2015)	
B	47	P241374 47	LR03060007 18	STATE OF WA	
B	L GE J998591	LGE J998591		LEASEHOLD - BHP BILLITON MINERALS PTY LT	BHP BILLITON MINERALS PTY LTD
A5	203	P220594 203	LR03128006 41	STATE OF WA	
A5	203	P220594 203	CL0196700058	BHP BILLITON DIRECT REDUCED IRON PTY LTD	t cl 58-1967.pdf
A5	L 3114/618	L 3114 618		PASTORAL LEASE (Expires 30th June 2015)	
C	255	P192056 255	LR03104003 30	STATE OF WA	
C	L GE L371264	LGE L371264		LEASE- ALINTA DEWAP PTY LTD	ALINTA DEWAP PTY LTD
D	323	P220768 323	LR03116009 33	STATE OF WA	
E	324	P220768 324	LR03116009 34	STATE OF WA	
F	Easement - doc(203 - G225410)			EPIC ENERGY (PILBARA PIPELINE P/L)	
G	265	P193736 265	LR03106000 96	STATE OF WA	
G	UCL	V CROWN LAND		UCL	
H	308	P193736 308	LR03112003 87	STATE OF WA	
H	UCL	V CROWN LAND		UCL	
I	R 33016	R 33016		RESVE - MINISTER FOR WATER RESOURCES	
I	273	P219540 273	LR03109003 90	RESVE - STATE OF WA	
J	R 33016	R 33016		RESVE - MINISTER FOR WATER RESOURCES	
J	275	P219540 275	LR03109004 81	RESVE - STATE OF WA	
K	370	P035619 370	LR03118007 53	STATE OF WA - VESTED PH PORT AUTHORITY	
K	UCL	V CROWN LAND		UCL	
L	409	P028588 409	LR03138006 40	STATE OF WA	
M	364	P042164 364	LR03133004 15	RESVE - M/O TOWN OF PORT HEDLAND	
M	R 33593	R 33593		RESVE - M/O TOWN OF PORT HEDLAND	
N	365	P042164 365	LR03133004 16	STATE OF WA	
N	L GE I891907	LGE I891907		LEASEHOLD - NEWCREST MINING LTD	NEWCREST MINING LTD
O	Easement - doc(366 - F226096)			STATE ENERGY COMMISSION OF WA	
P	UCL	V CROWN LAND		UCL	
P	366	P042164 366	LR03133004 17	STATE OF WA	
Q	322	P192067 322	LR03116009 32	STATE OF WA	
R	UCL	V CROWN LAND		UCL	
R	397	P028588 397	LR03138006 39	STATE OF WA	
S	Easement - doc(203 - H532364)			STATE ENERGY COMMISSION OF WA	
S	Easement - doc(203 - H532364)			STATE ENERGY COMMISSION OF WA	
A6	203	P220594 203	LR03128006 41	STATE OF WA	
A6	203	P220594 203	CL0196700058	BHP BILLITON DIRECT REDUCED IRON PTY LTD	t cl 58-1967.pdf
A6	L 3114/618	L 3114 618		PASTORAL LEASE (Expires 30th June 2015)	
T	376	P220768 376	LR03150007 59	STATE OF WA	
A7	L 3114/618	L 3114 618		PASTORAL LEASE (Expires 30th June 2015)	
A7	203	P220594 203	LR03128006 41	STATE OF WA	
A7	203	P220594 203	CL0196700058	BHP BILLITON DIRECT REDUCED IRON PTY LTD	t cl 58-1967.pdf
U	555	P060836 555	LR03156003 51	STATE OF WA	
U	L GE L252825	LGE L252825		LEASEHOLD - HORIZON POWER	HORIZON POWER
V	R 50528	R 50528		RESVE - HARBOUR PURPOSES	
V	556	P060836 556	LR03156003 52	RESVE - M/O PH PORT AUTHORITY	
W1	487	P061851 487	LR03157000 98	STATE OF WA	
W1	UCL	V CROWN LAND		UCL	
X	EASEMENT - DOC(487 - H522488			STATE ENERGY COMMISION OF WA	
W2	UCL	V CROWN LAND		UCL	
W2	487	P061851 487	LR03157000 98	STATE OF WA	
Y	EASEMENT - DOC(487 - H522488			STATE ENERGY COMMISSION OF WA	
Z	Easement - doc(203 - H532364)			STATE ENERGY COMMISSION OF WA	
AA	Easement - doc(203 - H532364)			STATE ENERGY COMMISSION OF WA	
AB	Easement - doc(203 - H532364)			STATE ENERGY COMMISSION OF WA	
AC	Easement - doc(273 - H532364)			STATE ENERGY COMMISSION OF WA	
AD	Easement - doc(397 - F226096)			STATE ENERGY COMMISSION OF WA	
AE	EASEMENT - DOC(308 - H522488			STATE ENERGY COMMISSION OF WA	
AF	EASEMENT - DOC(265 - H522488			STATE ENERGY COMMISSION OF WA	
AG	UCL	V CROWN LAND		UCL	
AG	602	P070566 602	LR03159007 89	STATE OF WA	
AH	600	P070566 600	LR03159007 87	STATE OF WA	
AH	UCL	V CROWN LAND		UCL	
AI	Easement - doc (601-E-DOC F22			STATE ENERGY COMMISSION OF WA	
AJ	Easement - doc (602-E-DOC F22			STATE ENERGY COMMISSION OF WA	
AK	R 50884	R 50884		RESVE - POWER STATION	
AK	601	P070566 601	LR03159007 88	RESVE- M/O REGIONAL POWER CORPORATION	
AL	R 50892	R 50892		RESVE - PORT PURPOSES	
AL	1203	P070562 1203	LR03160005 64	RESVE - STATE OF WA	
AM	1280	P070562 1280	LR03160005 68	RESVE - STATE OF WA	
AM	R 50892	R 50892		RESVE - STATE OF WA	
AN	1204	P070562 1204	LR03160005 65	RESVE - STATE OF WA	
AN	R 50892	R 50892		RESVE - STATE OF WA	
AO	1282	P070562 1282	LR03160005 69	RESVE - STATE OF WA	
AO	R 9701	R 9701		RESVE - STOCK ROUTE	
AP	1281	P070562 1281	LR03160005 70	STATE OF WA	
A2	L 3114/618	L 3114 618		PASTORAL LEASE (Expires 30th June 2015)	
A2	203	P220594 203	LR03128006 41	STATE OF WA	
A2	203	P220594 203	CL0196700058	BHP BILLITON DIRECT REDUCED IRON PTY LTD	t cl 58-1967.pdf

REV 0
PLAN 14299-004
FIGURE 1

LEGEND

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- LAND TENURE
- Proprietor
- SECWA
- EPIC ENERGY
- LEASE
- PRIVATE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 **DATE DRAWN** 8/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE: LANDGATE SEPT 2011
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011
AERIAL IMAGE: SOURCED: LANDGATE; CAPTURED: NOV 2009; RESOLUTION: 0.2m; ACCURACY: 5m;

FILE: Name: 14299-004-Tenure_Report_index.mxd

0 200 400 800 1,200 1,600 Meters

SCALE: 1:20,000

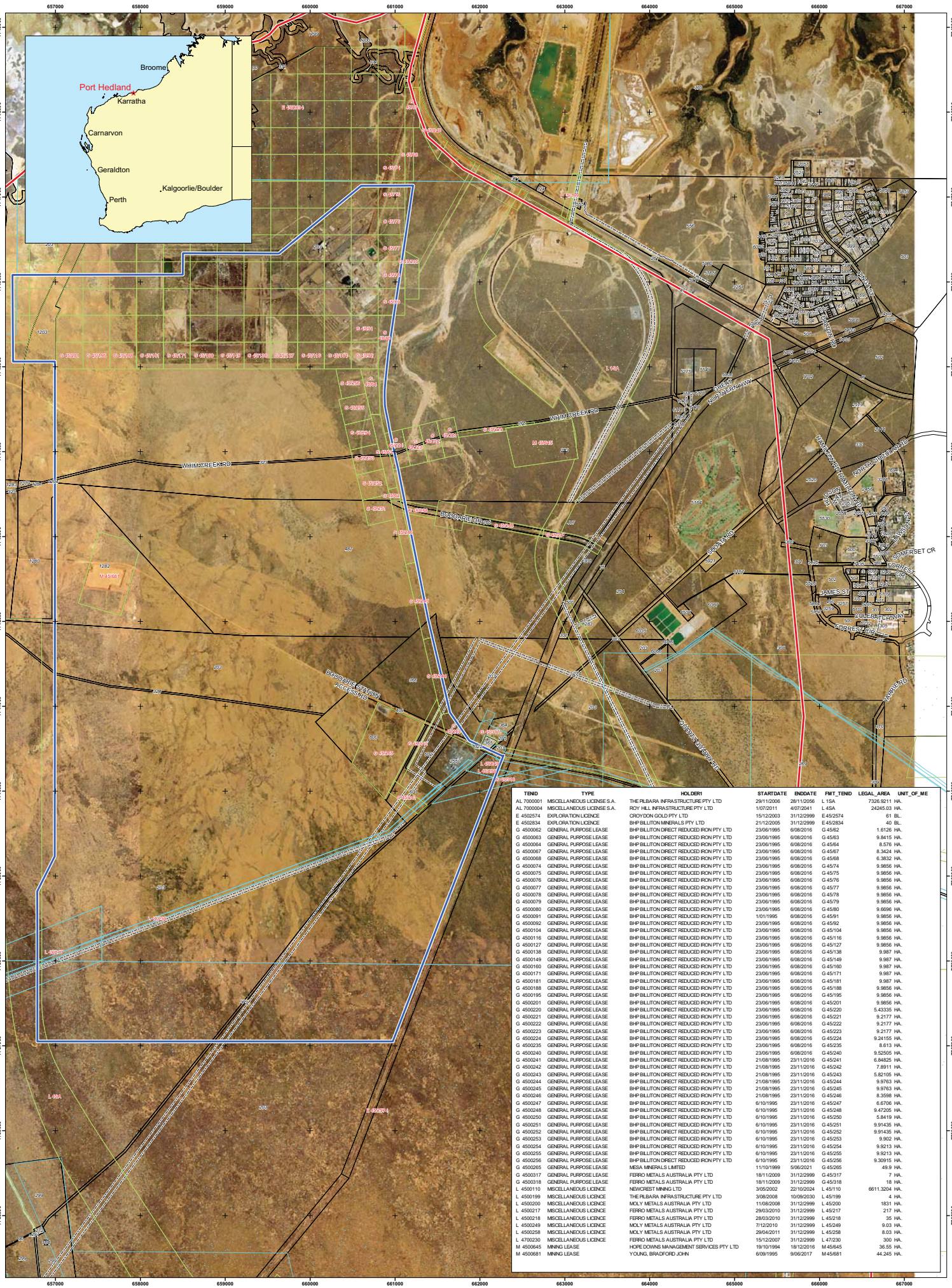
This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS



TENID	TYPE	HOLDER1	STARTDATE	ENDDATE	FMT_TENID	LEGAL_AREA	UNIT_OF_ME
AL 7000001	MISCELLANEOUS LICENSE S.A.	THE PILBARA INFRASTRUCTURE PTY LTD	29/11/2006	28/11/2056	L 1SA	7326.9211	HA.
AL 7000004	MISCELLANEOUS LICENSE S.A.	ROY HILL INFRASTRUCTURE PTY LTD	1/07/2011	4/07/2041	L 4SA	24245.03	HA.
E 4502574	EXPLORATION LICENCE	CROYDON GOLD PTY LTD	15/12/2003	31/12/2999	E 45/2574	61	BL.
E 4502834	EXPLORATION LICENCE	BHP BILLITON MINERALS PTY LTD	21/12/2005	31/12/2999	E 45/2834	40	BL.
G 4500062	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/62	1.6126	HA.
G 4500063	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/63	9.8415	HA.
G 4500064	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/64	8.576	HA.
G 4500067	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/67	8.3424	HA.
G 4500068	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/68	6.3832	HA.
G 4500074	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/74	9.9856	HA.
G 4500075	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/75	9.9856	HA.
G 4500076	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/76	9.9856	HA.
G 4500077	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/77	9.9856	HA.
G 4500078	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/78	9.9856	HA.
G 4500079	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/79	9.9856	HA.
G 4500080	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/80	9.6696	HA.
G 4500091	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	1/01/1995	6/08/2016	G 45/91	9.9856	HA.
G 4500092	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/92	9.9856	HA.
G 4500104	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/104	9.9856	HA.
G 4500116	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/116	9.9856	HA.
G 4500127	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/127	9.9856	HA.
G 4500138	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/138	9.987	HA.
G 4500149	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/149	9.987	HA.
G 4500160	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/160	9.987	HA.
G 4500171	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/171	9.987	HA.
G 4500181	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/181	9.987	HA.
G 4500188	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/188	9.9856	HA.
G 4500195	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/195	9.9856	HA.
G 4500201	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/201	9.9856	HA.
G 4500220	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/220	5.43335	HA.
G 4500221	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/221	9.2177	HA.
G 4500222	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/222	9.2177	HA.
G 4500223	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/223	9.2177	HA.
G 4500224	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/224	9.24155	HA.
G 4500235	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/235	8.613	HA.
G 4500240	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	23/06/1995	6/08/2016	G 45/240	9.52505	HA.
G 4500241	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	21/08/1995	23/11/2016	G 45/241	6.84825	HA.
G 4500242	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	21/08/1995	23/11/2016	G 45/242	7.8911	HA.
G 4500243	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	21/08/1995	23/11/2016	G 45/243	5.82105	HA.
G 4500244	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	21/08/1995	23/11/2016	G 45/244	9.9763	HA.
G 4500245	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	21/08/1995	23/11/2016	G 45/245	9.9763	HA.
G 4500246	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	21/08/1995	23/11/2016	G 45/246	8.3598	HA.
G 4500247	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/247	6.6706	HA.
G 4500248	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/248	9.47205	HA.
G 4500250	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/250	5.8419	HA.
G 4500251	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/251	9.91435	HA.
G 4500252	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/252	9.91435	HA.
G 4500253	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/253	9.902	HA.
G 4500254	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/254	9.9213	HA.
G 4500255	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/255	9.9213	HA.
G 4500256	GENERAL PURPOSE LEASE	BHP BILLITON DIRECT REDUCED IRON PTY LTD	6/10/1995	23/11/2016	G 45/256	9.30915	HA.
G 4500265	GENERAL PURPOSE LEASE	MESA MINERALS LIMITED	11/10/1999	5/06/2021	G 45/265	49.9	HA.
G 4500317	GENERAL PURPOSE LEASE	FERRO METALS AUSTRALIA PTY LTD	18/11/2009	31/12/2999	G 45/317	7	HA.
G 4500318	GENERAL PURPOSE LEASE	FERRO METALS AUSTRALIA PTY LTD	18/11/2009	31/12/2999	G 45/318	18	HA.
L 4500110	MISCELLANEOUS LICENCE	NEWCREST MINING LTD	3/05/2002	22/10/2024	L 45/110	6811.3204	HA.
L 4500199	MISCELLANEOUS LICENCE	THE PILBARA INFRASTRUCTURE PTY LTD	3/08/2008	10/09/2030	L 45/199	4	HA.
L 4500200	MISCELLANEOUS LICENCE	MOLY METALS AUSTRALIA PTY LTD	11/08/2008	31/12/2999	L 45/200	1831	HA.
L 4500217	MISCELLANEOUS LICENCE	FERRO METALS AUSTRALIA PTY LTD	29/03/2010	31/12/2999	L 45/217	217	HA.
L 4500218	MISCELLANEOUS LICENCE	FERRO METALS AUSTRALIA PTY LTD	28/03/2010	31/12/2999	L 45/218	35	HA.
L 4500249	MISCELLANEOUS LICENCE	MOLY METALS AUSTRALIA PTY LTD	7/12/2010	31/12/2999	L 45/249	9.03	HA.
L 4500258	MISCELLANEOUS LICENCE	MOLY METALS AUSTRALIA PTY LTD	29/04/2011	31/12/2999	L 45/258	8.03	HA.
L 4700230	MISCELLANEOUS LICENCE	FERRO METALS AUSTRALIA PTY LTD	15/12/2007	31/12/2999	L 47/230	300	HA.
M 4500645	MINING LEASE	HOPE DOWNS MANAGEMENT SERVICES PTY LTD	19/10/1994	18/12/2016	M 45/645	36.55	HA.
M 4500681	MINING LEASE	YOUNG, BRADFORD JOHN	6/09/1995	9/06/2017	M 45/681	44.245	HA.

REV 0
PLAN 14299-004
FIGURE 2

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Tenements in the File Notation Area
- Tenement Status
  - Live
  - Pending
  - Easement
  - Cadastre

JOB No: 14299 **DATE DRAWN** 6/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS: DMP SEPT 2011
NATIVE TITLE CLAIMS: NNTT JUN 2011
The area shown on this plan is an active claim of the Kariyarra People

CADASTRAL BOUNDARIES: LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_index.mxd

0 200 400 800 1,200 1,600 Meters

SCALE: 1:20,000

This map is a product of Whelans' Geo Info Solutions.
Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

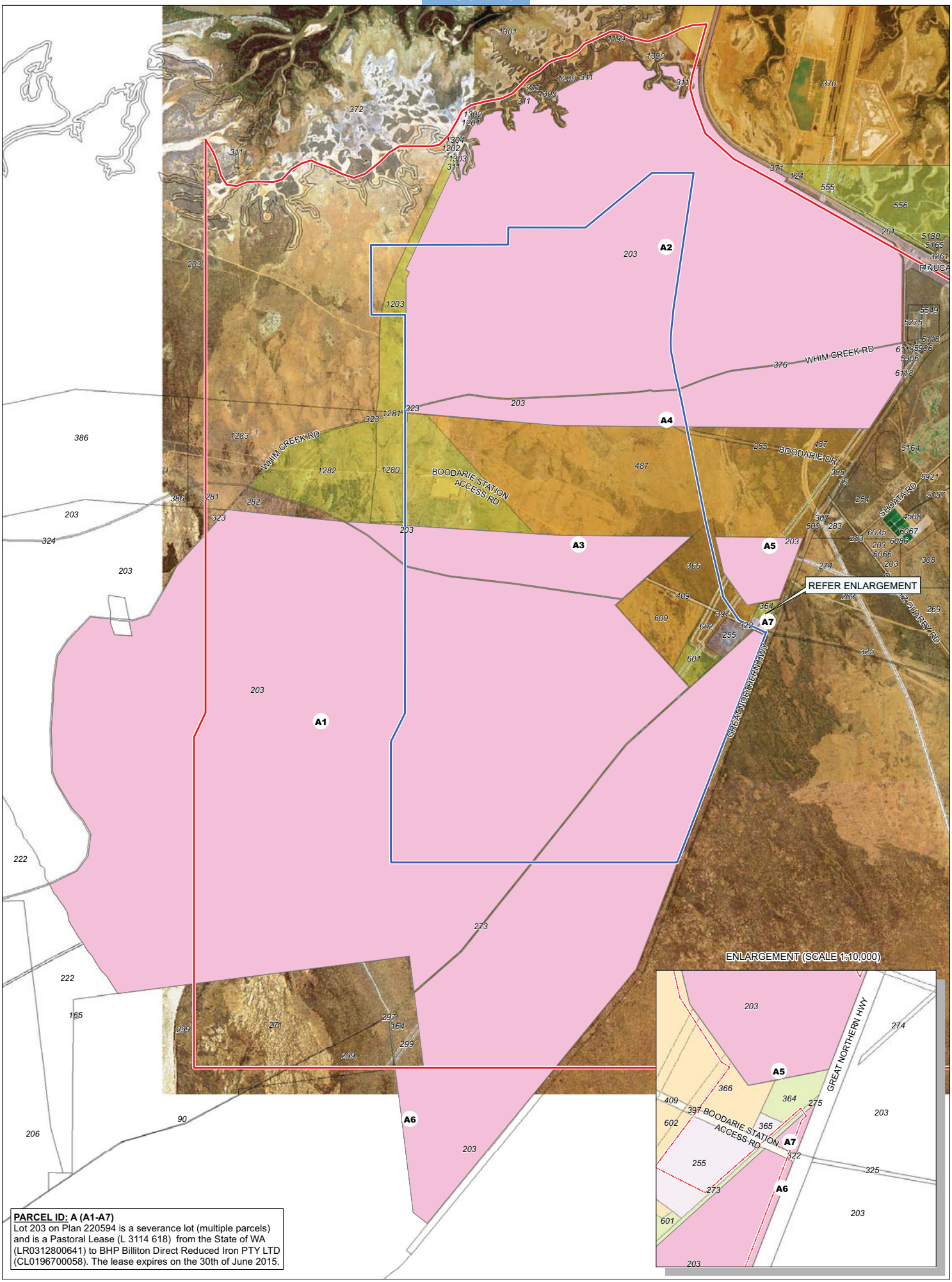
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA MINE TENEMENTS

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 3



PARCEL ID: A (A1-A7)
Lot 203 on Plan 220594 is a severance lot (multiple parcels) and is a Pastoral Lease (L 3114 618) from the State of WA (LR0312800641) to BHP Billiton Direct Reduced Iron PTY LTD (CL0196700058). The lease expires on the 30th of June 2015.

REV 0
PLAN 14299-004
FIGURE 3

LEGEND
FILE NOTATION AREA
LAND TENURE
Proprietor
PRIVATE
EPIC ENERGY
STATE ENERGY COMMISION
LEASE
PASTORAL LEASE
RESERVE
STATE OF WA
UCL

JOB No: 14299 DATE DRAWN 6/03/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50
TENURE:LANDGATE SEPT 2011
CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
FILE:Name: 14299-004-Tenure_Report_A.mxd

0 250 500 1,000 1,500 2,000 Meters
SCALE: 1:25,000
This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

PASTORAL LEASE TO BHP BILLITON DIRECT REDUCED IRON PTY LTD BOODARIE STRATEGIC INDUSTRIAL AREA LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 4

PARCEL ID: B
Lot 47 on Plan 241374 Lease from the State of WA (LR0306000718) to BHP Billiton Direct Reduced Iron PTY LTD (J998591 extension L37932). The lease expires on 31st Oct 2012.

REV 0
PLAN 14299-004
FIGURE 4

LEGEND
- FILE NOTATION AREA BUFFER
- FILE NOTATION AREA

LAND TENURE
Proprietor
- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISION
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 DATE DRAWN 6/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE:LANDGATE SEPT 2011
CADASTRAL BOUNDARIES:LANDGATE SEPT 2011

FILE:Name: 14299-004-Tenure_Report_summary.mxd

0 125 250 500 750 1,000 Meters

SCALE: 1:12,500

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

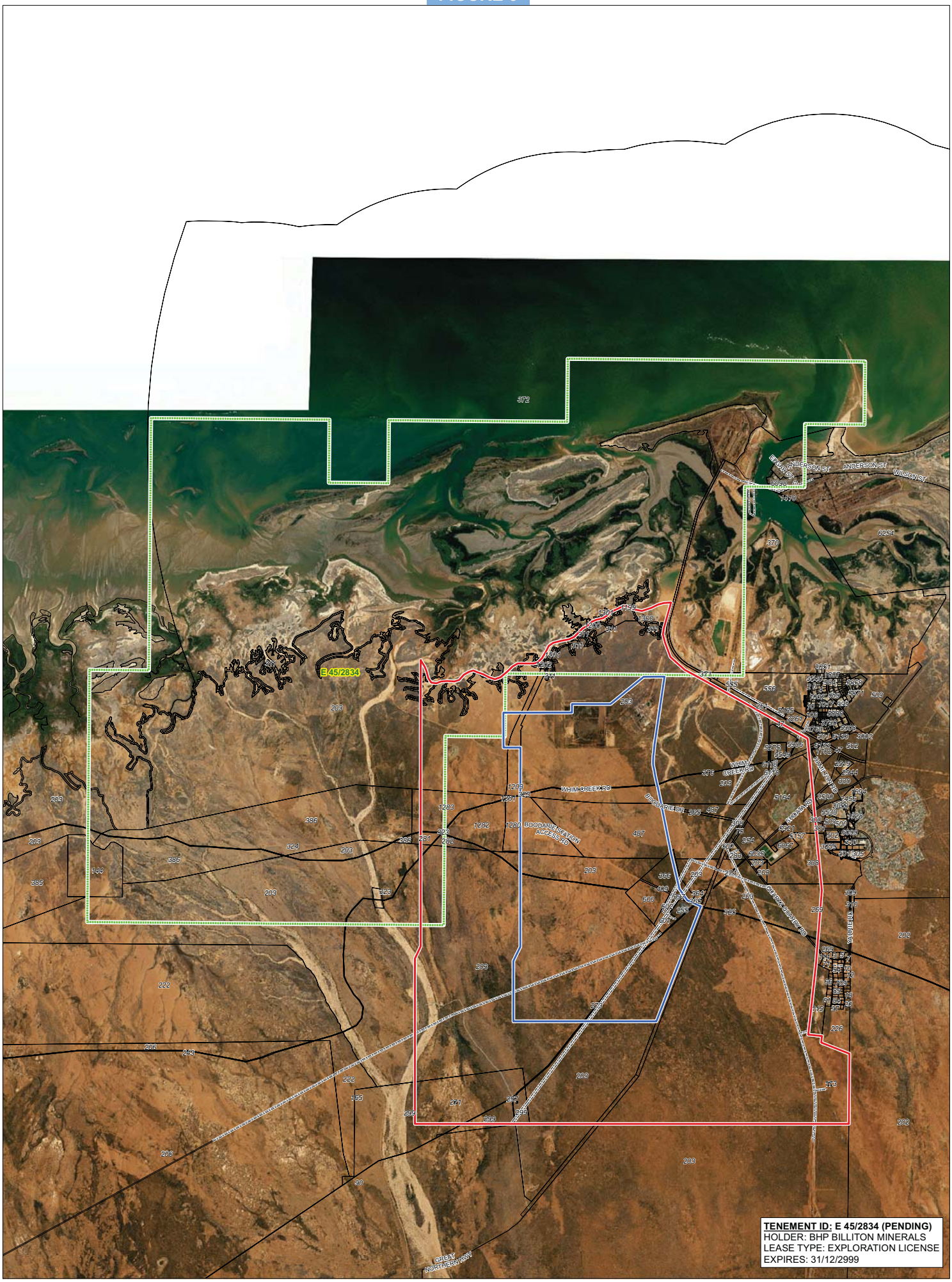
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

LEASE TO BHP BILLITON DIRECT REDUCED IRON PTY LTD
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 5



REV 0
PLAN 14299-004
FIGURE 5

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 6/03/2012
DRAWN: N.G.A. CHECKED: G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS: DMP SEPT 2011

CADASTRAL BOUNDARIES: LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_other.mxd

0 500 1,000 2,000 3,000 4,000 Meters

SCALE: 1:50,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: BHP BILLITON MINERALS PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 6

REV 0
PLAN 14299-004
FIGURE 6

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 8/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS:DMP SEPT 2011

CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE:Name: 14299-004-Tenements_other.mxd

0 70 140 280 420 560 Meters

SCALE: 1:7,500

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

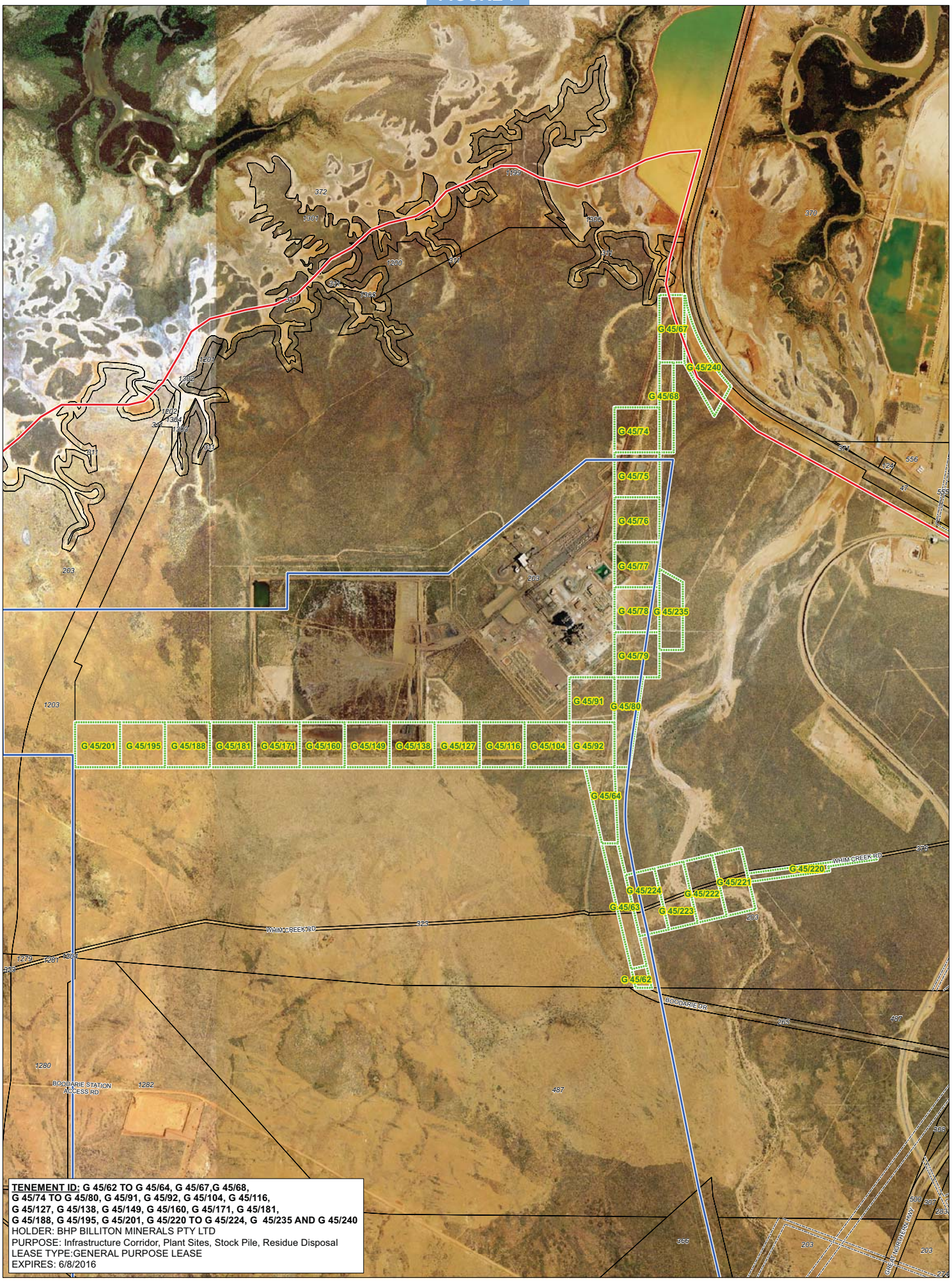
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: BHP BILLITON MINERALS PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 7



TENEMENT ID: G 45/62 TO G 45/64, G 45/67,G 45/68, G 45/74 TO G 45/80, G 45/91, G 45/92, G 45/104, G 45/116, G 45/127, G 45/138, G 45/149, G 45/160, G 45/171, G 45/181, G 45/188, G 45/195, G 45/201, G 45/220 TO G 45/224, G 45/235 AND G 45/240
HOLDER: BHP BILLITON MINERALS PTY LTD
PURPOSE: Infrastructure Corridor, Plant Sites, Stock Pile, Residue Disposal
LEASE TYPE:GENERAL PURPOSE LEASE
EXPIRES: 6/8/2016

REV 0
PLAN 14299-004
FIGURE 7

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 8/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50
TENEMENTS:DMP SEPT 2011
CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE:Name: 14299-004-Tenements_other.mxd

0 115 230 460 690 920 Meters
SCALE: 1:12,000

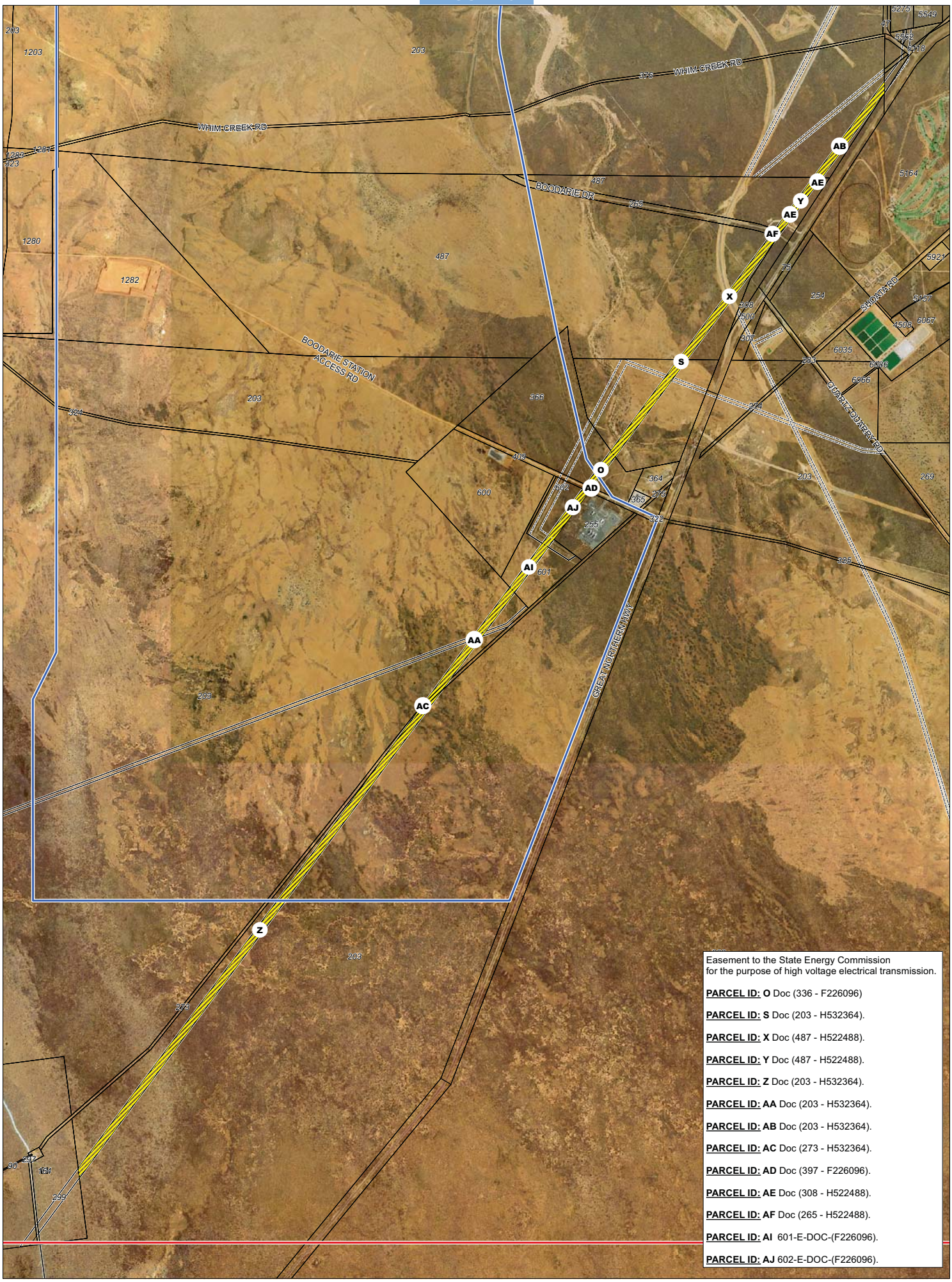
This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: BHP BILLITON MINERALS PTY LTD
CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 8



Easement to the State Energy Commission
for the purpose of high voltage electrical transmission.

PARCEL ID: O Doc (336 - F226096)

PARCEL ID: S Doc (203 - H532364).

PARCEL ID: X Doc (487 - H522488).

PARCEL ID: Y Doc (487 - H522488).

PARCEL ID: Z Doc (203 - H532364).

PARCEL ID: AA Doc (203 - H532364).

PARCEL ID: AB Doc (203 - H532364).

PARCEL ID: AC Doc (273 - H532364).

PARCEL ID: AD Doc (397 - F226096).

PARCEL ID: AE Doc (308 - H522488).

PARCEL ID: AF Doc (265 - H522488).

PARCEL ID: AI 601-E-DOC-(F226096).

PARCEL ID: AJ 602-E-DOC-(F226096).

REV 0
PLAN 14299-004
FIGURE 8

Legend

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Cadastre
- Easement
- LAND TENURE
- Proprietor
- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISSION
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 **DATE DRAWN** 6/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE: LANDGATE SEPT 2011
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Tenure_Report_summary.mxd

0 125 250 500 750 1,000 Meters

SCALE: 1:15,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

EASEMENT TO THE STATE ENERGY COMMISSION OF WA
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 9

REV 0
PLAN 14299-004
FIGURE 9

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Power Lines
- Cadastre
- Easement

JOB No: 14299 **DATE DRAWN** 9/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

SERVICES: All data is subject to verification by survey.
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Services_Report.mxd

0 200 400 800 1,200 1,600 Meters

SCALE: 1:20,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

OVERHEAD POWER
BOODARIE STRATEGIC INDUSTRIAL AREA SERVICES

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 10

PARCEL ID: N
Lot 365 on Plan 042164 is a Leasehold.
Primary interest holder Newcrest Mining LTD (LR0313300416)

REV 0
PLAN 14299-004
FIGURE 10

Legend

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Cadastre
- Easement

LAND TENURE
Proprietor
- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISSION
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 **DATE DRAWN** 6/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE: LANDGATE SEPT 2011
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Tenure_Report_summary.mxd

0 15 30 60 90 120 Meters

SCALE: 1:2,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

LEASE TO NEWCREST MINING LTD
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 11

TENEMENT ID: L 45/110
HOLDER: NEWCREST MINING LTD
PURPOSE:Road powerline an electricity generation transmission or distribution facility a storage, distribution or gathering or other transmission facility for gas a storage or transportation facility for minerals or mineral concentrate bores borelields pipeline other water management distribution facility communication to service a mining operation aerodrome
LEASE TYPE: MISCELLANEOUS LICENSE
EXPIRES: 22/10/2024

REV 0
PLAN 14299-004
FIGURE 11

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 **DATE DRAWN** 8/02/2012
DRAWN:N.G.A. **CHECKED:**G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS:DMP SEPT 2011

CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_other.mxd

0 50 100 200 300 400 Meters

SCALE: 1:5,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: NEWCREST MINING LTD
CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 12

REV 0
PLAN 14299-004
FIGURE 12

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- T105 BOODARIE- TELFER PIPELINE
- Cadastre
- Easement

JOB No: 14299 **DATE DRAWN** 9/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

SERVICES: All data is subject to verification by survey.
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Services_Report.mxd

0 87.5 175 350 525 700 Meters

SCALE: 1:9,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

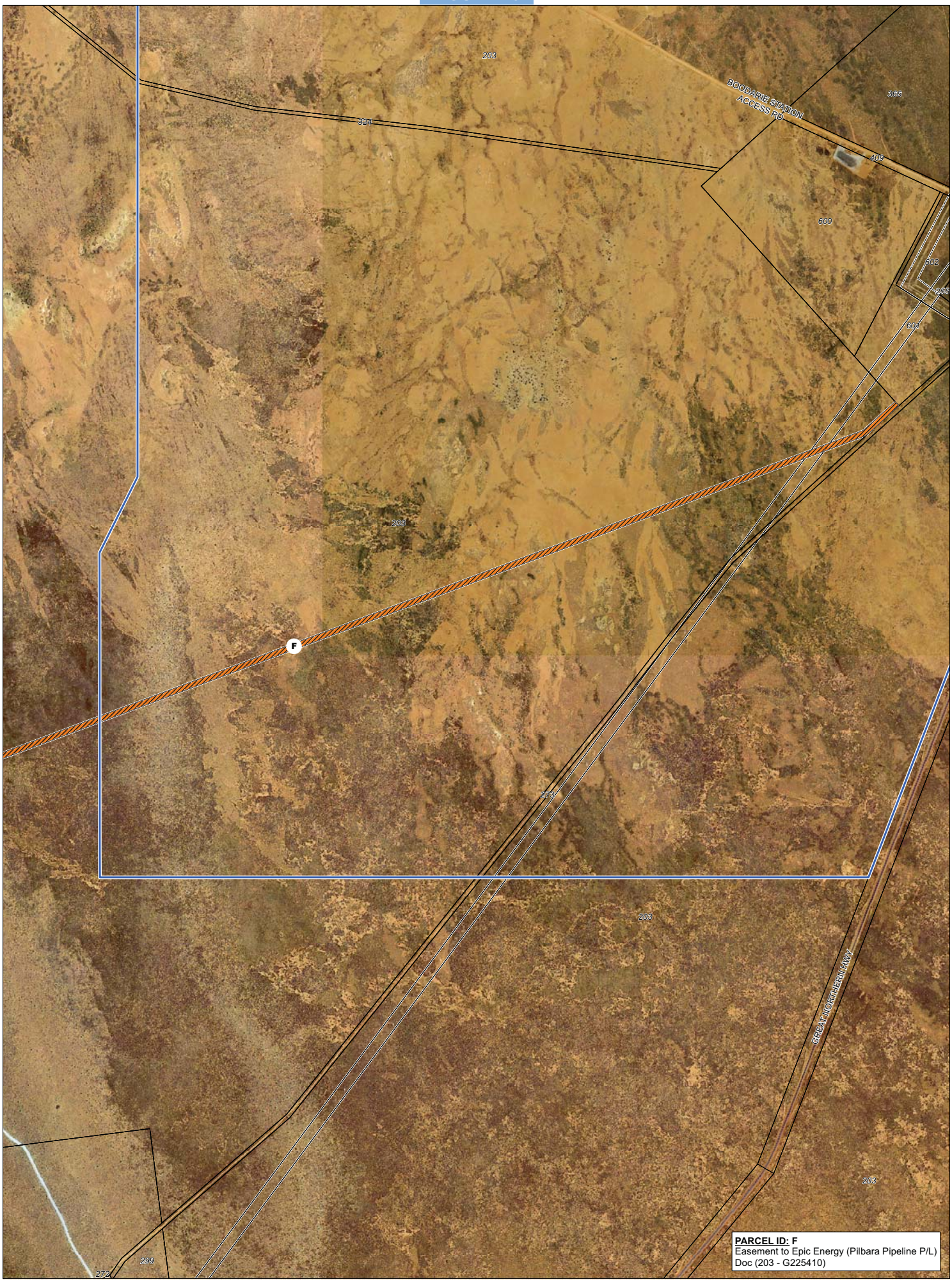
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE TO TELFER GAS PIPELINE
BOODARIE STRATEGIC INDUSTRIAL AREA SERVICES

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 13



REV 0
PLAN 14299-004
FIGURE 13

Legend

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Cadastre
- Easement

LAND TENURE

Proprietor
- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISSION

Tenure
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 **DATE DRAWN** 6/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE: LANDGATE SEPT 2011
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Tenure_Report_summary.mxd

0 75 150 300 450 600 Meters

SCALE: 1:9,302

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

EASEMENT TO EPIC ENERGY
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 14

REV 0
PLAN 14299-004
FIGURE 14

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha

Epic Energy
- Petroleum Pipeline
- Cadastre
- Easement

JOB No: 14299 DATE DRAWN 9/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

SERVICES:All data is subject to verification by survey.
CADASTRAL BOUNDARIES:LANDGATE SEPT 2011

FILE:Name: 14299-004-Services_Report.mxd

0 125 250 500 750 1,000 Meters

SCALE: 1:13,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

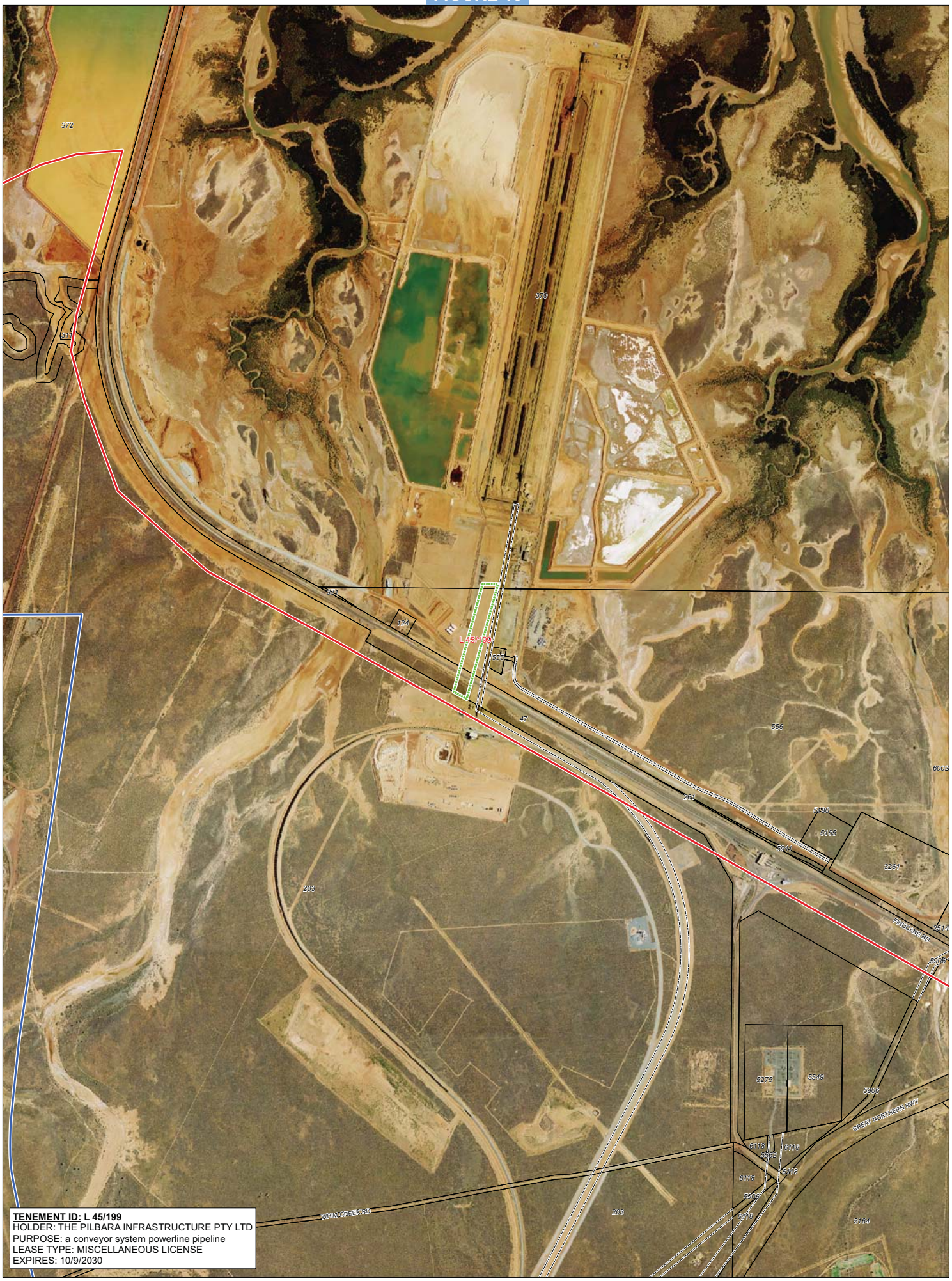
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

EPIC ENERGY PIPELINE
BOODARIE STRATEGIC INDUSTRIAL AREA
SERVICES

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 15



TENEMENT ID: L 45/199
HOLDER: THE PILBARA INFRASTRUCTURE PTY LTD
PURPOSE: a conveyor system powerline pipeline
LEASE TYPE: MISCELLANEOUS LICENSE
EXPIRES: 10/9/2030

REV 0
PLAN 14299-004 FIGURE 15

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 8/02/2012
DRAWN: N.G.A. CHECKED: G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS: DMP SEPT 2011

CADASTRAL BOUNDARIES: LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_other.mxd

0 75 150 300 450 600 Meters

SCALE: 1:8,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: THE PILBARA INFRASTRUCTURE PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 16

TENEMENT ID: L 1SA (AL 70/1)
HOLDER: THE PILBARA INFRASTRUCTURE PTY LTD
PURPOSE: Railway and Other Purposes
LEASE TYPE: MISCELLANEOUS LICENSE
EXPIRES: 28/11/2056

REV 0
PLAN 14299-004
FIGURE 16

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 8/02/2012
DRAWN: N.G.A. CHECKED: G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS: DMP SEPT 2011

CADASTRAL BOUNDARIES: LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_other.mxd

0 187.5 375 750 1,125 1,500 Meters

SCALE: 1:19,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: THE PILBARA INFRASTRUCTURE PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 17

PARCEL ID: C
Lot 255 on Plan 192056 Lease from the State of WA (LR0310400330) to Alinta Dewap PTY LTD (L346488 extension L371264). The lease expires on 6 th April 2030.

REV 0
PLAN 14299-004
FIGURE 17

Legend

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Cadastre
- Easement
- LAND TENURE Proprietor
- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISSION
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 **DATE DRAWN** 6/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE: LANDGATE SEPT 2011
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Tenure_Report_summary.mxd

0 50 100 200 300 400 Meters

SCALE: 1:6,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

LEASE TO ALINTA DEWAP PTY LTD
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 18

PARCEL ID: U
Lot 555 on Plan 60836 is a Lease from the State of WA (LR0315600351) to Horizon Power (L252825).
Lease expires on 31st Nov 2030.

REV 0
PLAN 14299-004
FIGURE 18

Legend

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Cadastre
- Easement

LAND TENURE Proprietor

- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISSION
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 DATE DRAWN 6/02/2012
DRAWN: N.G.A. CHECKED: G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE: LANDGATE SEPT 2011
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Tenure_Report_summary.mxd

0 50 100 200 300 400 Meters

SCALE: 1:6,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

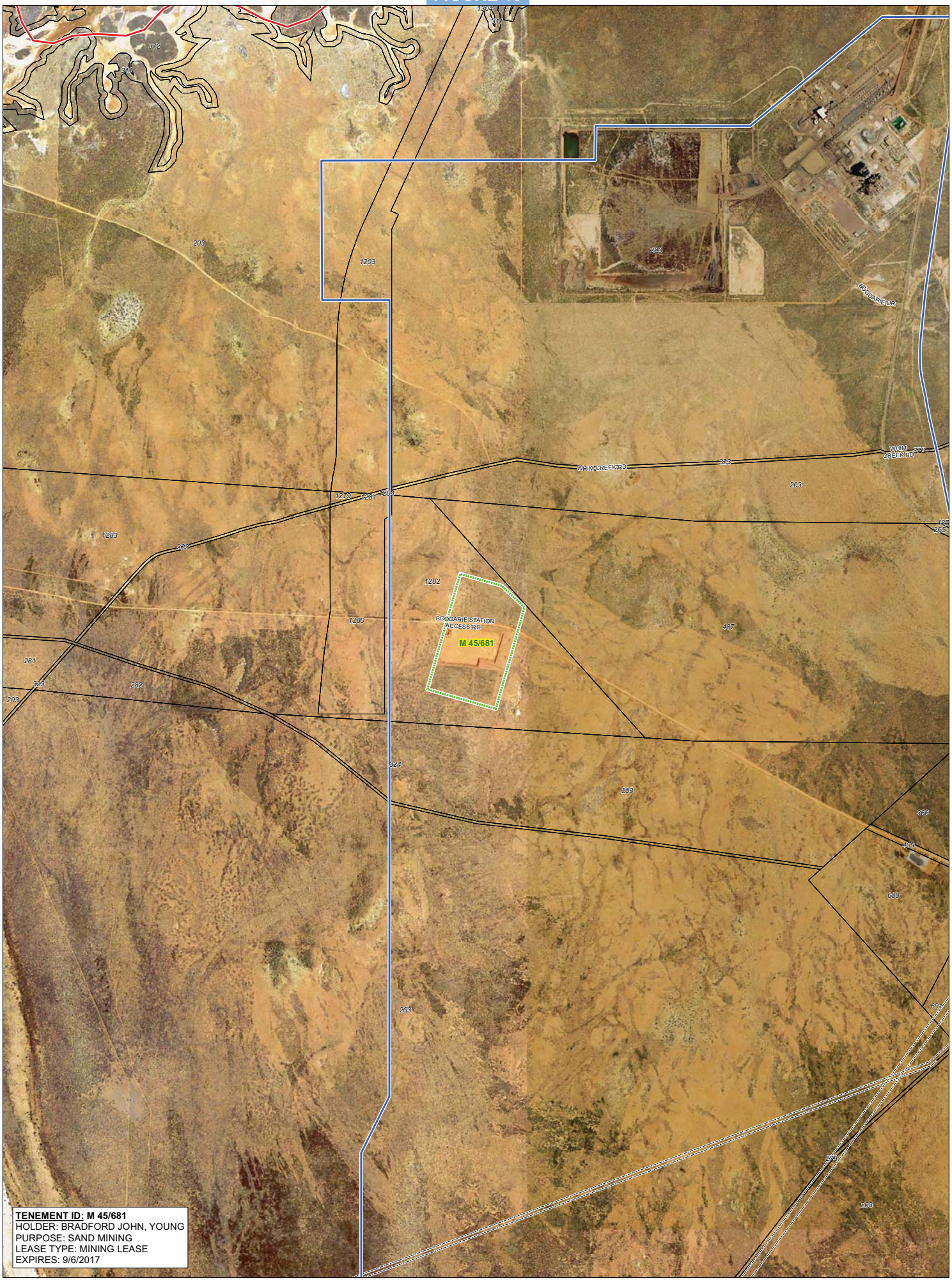
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

LEASE TO HORIZON POWER
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 19



REV 0
PLAN 14299-004
FIGURE 19

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 8/02/2012
DRAWN: N.G.A. CHECKED: G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS: DMP SEPT 2011

CADASTRAL BOUNDARIES: LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_other.mxd

0 120 240 480 720 960 Meters

SCALE: 1:12,500

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: BRADFORD, JOHN YOUNG
CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 20

TENEMENT ID: E 45/2574 (PENDING)
HOLDER: CROYDON GOLD PTY LTD
LEASE TYPE:EXPLORATION LICENSE
EXPIRES: 31/12/2999

REV 0
PLAN 14299-004
FIGURE 20

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 9/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS:DMP SEPT 2011

CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE:Name: 14299-004-Tenements_other.mxd

0 200 400 800 1,200 1,600 Meters

SCALE: 1:20,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

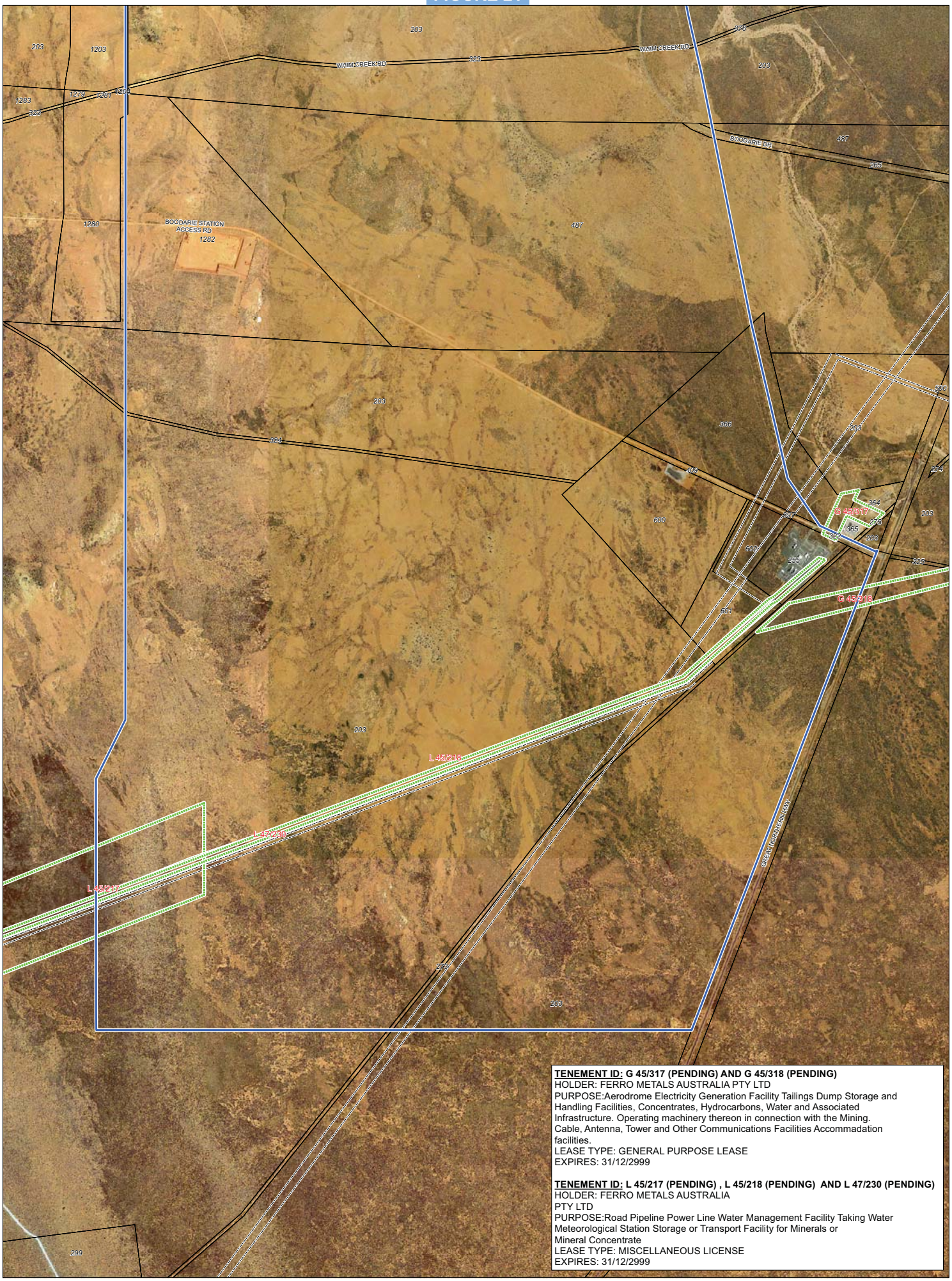
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: CROYDON GOLD PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 21



TENEMENT ID: G 45/317 (PENDING) AND G 45/318 (PENDING)
HOLDER: FERRO METALS AUSTRALIA PTY LTD
PURPOSE:Aerodrome Electricity Generation Facility Tailings Dump Storage and Handling Facilities, Concentrates, Hydrocarbons, Water and Associated Infrastructure. Operating machinery thereon in connection with the Mining. Cable, Antenna, Tower and Other Communications Facilities Accommadation facilities.
LEASE TYPE: GENERAL PURPOSE LEASE
EXPIRES: 31/12/2999

TENEMENT ID: L 45/217 (PENDING) , L 45/218 (PENDING) AND L 47/230 (PENDING)
HOLDER: FERRO METALS AUSTRALIA
PTY LTD
PURPOSE:Road Pipeline Power Line Water Management Facility Taking Water Meteorological Station Storage or Transport Facility for Minerals or Mineral Concentrate
LEASE TYPE: MISCELLANEOUS LICENSE
EXPIRES: 31/12/2999

REV 0
PLAN 14299-004
FIGURE 21

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 6/03/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS:DMP SEPT 2011

CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE:Name: 14299-004-Tenements_other.mxd

0 120 240 480 720 960 Meters

SCALE: 1:12,000

This map is a product of Whelans' Geo Info Solutions.
Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: FERRO METALS AUSTRALIA PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 22

TENEMENT ID: M 45/645
HOLDER: HOPE DOWNS MANAGEMENT SERVICES PTY LTD
PURPOSE:Plant Sites Stock Pile and Residue Disposal
LEASE TYPE: MINING LEASE
EXPIRES: 18/12/2016

REV 0
PLAN 14299-004
FIGURE 22

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 8/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS:DMP SEPT 2011

CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE:Name: 14299-004-Tenements_other.mxd

0 75 150 300 450 600 Meters

SCALE: 1:8,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: HOPE DOWNS MANAGEMENT SERVICES PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 23

REV 0
PLAN 14299-004
FIGURE 23

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 6/03/2012
DRAWN: N.G.A. CHECKED: G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS: DMP SEPT 2011

CADASTRAL BOUNDARIES: LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_other.mxd

0 100 200 400 600 800 Meters

SCALE: 1:10,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T: 08 9443 1511 F: 08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: MESA MINERALS LTD
CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 24

TENEMENT ID: L 45/200, L 45/258 (PENDING) AND L 45/249 (PENDING)
HOLDER: MOLY METALS AUSTRALIA PTY LTD
PURPOSE: access road pipeline(gas and/or water) powerline bore borefield water management facility.
LEASE TYPE: MISCELLANEOUS LICENSE
EXPIRES: 08/11/2032

REV 0
PLAN 14299-004
FIGURE 24

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 DATE DRAWN 8/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS:DMP SEPT 2011

CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE:Name: 14299-004-Tenements_other.mxd

0 70 140 280 420 560 Meters

SCALE: 1:7,500

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

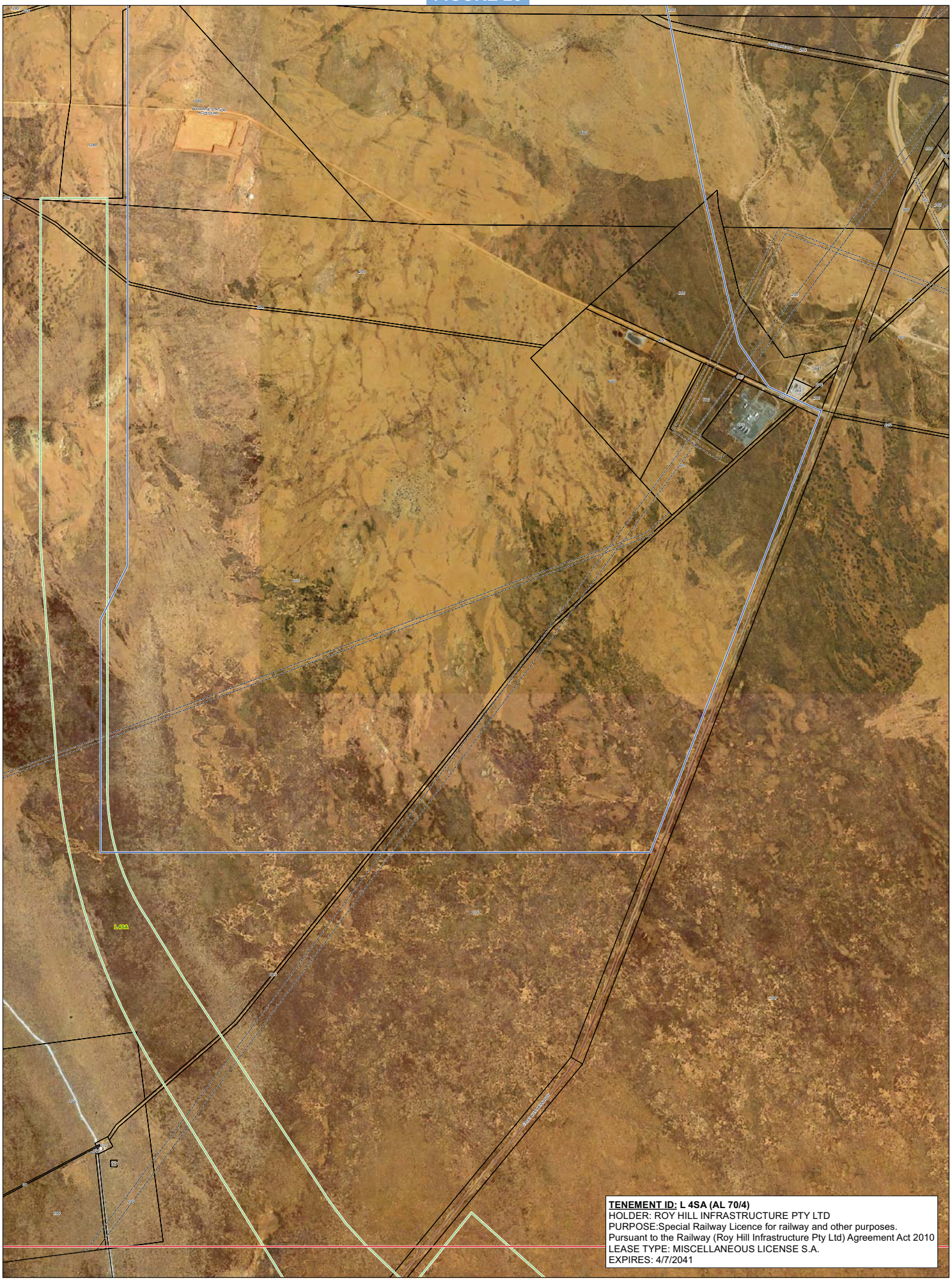
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: MOLY METALS AUSTRALIA PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 25



TENEMENT ID: L 4SA (AL 70/4)
HOLDER: ROY HILL INFRASTRUCTURE PTY LTD
PURPOSE:Special Railway Licence for railway and other purposes.
Pursuant to the Railway (Roy Hill Infrastructure Pty Ltd) Agreement Act 2010
LEASE TYPE: MISCELLANEOUS LICENSE S.A.
EXPIRES: 4/7/2041

REV 0
PLAN 14299-004 FIGURE 25

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Easement
- Cadastre
- Subject Area

JOB No: 14299 **DATE DRAWN** 8/02/2012
DRAWN:N.G.A. **CHECKED:**G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENEMENTS:DMP SEPT 2011

CADASTRAL BOUNDARIES:LANDGATE SEPT 2011
Mine Tenement details Refer: Tenement_Report..xls
FILE: Name: 14299-004-Tenements_other.mxd

0 125 250 500 750 1,000 Meters

SCALE: 1:13,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

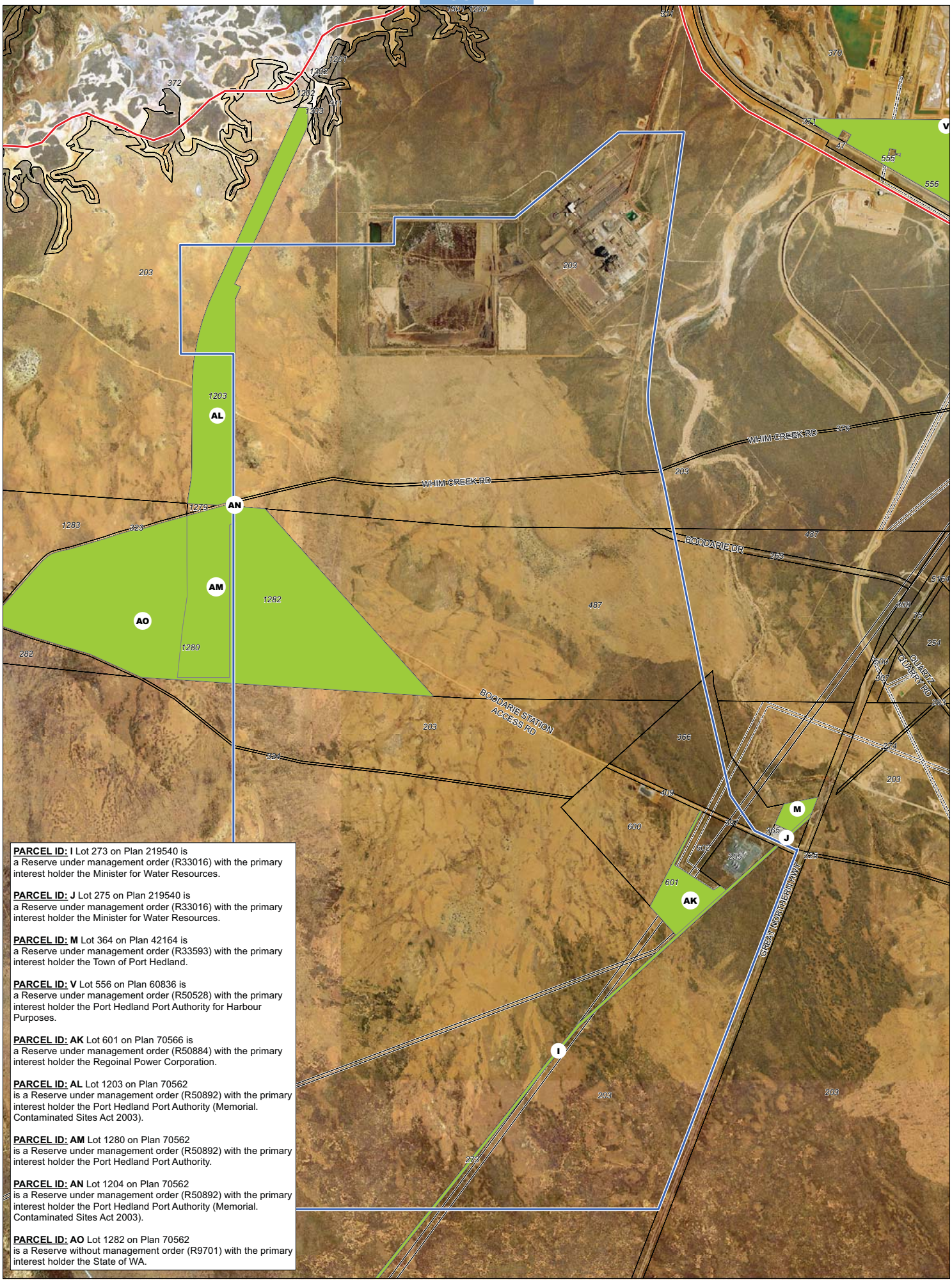
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

BOODARIE STRATEGIC INDUSTRIAL AREA
MINE TENEMENTS
HOLDER: ROY HILL INFRASTRUCTURE PTY LTD

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 26



PARCEL ID: I Lot 273 on Plan 219540 is a Reserve under management order (R33016) with the primary interest holder the Minister for Water Resources.

PARCEL ID: J Lot 275 on Plan 219540 is a Reserve under management order (R33016) with the primary interest holder the Minister for Water Resources.

PARCEL ID: M Lot 364 on Plan 42164 is a Reserve under management order (R33593) with the primary interest holder the Town of Port Hedland.

PARCEL ID: V Lot 556 on Plan 60836 is a Reserve under management order (R50528) with the primary interest holder the Port Hedland Port Authority for Harbour Purposes.

PARCEL ID: AK Lot 601 on Plan 70566 is a Reserve under management order (R50884) with the primary interest holder the Regoinal Power Corporation.

PARCEL ID: AL Lot 1203 on Plan 70562 is a Reserve under management order (R50892) with the primary interest holder the Port Hedland Port Authority (Memorial. Contaminated Sites Act 2003).

PARCEL ID: AM Lot 1280 on Plan 70562 is a Reserve under management order (R50892) with the primary interest holder the Port Hedland Port Authority.

PARCEL ID: AN Lot 1204 on Plan 70562 is a Reserve under management order (R50892) with the primary interest holder the Port Hedland Port Authority (Memorial. Contaminated Sites Act 2003).

PARCEL ID: AO Lot 1282 on Plan 70562 is a Reserve without management order (R9701) with the primary interest holder the State of WA.

REV 0
PLAN 14299-004
FIGURE 26

Legend

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Cadastre
- Easement
- LAND TENURE
- Proprietor
- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISSION
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 DATE DRAWN 6/02/2012
DRAWN:N.G.A. CHECKED:G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE:LANDGATE SEPT 2011
CADASTRAL BOUNDARIES:LANDGATE SEPT 2011

FILE:Name: 14299-004-Tenure_Report_summary.mxd

0 130 260 520 780 1,040 Meters

SCALE: 1:16,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

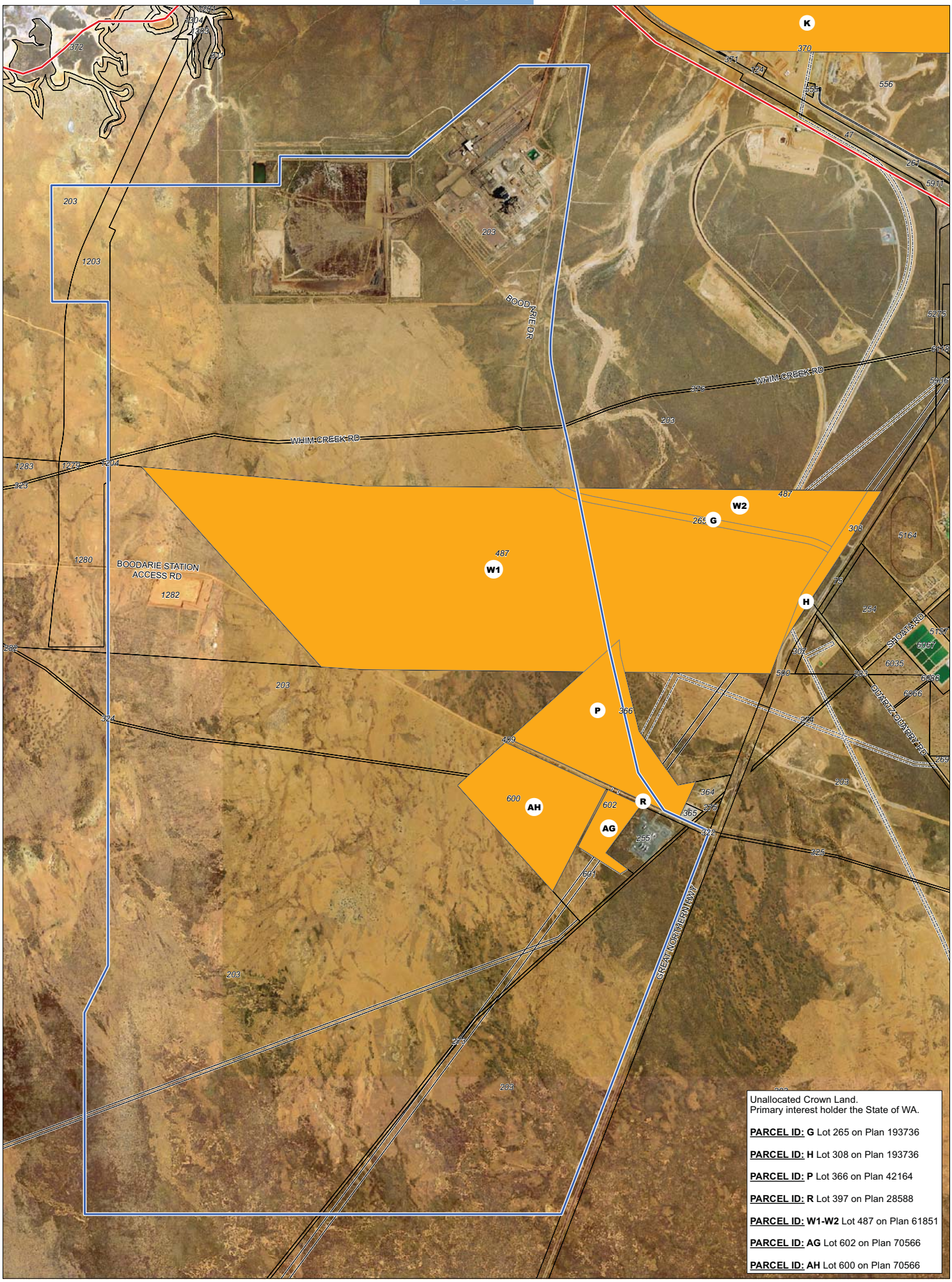
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

RESERVES
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 27



Unallocated Crown Land.
Primary interest holder the State of WA.

PARCEL ID: **G** Lot 265 on Plan 193736

PARCEL ID: **H** Lot 308 on Plan 193736

PARCEL ID: **P** Lot 366 on Plan 42164

PARCEL ID: **R** Lot 397 on Plan 28588

PARCEL ID: **W1-W2** Lot 487 on Plan 61851

PARCEL ID: **AG** Lot 602 on Plan 70566

PARCEL ID: **AH** Lot 600 on Plan 70566

REV 0
PLAN 14299-004
FIGURE 27

Legend

- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Cadastre
- Easement
- LAND TENURE Proprietor
- PRIVATE
- EPIC ENERGY
- STATE ENERGY COMMISSION
- LEASE
- PASTORAL LEASE
- RESERVE
- STATE OF WA
- UCL

JOB No: 14299 **DATE DRAWN** 6/02/2012
DRAWN: N.G.A. **CHECKED:** G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

TENURE: LANDGATE SEPT 2011
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Tenure_Report_summary.mxd

0 125 250 500 750 1,000 Meters

SCALE: 1:15,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

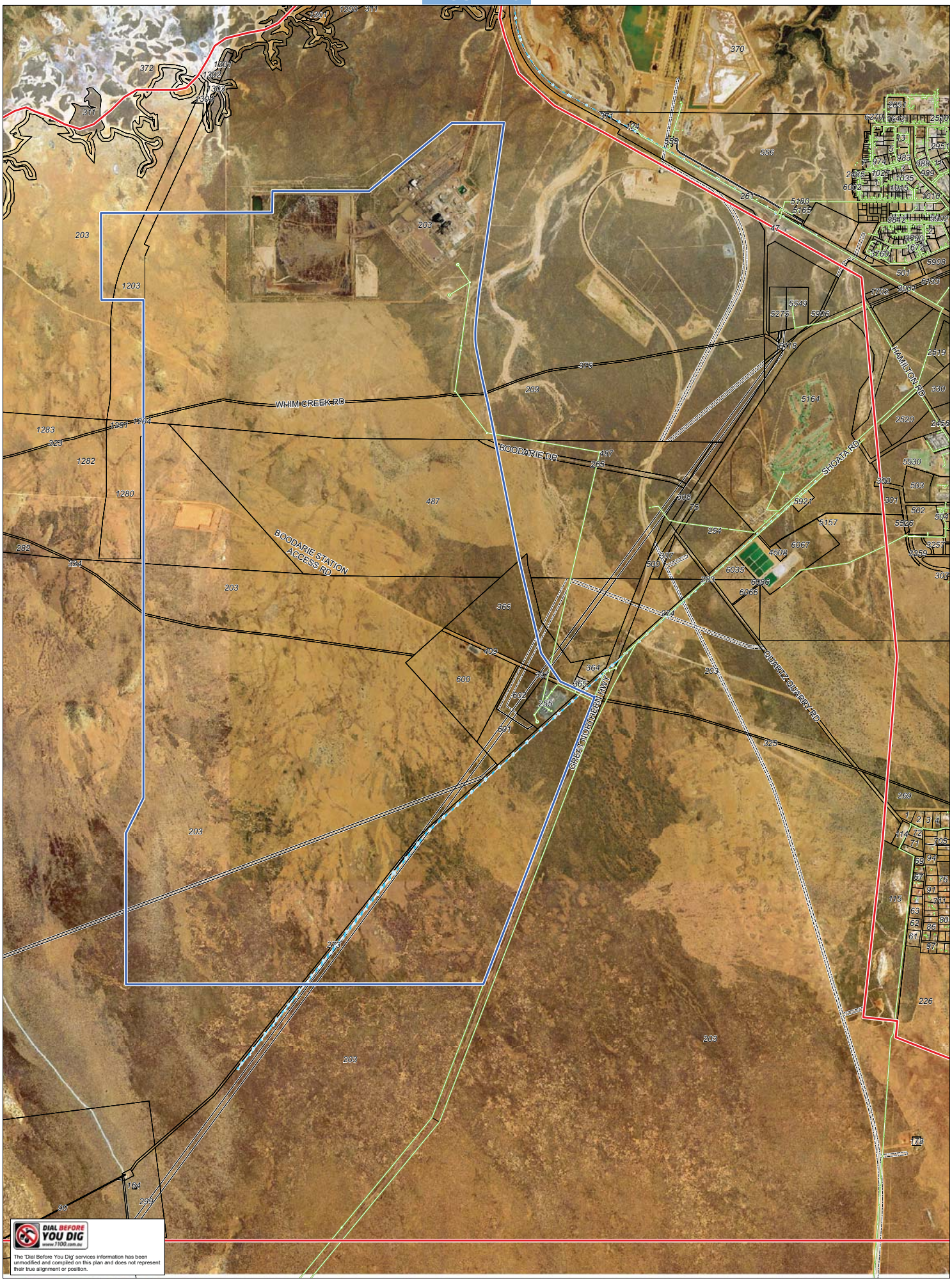
whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

UNALLOCATED CROWN LAND
BOODARIE STRATEGIC INDUSTRIAL AREA
LAND TENURE

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

FIGURE 28



DIAL BEFORE YOU DIG www.1100.com.au

The 'Dial Before You Dig' services information has been unmodified and compiled on this plan and does not represent their true alignment or position.

REV 0
PLAN 14299-004 FIGURE 28

Legend
- SIA - 4197.12ha
- SIA BUFFER - 15741.08ha
- Telstra
- WATER PIPE
- Cadastre
- Easement

JOB No: 14299 DATE DRAWN 6/03/2012
DRAWN: N.G.A. CHECKED: G.W.S.
HORIZONTAL DATUM: GDA 1994 MGA Zone 50

SERVICES: All data is subject to verification by survey.
CADASTRAL BOUNDARIES: LANDGATE SEPT 2011

FILE: Name: 14299-004-Services_Report.mxd

0 200 400 800 1,200 1,600 Meters

SCALE: 1:20,000

This map is a product of Whelans' Geo Info Solutions. Whelans accepts no responsibility for any inaccuracies and any persons relying on this data do so at their own risk.

whelans
133 Scarborough Beach Road, Mount Hawthorn WA 6016
PO Box 99, MOUNT HAWTHORN WA 6915
T:08 9443 1511 F:08 9444 3901
E: whelans@whelans.com.au W: www.whelans.com.au

WATER PIPES AND COMMS
BOODARIE STRATEGIC INDUSTRIAL AREA
SERVICES

CLIENT: LANDCORP

© This plan must not be reproduced without the permission of WHELANS

F 226096 E
23 Jun, 1993 09:47

LAND ACT 1933

EXEMPTED BY
INTERDIVISIONAL
MINUTE No. 2/88

GRANT OF EASEMENT

L - 2

Registered

at o'clock and

particulars entered in the Register Book.

Initials of Signing Officer.

REGISTRAR OF TITLES

NE 38

39826/4/85—100—MS/7552

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

IN WITNESS Whereof We have caused Our Trusty and well beloved His Excellency Professor Gordon Reid, Governor in and over the State of Western Australia and its Dependencies in the Commonwealth of Australia to affix to these Presents the Public Seal of the said State.

SEALED this 28th day of JANUARY One thousand nine hundred and eighty ~~five~~ SIX.

Gordon Reid
GOVERNOR

MINISTER FOR LANDS AND SURVEYS

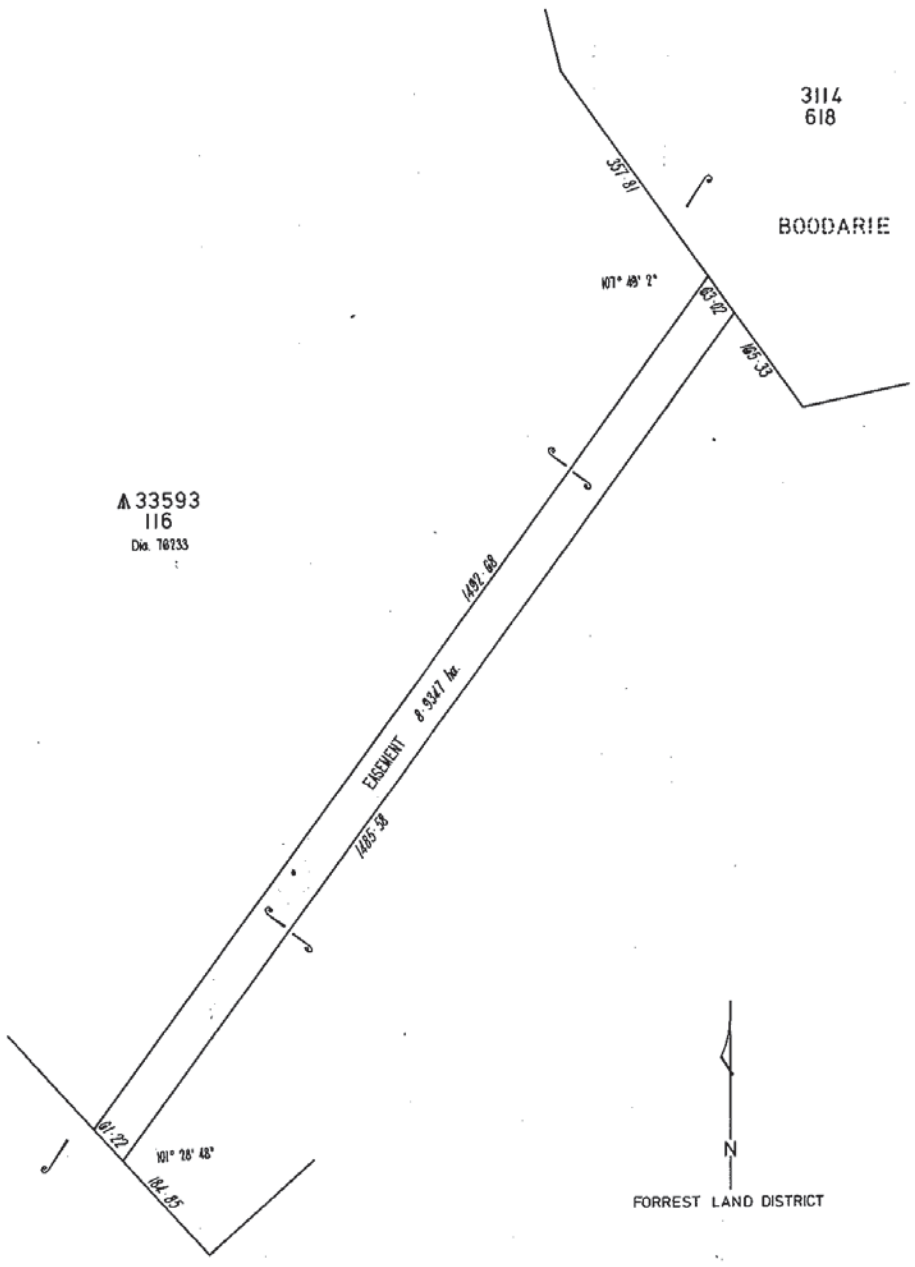
THE COMMON SEAL of THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA was hereunto affixed in the presence of:

ASSISTANT COMMISSIONER

ASST SECRETARY.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510



EASEMENT Nº 3134 B / 53	CORR. No. 891 / 985
	SCALE ~~1 : 6000~~ NOT TO SCALE All measurements in metres
Field Book Subject to Survey or assumed from Corr 891/985 page 2 Port Hedland 1:250000 Cadastral Plan Port Hedland Regional 5-5 Diagram Drawn D.S.Graham Date 8.7.85 Checked Chief Draftsman Date 13.3.1985	AMENDMENTS	Easement Registered Date Registrar Registered 15.3.1985 On Key Plans Port Hedland 1:250000 Sheet 5.8 Examination of Plans Recorded on Public Plan DEPT. OF LANDS AND SURVEYS. MISCELLANEOUS DIAGRAM E 71

S135

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

THE SECOND SCHEDULE

("The Installation")
High Voltage electrical transmission system

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

8. If required by the Grantee any successor in title to the Grantor or assign of the Grantor will procure that all persons now or hereafter having any title to or interest in the Subject Land through or under the Grantor will execute a document in substantially the same terms hereof.

9. This Grant is made and received without prejudice to any right power authority duty or obligation of the Grantee or of any other Statutory Authority contained in the S.E.C. Act or any other Acts which may now or hereafter confer any right power authority duty or obligation on the Commission or other Statutory authority.

10. Any notice consent or other writing authorised or required by this Deed to be given or sent shall be deemed to have been duly given or sent by the Grantor or the Minister if signed by the Under Secretary for Lands or by any senior officer of the Department of Lands and Surveys acting by the direction of the said Under Secretary for Lands and forwarded by prepaid post to the Grantee at 365 Wellington Street Perth in the said State and by or on behalf of the Grantee if signed by any Commissioner Deputy Commissioner Assistant Commissioner Secretary Assistant Secretary or other duly authorised officer for the time being of the Grantee or any other person authorised by the Grantee and forwarded by prepaid post to the Under Secretary for Lands at his office in Perth or if the Subject Land shall become freehold land under the Transfer of Land Act 1893 to the then proprietor thereof at his address shown in the register book kept under the Transfer of Land Act 1893 or other his address then last known to the Grantee AND any such notice consent or writing shall on proof of posting be deemed to have been duly given or sent on the day on which it would be delivered in the ordinary course of post.

11. (a) In this Deed unless the contrary intention appears reference to "the Grantor" shall include the Grantor and the personal representatives successors and assigns of the Grantor

(b) In this Deed person includes bodies corporate.

(c) Covenants herein by two or more persons as party hereto shall be deemed joint and several.

(d) Reference in this Deed to an Act shall include the amendments to that Act for the time being in force and also any Act passed in substitution therefor or in lieu thereof and the regulations for the time being in force thereunder.

THE FIRST SCHEDULE

Reserve 33593

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

3. The Grantee shall have the right to cut away and keep clear all trees and other growth upon the Subject Land and to remove all obstructions structures buildings and improvements pits wells dams bores drillholes or other structures or installations of any nature whatsoever in upon and across the Subject Land.

4. The Grantee shall not be required to (although it shall be entitled to in the interests of safety) fence off the Subject Land or any part thereof but shall be entitled to remove or cut and construct and maintain in a proper manner a gate or gates as the Grantee shall require in any fence or fences now or hereafter crossing the easement.

5. The Grantor (so as to bind the Grantor's successors in title and assigns but so that neither Her Majesty Queen Elizabeth The Second nor The Minister for Lands and Surveys shall have any liability) HEREBY COVENANTS with the Grantee:

   (a) not to erect or permit in upon and across the Subject Land any structures buildings and improvements pits wells dams bores drill holes or other structure or installations of any nature whatsoever;

   (b) not to alter or disturb or permit to be altered or disturbed (otherwise than by the process of nature) the present grades and contours of the Subject Land;

   (c) not to blast within under or on the Subject Land;

   (d) not to blast on or under land immediately adjoining the Subject Land so that the safety of the Installation or any part or parts thereof may be endangered or disturbed;

   (e) not to bring onto the Subject Land or land adjoining the Subject Land any flammable or unstable substance matter or material;

   (f) not to disturb or tamper with or cover or otherwise obliterate any survey peg or permanent marker placed on the Subject Land by the Grantee;

   (g) not to touch disturb or tamper with the Installation;

   (h) not to knowingly store or knowingly acquiesce to the continuous presence of vehicles and caravans vans vehicles trailers or other mobile accommodation or equipment upon the Subject Land except as shall be first approved in writing by the Grantee ;

   but otherwise it is agreed by the Grantee that the Grantor shall have the right fully to use cultivate and enjoy the Subject Land SUBJECT ALWAYS to and so as not to interfere with the rights and privileges hereby granted to and conferred upon the Grantee.

6. The Grantee covenants with the Grantor that the Grantee will not assign or transfer the whole of the rights of the Grantee hereunder without obtaining the prior written consent of the Minister and the Grantee acknowledges that such consent may be given or withheld in the absolute discretion of the Minister and if given may be given subject to such conditions as the Minister in the absolute discretion of the Minister shall require.

7. In the event that the Grantee shall assign or transfer any part of the rights of the Grantee hereunder then notwithstanding such assignment or transfer of such part of the rights of the Grantee the Grantee shall continue to comply with the requirements of the S.E.C. Act in relation to the Installation and the Subject Land and continue to be liable to the Grantor for the due compliance with all obligations of the Grantee hereunder as if such assignment or transfer had not taken place.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

WESTERN AUSTRALIA STAMP DUTY
30/06/93 16828203 NDP $********0.00
EXEMPT (SECTION 119 OF THE STAMP ACT)

WESTERN AUSTRALIA

Land Act 1933 as amended. No. 3134B/ 53

GRANT OF EASEMENT IN GROSS

THIS DEED OF GRANT is made the 28th day of January 1986

BETWEEN:

HER MAJESTY QUEEN ELIZABETH THE SECOND ("the Grantor") of the first part

THE MINISTER FOR LANDS AND SURVEYS of 2 Havelock Street, West Perth in the said State ("the Minister") of the second part

THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA a body corporate pursuant to the State Energy Commission Act 1979-1983 ("the S.E.C. Act") whose office and principal place of business is situate at 365 Wellington Street Perth ("the Grantee" which expression shall include the Grantee and its successors and assigns) of the third part

WHEREAS:

The Governor of the State of Western Australia on behalf of the Grantor pursuant to Part VIIIA of the Land Act 1933 as amended ("the Land Act") may upon the recommendation of the Minister grant easements subject to and in accordance with the provisions of the Act.

AND WHEREAS:

The Minister as testified by the execution hereof by the Minister has recommended this grant of Easement and the Grantee has paid to the Minister in consideration therefor, the sum of One Hundred Dollars

NOW BY THIS DEED

1. The Grantor Hereby Grants to the Grantee full right and liberty for the Grantee by its agents servants workmen and contractors for the time being and all persons authorised by the Grantee from time to time and at all times hereafter during the subsistence of the easement hereby created to enter with or without vehicles (laden or unladen) and with such plant and equipment as is reasonably necessary upon that portion of the land described in the First Schedule hereto which is marked "Easement" and delineated and coloured blue on the plan annexed hereto or otherwise defined therein ("the Subject Land") and to remain thereon for all or any of the purposes of clearing the easement and constructing installing laying supporting suspending modifying altering inspecting adding to repairing maintaining demolishing destroying taking up or removing the Installation described in the Second Schedule hereto and all appurtenances fixtures and fittings associated with it and with its operation ("the Installation") and for ancillary and related purposes limited however to a depth of 12.19 metres from the natural surface of the land (and to such additional depth in such locations as may be approved in writing in the reasonable discretion of the Minister) and to use and operate the Installation for the transmission of high voltage electricity.

2. The Grantor acknowledges and agrees with the Grantee that it has no property or interest in the Installation and that the Installation shall not constitute a fixture.

39826/4/85—100—MS/7552

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

ORIGINAL

LANDS & SURVEYS FILE NO. 891/985

EASEMENT NO. 3134B/ 53

REGISTERED: 18 APR 1986

FOR UNDER SECRETARY FOR LANDS.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

L379

G 225410 E
10 Jul, 1996 09:10 Midland

EASEMENT

"WITHDRAWN FROM REGISTRATION"

F725047

FEES (office use)	$	c
	Nil	

Lodged by: [redacted]

Mr M Knowles
BHP Legal
14th Floor
200 St Georges Terrace
PERTH WA 6000
Tel: (09) 320 4261

Issuing Instructions: Dup to

BHP
Pilbara Energy Project
PO Box 7122
CLOISTERS SQUARE WA 6850

Lodged Original & Duplicate

21-5

Endorsing Instruction.

Initials of Signing Officer.

EXAMINED 12/8/96

Allan Skinner
Chief Executive Officer
Department of Land Administration

CHIEF EXECUTIVE

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

ENDORSER: On Second Schedule (cont.) of CLR 3061/45 & CL 58/1967

EASEMENT G225410 recorded pursuant to section 19(4) of the Petroleum Pipelines Act 1969 as amended by the Pilbara Energy Project Agreement Act 1994.

Recorded 10.7.1996 at 09:10 hrs.

I certify that the foregoing instrument creates an easement in favour of a licensee under the Petroleum Pipelines Act 1969.

DATED the 4th day of November 1994

George Court

MINISTER FOR MINES

gp2dppaease)

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

IN WITNESS whereof these presents have been executed the day and year first hereinbefore written

THE COMMON SEAL of)
the MINISTER FOR LANDS)
was hereunto affixed by me)

MINISTER FOR LANDS

in the presence of:

WITNESS T. RAMSDEN
PUBLIC SERVANT
57 GILD ST
CLOVERDALE 6105

Executed for and on behalf)
of PILBARA ENERGY PTY LTD by)
its duly authorised attorney)
DAVID JOHN BARGE)

under power of attorney F730850) Signature of Attorney
dated 4 November, 1994)
in the presence of:)

Signature of Witness
L. Davies
55 Goldsmith Rd
Dalkeith, Solicitor

Executed for and on behalf)
of BHP MINERALS PTY. LTD by)
its duly authorised attorney)
DAVID JOHN BARGE)

under power of attorney F730851) Signature of Attorney
dated 4 November, 1994)
in the presence of:)

Signature of Witness

PS/A D.K.

gp2dppaease)

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

THE THIRD SCHEDULE

Portion of Forrest Location 203

as is shown more particularly delineated on

plan P18567

gp2dppaease)

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

THE SECOND SCHEDULE

Forrest Location 203 Portion of Crown Lease 58/1967 Pastoral Lease 3114/618 Boodarie Station

gp2dppaease)

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

THE FIRST SCHEDULE

Portion of Forrest Location 203 being portion of Pastoral Lease 3114/618 (Crown Lease 58/1967)

gp2dppaease)

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

Town Clerk or Executive Officer of a Municipality or any person authorised by the relevant officer and forwarded by prepaid post to the Licensee at their respective addresses hereinbefore set forth or other address or addresses in Western Australia nominated by the Licensee to the Grantor and by the Licensee if signed on behalf of the Licensee by a person authorised by the Licensee and forwarded by prepaid post to the Chief Executive, Department of Land Administration, Midland Square, Midland or, where a road is concerned, to the Commissioner at its office at Waterloo Crescent, East Perth and the Municipality in which the Easement is situate with a copy forwarded to the Chief Executive, Department of Land Administration

AND any such notice consent or writing shall be deemed to have been duly given or sent on the day on which it would be delivered in the ordinary course of post.

8. Subject to the Agreement, upon the discontinuance of the use of the Easement by the Licensee and of the exercise by the Licensee of the rights hereby granted to it the Licensee shall and will restore the land comprising the Easement to the same condition so far as it is practicable so to do as the same was in prior to the entry thereon and the use thereof by the Licensee.

9. For the purposes of section 20(2)(a) of the Pipelines Act this instrument creates an easement in favour of the Licensee as a licensee under the Pipelines Act and is entered into subject to the grant of a certificate pursuant to section 20(2)(b) of that Act.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

pursuant to this Deed) or the Grantor's full use and enjoyment thereof consistent with the Licensee's rights granted pursuant to this Deed the Licensee shall forthwith upon written notice given to the Licensee make full compensation to the Grantor in respect thereof.

4. IT IS HEREBY AGREED AND DECLARED by and between the parties hereto that this Deed is made subject to the provisions contained in the Pipelines Act and the Agreement.

5. Any dispute or difference between the parties arising out of or in connection with this Deed or as to the construction of this Deed or as to the rights duties or liabilities hereunder shall in default of agreement between the parties be referred to and settled by a Court of competent jurisdiction.

6. In this Deed unless the contrary intention appears -

(a) "the Pipelines Act" means the Petroleum Pipelines Act 1969 as modified by the Agreement;

(b) "the Agreement" means the agreement (as amended from time to time) ratified by the Pilbara Energy Project Agreement Act 1994;

(c) the expressions "Minister", "license", "Licensee", "petroleum" and "Pipeline" have the meanings given them in the Pipelines Act;

(d) the expressions "road" and "Municipality" have the meanings given them in the Local Government Act 1960;

(e) the expression "Commissioner" has the meaning given it in the Main Roads Act 1930;

(f) reference in this Deed to an Act shall include the amendments to that Act for the time being in force and also any Act passed in substitution therefor or in lieu thereof and the regulations for the time being in force thereunder.

7. Any notice consent or other writing authorised or required by this Deed to be given or sent shall be deemed to have been duly given or sent by the Grantor if signed by the Chief Executive of the Department of Land Administration or by any senior officer of that Department acting by direction of the said Chief Executive or, where a road is concerned, by the Commissioner or any person authorised by the Commissioner or (as the case may require) the Shire Clerk

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

(f) the Licensee shall release and indemnify the Crown (in right of the State of Western Australia) and the Grantor and their respective officers servants agents invitees and licensees from and against all actions proceedings claims demands losses costs and expenses (including the costs of defending or settling any action proceeding claim or demand) directly or indirectly arising out of or in connection with any one or any combination of two or more of the following:

the exercise use or enjoyment of the rights granted by or the performance or observance or any breach of the Licensee's obligations imposed by this Deed or any damage or injury to or fault or defect in the Pipeline howsoever arising or by whomsoever or by whatsoever caused

in respect of -

(i) the death of or injury to any person or persons whether or not on the land described in the Schedules hereto and including amongst others -

(A) the Crown's and the Grantor's respective officers servants agents licensees and invitees;

(B) the Licensee its contractors and sub-contractors and their respective officers employees and agents;

(ii) the destruction loss of or damage to any property of any person or persons whether or not on the land described in the Schedules hereto and including the property of -

(A) the Crown and the Grantor and their respective officers servants agents licensees and invitees;

(B) the Licensee its contractors and sub-contractors and their respective officers employees and agents;

(g) when and as often as the Licensee in the exercise use or enjoyment of any of its rights granted hereunder causes any damage or disturbance to or any interference with the whole or any part of the Easement or any property thereon (other than is consistent with the Licensee's rights granted

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

(b) the Licensee shall at all times hereafter duly and punctually observe perform and comply with all the provisions contained or implied in -

(i) the Pipelines Act and the Agreement which are on the part of the Licensee to be observed performed or complied with;

(ii) the Main Roads Act 1930;

in so far as they are applicable to this Deed;

(c) the Licensee shall at all times maintain in force and comply with the agreement referred to in recital (iv) to this Deed or any agreement in substitution therefor approved by the Grantor for the purposes of this Deed;

(d) the Licensee shall at all times do carry out and perform or cause to be done carried out and performed the work of constructing maintaining and operating the Pipeline subject to the requirements of the Pipelines Act and the Agreement and subject thereto strictly in accordance with -

(i) such plans specifications and conditions (including (inter alia) the cutting and removal of timber trees and undergrowth on the Easement as the Grantor or, if a road is concerned, as the Commissioner or Municipality (as the case may require) from time to time approves); and

(ii) the Road Traffic Act 1974 and the Australian Standards of Road Traffic Control Devices (S.A.A.C.E. 1 - 1960) as in force from time to time) in so far as it applies to any part of a road the subject of this easement and the approaches hereto;

(e) the Licensee shall at its own expense forthwith after the completion of the construction of the Pipeline on the Easement restore and regenerate the vegetation on that land (as near as reasonably practicable) to the state and condition they were before this grant of Easement or replant vegetation thereon of a like species to those thereon prior to the grant hereof, except for a cleared line of sight over the Pipeline between marker signs and consistent with the Licensee's requirement to obtain access to the Pipeline for the purpose specified in Clause 1;

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

Grantor with the intent that this covenant may enure to the benefit of the Grantor Her heirs successors transferees and assigns and others claiming under Her to all or any part of the land referred to in the First Schedule hereto that:-

(a) the Licensee shall -

(i) (other than in respect of work already commenced prior to the date of this Deed) at all times give to the Grantor or, if a road is concerned, to the Commissioner or (as the case may require) to the Municipality a notice in writing at least 90 days prior to commencing any work on or about the Easement in respect of or incidental to the construction of the Pipeline;

(ii) subject to paragraph (iii) of this Clause where maintenance works to be conducted in respect of the Pipeline are other than of a routine or emergency nature give to the Grantor or, if a road is concerned, to the Commissioner or (as the case may require) to the Municipality such notice of the nature and estimated duration of those works as is in the circumstances reasonable;

(iii) where maintenance works require or are likely to require any pavement of a road on the Easement or the drains adjoining that pavement to be interfered with give to the Commissioner or Municipality (as the case may require) -

(A) not less than ninety (90) days written notice prior to commencing any work unless of an emergency nature; or

(B) if of an emergency nature, notice as soon as reasonably practicable,

and in either case that written notice shall give all details of the maintenance works which are to be or are being or have been carried out; and

(iv) subject to the provisions of this clause not be required to give to the Grantor any notice in respect of maintenance works which are of a routine or emergency nature;

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

watercourses or other areas of scouring because of waterflow where in any such case the depth from the ground surface or the riverbed must be increased to maintain the integrity of the Pipeline but in no such case exceeding twelve point one nine (12.19) metres) and to use and operate the pipeline for the conveyance of petroleum.

2. The Grantor for Herself Her heirs and successors and the registered proprietor or proprietors for the time being of the land comprising the Easement HEREBY COVENANTS with the Licensee with the intent that this covenant may enure to the benefit of the Licensee and the registered proprietor or proprietors for the time being of this grant of easement that -

(a) whenever a municipality or (as the case may be) the Commissioner carries out or causes to be carried out any of the works (other than works of a routine nature) it is authorised to carry out under the provisions of the Local Government Act, 1960 or the Main Roads Act, 1930 (as the case may be) in the Easement it will (if possible) before commencing those works and otherwise before completing them advise the Licensee of the nature extent and position of same; and

(b) except as provided in paragraph (a) of this Clause the Grantor will not without obtaining the Licensee's consent which will not be unreasonably withheld (provided that the Licensee may attach to that consent such conditions as the Minister approves to ensure the safety of persons and property including the pipeline) excavate drill install erect or permit to be excavated drilled installed or erected on the land comprising the Easement any pit well pavement foundation building or other structure or installation of any nature whatsoever or alter or disturb or permit to be altered or disturbed (otherwise than by the process of nature) the present grades and contours of the land comprising the Easement.

3. Without in any manner lessening limiting or prejudicing any of the rights remedies or powers of the Grantor pursuant to the provisions of the Pipelines Act the Licensee for itself and the proprietor or proprietors for the time being of this grant of easement hereby jointly and severally covenants with the

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

(iii) The Licensee has requested the Grantor to grant to it under section 18 of the Pipelines Act an easement to construct operate and maintain the Pipeline within or over that portion of the said land which is marked "Easement" and shown on the plan referred to in the Third Schedule (which portion is hereinafter called "the Easement");

(iv) In respect of any pastoral lease mentioned in the Second Schedule hereto the Licensee has entered into an agreement with the lessee which provides for access by the Licensee to and over the Easement for the purposes of this grant of easement and the Pipeline and for payment of compensation in respect thereof;

(v) Pursuant to the said request of the Licensee the Grantor has agreed to grant to the Licensee under section 18 of the Pipelines Act an easement through the Easement upon the payment of two hundred dollars ($200) and subject to the terms and conditions herein contained.

NOW THIS DEED WITNESSES -

1. That in pursuance of the said agreement and under section 18 of the Pipelines Act and in consideration of the payment to the Grantor of the sum of Two hundred dollars ($200) the Grantor subject to and in accordance with the provisions of the Pipelines Act HEREBY TRANSFERS AND GRANTS unto the Licensee as Tenants in Common in the following percentages absolutely -

Pilbara Energy Pty. Ltd. 99%

BHP Minerals Pty. Ltd. 1%

full right and liberty for the Licensee by its agents servants, contractors, and all persons authorised by the Licensee from time to time and at all times hereafter during the period specified in the licence to enter with or without vehicles and such plant and equipment as in the circumstances are reasonably necessary upon the Easement and to remain thereon for all or any of the purposes of the licence or any variation or renewal thereof and of laying constructing fixing taking up maintaining operating repairing relaying or examining the Pipeline but limited to a depth not exceeding six point zero nine six (6.096) metres from the natural surface thereof (except where the Pipeline traverses rivers or

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

PEPA ACT 1994.
EXEMPT from W.A. Stamp Duty
J. Mahu
for COMMISSIONER OF STATE REVENUE
WESTERN AUSTRALIA

ORIGINAL

WESTERN AUSTRALIA STAMP DUTY
08/11/94 28070803 SD $********0.00

GRANT OF EASEMENT

Petroleum Pipelines Act 1969

Pilbara Energy Project Agreement Act 1994

EASEMENT NO. 320

THIS DEED OF GRANT is made the 4th day of November One thousand nine hundred and ninety four BETWEEN **HER MAJESTY QUEEN ELIZABETH THE SECOND** ("the Grantor") of the one part and **PILBARA ENERGY PTY. LTD.** ACN 058 070 689 a company incorporated in the State of Western Australia and having its registered office at Level 18, 200 St. George's Terrace, Perth and **BHP MINERALS PTY. LTD.** ACN 008 694 782 a company incorporated in the State of Western Australia and having its registered office at Level 18, 200 St. George's Terrace, Perth (the said companies being collectively a Licensee as defined in section 4 of the Pipelines Act (as hereinafter defined) and being hereinafter collectively called "the Licensee" in which term shall be included their respective successors and assigns) of the other part.

WHEREAS:

(i) Pursuant to the provisions of section 10 of the Pipelines Act, the Minister granted to the Licensee a licence ("the licence") to construct and operate a pipeline ("the Pipeline") for the conveyance of petroleum and pursuant to the provisions of section 43 of the Pipelines Act the Licensee is at the date hereof entered in the register of licences as the holder of such licence which is numbered 22 in the register of licences;

(ii) The route of the said pipeline passes through the land described in the First Schedule which is Crown land subject to the pastoral lease (if any) mentioned in the Second Schedule hereto;

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

INSTRUCTIONS

1. If insufficient space in any section, Additional Sheet Form B1 should be used with appropriate headings. The boxed sections should only contain the words "See Annexure".

2. Additional Sheets shall be numbered consecutively and bound to this document by staples along the left margin prior to execution by parties.

3. No alteration should be made by erasure. The words rejected should be scored through and those substituted typed or written above them, the alteration being initialled by the person signing this document and their witnesses.

NOTES

1. SERVIENT TENEMENT
Lot and Diagram/Plan number or Location name and number to be stated.
Extent - Whole, part or balance of the land comprised in the Certificate of Crown Land Title to be stated.
The Certificate of Crown Land Title Volume and Folio number to be stated.

2. ENCUMBRANCES
To be identified by nature and number, if none show "nil".

3. CONSIDERATION
To be expressed in words.

4. PURPOSE OF EASEMENT
Describe the purpose of the easement being granted.

5. GRANTEE
State the full name of the Grantee/Grantees and the address/addresses to which future notices can be sent. If a minor state date of birth.

6. EXECUTION
A separate attestation is required for every person signing this document. Each signature should be separately witnessed by an Adult Person. The address and occupation of the witness must be stated.

EXAMINED

NE38 JC.

Office Use Only

H 522488 E
10 Aug, 2000 11:55:56 Midland

EASEMENT IN GROSS (E)

LODGED BY **Land Administration Services Branch**

ADDRESS **DOLA**

PHONE No.

FAX No.

REFERENCE No. **Michelle Goodwin 02606-1994-01RO**

ISSUING BOX No.

PREPARED BY **Land Administration Services Branch**

ADDRESS **DOLA**

PHONE No. FAX No.

INSTRUCT IF ANY DOCUMENTS ARE TO ISSUE TO OTHER THAN LODGING PARTY

1/1

TITLES, LEASES, DECLARATIONS ETC LODGED HEREWITH

1. Original Grant of Easement Received Items
2. Nos. 1
3.
4. Receiving Clerk
5. 8
6.

002663-001

Registered pursuant to the provisions of the TRANSFER OF LAND ACT 1893 as amended on the day and time shown above and particulars entered in the Register.

REGISTRAR OF TITLES WESTERN AUSTRALIA

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

ATTESTATION SHEET

Dated this	day of	in the year

GRANTOR TO SIGN HERE (NOTE 6)

Signed	Signed

GRANTEE/S TO SIGN HERE (NOTE 6)

Signed	Signed
In the presence of	In the presence of

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

LAND ACT 1933

GRANT OF EASEMENT

Registered

at o'clock and

particulars entered in the Register Book.

Initials of Signing Officer.

REGISTRAR OF TITLES

39826/4/85—100—MS/7552

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

IN WITNESS Whereof We have caused Our Trusty and well beloved His Excellency Professor Gordon Reid, Governor in and over the State of Western Australia and its Dependencies in the Commonwealth of Australia to affix to these Presents the Public Seal of the said State.

SEALED this 28th day of JANUARY One thousand nine hundred and eighty ~~five~~ SIX.

Gordon Reid
GOVERNOR

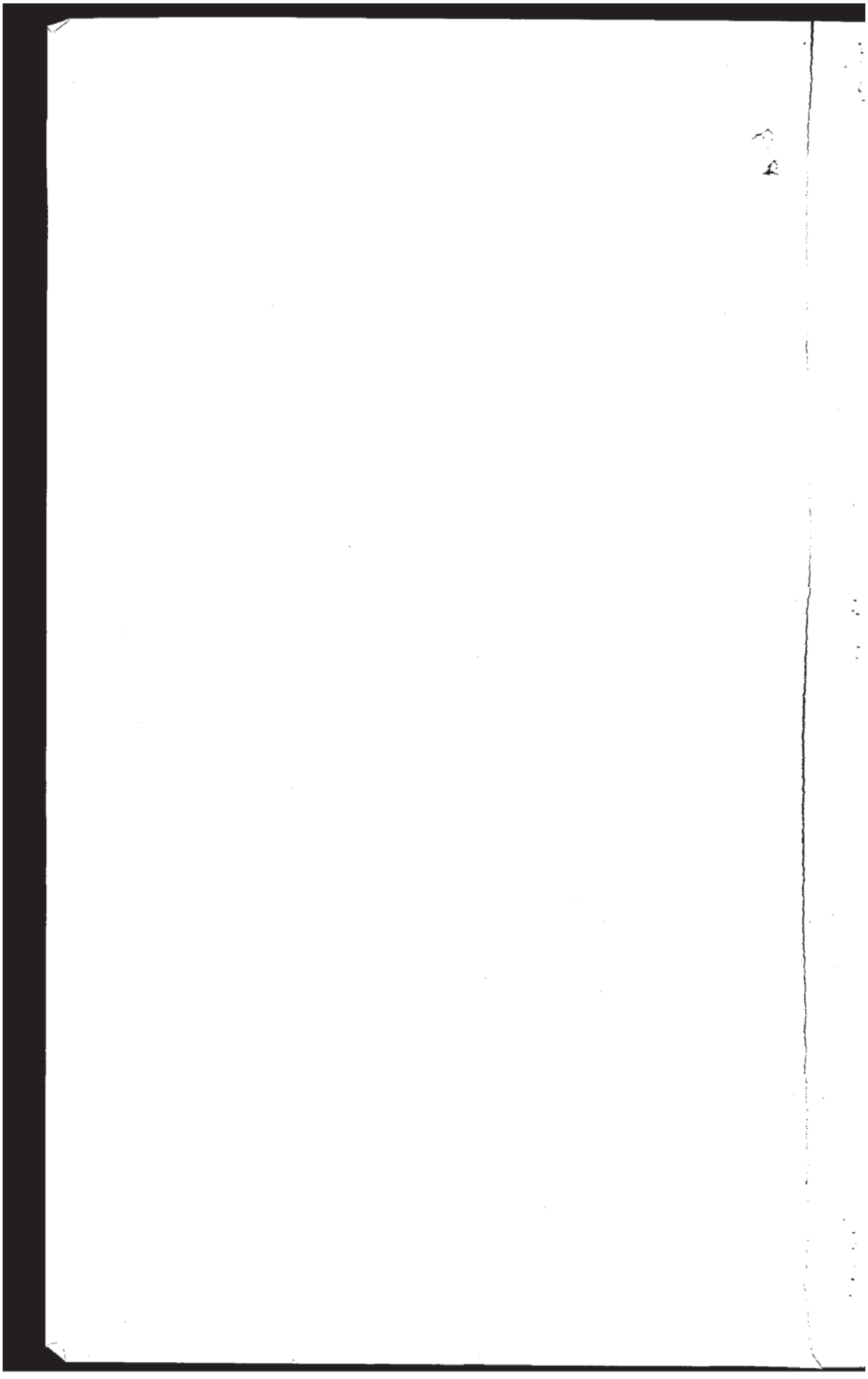
MINISTER FOR LANDS AND SURVEYS

THE COMMON SEAL of THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA was hereunto affixed in the presence of:

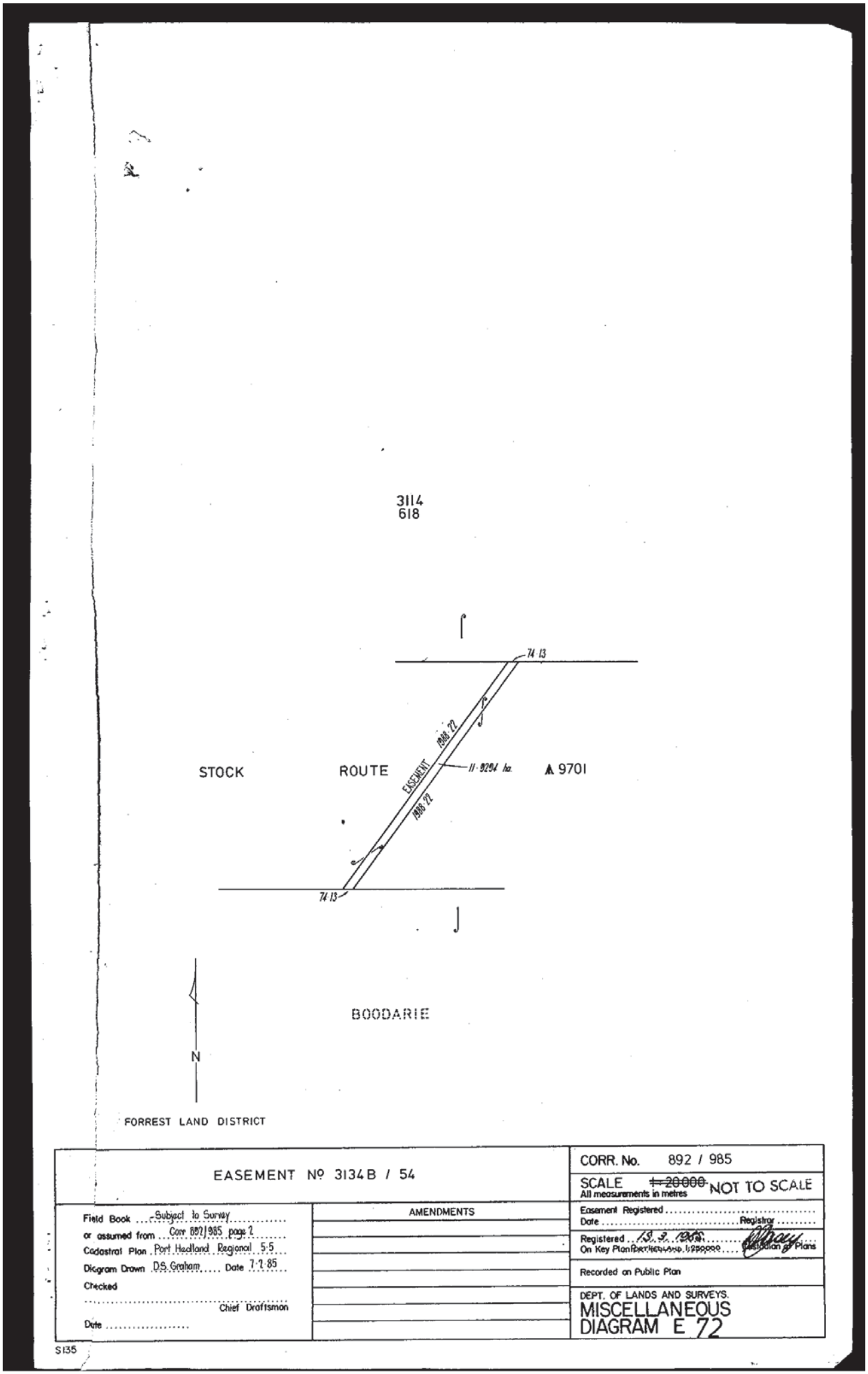
ASSISTANT COMMISSIONER

ACTG SECRETARY,

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510



LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510



EASEMENT Nº 3134B / 54

CORR. No. 892 / 985

SCALE ~~1=20000~~ NOT TO SCALE
All measurements in metres

Field Book Subject to Survey
or assumed from Corr 892/985 page 2
Cadastral Plan Port Hedland Regional 5·5
Diagram Drawn D.S. Graham Date 7·1·85
Checked
Chief Draftsman
Date

AMENDMENTS

Easement Registered
Date Registrar
Registered 13.9.1988 Delineation of Plans
On Key Plan Port Hedland 1:250000

Recorded on Public Plan

DEPT. OF LANDS AND SURVEYS.
MISCELLANEOUS
DIAGRAM E 72

S135

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

THE SECOND SCHEDULE

("The Installation")
High Voltage electrical transmission system

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

8. If required by the Grantee any successor in title to the Grantor or assign of the Grantor will procure that all persons now or hereafter having any title to or interest in the Subject Land through or under the Grantor will execute a document in substantially the same terms hereof.

9. This Grant is made and received without prejudice to any right power authority duty or obligation of the Grantee or of any other Statutory Authority contained in the S.E.C. Act or any other Acts which may now or hereafter confer any right power authority duty or obligation on the Commission or other Statutory authority.

10. Any notice consent or other writing authorised or required by this Deed to be given or sent shall be deemed to have been duly given or sent by the Grantor or the Minister if signed by the Under Secretary for Lands or by any senior officer of the Department of Lands and Surveys acting by the direction of the said Under Secretary for Lands and forwarded by prepaid post to the Grantee at 365 Wellington Street Perth in the said State and by or on behalf of the Grantee if signed by any Commissioner Deputy Commissioner Assistant Commissioner Secretary Assistant Secretary or other duly authorised officer for the time being of the Grantee or any other person authorised by the Grantee and forwarded by prepaid post to the Under Secretary for Lands at his office in Perth or if the Subject Land shall become freehold land under the Transfer of Land Act 1893 to the then proprietor thereof at his address shown in the register book kept under the Transfer of Land Act 1893 or other his address then last known to the Grantee AND any such notice consent or writing shall on proof of posting be deemed to have been duly given or sent on the day on which it would be delivered in the ordinary course of post.

11. (a) In this Deed unless the contrary intention appears reference to "the Grantor" shall include the Grantor and the personal representatives successors and assigns of the Grantor

(b) In this Deed person includes bodies corporate.

(c) Covenants herein by two or more persons as party hereto shall be deemed joint and several.

(d) Reference in this Deed to an Act shall include the amendments to that Act for the time being in force and also any Act passed in substitution therefor or in lieu thereof and the regulations for the time being in force thereunder.

THE FIRST SCHEDULE

~~Reserve 9701~~

Pt'n of FORREST LOC 265 on Land Administration Miscellaneous Diagram 93736 and coloured blue on Miscellaneous Diagram E72.

TEAM LEADER
PILBARA REGION
LAND ADMINISTRATION SERVICES

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

3. The Grantee shall have the right to cut away and keep clear all trees and other growth upon the Subject Land and to remove all obstructions structures buildings and improvements pits wells dams bores drillholes or other structures or installations of any nature whatsoever in upon and across the Subject Land.

4. The Grantee shall not be required to (although it shall be entitled to in the interests of safety) fence off the Subject Land or any part thereof but shall be entitled to remove or cut and construct and maintain in a proper manner a gate or gates as the Grantee shall require in any fence or fences now or hereafter crossing the easement.

5. The Grantor (so as to bind the Grantor's successors in title and assigns but so that neither Her Majesty Queen Elizabeth The Second nor The Minister for Lands and Surveys shall have any liability) HEREBY COVENANTS with the Grantee:

   (a) not to erect or permit in upon and across the Subject Land any structures buildings and improvements pits wells dams bores drill holes or other structure or installations of any nature whatsoever;

   (b) not to alter or disturb or permit to be altered or disturbed (otherwise than by the process of nature) the present grades and contours of the Subject Land;

   (c) not to blast within under or on the Subject Land;

   (d) not to blast on or under land immediately adjoining the Subject Land so that the safety of the Installation or any part or parts thereof may be endangered or disturbed;

   (e) not to bring onto the Subject Land or land adjoining the Subject Land any flammable or unstable substance matter or material;

   (f) not to disturb or tamper with or cover or otherwise obliterate any survey peg or permanent marker placed on the Subject Land by the Grantee;

   (g) not to touch disturb or tamper with the Installation;

   (h) not to knowingly store or knowingly acquiesce to the continuous presence of vehicles and caravans vans vehicles trailers or other mobile accommodation or equipment upon the Subject Land except as shall be first approved in writing by the Grantee ;

   but otherwise it is agreed by the Grantee that the Grantor shall have the right fully to use cultivate and enjoy the Subject Land SUBJECT ALWAYS to and so as not to interfere with the rights and privileges hereby granted to and conferred upon the Grantee.

6. The Grantee covenants with the Grantor that the Grantee will not assign or transfer the whole of the rights of the Grantee hereunder without obtaining the prior written consent of the Minister and the Grantee acknowledges that such consent may be given or withheld in the absolute discretion of the Minister and if given may be given subject to such conditions as the Minister in the absolute discretion of the Minister shall require.

7. In the event that the Grantee shall assign or transfer any part of the rights of the Grantee hereunder then notwithstanding such assignment or transfer of such part of the rights of the Grantee the Grantee shall continue to comply with the requirements of the S.E.C. Act in relation to the Installation and the Subject Land and continue to be liable to the Grantor for the due compliance with all obligations of the Grantee hereunder as if such assignment or transfer had not taken place.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

WESTERN AUSTRALIA

Land Act 1933 as amended. No. 3134B/ 54

GRANT OF EASEMENT IN GROSS

THIS DEED OF GRANT is made the 28th day of January 1986

BETWEEN:

HER MAJESTY QUEEN ELIZABETH THE SECOND ("the Grantor") of the first part

THE MINISTER FOR LANDS AND SURVEYS of 2 Havelock Street, West Perth in the said State ("the Minister") of the second part

THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA a body corporate pursuant to the State Energy Commission Act 1979-1983 ("the S.E.C. Act") whose office and principal place of business is situate at 365 Wellington Street Perth ("the Grantee" which expression shall include the Grantee and its successors and assigns) of the third part

WHEREAS:

The Governor of the State of Western Australia on behalf of the Grantor pursuant to Part VIIIA of the Land Act 1933 as amended ("the Land Act") may upon the recommendation of the Minister grant easements subject to and in accordance with the provisions of the Act.

AND WHEREAS:

The Minister as testified by the execution hereof by the Minister has recommended this grant of Easement and the Grantee has paid to the Minister in consideration therefor, the sum of One Hundred Dollars

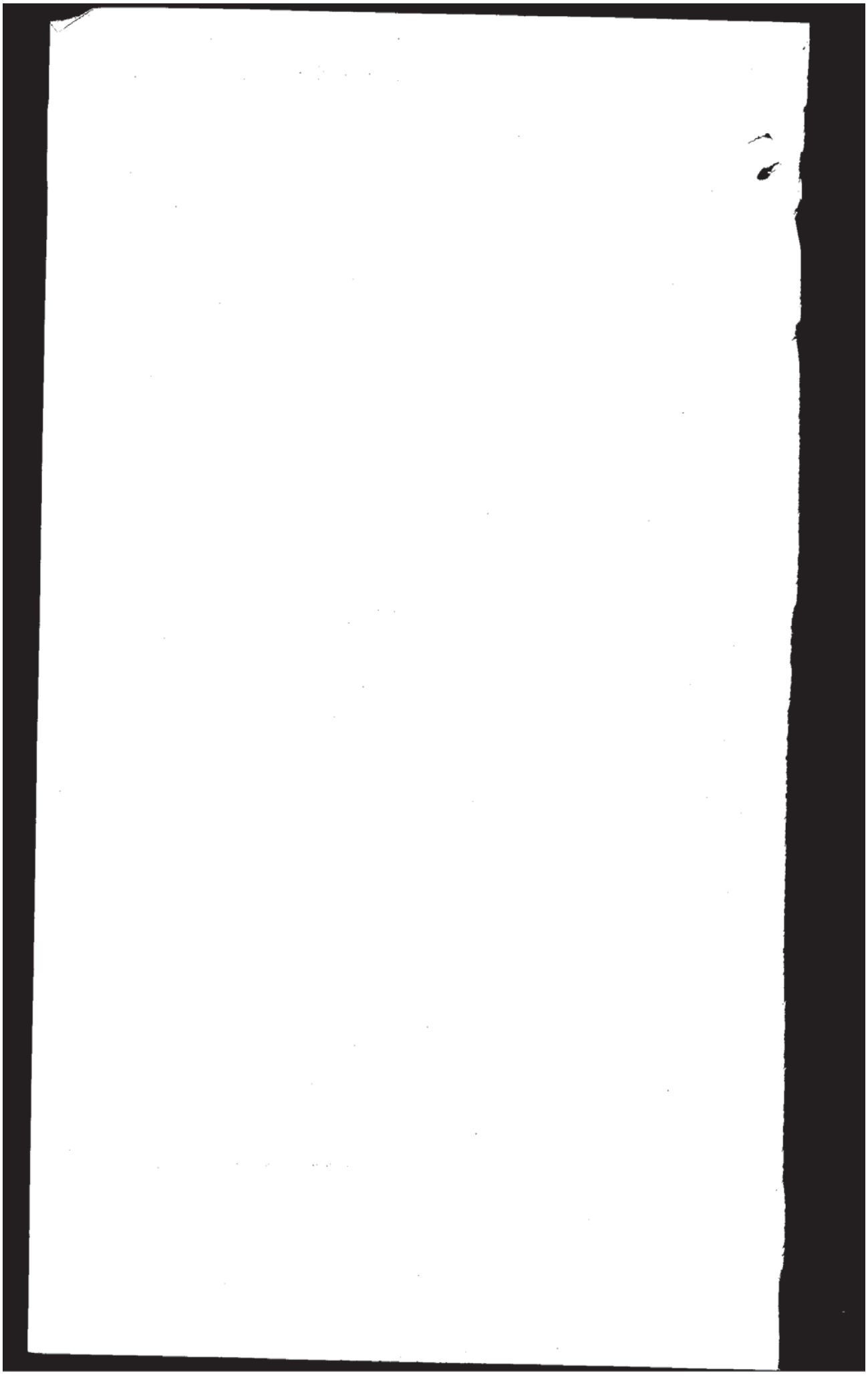
NOW BY THIS DEED

1. The Grantor Hereby Grants to the Grantee full right and liberty for the Grantee by its agents servants workmen and contractors for the time being and all persons authorised by the Grantee from time to time and at all times hereafter during the subsistence of the easement hereby created to enter with or without vehicles (laden or unladen) and with such plant and equipment as is reasonably necessary upon that portion of the land described in the First Schedule hereto which is marked "Easement" and delineated and coloured blue on the plan annexed hereto or otherwise defined therein ("the Subject Land") and to remain thereon for all or any of the purposes of clearing the easement and constructing installing laying supporting suspending modifying altering inspecting adding to repairing maintaining demolishing destroying taking up or removing the Installation described in the Second Schedule hereto and all appurtenances fixtures and fittings associated with it and with its operation ("the Installation") and for ancillary and related purposes limited however to a depth of 12.19 metres from the natural surface of the land (and to such additional depth in such locations as may be approved in writing in the reasonable discretion of the Minister) and to use and operate the Installation for the transmission of high voltage electricity.

2. The Grantor acknowledges and agrees with the Grantee that it has no property or interest in the Installation and that the Installation shall not constitute a fixture.

85—100—MS/7552

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510



LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

ORIGINAL

LANDS & SURVEYS FILE NO. 892/985

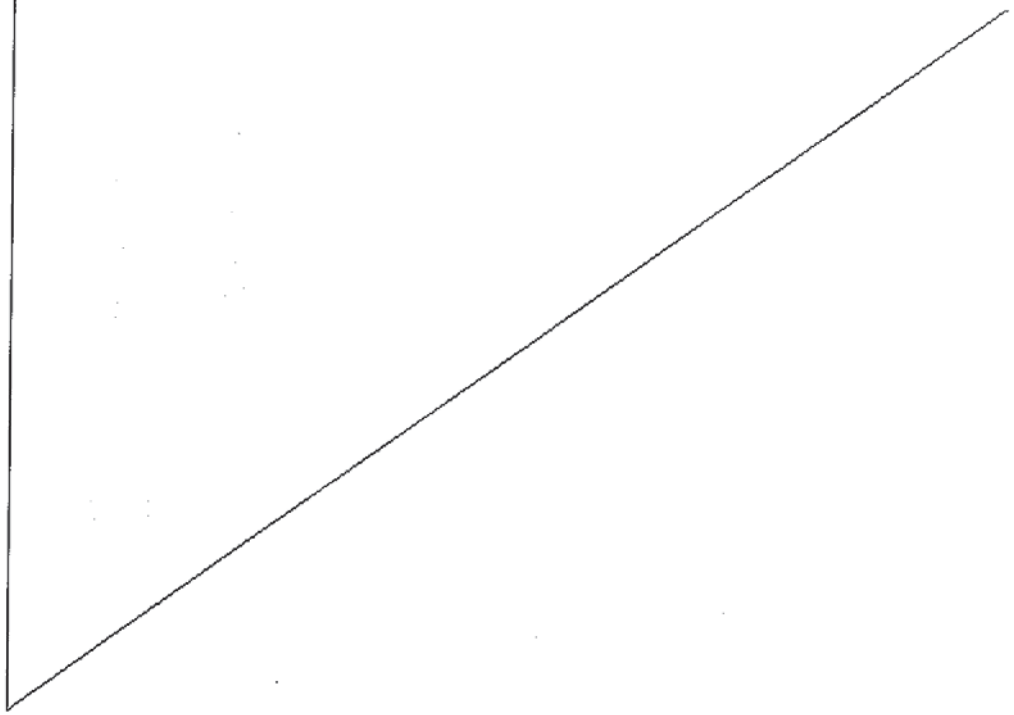
EASEMENT NO. 3134B/ 54

REGISTERED: 18 APR 1986

FOR UNDER SECRETARY FOR LANDS.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

EASEMENT H522488. The right to enter upon the portion of the within land marked Easement on Land Administration Miscellaneous Diagram E72 for the purpose of constructing, installing, maintaining and operating the Installation for the transmission of high voltage electricity as set out in the said Easement is granted to **The State Energy Commission**. Registered 10.8.00 at 11.55 hrs.



LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

FORM LAA-1060A

SECTION 144 & 147
TENURE CODE:

WESTERN AUSTRALIA
LAND ADMINISTRATION ACT 1997
TRANSFER OF LAND ACT 1893 AS AMENDED

WA STAMP DUTY PAID SECTION 112V
528.8- Signature
Exemption: 5119
Gross Rental $ 100-00
Duty otherwise payable $ NIL

EASEMENT IN GROSS (E)

SERVIENT TENEMENT (NOTE 1)	EXTENT	VOLUME	FOLIO
Portion of Forrest Location 265 on Land Administration Miscellaneous Diagram 93736 and marked Easement on Miscellaneous Diagram E72	Part	3106	96

ENCUMBRANCES (NOTE 2)

H345100 Notice of Intention to Take

GRANTOR

State of Western Australia

CONSIDERATION (NOTE 3)

One Hundred Dollars

PURPOSE OF EASEMENT (NOTE 4)

High Voltage Electrical Transmission System

GRANTEE/S (NOTE 5)

The State Energy Commission of Western Australia a body corporate pursuant to the State Energy Commission Act 1979-1983, 365 Wellington Street Perth

THE MINISTER FOR LANDS, ACTING IN THE NAME AND ON BEHALF OF THE GRANTOR, FOR THE ABOVE CONSIDERATION, BY THIS DEED HEREBY GRANTS TO THE GRANTEE THE RIGHTS HEREIN SET OUT OVER THE SERVIENT TENEMENT FOR THE PURPOSE(S) SPECIFIED ABOVE, SUBJECT TO:

1. **THE ENCUMBRANCES SHOWN HEREON;**
2. **THE COVENANTS AND POWERS IMPLIED UNDER THE LAND ADMINISTRATION ACT 1997 AND THE TRANSFER OF LAND ACT 1893 AS AMENDED (UNLESS HEREBY NEGATED OR MODIFIED); AND**
3. **THE COVENANTS AND CONDITIONS CONTAINED HEREIN.**

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

File Copy Do not Destroy

Stopped Document Disposal Instructions

Fees to be Refunded $
Form 10 No.
Date
To .....
Address..... .....
Parties ....
Reference ....
Document numbers
Computer records adjusted WDR/MTF/DPA/BKC
Doc's to be rejected
Docs to be withdrawn
Doc's for Registration
Authorised by

Examiner's notes

File Copy Do Not Destroy

Stopped Case **522488**

Original Cs/T:
LR3106/96

Notice Sent 13.9.00 PIL BARA

Action

Examination Instructions

Allocate New C/T

Complete Nom. Index

Pass to

Other

Group

Examiner: J Cahill

Supervisor: R Pearce

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

DOLA
Department of LAND ADMINISTRATION

Requisition Notice

Document Nos: H522488
Your Ref: Michelle Goodwin - File:02606-1994-01ro

Section 192 of the Transfer of Land Act
First and Final

Our Ref. **Crown Title Creation**
Telephone: **(08) 9273 7416** Fax **(08) 9273 7626**
Date: 13.9.00

Lodging Party
L A S - Pilbara Region

Other Parties Contacted

REGISTRATION OF THE ABOVE DOCUMENTS CANNOT BE EFFECTED UNTIL ALL REQUISITIONS LISTED BELOW ARE COMPLIED WITH AND FEE PAYABLE IS RECEIVED. A TIME LIMIT OF 14 DAYS APPLIES FROM THE DATE STATED ABOVE.

Requisitions

Doc.No		Req. Fee
488	The front of the document is to be stamped to show that Registration fees have been paid. N/A. Registered under TLA.	
	The land description shown in the first schedule of the Easement is not acceptable and is to be amended by the team leader to 'portion of Forrest Location 265 on Land Administration Miscellaneous Diagram 93736 and coloured blue on Miscellaneous Diagram E72'.	

Requisition Sub Total $
Additional Fee $
TOTAL FEE Payable $

Ian Hyde
Registrar of Titles

Requisitions may be attended to by;
1. fax direct to the Crown Title Creation Section referred to above.
2. personal attendance to the Stopped Documents Section, Midland Square. (all documents held at Midland Office)
3. the lodging of evidence at the Perth Branch Office, Mt Newman House, 200 St. Georges Terrace, Perth. (note: no advice/discussions re: requisitions)
4. Post to P O Box 2222, Midland WA 6936 or DX88

Correspondence by representatives of parties to documents **must state** the capacity in which they act and confirm that they are duly authorised to do so. Amendment by letter is at the discretion of the Registrar of Titles.
Unless these requisitions are satisfied, the documents will be rejected and one half the registration fee forfeited
Documents may be withdrawn from registration for which a fee of $33 per document will be retained. The balance of the fees will be refunded.
Payments may be made by mail or in person at either the Midland or Perth Offices.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

INSTRUCTIONS

...pace in any section, additional Sheet Form ...ould be used with appropriate headings. The boxed sections should only contain the words "See Annexure".

2. Additional Sheets shall be numbered consecutively and bound to this document by staples along the left margin prior to execution by parties.

3. No alteration should be made by erasure. The words rejected should be scored through and those substituted typed or written above them, the alteration being initialled by the person signing this document and their witnesses.

NOTES

1. SERVIENT TENEMENT
Lot and Diagram/Plan number or Location name and number to be stated.
Extent - Whole, part or balance of the land comprised in the Certificate of Crown Land Title to be stated.
The Certificate of Crown Land Title Volume and Folio number to be stated.

2. ENCUMBRANCES
To be identified by nature and number, if none show "nil".

3. CONSIDERATION
To be expressed in words.

4. PURPOSE OF EASEMENT
Describe the purpose of the easement being granted.

5. GRANTEE
State the full name of the Grantee/Grantees and the address/addresses to which future notices can be sent. If a minor state date of birth.

6. EXECUTION
A separate attestation is required for every person signing this document. Each signature should be separately witnessed by an Adult Person. The address and occupation of the witness must be stated.

FEES
PAID
FILE
3388/964
V5
PAGE
114

EXAMINED

NE38 LT14. JC

Office Use Only

H 532364 E
23 Aug, 2000 13:46:25 Midland

EASEMENT IN GROSS (E)

LODGED BY **Land Administration Services Branch**

ADDRESS **DOLA**

PHONE No.

FAX No.

REFERENCE No. **Michelle Goodwin 03388-1964-06RO**

ISSUING BOX No.

PREPARED BY **Land Administration Services Branch**

ADDRESS **DOLA**

PHONE No. FAX No.

INSTRUCT IF ANY DOCUMENTS ARE TO ISSUE TO OTHER THAN LODGING PARTY

TITLES, LEASES, DECLARATIONS ETC LODGED HEREWITH

1. _____ Received Items
2. _____ Nos.
3. _____
4. _____ Receiving Clerk
5. _____
6. _____

002827-001

Registered pursuant to the provisions of the TRANSFER OF LAND ACT 1893 as amended on the day and time shown above and particulars entered in the Register.

REGISTRAR OF TITLES WESTERN AUSTRALIA

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

ATTESTATION SHEET

Dated this day of in the year

GRANTOR TO SIGN HERE (NOTE 6)

Signed

Signed

GRANTEE/S TO SIGN HERE (NOTE 6)

Signed

Signed

In the presence of

In the presence of

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

EASEMENT H532364. The right to enter upon the portion of the within land marked Easement on Land Administration Miscellaneous Diagram E69 for the purpose of constructing, installing, maintaining and operating the Installation for the transmission of high voltage electricity as set out in the said Easement is granted to **State Energy Commission of Western Australia**. Registered 23.8.00 at 13.46 hrs.

LIMITED HOWEVER TO A DEPTH OF 12.19 METRES.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

FORM LAA-1060A

WESTERN AUSTRALIA
LAND ADMINISTRATION ACT 1997
TRANSFER OF LAND ACT 1893 AS AMENDED

WA STAMP DUTY PAID SECTION 112V	
~~528.8~~	Signature
Exemption:	5(1)(g)
Gross Rental $	100.00
Duty otherwise payable $	NIL

SECTION 144 & 147
TENURE CODE:

EASEMENT IN GROSS (E)

SERVIENT TENEMENT (NOTE 1)	EXTENT	VOLUME	FOLIO
Part Forrest Location 203 on Land Administration Miscellaneous Plan 20594 and marked Easement on Miscellaneous Diagram E69	Whole	3061	045

ENCUMBRANCES (NOTE 2)

H345100 Notice of Intention to Take

GRANTOR

State of Western Australia

CONSIDERATION (NOTE 3)

One Hundred Dollars

PURPOSE OF EASEMENT (NOTE 4)

High Voltage Electrical Transmission System

GRANTEE/S (NOTE 5)

The State Energy Commission of Western Australia a body corporate pursuant to the State Energy Commission Act 1979-1983, 365 Wellington Street Perth

THE MINISTER FOR LANDS, ACTING IN THE NAME AND ON BEHALF OF THE GRANTOR, FOR THE ABOVE CONSIDERATION, BY THIS DEED HEREBY GRANTS TO THE GRANTEE THE RIGHTS HEREIN SET OUT OVER THE SERVIENT TENEMENT FOR THE PURPOSE(S) SPECIFIED ABOVE, SUBJECT TO:

1. **THE ENCUMBRANCES SHOWN HEREON;**
2. **THE COVENANTS AND POWERS IMPLIED UNDER THE LAND ADMINISTRATION ACT 1997 AND THE TRANSFER OF LAND ACT 1893 AS AMENDED (UNLESS HEREBY NEGATED OR MODIFIED); AND**
3. **THE COVENANTS AND CONDITIONS CONTAINED HEREIN.**

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

File Copy Do not Destroy

Stopped Document Disposal Instructions

Fees to be Refunded $
Form 10 No.
Date
To .....
Address..... .....
Parties ....
Reference ....
Document numbers
Computer records adjusted WDR/MTF/DPA/BKC
Doc's to be rejected
Docs to be withdrawn
Doc's for Registration
Authorised by

Examiner's notes

File Copy Do Not Destroy

Stopped Case **532364**

Original Cs/T:
LR3061-45

Notice Sent 8-9-00 Pilbara

Action

Examination Instructions

Allocate New C/T

Complete Nom. Index

Pass to CTC25

Other

Group

Examiner: J Cahill

Supervisor: R Pearce

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

DOLA
Department of LAND ADMINISTRATION

Requisition Notice

Document Nos: H532364
Your Ref: Michelle Goodwin File:03388-1964-01ro

Section 192 of the Transfer of Land Act
First and Final

Our Ref. **Crown Title Creation**
Telephone: **(08) 9273 7416** Fax **(08) 9273 7626**
Date:

Lodging Party
L A S - Pilbara Region.

Other Parties Contacted

REGISTRATION OF THE ABOVE DOCUMENTS CANNOT BE EFFECTED UNTIL ALL REQUISITIONS LISTED BELOW ARE COMPLIED WITH AND FEE PAYABLE IS RECEIVED. A TIME LIMIT OF 14 DAYS APPLIES FROM THE DATE STATED ABOVE.

Requisitions

Doc.No		Req. Fee
364	The front of the document is to be stamped to indicate that $70.00 registration fees have been paid.	

Requisition Sub Total $
Additional Fee $
TOTAL FEE Payable $

Ian Hyde
Registrar of Titles

Requisitions may be attended to by;
1. fax direct to the Crown Title Creation Section referred to above.
2. personal attendance to the Stopped Documents Section, Midland Square. (all documents held at Midland Office)
3. the lodging of evidence at the Perth Branch Office, Mt Newman House, 200 St. Georges Terrace, Perth. (note: no advice/discussions re: requisitions)
4. Post to P O Box 2222, Midland WA 6936 or DX88

Correspondence by representatives of parties to documents **must state** the capacity in which they act and confirm that they are duly authorised to do so. Amendment by letter is at the discretion of the Registrar of Titles.
Unless these requisitions are satisfied, the documents will be rejected and one half the registration fee forfeited
Documents may be withdrawn from registration for which a fee of $33 per document will be retained. The balance of the fees will be refunded.
Payments may be made by mail or in person at either the Midland or Perth Offices.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

ORIGINAL

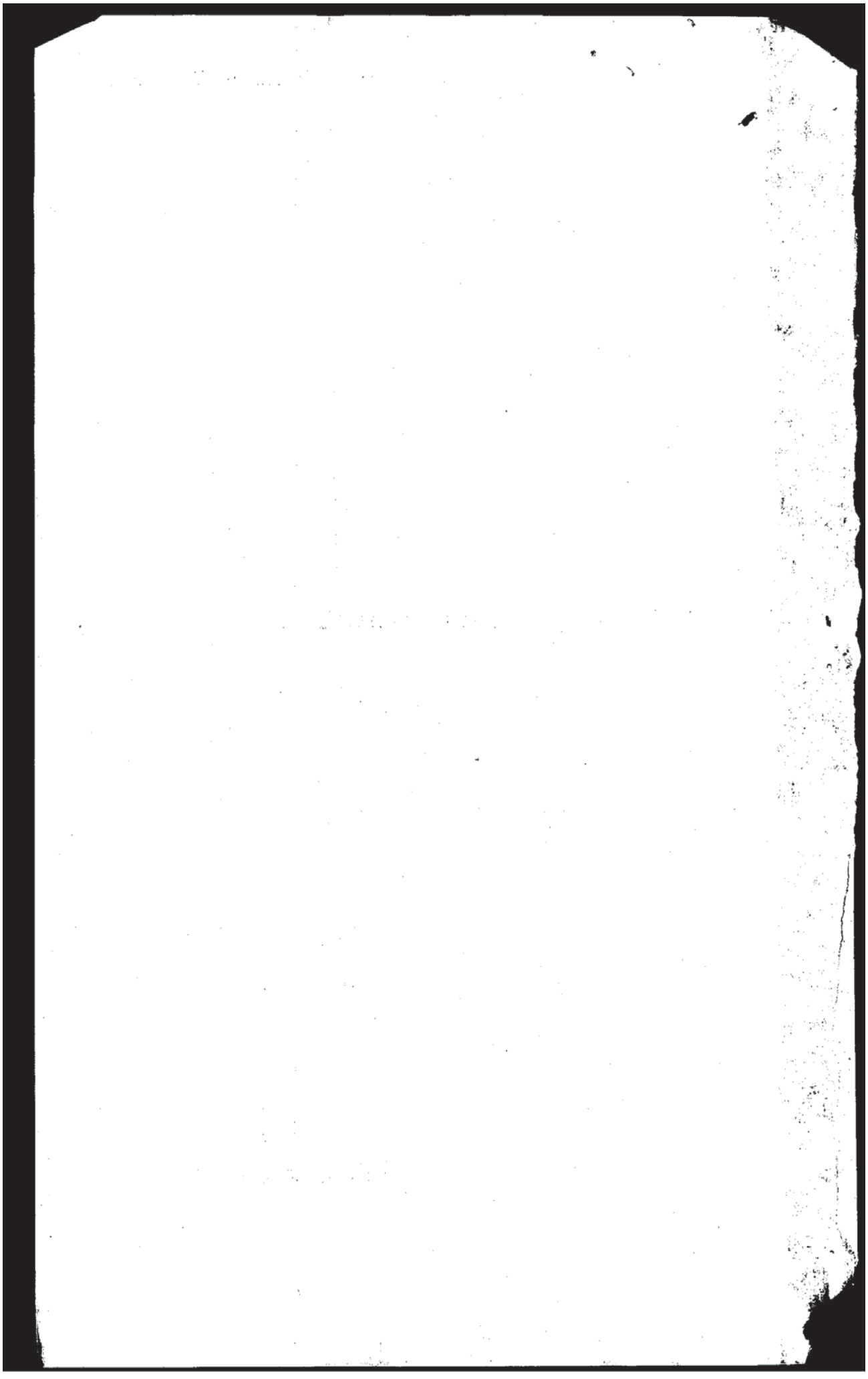
LANDS & SURVEYS FILE NO. 889/985

EASEMENT NO. 3134B/ 51

REGISTERED: 18 APR 1986

FOR UNDER SECRETARY FOR LANDS.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510



LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

WESTERN AUSTRALIA

Land Act 1933 as amended. No. 3134B/51

GRANT OF EASEMENT IN GROSS

THIS DEED OF GRANT is made the 28th day of January 1986

BETWEEN:

HER MAJESTY QUEEN ELIZABETH THE SECOND ("the Grantor") of the first part

THE MINISTER FOR LANDS AND SURVEYS of 2 Havelock Street, West Perth in the said State ("the Minister") of the second part

THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA a body corporate pursuant to the State Energy Commission Act 1979-1983 ("the S.E.C. Act") whose office and principal place of business is situate at 365 Wellington Street Perth ("the Grantee" which expression shall include the Grantee and its successors and assigns) of the third part

WHEREAS:

The Governor of the State of Western Australia on behalf of the Grantor pursuant to Part VIIIA of the Land Act 1933 as amended ("the Land Act") may upon the recommendation of the Minister grant easements subject to and in accordance with the provisions of the Act.

AND WHEREAS:

The Minister as testified by the execution hereof by the Minister has recommended this grant of Easement and the Grantee has paid to the Minister in consideration therefor, the sum of One Hundred Dolars

NOW BY THIS DEED

1. The Grantor Hereby Grants to the Grantee full right and liberty for the Grantee by its agents servants workmen and contractors for the time being and all persons authorised by the Grantee from time to time and at all times hereafter during the subsistence of the easement hereby created to enter with or without vehicles (laden or unladen) and with such plant and equipment as is reasonably necessary upon that portion of the land described in the First Schedule hereto which is marked "Easement" and delineated and coloured blue on the plan annexed hereto or otherwise defined therein ("the Subject Land") and to remain thereon for all or any of the purposes of clearing the easement and constructing installing laying supporting suspending modifying altering inspecting adding to repairing maintaining demolishing destroying taking up or removing the Installation described in the Second Schedule hereto and all appurtenances fixtures and fittings associated with it and with its operation ("the Installation") and for ancillary and related purposes limited however to a depth of 12.19 metres from the natural surface of the land (and to such additional depth in such locations as may be approved in writing in the reasonable discretion of the Minister) and to use and operate the Installation for the transmission of high voltage electricity.

2. The Grantor acknowledges and agrees with the Grantee that it has no property or interest in the Installation and that the Installation shall not constitute a fixture.

39826/4/85—100—MS/7552

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

3. The Grantee shall have the right to cut away and keep clear all trees and other growth upon the Subject Land and to remove all obstructions structures buildings and improvements pits wells dams bores drillholes or other structures or installations of any nature whatsoever in upon and across the Subject Land.

4. The Grantee shall not be required to (although it shall be entitled to in the interests of safety) fence off the Subject Land or any part thereof but shall be entitled to remove or cut and construct and maintain in a proper manner a gate or gates as the Grantee shall require in any fence or fences now or hereafter crossing the easement.

5. The Grantor (so as to bind the Grantor's successors in title and assigns but so that neither Her Majesty Queen Elizabeth The Second nor The Minister for Lands and Surveys shall have any liability) HEREBY COVENANTS with the Grantee:

   (a) not to erect or permit in upon and across the Subject Land any structures buildings and improvements pits wells dams bores drill holes or other structure or installations of any nature whatsoever;

   (b) not to alter or disturb or permit to be altered or disturbed (otherwise than by the process of nature) the present grades and contours of the Subject Land;

   (c) not to blast within under or on the Subject Land;

   (d) not to blast on or under land immediately adjoining the Subject Land so that the safety of the Installation or any part or parts thereof may be endangered or disturbed;

   (e) not to bring onto the Subject Land or land adjoining the Subject Land any flammable or unstable substance matter or material;

   (f) not to disturb or tamper with or cover or otherwise obliterate any survey peg or permanent marker placed on the Subject Land by the Grantee;

   (g) not to touch disturb or tamper with the Installation;

   (h) not to knowingly store or knowingly acquiesce to the continuous presence of vehicles and caravans vans vehicles trailers or other mobile accommodation or equipment upon the Subject Land except as shall be first approved in writing by the Grantee ;

   but otherwise it is agreed by the Grantee that the Grantor shall have the right fully to use cultivate and enjoy the Subject Land SUBJECT ALWAYS to and so as not to interfere with the rights and privileges hereby granted to and conferred upon the Grantee.

6. The Grantee covenants with the Grantor that the Grantee will not assign or transfer the whole of the rights of the Grantee hereunder without obtaining the prior written consent of the Minister and the Grantee acknowledges that such consent may be given or withheld in the absolute discretion of the Minister and if given may be given subject to such conditions as the Minister in the absolute discretion of the Minister shall require.

7. In the event that the Grantee shall assign or transfer any part of the rights of the Grantee hereunder then notwithstanding such assignment or transfer of such part of the rights of the Grantee the Grantee shall continue to comply with the requirements of the S.E.C. Act in relation to the Installation and the Subject Land and continue to be liable to the Grantor for the due compliance with all obligations of the Grantee hereunder as if such assignment or transfer had not taken place.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

8. If required by the Grantee any successor in title to the Grantor or assign of the Grantor will procure that all persons now or hereafter having any title to or interest in the Subject Land through or under the Grantor will execute a document in substantially the same terms hereof.

9. This Grant is made and received without prejudice to any right power authority duty or obligation of the Grantee or of any other Statutory Authority contained in the S.E.C. Act or any other Acts which may now or hereafter confer any right power authority duty or obligation on the Commission or other Statutory authority.

10. Any notice consent or other writing authorised or required by this Deed to be given or sent shall be deemed to have been duly given or sent by the Grantor or the Minister if signed by the Under Secretary for Lands or by any senior officer of the Department of Lands and Surveys acting by the direction of the said Under Secretary for Lands and forwarded by prepaid post to the Grantee at 365 Wellington Street Perth in the said State and by or on behalf of the Grantee if signed by any Commissioner Deputy Commissioner Assistant Commissioner Secretary Assistant Secretary or other duly authorised officer for the time being of the Grantee or any other person authorised by the Grantee and forwarded by prepaid post to the Under Secretary for Lands at his office in Perth or if the Subject Land shall become freehold land under the Transfer of Land Act 1893 to the then proprietor thereof at his address shown in the register book kept under the Transfer of Land Act 1893 or other his address then last known to the Grantee AND any such notice consent or writing shall on proof of posting be deemed to have been duly given or sent on the day on which it would be delivered in the ordinary course of post.

11. (a) In this Deed unless the contrary intention appears reference to "the Grantor" shall include the Grantor and the personal representatives successors and assigns of the Grantor

(b) In this Deed person includes bodies corporate.

(c) Covenants herein by two or more persons as party hereto shall be deemed joint and several.

(d) Reference in this Deed to an Act shall include the amendments to that Act for the time being in force and also any Act passed in substitution therefor or in lieu thereof and the regulations for the time being in force thereunder.

THE FIRST SCHEDULE

Pastoral Lease 3114/618

Part Forrest Location 203 on Land Administration Miscellaneous Plan 20594.

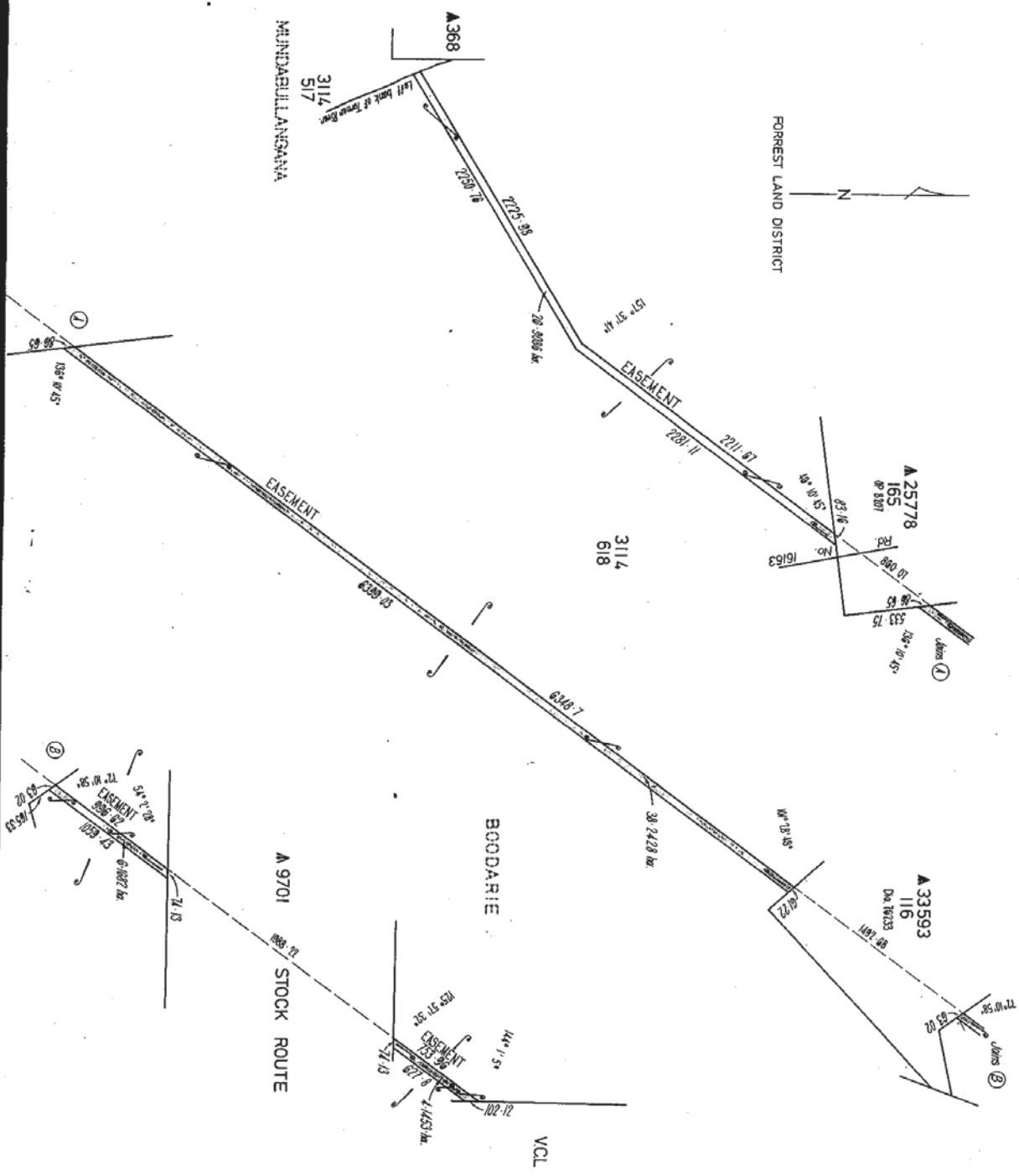
LR 3061/45

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

THE SECOND SCHEDULE

("The Installation")
High Voltage electrical transmission system

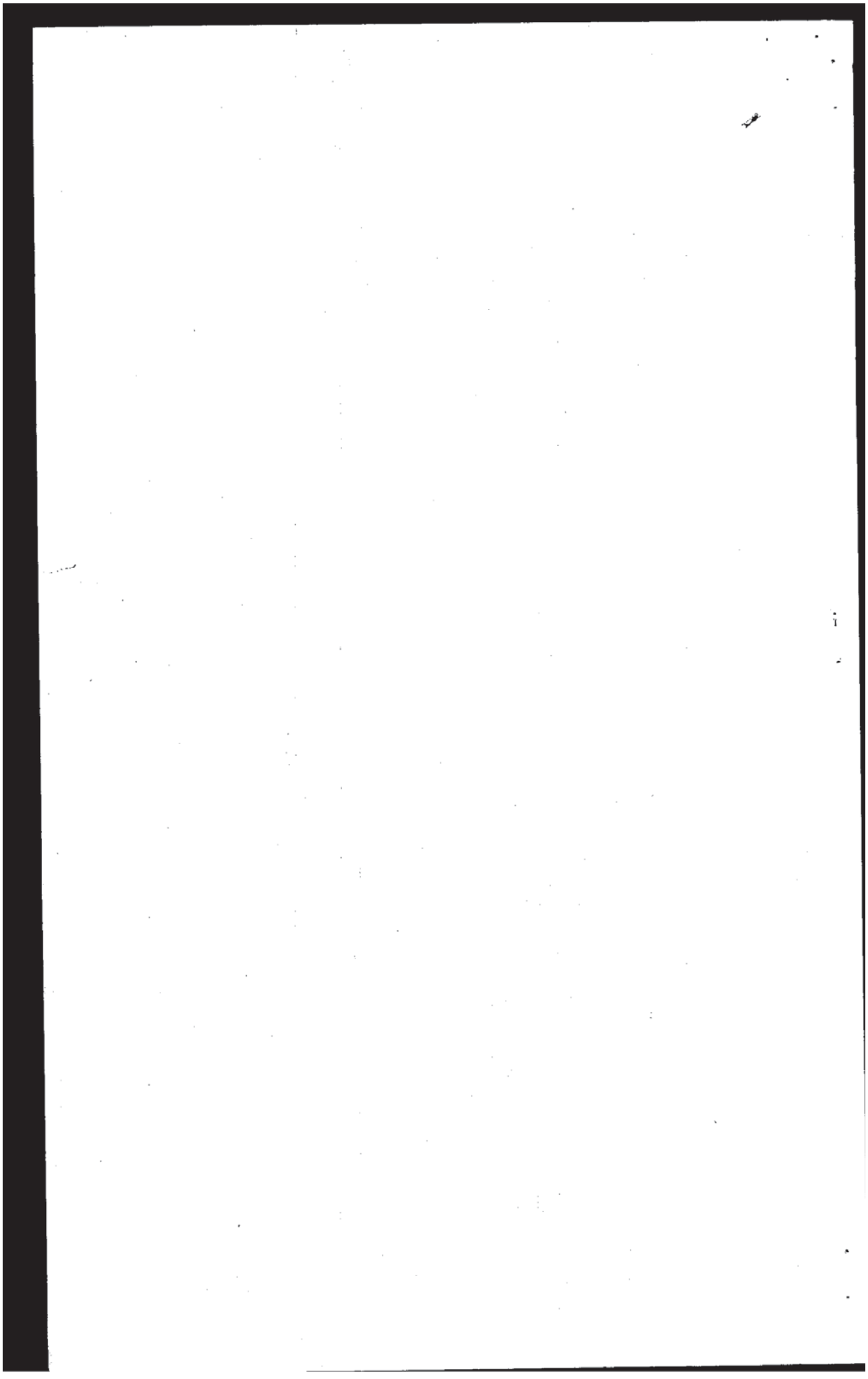
LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510



EASEMENT Nº 3134 B / 51	CORR. No. 889 / 985
	SCALE ~~1:25000~~ NOT TO SCALE All measurements in metres
Field Book ..... Subject to Survey or assumed from .. Corr 889/985 pages 2 - 7 Cadastral Plan Port Hedland & Roebourne 1:250000, Regional 55 Diagram Drawn D.S.Graham ..... Date 15-2-85 Checked ..... for Chief Draftsman Date 13.3.1985	AMENDMENTS
	Easement Registered ..... Date ..... Registrar ..... Registered 13.3.1985 On Key Plans ROEBOURNE, PORT HEDLAND 1:250,000 Sheet Numbers ... Registrar of Plans Recorded on Public Plan DEPT. OF LANDS AND SURVEYS. MISCELLANEOUS DIAGRAM E 69

S135

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510



LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

IN WITNESS Whereof We have caused Our Trusty and well beloved His Excellency Professor Gordon Reid, Governor in and over the State of Western Australia and its Dependencies in the Commonwealth of Australia to affix to these Presents the Public Seal of the said State.

SEALED this 28th day of JANUARY One thousand nine hundred and eighty ~~five~~ SIX.

Gordon Reid
GOVERNOR

MINISTER FOR LANDS AND SURVEYS

THE COMMON SEAL of THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA was hereunto affixed in the presence of:

ASSISTANT COMMISSIONER

ASST SECRETARY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

LAND ACT 1933

GRANT OF EASEMENT

Registered

at o'clock and

particulars entered in the Register Book.

Initials of Signing Officer.

REGISTRAR OF TITLES

39826/4/85—100—MS/7552

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:40:36 2011 JOB 37977510

WESTERN AUSTRALIA

REGISTER NUMBER	
47/DP241374	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3060 FOLIO 718

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 47 ON DEPOSITED PLAN 241374

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: LEASEHOLD

PRIMARY INTEREST HOLDER: BHP BILLITON MINERALS PTY LTD
IN 85/100 SHARE
MITSUI IRON ORE CORPORATION PTY LTD
IN 8/100 SHARE
ITOCHU MINERALS & ENERGY OF AUSTRALIA PTY LTD
IN 7/100 SHARE
ALL OF CARE OF STATEWIDE TENEMENT AND ADVISORY SERVICES, 180 CLAISEBROOK ROAD, PERTH
AS TENANTS IN COMMON

(LC J998591) REGISTERED 24 NOVEMBER 2006

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1.	J179034	PORTION COMPRISED IN LOT 416 ON DP37093 TO VOL. 3131 FOL. 915. REGISTERED 10.2.2005.
2.	I574313	PORTION COMPRISED IN LOT 6132 ON DP214106 TO VOL.3124 FOL.148 AND PORTION COMPRISED IN DP214753 NOW ROAD. REGISTERED 31.7.2003.
3.	J998591	LEASE. SUBJECT TO THE TERMS AND CONDITIONS AS SET OUT IN THE LEASE. REGISTERED 24.11.2006.
	L037932	EXTENSION OF LEASE J998591 . REGISTERED 11.8.2009.
4.	K982499	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.
5.	K982498	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
	L350841	PERIOD OF CURRENCY IS NOW INCREASED TO 3 YEARS FROM 22.6.2009 REGISTERED 21.6.2010.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	LR3060-718 (47/DP241374).
PREVIOUS TITLE:	This Title.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1:	A000001A	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 2:		LAND PARCEL IDENTIFIER OF FORREST LOCATION 47 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 47 ON DEPOSITED PLAN 241374 ON 23-AUG-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 3:		THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.
NOTE 4:	K654543	DEPOSITED PLAN (INTEREST ONLY) 59879 LODGED
NOTE 5:	L037932	CORRESPONDENCE FILE 00757-1966-04RO.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

NOT TO BE REMOVED FROM THE DEPARTMENT OF LAND ADMINISTRATION

NO DUPLICATE ISSUED

Application G774680
Corr. 757/1966

WESTERN AUSTRALIA

REGISTER VOLUME 3060 FOLIO 718

QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE "TRANSFER OF LAND ACT 1893" AS AMENDED AND THE "LAND ADMINISTRATION ACT 1997"

The undermentioned land is Crown land, in the name of the **STATE of WESTERN AUSTRALIA,** subject to the interests and status orders in the First Schedule which interests and status orders are subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Dated 24 April, 1998

LAND REFERRED TO

Forrest Location 47 on Land Administration Miscellaneous Plan 355 (Sheets 1and 2)

Graphic too large to fit at a suitable scale.
Refer to survey document quoted in the Land Description.

Qualified

SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES

WARNING: (1) THE LAND AND INTERESTS ETC. SHOWN HEREON MAY BE AFFECTED BY INTERESTS ETC. THAT CAN BE, BUT ARE NOT, SHOWN ON THE REGISTER.
(2) THE INTERESTS ETC. SHOWN HEREON MAY HAVE A DIFFERENT PRIORITY THAN SHOWN.

QCLT - 17/04/9

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

QUALIFIED CERTIFICATE OF CROWN LAND TITLE VOL. 3060 FOL. 718

FIRST SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
Extension	G181997	Lease 1685/1989 to **Goldsworthy Mining Ltd**, of 8th Floor ANZ House 84 Saint George's Terrace, Perth. of lease 1685/1989	11.6.96	10:22		Removal of Lease	H498019	5.7.00	
Transfer	G748914	As to Lease 1685/1989 only : To **BHP Minerals Pty Ltd**. of 600 Bourke Street, Melbourne of 85 undivided 100th shares, **CI Minerals Australia Pty Ltd**. of 8 undivided 100th shares and **Mitsui Iron Ore Corporation Pty Ltd**. of 7 undivided 100th shares both of 221 Saint George's Terrace, Perth **as tenants in common**.	27.3.98	8:18					
Surrender	G805003	As to Lease 1685/1989 only: The portion of the within Lease coloured green on map in Surrender G805003 is now surrendered.	28.5.98	15.06					

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL

WESTERN AUSTRALIA

REGISTER NUMBER	
255/DP192056	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

VOLUME LR3104 FOLIO 330

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 255 ON DEPOSITED PLAN 192056

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: LEASEHOLD

PRIMARY INTEREST HOLDER: ALINTA DEWAP PTY LTD
IN 99/100 SHARE
ALINTA DEWAH PTY LTD
IN 1/100 SHARE
BOTH OF 12-14 THE ESPLANADE, PERTH
AS TENANTS IN COMMON

(LC L371264) REGISTERED 12 JULY 2010

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. L371264 LEASE. SUBJECT TO THE TERMS AND CONDITIONS AS SET OUT IN THE LEASE. THIS LEASE WAS ISSUED PURSUANT TO SECTION 75 OF THE TLA IN LIEU OF LEASE K510995. REGISTERED 12.7.2010.

K100967 SUB-LEASE OF LEASE L371264 TO NEWCREST MINING LTD OF 2ND FLOOR, HYATT CENTRE, 30 TERRACE ROAD, EAST PERTH. AS TO PORTION ONLY.. EXPIRES: SEE SUB LEASE. REGISTERED 19.2.2008.

L346488 EXTENSION OF LEASE L371264 . REGISTERED 16.6.2010.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Nov 7 15:45:07 2011 JOB 37900569

and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	LR3104-330 (255/DP192056).
PREVIOUS TITLE:	LR3059-646.
PROPERTY STREET ADDRESS:	LOT 255 BOODARIE STATION ACCESS RD, BOODARIE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: A000001A CORRESPONDENCE FILE 1264/1994.
NOTE 2: LAND PARCEL IDENTIFIER OF FORREST LOCATION 255 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 255 ON DEPOSITED PLAN 192056 ON 31-AUG-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 3: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Nov 7 15:45:07 2011 JOB 37900569

TO BE REMOVED FROM OFFICE OF TITLES

LT 158

NO DUPLICATE ISSUED

REGISTER VOL.	BOOK FOL.
3104	330

Sundry Document F831122

Corr. 1264/1994

Vol. Fol.
3059 646

WESTERN AUSTRALIA

Crown Land Record

The undermentioned land shown on the sketch in the First Schedule hereto is land of the Crown subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Dated 20th March, 1995

CHIEF EXECUTIVE OFFICER

LAND REFERRED TO

Forrest Location 255 on Land Administration Diagram 92056

FIRST SCHEDULE

SCALE 1:10000

BL 66 (10) 5.5

Shire of Port Hedland

FOR ENCUMBRANCES AND OTHER MATTERS AFFECTING THE LAND SEE SECOND SCHEDULE

PERSONS ARE CAUTIONED AGAINST ALTERING OR ADDING TO THIS RECORD OR ANY NOTIFICATION HEREON

05901/3/92-4M-5/9499

Superseded - Copy for Sketch Only

Vol 3104 Fol 331 Page 1 of 2 pages

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Nov 7 15:45:07 2011 JOB 37900569

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Nov 7 15:45:07 2011 JOB 37900569

Superseded - Copy for Sketch Only

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

PARTICULARS	INSTRUMENT NATURE	INSTRUMENT NUMBER	REGISTERED	TIME	SEAL	CERT. OFFICER

VOL. 3104 FOL. 330

REGISTER NUMBER	
265/DP193736	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

WESTERN AUSTRALIA

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

VOLUME LR3106 FOLIO 96

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 265 ON DEPOSITED PLAN 193736

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: UNALLOCATED CROWN LAND

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
2. H345100 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED AND ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. REGISTERED 24.1.2000.
   - J508875 PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000 REGISTERED 14.11.2005.
   - K461433 PERIOD OF CURRENCY IS NOW INCREASED TO 13 YEARS FROM 24.1.2000. REGISTERED 28.12.2007.
3. H522488 EASEMENT TO THE STATE ENERGY COMMISSION. SEE INSTRUMENT H522488. REGISTERED 10.8.2000.
4. K982499 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.
5. K982498 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
   - L350841 PERIOD OF CURRENCY IS NOW INCREASED TO 3 YEARS FROM 22.6.2009 REGISTERED 21.6.2010.
6. L237455 PORTION COMPRISED IN LOT 487 ON DEPOSITED PLAN 61851 TO VOL 3157 FOL 98. REGISTERED 19.2.2010.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	LR3106-96 (265/DP193736).
PREVIOUS TITLE:	This Title.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1:	A000001A	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 2:		LAND PARCEL IDENTIFIER OF FORREST LOCATION 265 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 265 ON DEPOSITED PLAN 193736 ON 05-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 3:		THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.
NOTE 4:	K461433	CORRESPONDENCE FILE 00879-1993-06RO
NOTE 5:	K654543	DEPOSITED PLAN (INTEREST ONLY) 59879 LODGED
NOTE 6:	L781942	DEPOSITED PLAN 72766 LODGED FOR INTEREST PURPOSES ONLY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

NOT TO BE REMOVED FROM THE DEPARTMENT OF LAND ADMINISTRATION

NO DUPLICATE ISSUED

REGISTER VOLUME 3106 FOLIO 96

Application H345017
Corr. 00879-1993-01ro

WESTERN AUSTRALIA

QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE "TRANSFER OF LAND ACT 1893" AS AMENDED
AND THE "LAND ADMINISTRATION ACT 1997"

The undermentioned land is Crown land, in the name of the
STATE of WESTERN AUSTRALIA,
subject to the interests and status orders in the First Schedule which interests and status orders are subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Dated 24 January, 2000

REGISTRAR OF TITLES

LAND REFERRED TO

Forrest Location 265 on Land Administration Miscellaneous Diagram 93736 delineated on the sketch in the Third Schedule.

THIRD SCHEDULE

Graphic too large to fit at a suitable scale.
Refer to survey document quoted in the Land Description.

Subject to Survey
Not for Alienation Purposes

Quoted

WARNING: (1) THE LAND AND INTERESTS ETC. SHOWN HEREON MAY BE AFFECTED BY INTERESTS ETC. THAT CAN BE, BUT ARE NOT, SHOWN ON THE REGISTER.
(2) THE INTERESTS ETC. SHOWN HEREON MAY HAVE A DIFFERENT PRIORITY THAN SHOWN.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

QUALIFIED CERTIFICATE OF CROWN LAND TITLE VOL. 3106 FOL. 96

FIRST SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT		PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
NATURE	NUMBER								

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT		PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
NATURE	NUMBER								
Authorization Order	H345098	Authorization for the taking of interests.	24.1.00	16.08					
Notice	H345100	Notice of Intention to Take for the designated purpose of **Development for industrial purposes and associated and ancillary purposes and including stock yard and buffer.**	24.1.00	16.08					
EASEMENT	H522488	The right to enter upon the portion of the within land marked Easement on Land Administration Miscellaneous Diagram E72 for the purpose of constructing, installing, maintaining and operating the installation for the transmission of high voltage electricity as set out in the said Easement is granted to **The State Energy Commission.**	10.8.00	11.55					
Notice	H640234	Notice of Intention to Take H345100 period of currency is now increased to 2 years from the 24.1.2000.	9.1.01	14.56					
Notice	H977376	Notice of Intention to Take H345100 period of currency is now increased to 4 years from the 24.1.2000.	7.1.02	13.52					

WESTERN AUSTRALIA

REGISTER NUMBER	
273/DP219540	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3109 FOLIO 390

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 273 ON DEPOSITED PLAN 219540

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: MINISTER FOR WATER RESOURCES OF POST OFFICE BOX 100, LEEDERVILLE

(XE J809884) REGISTERED 29 JUNE 2006

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1.	J809883	PART RESERVE 33016 FOR THE PURPOSE OF PIPELINE REGISTERED 29.6.2006.
	J809884	MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 29.6.2006.
2.	H345098	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 24.1.2000.
3.	H345100	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. AS TO PORTION ONLY. REGISTERED 24.1.2000.
	J508875	PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000 REGISTERED 14.11.2005.
4.	H532364	EASEMENT TO STATE ENERGY COMMISSION OF WESTERN AUSTRALIA. SEE DEPOSITED PLAN 95068. REGISTERED 23.8.2000.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP219540 [SHEET 1].
PREVIOUS TITLE:	LR3128-641.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	WATER CORPORATION.

NOTE 1: J975184 CORRESPONDENCE FILE 00841-1958-02RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
275/DP219540	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3109 FOLIO 481

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 275 ON DEPOSITED PLAN 219540

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: MINISTER FOR WATER RESOURCES OF POST OFFICE BOX 100, LEEDERVILLE

(XE J809884) REGISTERED 29 JUNE 2006

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. J809883 PART RESERVE 33016 FOR THE PURPOSE OF PIPELINE REGISTERED 29.6.2006.
   J809884 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 29.6.2006.
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
3. H345100 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. REGISTERED 24.1.2000.
   J508875 PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000 REGISTERED 14.11.2005.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

SKETCH OF LAND:	DP219540 [SHEET 1].
PREVIOUS TITLE:	LR3128-641.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	WATER CORPORATION.

NOTE 1: J975186 CORRESPONDENCE FILE 00841-1958-02RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

LAND CROWN

NOT TO BE REMOVED FROM THE DEPARTMENT OF LAND ADMINISTRATION

NO DUPLICATE ISSUED

Application H356044
Corr. 00543-1998-01ro

WESTERN AUSTRALIA

REGISTER VOLUME 3112 FOLIO 387

QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE "TRANSFER OF LAND ACT 1893" AS AMENDED AND THE "LAND ADMINISTRATION ACT 1997"

The undermentioned land is Crown land, in the name of the
STATE of WESTERN AUSTRALIA,
subject to the interests and status orders in the First Schedule which interests and status orders are subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Dated 7 February, 2000

REGISTRAR OF TITLES

LAND REFERRED TO

Forrest Location 308 on Land Administration Miscellaneous Diagram 93736 delineated on the sketch in the Third Schedule.

THIRD SCHEDULE

Graphic too large to fit at a suitable scale.
Refer to survey document quoted in the Land Description.

Subject to Survey
Not for Alienation Purposes

Qualified

WARNING: (1) THE LAND AND INTERESTS ETC. SHOWN HEREON MAY BE AFFECTED BY INTERESTS ETC. THAT CAN BE, BUT ARE NOT, SHOWN ON THE REGISTER.
(2) THE INTERESTS ETC. SHOWN HEREON MAY HAVE A DIFFERENT PRIORITY THAN SHOWN.

QCLT - 28/10

CROWN LAND

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 3977589

QUALIFIED CERTIFICATE OF CROWN LAND TITLE VOL. 3172 FOL. 387

Superseded - Copy for Sketch Only

FIRST SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT									
NATURE	NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT									
NATURE	NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL

WESTERN AUSTRALIA

REGISTER NUMBER	
308/DP193736	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3112 FOLIO 387

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 308 ON DEPOSITED PLAN 193736

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: UNALLOCATED CROWN LAND

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. K982499 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.
2. K982498 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
   L350841 PERIOD OF CURRENCY IS NOW INCREASED TO 3 YEARS FROM 22.6.2009 REGISTERED 21.6.2010.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	LR3112-387 (308/DP193736).
PREVIOUS TITLE:	This Title.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

NOTE 1:	A000001A	CORRESPONDENCE FILE 00543-1998-01RO.
NOTE 2:		SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 3:		LAND PARCEL IDENTIFIER OF FORREST LOCATION 308 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 308 ON DEPOSITED PLAN 193736 ON 02-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 4:		THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.
NOTE 5:	K654543	DEPOSITED PLAN (INTEREST ONLY) 59879 LODGED

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
131/DP220440	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3114** FOLIO **618**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 131 ON DEPOSITED PLAN 220440

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: SHIRE OF TOODYAY OF P.O. BOX 96, TOODYAY.
(XE K260191) REGISTERED 6 JULY 2007

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. H451490 PART RESERVE 4155 FOR THE PURPOSE OF RECREATION REGISTERED 23.5.2000.
K260191 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED.
REGISTERED 6.7.2007.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.
Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	LR3114-618 (131/DP220440).
PREVIOUS TITLE:	LR3114-617, LR3093-134.
PROPERTY STREET ADDRESS:	LOT 131 JULIMAR RD, WEST TOODYAY.
LOCAL GOVERNMENT AREA:	SHIRE OF TOODYAY.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: A000001A CORRESPONDENCE FILE 00888-1897-01RO.
NOTE 2: LAND PARCEL IDENTIFIER OF WEST TOODYAY TOWN LOT/LOT 131 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 131

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

ON DEPOSITED PLAN 220440 ON 03-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.

NOTE 3: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

LAND CROWN

NOT TO BE REMOVED FROM THE DEPARTMENT OF LAND ADMINISTRATION

NO DUPLICATE ISSUED

REGISTER VOLUME 3114 FOLIO 618

Application H451492
Corr. 00888-1897-01ro

Volume.	Folio.
3093	134
3114	617

WESTERN AUSTRALIA

CERTIFICATE OF CROWN LAND TITLE

UNDER THE "TRANSFER OF LAND ACT 1893" AS AMENDED
AND THE "LAND ADMINISTRATION ACT 1997"

The undermentioned land is Crown land, in the name of the
STATE of WESTERN AUSTRALIA,
subject to the interests and status orders in the First Schedule which interests and status orders are subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Page 1 (of 2 pages)

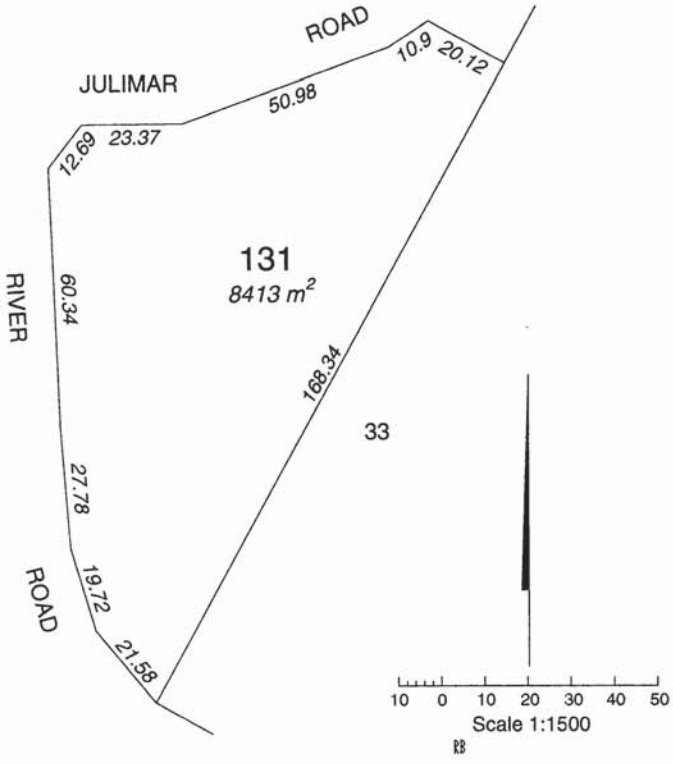
Dated 23 May 2000

REGISTRAR OF TITLES

LAND REFERRED TO

West Toodyay Lot 131 on Land Administration Plan 20440 delineated on the sketch in the Third Schedule.

THIRD SCHEDULE



WARNING: A CURRENT SEARCH SHOULD BE OBTAINED BEFORE DEALING ON THIS LAND

CLT - 28/10/98

CROWN LAND

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

CERTIFICATE OF CROWN LAND TITLE VOL. 3114 FOL. 618

FIRST SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT									
NATURE	NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
Amendment of Reserve	H451490	Part Reserve No. 4155 for the purpose of **Recreation**	23.5.00	8.11					
Management Order	H451493	Care, Control and Management to **Shire of Toodyay** of Post Office Box 96, Toodyay.	23.5.00	8.11					

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT									
NATURE	NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL

WESTERN AUSTRALIA

REGISTER NUMBER	
322/DP192067	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3116 FOLIO 932

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 322 ON DEPOSITED PLAN 192067

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: ROAD

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. DEDICATED ROAD
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
3. H345100 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED AND ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. REGISTERED 24.1.2000.
   - J508875 PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000 REGISTERED 14.11.2005.
   - K461433 PERIOD OF CURRENCY IS NOW INCREASED TO 13 YEARS FROM 24.1.2000. REGISTERED 28.12.2007.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: LR3116-932 (322/DP192067).
PREVIOUS TITLE: This Title.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA: TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (ROAD).

NOTE 1:	A000001A	LAND PARCEL IDENTIFIER OF FORREST LOCATION 322 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 322 ON DEPOSITED PLAN 192067 ON 06-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 2:		THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.
NOTE 3:	K461433	CORRESPONDENCE FILE 00879-1993-06RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

LAND CROWN

NOT TO BE REMOVED FROM THE DEPARTMENT OF LAND ADMINISTRATION

NO DUPLICATE ISSUED

Application H345018
Corr. 00879-1993-01ro

WESTERN AUSTRALIA

REGISTER VOLUME 3116 FOLIO 932

QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE "TRANSFER OF LAND ACT 1893" AS AMENDED
AND THE "LAND ADMINISTRATION ACT 1997"

The undermentioned land is Crown land, in the name of the
STATE of WESTERN AUSTRALIA,
subject to the interests and status orders in the First Schedule which interests and status orders are subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Dated 24 January, 2000

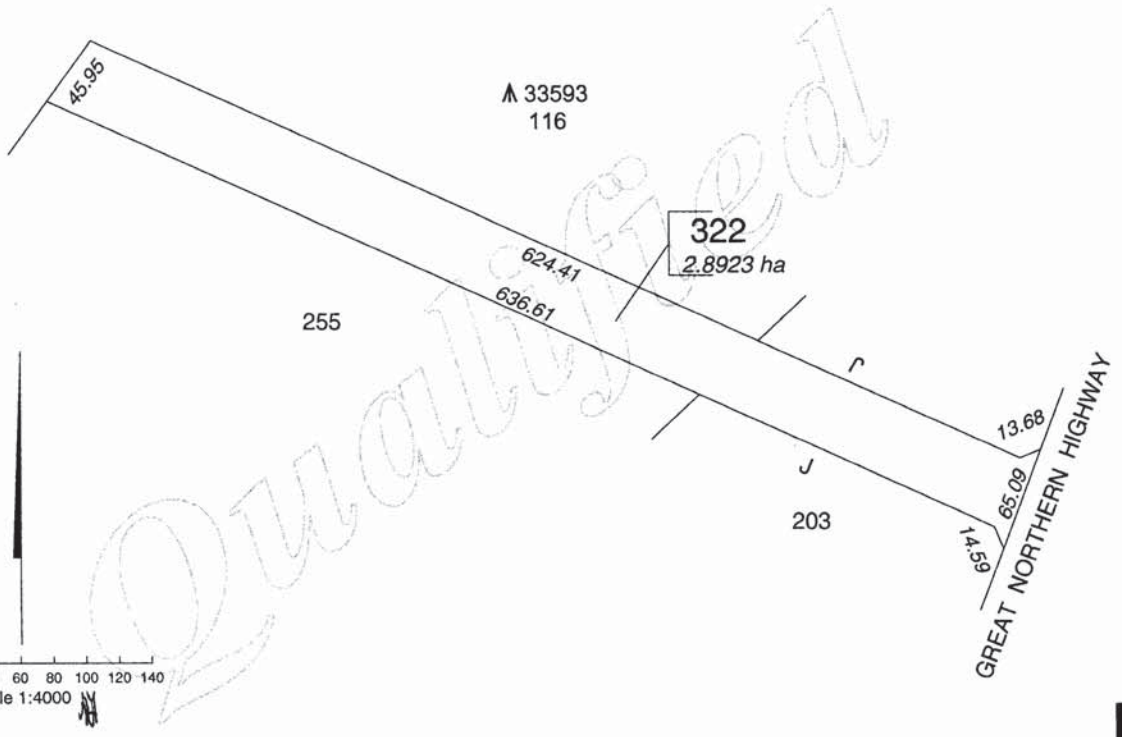
REGISTRAR OF TITLES

LAND REFERRED TO

Forrest Location 322 on Land Administration Diagram 92067 delineated on the sketch in the Third Schedule.

THIRD SCHEDULE

THE LAND HEREIN IS DEDICATED ROAD



Qualified

WARNING: (1) THE LAND AND INTERESTS ETC. SHOWN HEREON MAY BE AFFECTED BY INTERESTS ETC. THAT CAN BE, BUT ARE NOT, SHOWN ON THE REGISTER.
(2) THE INTERESTS ETC. SHOWN HEREON MAY HAVE A DIFFERENT PRIORITY THAN SHOWN.

LAND CROWN

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

QUALIFIED CERTIFICATE OF CROWN LAND TITLE VOL. 3116 FOL. 932

FIRST SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
		Dedicated Road and being Boodarie Road.							

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
Authorization Order	H345098	Authorization for the taking of interests.	24.1.00	16.08					
Notice	H345100	Notice of Intention to Take for the designated purpose of **Development for industrial purposes and associated and ancillary purposes and including stock yard and buffer.**	24.1.00	16.08					
Notice	H640234	Notice of Intention to Take H345100 period of currency is now increased to 2 years from the 24.1.2000.	9.1.01	14.56					
Notice	H977376	Notice of Intention to Take H345100 period of currency is now increased to 4 years from the 24.1.2000.	7.1.02	13.52					

WESTERN AUSTRALIA

REGISTER NUMBER	
323/DP220768	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3116 FOLIO 933

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 323 ON DEPOSITED PLAN 220768

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: ROAD

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. DEDICATED ROAD
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
3. H345100 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED AND ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. AS TO PORTION ONLY. REGISTERED 24.1.2000.
   - J508875 PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000 REGISTERED 14.11.2005.
   - K461433 PERIOD OF CURRENCY IS NOW INCREASED TO 13 YEARS FROM 24.1.2000. REGISTERED 28.12.2007.
4. L613896 PORTION COMPRISED IN LOT1281 ON DEPOSITED PLAN 70562 TO VOL.3160 FOL.570 REGISTERED 29.4.2011.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

SKETCH OF LAND:	LR3116-933 (323/DP220768).
PREVIOUS TITLE:	This Title.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (ROAD).

NOTE 1:	A000001A	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 2:		LAND PARCEL IDENTIFIER OF FORREST LOCATION 323 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 323 ON DEPOSITED PLAN 220768 ON 06-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 3:		THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.
NOTE 4:	K461433	CORRESPONDENCE FILE 00879-1993-06RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

NOT TO BE REMOVED FROM THE DEPARTMENT OF LAND ADMINISTRATION

NO DUPLICATE ISSUED

Application H345018
Corr. 00879-1993-01ro

WESTERN AUSTRALIA

REGISTER VOLUME 3116 FOLIO 933

QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE "TRANSFER OF LAND ACT 1893" AS AMENDED AND THE "LAND ADMINISTRATION ACT 1997"

The undermentioned land is Crown land, in the name of the
STATE of WESTERN AUSTRALIA,
subject to the interests and status orders in the First Schedule which interests and status orders are subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Dated 24 January, 2000

REGISTRAR OF TITLES

LAND REFERRED TO

Forrest Location 323 on Land Administration Miscellaneous Plan 20768 delineated on the sketch in the Third Schedule.

THIRD SCHEDULE

Graphic too large to fit at a suitable scale.
Refer to survey document quoted in the Land Description.

Subject to Survey
Not for Alienation Purposes

Qualified

WARNING: (1) THE LAND AND INTERESTS ETC. SHOWN HEREON MAY BE AFFECTED BY INTERESTS ETC. THAT CAN BE, BUT ARE NOT, SHOWN ON THE REGISTER.
(2) THE INTERESTS ETC. SHOWN HEREON MAY HAVE A DIFFERENT PRIORITY THAN SHOWN.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

QUALIFIED CERTIFICATE OF CROWN LAND TITLE VOL. 3116 FOL. 933

FIRST SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT NATURE	INSTRUMENT NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
Authorization Order	H345098	Authorization for the taking of interests.	24.1.00	16.08					
Notice	H345100	As to portion only: Notice of Intention to Take for the designated purpose of **Development for industrial purposes and associated and ancillary purposes and including stock yard and buffer.**	24.1.00	16.08					
Notice	H640234	Notice of Intention to Take H345100 period of currency is now increased to 2 years from the 24.1.2000.	9.1.01	14.56					
Notice	H977376	Notice of Intention to Take H345100 period of currency is now increased to 4 years from the 24.1.2000.	7.1.02	13.52					

WESTERN AUSTRALIA

REGISTER NUMBER	
324/DP220768	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3116** FOLIO **934**

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 324 ON DEPOSITED PLAN 220768

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: ROAD

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. DEDICATED ROAD
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
3. H345100 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED AND ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. AS TO PORTION ONLY. REGISTERED 24.1.2000.
   - J508875 PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000 REGISTERED 14.11.2005.
   - K461433 PERIOD OF CURRENCY IS NOW INCREASED TO 13 YEARS FROM 24.1.2000. REGISTERED 28.12.2007.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: LR3116-934 (324/DP220768).
PREVIOUS TITLE: This Title.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 324/DP220768 VOLUME/FOLIO: LR3116-934 PAGE 2

PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA: TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (ROAD).

NOTE 1:	A000001A	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 2:		LAND PARCEL IDENTIFIER OF FORREST LOCATION 324 ON SUPERSEDED PAPER CERTIFICATE OF CROWN LAND TITLE CHANGED TO LOT 324 ON DEPOSITED PLAN 220768 ON 06-SEP-02 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.
NOTE 3:		THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE.
NOTE 4:	K461433	CORRESPONDENCE FILE 00879-1993-06RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

LAND CROWN

NOT TO BE REMOVED FROM THE DEPARTMENT OF LAND ADMINISTRATION

NO DUPLICATE ISSUED

Application H345018
Corr. 00879-1993-01ro

WESTERN AUSTRALIA

REGISTER VOLUME 3116 FOLIO 934

QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE "TRANSFER OF LAND ACT 1893" AS AMENDED
AND THE "LAND ADMINISTRATION ACT 1997"

The undermentioned land is Crown land, in the name of the
STATE of WESTERN AUSTRALIA,
subject to the interests and status orders in the First Schedule which interests and status orders are subject to the interests, easements, encumbrances and notices shown in the Second Schedule hereto.

Dated 24 January, 2000

REGISTRAR OF TITLES

LAND REFERRED TO

Forrest Location 324 on Land Administration Miscellaneous Plan 20768 delineated on the sketch in the Third Schedule.

THIRD SCHEDULE

Graphic too large to fit at a suitable scale.
Refer to survey document quoted in the Land Description.

Subject to Survey
Not for Alienation Purposes

Qualified

WARNING: (1) THE LAND AND INTERESTS ETC. SHOWN HEREON MAY BE AFFECTED BY INTERESTS ETC. THAT CAN BE, BUT ARE NOT, SHOWN ON THE REGISTER.
(2) THE INTERESTS ETC. SHOWN HEREON MAY HAVE A DIFFERENT PRIORITY THAN SHOWN.

OCLT - 28/10/03

CROWN LAND

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

Superseded - Copy for Sketch Only

QUALIFIED CERTIFICATE OF CROWN LAND TITLE VOL. 3116 FOL. 934

FIRST SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT									
NATURE	NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL

SECOND SCHEDULE NOTE: ENTRIES MAY BE AFFECTED BY SUBSEQUENT ENDORSEMENTS

INSTRUMENT									
NATURE	NUMBER	PARTICULARS	REGISTERED	TIME	SEAL	CANCELLATION	NUMBER	REGISTERED OR LODGED	SEAL
Authorization Order	H345098	Authorization for the taking of interests.	24.1.00	16.08					
Notice	H345100	As to portion only: Notice of Intention to Take for the designated purpose of **Development for industrial purposes and associated and ancillary purposes and including stock yard and buffer.**	24.1.00	16.08					
Notice	H640234	Notice of Intention to Take H345100 period of currency is now increased to 2 years from the 24.1.2000.	9.1.01	14.56					
Notice	H977376	Notice of Intention to Take H345100 period of currency is now increased to 4 years from the 24.1.2000.	7.1.02	13.52					

WESTERN AUSTRALIA

REGISTER NUMBER	
370/DP35619	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3118 FOLIO 753

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 370 ON DEPOSITED PLAN 35619

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: VESTED UNDER STATUTE

PRIMARY INTEREST HOLDER: PORT HEDLAND PORT AUTHORITY OF POST OFFICE BOX 2, PORT HEDLAND
(XE I461275) REGISTERED 29 APRIL 2003

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1.	I461275	VESTED. VESTING PURSUANT TO SECTION 25 (2)(B) PORT AUTHORITIES ACT 1999. REGISTERED 29.4.2003.
2.	K693808	LEASE TO BHP BILLITON MINERALS PTY LTD, IN 85/100 SHARE, ITOCHU MINERALS & ENERGY OF AUSTRALIA PTY LTD, IN 8/100 SHARE, MITSUI IRON ORE CORPORATION PTY LTD, IN 7/100 SHARE, ALL OF CARE OF STATEWIDE TENEMENT AND ADVISORY SERVICES PTY LTD, 180 CLAISEBROOK ROAD, PERTH, AS TENANTS IN COMMON EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 22.8.2008.
3.	K693809	LEASE TO BHP BILLITON MINERALS PTY LTD, IN 85/100 SHARE, ITOCHU MINERALS & ENERGY OF AUSTRALIA PTY LTD, IN 8/100 SHARE, MITSUI IRON ORE CORPORATION PTY LTD, IN 7/100 SHARE, ALL OF CARE OF STATEWIDE TENEMENT AND ADVISORY SERVICES PTY LTD, 180 CLAISEBROOK ROAD, PERTH, AS TENANTS IN COMMON EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 22.8.2008.
4.	K693814	LEASE TO BHP BILLITON DIRECT REDUCED IRON PTY LTD OF CARE OF STATEWIDE TENEMENT AND ADVISORY SERVICES PTY LTD, 180 CLAISEBROOK ROAD, PERTH EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 22.8.2008.
5.	K693815	LEASE TO BHP BILLITON MINERALS PTY LTD, IN 85/100 SHARE, MITSUI-ITOCHU IRON PTY LTD, IN 10/100 SHARE, ITOCHU MINERALS & ENERGY OF AUSTRALIA PTY LTD, IN 5/100 SHARE, ALL OF CARE OF BHP BILLITON IRON ORE PTY LTD, LEVEL 17 ST GEORGES SQUARE, 225 ST GEORGE'S TERRACE, PERTH, AS TENANTS IN COMMON EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 22.8.2008.
6.	K982499	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

7.	K982498	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
	L350841	PERIOD OF CURRENCY IS NOW INCREASED TO 3 YEARS FROM 22.6.2009 REGISTERED 21.6.2010.
8.	L573515	LEASE TO MOLY METALS AUSTRALIA PTY LTD OF 46-50 KINGS PARK ROAD, WEST PERTH EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 11.3.2011.
9.	L723600	LEASE TO CONSOLIDATED MINERALS PTY LTD OF 28-42 VENTNOR AVENUE, WEST PERTH EXPIRES: SEE LEASE. AS TO PORTION ONLY. REGISTERED 1.9.2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP35619 [SHEET 1,2,3,4].
PREVIOUS TITLE:	LR3060-706, LR3060-708, LR3059-579.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	PORT HEDLAND PORT AUTHORITY.

NOTE 1:	I457759	CORRESPONDENCE FILE 03178-1969-01RO
NOTE 2:		ALTERNATIVE PARCEL IDENTIFIER - FORREST LOCATION 370.
NOTE 3:	L402313	DEPOSITED PLAN 67095 FOR INTEREST ONLY LODGED
NOTE 4:	L655198	DEPOSITED PLAN 70771 LODGED FOR INTEREST PURPOSES ONLY
NOTE 5:	L655201	DEPOSITED PLAN 70772 LODGED FOR INTEREST PURPOSES ONLY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
203/DP220594	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3128 FOLIO 641

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

Subject to Dealing

LAND DESCRIPTION:

LOT 203 ON DEPOSITED PLAN 220594

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: LEASEHOLD

PRIMARY INTEREST HOLDER: BHP BILLITON DIRECT REDUCED IRON PTY LTD OF 15TH FLOOR, 225 ST GEORGES TERRACE, PERTH

(AE J155888) REGISTERED 20 JANUARY 2005

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. PASTORAL LEASE CL58/1967. SUBJECT TO THE TERMS AND CONDITIONS AS SET OUT IN THE SAID LEASE.
   - F812670 TRANSFER OF LEASE . ON CL58/1967. REGISTERED 23.2.1995.
   - J019516 SUB-LEASE OF LEASE TO CHRISTOPHER MURRAY PATERSON, CAREY RAE PATERSON, BOTH OF POST OFFICE BOX 2796, SOUTH HEDLAND EXPIRES: SEE SUB LEASE. REGISTERED 14.9.2004.
   - J155888 CHANGE OF NAME AFFECTING LEASE . REGISTERED 20.1.2005.
   - J809879 SURRENDER OF LEASE CL58/1967 AS TO THE PORTION COMPRISED IN LOTS 273, 274 AND 275 ON DP219540 ONLY. REGISTERED 29.6.2006.
2. G225410 EASEMENT TO GRANTEE. RECORDED PURSUANT TO SECTION 19(4) OF THE PETROLEUM PIPELINES ACT 1969 AS AMENDED BY THE PILBARA ENERGY PROJECT AGREEMENT ACT 1994. REGISTERED 10.7.1996.
   - G893569 NOTIFICATION. THE GRANTEES OF EASEMENT G225410 ARE NOW EPIC ENERGY (PILBARA PIPELINE) PTY LTD. PURSUANT TO S20(5) OF THE PETROLEUM PIPELINES ACT 1969. LODGED 3.9.1998.
3. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 24.1.2000.
4. H345100 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. AS TO PORTION ONLY. REGISTERED 24.1.2000.
   - J508875 PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

		REGISTERED 14.11.2005.
	K461433	PERIOD OF CURRENCY IS NOW INCREASED TO 13 YEARS FROM 24.1.2000. REGISTERED 28.12.2007.
5.	H532364	EASEMENT TO STATE ENERY COMMISSION OF WESTERN AUSTRALIA. SEE DEPOSITED PLAN 95068. REGISTERED 23.8.2000.
6.	I961650	PORTION COMPRISED IN LOT 361 TO DP217382 TO VOLUME 3117 FOLIO 587. REGISTERED 22.7.2004.
7.	J765507	PORTION COMPRISED IN LOT 6024 ON DP193947 TO VOL 3137 FOL 753 REGISTERED 30.5.2006.
8.	J809875	PORTION COMPRISED IN LOTS 273, 274 AND 275 ON DP219540 TO VOL 3109 FOLS 390, 391 AND 481. REGISTERED 29.6.2006.
9.	J977169	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 6.11.2006.
10.	J977170	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF STOCK HOLDING YARD. AS TO PORTION ONLY. REGISTERED 6.11.2006.
11.	K982499	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.
12.	K982498	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
	L350841	PERIOD OF CURRENCY IS NOW INCREASED TO 3 YEARS FROM 22.6.2009 REGISTERED 21.6.2010.
13.	L003681	MEMORIAL. CONTAMINATED SITES ACT 2003 REGISTERED 9.7.2009.
14.	L613894	PORTIONS COMPRISED IN LOTS 1199 TO 1204 TO VOL.3160 FOL.560 TO VOL.3160 FOL.565 REGISTERED 29.4.2011.
15.	L627662	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF STOCK HOLDING YARD. AS TO PORTION ONLY. REGISTERED 16.5.2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP220594 [SHEET 1].
PREVIOUS TITLE:	LR3128-641.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1:	J205766	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 2:	J809879	DUP LEASE NOT PRODUCED FOR DOCUMENT J809879.
NOTE 3:	K461433	CORRESPONDENCE FILE 00879-1993-06RO
NOTE 4:	K654543	DEPOSITED PLAN (INTEREST ONLY) 59879 LODGED
NOTE 5:	L767465	DEPOSITED PLAN 72901 LODGED
NOTE 6:	L781942	DEPOSITED PLAN 72766 LODGED FOR INTEREST PURPOSES ONLY

Subject to Dealing

WESTERN AUSTRALIA

REGISTER NUMBER	
364/DP42164	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3133 FOLIO 415

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 364 ON DEPOSITED PLAN 42164

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: TOWN OF PORT HEDLAND OF POST OFFICE 41, PORT HEDLAND
(XE H226805) REGISTERED 17 SEPTEMBER 1999

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. I891906 RESERVE 33593 FOR THE PURPOSE OF STOCK HOLDING YARD REGISTERED 20.5.2004.
H226805 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. WITH POWER TO LEASE FOR ANY TERM NOT EXCEEDING 21 YEARS, SUBJECT TO THE CONSENT OF THE MINISTER FOR LANDS. REGISTERED 17.9.1999.
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP42164 [SHEET 1].
PREVIOUS TITLE:	LR3124-763.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Nov 7 15:45:07 2011 JOB 37900569

NOTE 1: I891905 CORRESPONDENCE FILE 51192-2003-03RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Nov 7 15:45:07 2011 JOB 37900569

WESTERN AUSTRALIA

REGISTER NUMBER	
365/DP42164	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3133 FOLIO 416

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 365 ON DEPOSITED PLAN 42164

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: LEASEHOLD

PRIMARY INTEREST HOLDER: NEWCREST MINING LTD OF PO BOX 6380, EAST PERTH
(LC I891907) REGISTERED 20 MAY 2004

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
2. I891907 LEASE. SUBJECT TO THE TERMS AND CONDITIONS AS SET OUT IN THE LEASE. REGISTERED 20.5.2004.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP42164 [SHEET 1].
PREVIOUS TITLE:	LR3124-763.
PROPERTY STREET ADDRESS:	LOT 365 BOODARIE STATION ACCESS RD, BOODARIE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: I891905 CORRESPONDENCE FILE 51192-2003-03RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Nov 7 15:45:07 2011 JOB 37900569

WESTERN AUSTRALIA

REGISTER NUMBER	
366/DP42164	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3133 FOLIO 417

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 366 ON DEPOSITED PLAN 42164

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: UNALLOCATED CROWN LAND

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. F226096 EASEMENT TO THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA. SEE INSTRUMENT F226096 AND DEPOSITED PLAN 28588. REGISTERED 23.6.1993.
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP42164 [SHEET 1].
PREVIOUS TITLE:	LR3124-763.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: I891905 CORRESPONDENCE FILE 51192-2003-03RO
NOTE 2: L781942 DEPOSITED PLAN 72766 LODGED FOR INTEREST PURPOSES ONLY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
397/DP28588	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3138 FOLIO 639

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 397 ON DEPOSITED PLAN 28588

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: UNALLOCATED CROWN LAND

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. F226096 EASEMENT TO THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA. SEE INSTRUMENT F226096 AND DEPOSITED PLAN 28588. REGISTERED 23.6.1993.
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP28588 [SHEET 1].
PREVIOUS TITLE:	LR3106-215.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: A000001A CORRESPONDENCE FILE 3146/1968.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
409/DP28588	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3138** FOLIO **640**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 409 ON DEPOSITED PLAN 28588

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: ROAD

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. J812210 DEDICATED ROAD PURSUANT TO S28(1) LAA. REGISTERED 30.6.2006.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP28588 [SHEET 1].
PREVIOUS TITLE:	LR3106-215, LR3098-804.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (ROAD).

NOTE 1: A000001A CORRESPONDENCE FILE 3146/1968.
NOTE 2: L781942 DEPOSITED PLAN 72766 LODGED FOR INTEREST PURPOSES ONLY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

REGISTER NUMBER	
376/DP220768	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

WESTERN AUSTRALIA

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

VOLUME LR3150 FOLIO 759

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 376 ON DEPOSITED PLAN 220768

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: ROAD

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. DEDICATED ROAD
2. K982499 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.
3. K982498 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
   L350841 PERIOD OF CURRENCY IS NOW INCREASED TO 3 YEARS FROM 22.6.2009 REGISTERED 21.6.2010.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP220768 [SHEET 1].
PREVIOUS TITLE:	LR3150-749.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

ORIGINAL CERTIFICATE OF CROWN LAND TITLE
QUALIFIED

REGISTER NUMBER: 376/DP220768 VOLUME/FOLIO: LR3150-759 PAGE 2

RESPONSIBLE AGENCY: DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (ROAD).

NOTE 1: K654543 DEPOSITED PLAN (INTEREST ONLY) 59879 LODGED

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
555/DP60836	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3156 FOLIO 351

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 555 ON DEPOSITED PLAN 60836

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: LEASEHOLD

PRIMARY INTEREST HOLDER: HORIZON POWER OF 18 BRODIE HALL DRIVE, BENTLEY
(LC L252825) REGISTERED 9 MARCH 2010

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. L091095 TAKING ORDER. THE DESIGNATED PURPOSE OF LOT 555 TO BE TRANSFERRED IN FEE SIMPLE TO HORIZON POWER FOR POWER STATION SITE. REGISTERED 1.10.2009.
2. L252825 LEASE. SUBJECT TO THE TERMS AND CONDITIONS AS SET OUT IN THE LEASE. REGISTERED 9.3.2010.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP60836 [SHEET 1,4].
PREVIOUS TITLE:	THIS TITLE, LR3131-840.
PROPERTY STREET ADDRESS:	LOT 555 UTAH RD, BOODARIE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: L252825 CORRESPONDENCE FILE 50065-2006-03RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
556/DP60836	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3156 FOLIO 352

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

LAND DESCRIPTION:

LOT 556 ON DEPOSITED PLAN 60836

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: PORT HEDLAND PORT AUTHORITY OF PO BOX 2, PORT HEDLAND
(XE L252828) REGISTERED 9 MARCH 2010

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1.	K982499	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.
2.	K982498	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
	L350841	PERIOD OF CURRENCY IS NOW INCREASED TO 3 YEARS FROM 22.6.2009 REGISTERED 21.6.2010.
3.	L091095	TAKING ORDER. THE DESIGNATED PURPOSE OF LOT 556 TO BE AMALGAMATED INTO THE PORT HEDLAND PORT AUTHORITY UNDER STATUTE. REGISTERED 1.10.2009.
4.	L252826	EASEMENT TO HORIZON POWER FOR ACCESS AND POWERLINE PURPOSES. SEE DEPOSITED PLAN 61916. REGISTERED 9.3.2010.
5.	L252827	RESERVE 50528 FOR THE PURPOSE OF HARBOUR PURPOSES REGISTERED 9.3.2010.
	L252828	MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. WITH POWER TO LEASE FOR ANY TERM. REGISTERED 9.3.2010.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

ORIGINAL CERTIFICATE OF CROWN LAND TITLE

REGISTER NUMBER: 556/DP60836 VOLUME/FOLIO: LR3156-352 PAGE 2

SKETCH OF LAND:	DP60836 [SHEET 1,2,3,4].
PREVIOUS TITLE:	THIS TITLE, LR3131-840.
PROPERTY STREET ADDRESS:	LOT 556 LEEHEY ST, WEDGEFIELD.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	PORT HEDLAND PORT AUTHORITY.

NOTE 1:	A000001A	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 2:	K654543	DEPOSITED PLAN (INTEREST ONLY) 59879 LODGED
NOTE 3:	L252827	CORRESPONDENCE FILE 03178-1969-01RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
487/DP61851	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3157** FOLIO **98**

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 487 ON DEPOSITED PLAN 61851

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: UNALLOCATED CROWN LAND

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1.	H345098	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
2.	H345100	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED AND ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. REGISTERED 24.1.2000.
	K461433	PERIOD OF CURRENCY IS NOW INCREASED TO 13 YEARS FROM 24.1.2000. REGISTERED 28.12.2007.
3.	H522488	EASEMENT TO THE STATE ENERGY COMMISSION FOR HIGH VOLTAGE ELECTRICAL TRANSMISSION SYSTEM PURPOSES. SEE DEPOSITED PLAN 61851 AS CREATED ON DEPOSITED PLAN 95071. REGISTERED 10.8.2000.
4.	K982498	NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF EASEMENT FOR THE PURPOSE OF WATER PIPELINE. AS TO PORTION ONLY. REGISTERED 22.6.2009.
5.	K982499	AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. AS TO PORTION ONLY. REGISTERED 22.6.2009.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:
The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP61851 [SHEET 1].
PREVIOUS TITLE:	LR3106-96.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1:	A000001A	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES
NOTE 2:	K654543	DEPOSITED PLAN (INTEREST ONLY) 59879 LODGED
NOTE 3:	L237455	CORRESPONDENCE FILE 01087-1996-01RO.
NOTE 4:	L781942	DEPOSITED PLAN 72766 LODGED FOR INTEREST PURPOSES ONLY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
600/DP70566	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3159** FOLIO **787**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 600 ON DEPOSITED PLAN 70566

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: UNALLOCATED CROWN LAND

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP70566 [SHEET 1].
PREVIOUS TITLE:	LR3157-620, LR3157-619.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: L039180 CORRESPONDENCE FILE 51004-2007-02RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Mar 28 11:41:41 2011 JOB 36429419

WESTERN AUSTRALIA

REGISTER NUMBER	
601/DP70566	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3159** FOLIO **788**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 601 ON DEPOSITED PLAN 70566

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: REGIONAL POWER CORPORATION OF PO BOX 1066, BENTLEY
(XE L571430) REGISTERED 9 MARCH 2011

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. F226096 EASEMENT TO THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA FOR ELECTRICITY PURPOSES. SEE DEPOSITED PLAN 70566. REGISTERED 23.6.1993.
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
3. L571429 RESERVE 50884 FOR THE PURPOSE OF POWER STATION REGISTERED 9.3.2011.
   L571430 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. REGISTERED 9.3.2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP70566 [SHEET 1].
PREVIOUS TITLE:	LR3157-620, LR3157-619.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	REGIONAL POWER CORPORATION.

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Mar 28 11:41:41 2011 JOB 36429419

NOTE 1: L039180 CORRESPONDENCE FILE 51004-2007-02RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Mar 28 11:41:41 2011 JOB 36429419

WESTERN AUSTRALIA

REGISTER NUMBER	
602/DP70566	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3159** FOLIO **789**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 602 ON DEPOSITED PLAN 70566

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: UNALLOCATED CROWN LAND

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. F226096 EASEMENT TO THE STATE ENERGY COMMISSION OF WESTERN AUSTRALIA FOR ELECTRICITY PURPOSES. SEE DEPOSITED PLAN 70566. REGISTERED 23.6.1993.
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP70566 [SHEET 1].
PREVIOUS TITLE:	LR3157-620.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: L039180 CORRESPONDENCE FILE 51004-2007-02RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Mon Mar 28 11:41:41 2011 JOB 36429419

WESTERN AUSTRALIA

REGISTER NUMBER	
1203/DP70562	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3160** FOLIO **564**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 1203 ON DEPOSITED PLAN 70562

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: PORT HEDLAND PORT AUTHORITY OF POST OFFICE BOX 2, PORT HEDLAND
(XE L613898) REGISTERED 29 APRIL 2011

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. L003681 MEMORIAL. CONTAMINATED SITES ACT 2003 REGISTERED 9.7.2009.
2. L613897 PART RESERVE 50892 FOR THE PURPOSE OF PORT PURPOSES REGISTERED 29.4.2011.
   L613898 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. WITH POWER TO LEASE FOR ANY TERM. REGISTERED 29.4.2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP70562 [SHEET 1].
PREVIOUS TITLE:	LR3128-641.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	PORT HEDLAND PORT AUTHORITY.

NOTE 1: L613897 CORRESPONDENCE FILE 03388-1964
NOTE 2: L655202 DEPOSITED PLAN 70781 LODGED FOR INTEREST PURPOSES ONLY

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

NOTE 3: L655203 DEPOSITED PLAN 70782 LODGED FOR INTEREST PURPOSES ONLY
NOTE 4: L655207 DEPOSITED PLAN 70783 LODGED FOR INTEREST PURPOSES ONLY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
1204/DP70562	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3160** FOLIO **565**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 1204 ON DEPOSITED PLAN 70562

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: PORT HEDLAND PORT AUTHORITY OF POST OFFICE BOX 2, PORT HEDLAND
(XE L613898) REGISTERED 29 APRIL 2011

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. L003681 MEMORIAL. CONTAMINATED SITES ACT 2003 REGISTERED 9.7.2009.
2. L613897 PART RESERVE 50892 FOR THE PURPOSE OF PORT PURPOSES REGISTERED 29.4.2011.
   L613898 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. WITH POWER TO LEASE FOR ANY TERM. REGISTERED 29.4.2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP70562 [SHEET 1].
PREVIOUS TITLE:	LR3128-641.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	PORT HEDLAND PORT AUTHORITY.

NOTE 1: L613897 CORRESPONDENCE FILE 03388-1964

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
1280/DP70562	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

VOLUME **LR3160** FOLIO **568**

RECORD OF CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 1280 ON DEPOSITED PLAN 70562

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE UNDER MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: PORT HEDLAND PORT AUTHORITY OF POST OFFICE BOX 2, PORT HEDLAND
(XE L613898) REGISTERED 29 APRIL 2011

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. L613897 PART RESERVE 50892 FOR THE PURPOSE OF PORT PURPOSES REGISTERED 29.4.2011.
L613898 MANAGEMENT ORDER. CONTAINS CONDITIONS TO BE OBSERVED. WITH POWER TO LEASE FOR ANY TERM. REGISTERED 29.4.2011.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP70562 [SHEET 1].
PREVIOUS TITLE:	LR3109-948.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	PORT HEDLAND PORT AUTHORITY.

NOTE 1:	L613897	CORRESPONDENCE FILE 03388-1964
NOTE 2:	L655202	DEPOSITED PLAN 70781 LODGED FOR INTEREST PURPOSES ONLY
NOTE 3:	L655207	DEPOSITED PLAN 70783 LODGED FOR INTEREST PURPOSES ONLY

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

WESTERN AUSTRALIA

REGISTER NUMBER	
1282/DP70562	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	N/A

VOLUME LR3160 FOLIO 569

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 1282 ON DEPOSITED PLAN 70562

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: RESERVE WITHOUT MANAGEMENT ORDER

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. L613899 PART RESERVE 9701 FOR THE PURPOSE OF DE GREY MULLEWA STOCK ROUTE REGISTERED 29.4.2011.
2. H345098 AUTHORISATION ORDER FOR THE TAKING OF INTERESTS. REGISTERED 24.1.2000.
3. H345100 NOTICE OF INTENTION TO TAKE FOR THE DESIGNATED PURPOSE OF DEVELOPMENT FOR INDUSTRIAL PURPOSES AND ASSOCIATED AND ANCILLARY PURPOSES AND INCLUDING STOCK YARD AND BUFFER. REGISTERED 24.1.2000.
   - J508875 PERIOD OF CURRENCY IS NOW INCREASED TO 8 YEARS FROM 24.1.2000 REGISTERED 14.11.2005.
   - K461433 PERIOD OF CURRENCY IS NOW INCREASED TO 13 YEARS FROM 24.1.2000. REGISTERED 28.12.2007.

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP70562 [SHEET 1].

END OF PAGE 1 - CONTINUED OVER

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

PREVIOUS TITLE:	LR3109-948.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1:	L613899	CORRESPONDENCE FILE 01138-1985
NOTE 2:	L613896	SUBJECT TO SURVEY - NOT FOR ALIENATION PURPOSES

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

REGISTER NUMBER	
1281/DP70562	
DUPLICATE EDITION	DATE DUPLICATE ISSUED
N/A	**N/A**

WESTERN AUSTRALIA

RECORD OF QUALIFIED CERTIFICATE OF CROWN LAND TITLE

VOLUME **LR3160** FOLIO **570**

UNDER THE TRANSFER OF LAND ACT 1893
AND THE LAND ADMINISTRATION ACT 1997

NO DUPLICATE CREATED

The undermentioned land is Crown land in the name of the STATE of WESTERN AUSTRALIA, subject to the interests and Status Orders shown in the first schedule which are in turn subject to the limitations, interests, encumbrances and notifications shown in the second schedule.

REGISTRAR OF TITLES

REGISTRAR OF TITLES WESTERN AUSTRALIA

LAND DESCRIPTION:

LOT 1281 ON DEPOSITED PLAN 70562

STATUS ORDER AND PRIMARY INTEREST HOLDER:
(FIRST SCHEDULE)

STATUS ORDER/INTEREST: ROAD

PRIMARY INTEREST HOLDER: STATE OF WESTERN AUSTRALIA

LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:
(SECOND SCHEDULE)

1. DEDICATED ROAD

Warning: (1) A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required. Lot as described in the land description may be a lot or location.
(2) The land and interests etc. shown hereon may be affected by interests etc. that can be, but are not, shown on the register.
(3) The interests etc. shown hereon may have a different priority than shown.

----------END OF CERTIFICATE OF CROWN LAND TITLE----------

STATEMENTS:

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND:	DP70562 [SHEET 1].
PREVIOUS TITLE:	LR3116-933.
PROPERTY STREET ADDRESS:	NO STREET ADDRESS INFORMATION AVAILABLE.
LOCAL GOVERNMENT AREA:	TOWN OF PORT HEDLAND.
RESPONSIBLE AGENCY:	DEPARTMENT OF REGIONAL DEVELOPMENT AND LANDS (SLSD).

NOTE 1: K461433 CORRESPONDENCE FILE 00879-1993-06RO

LANDGATE COPY OF ORIGINAL NOT TO SCALE Thu Nov 17 15:54:46 2011 JOB 37977589

ORIGINAL

NOTE.—All dealings with this Lease must be in the forms prescribed under the Transfer of Land Act, 1893-1950

6/ REGISTRATION FEE PAID CL 0058 1967 F C.L. No. 58

Lease No. { 3114 / 618 WE TRALIA

1967 INDEXED LEASE NAME LAND

PASTORAL LEASE

(Under Section 114 of the Land Act, 1933, and Amendments)

THIS LEASE IS ISSUED IN LIEU OF PASTORAL LEASE NO. 394-703(CL1298/1936) and 394-704(CL1299/1936) North West DIVISION

Forrest DISTRICT

Elizabeth the Second, by the Grace of God, of the United Kingdom, Australia and Her other Realms and Territories, Queen, Head of the Commonwealth, Defender of the Faith. To all to whom these Presents shall come, Greeting: Know Ye that We of our especial Grace and in exercise of the powers in this behalf to Us given by the Land Act, 1933, and Amendments, do by these presents lease to Peter George Hardie Pastoralist Myrtle Esther Hardie Widow and June Hardie Spinster all of 92 Gugeri Street Claremont as tenants in common in the following shares that is to say to the said Peter George Hardie two undivided fourth shares and to each of the said Myrtle Esther Hardie and June Hardie one undivided fourth share ----------

hereinafter called "the Lessee," which term includes the Lessee, his executors, administrators, and assigns/~~its successors and permitted assigns~~ the natural surface of all that piece or parcel of land situated being Forrest location 203 and 388

6/ in the District of Forrest and containing 184,167 acres as delineated by a border of green colour on the plan herein: To hold unto the said Lessee for pastoral purposes under and subject to the provisions of Part VI of the said Act and except as hereinafter provided, for the term of 48 years 5 months 16 days to be computed from the Six/teenth day of January 1967, until the thirtieth day of June, 2015. Yielding and Paying therefor unto Us, Our Heirs and Successors, the yearly rent of $615.15 from the said Six/teenth day of January 1967, until the Thirtieth day of June 1967, and thereafter during the said terms, subject nevertheless to the rent payable after the lastmentioned date being determined from time to time on re-appraisement under the provisions of Part VI of the said Act: And Yielding and Paying, whenever the yearly rent is varied on re-appraisement, such yearly rent as is so determined; and the rent payable for the time being by the Lessee shall be paid to Our Minister for Lands by equal half-yearly payments in advance on or before the first day of March and the first day of September in every year: Provided always, and it is hereby declared, that if the rent hereby reserved, and payable for the time being, or any part thereof, is not duly paid by the Lessee as herein and by section one hundred and thirty-nine of the said Act prescribed; or in case of the breach by the Lessee of any condition on which, in accordance with the said Act this lease is granted; or if the Lessee assigns or underlets the demised premises or any part thereof without Our said Minister's approval, in writing as required by the said Act, first obtained; then these presents shall become void, and the term hereby granted shall be absolutely and indefeasibly forfeited, and it shall thereupon be lawful for Us, Our Heirs and Successors, into and upon the demised premises, or any part thereof in the name of the whole, to re-enter, and the same to have again, repossess, and enjoy as if this deed-poll had never been executed, without making any compensation to the Lessee : Provided also, that this lease is granted on the following conditions: (1) That the Lessee will comply effectively and to the satisfaction of the Minister for Agriculture with the provisions of the Vermin Act, 1919, and its amendments and with the requirements of any notice issued under that Act in respect to vermin on the area leased. (2) That the Lessee will, to the satisfaction of the Minister for Agriculture, take part in and contribute to any programmes or measures for the control of vermin organised by a local Vermin Control Authority or by the Agriculture Protection Board, whether on the area leased by the Lessee or on areas leased by other Lessees or on Crown land. (3) That the Lessee will to the satisfaction of the Minister for Agriculture comply effectively with the provisions of the Soil Conservation Act, 1945, and its amendments, and with the provisions of the Noxious Weeds Act, 1950, and its amendments. (4) That the Lessee will maintain on the area leased good and improving soil and plant conditions. (5) That the Commissioner of Soil Conservation may, in any case where the construction of a large dam is contemplated, implement in respect of the area leased special provisions for full control of water catchment areas. (6) That the Lessee will not permit or suffer any grazing on all or part of the area leased where grazing is prohibited under the powers contained in the Soil Conservation Act, 1945, and its amendments.

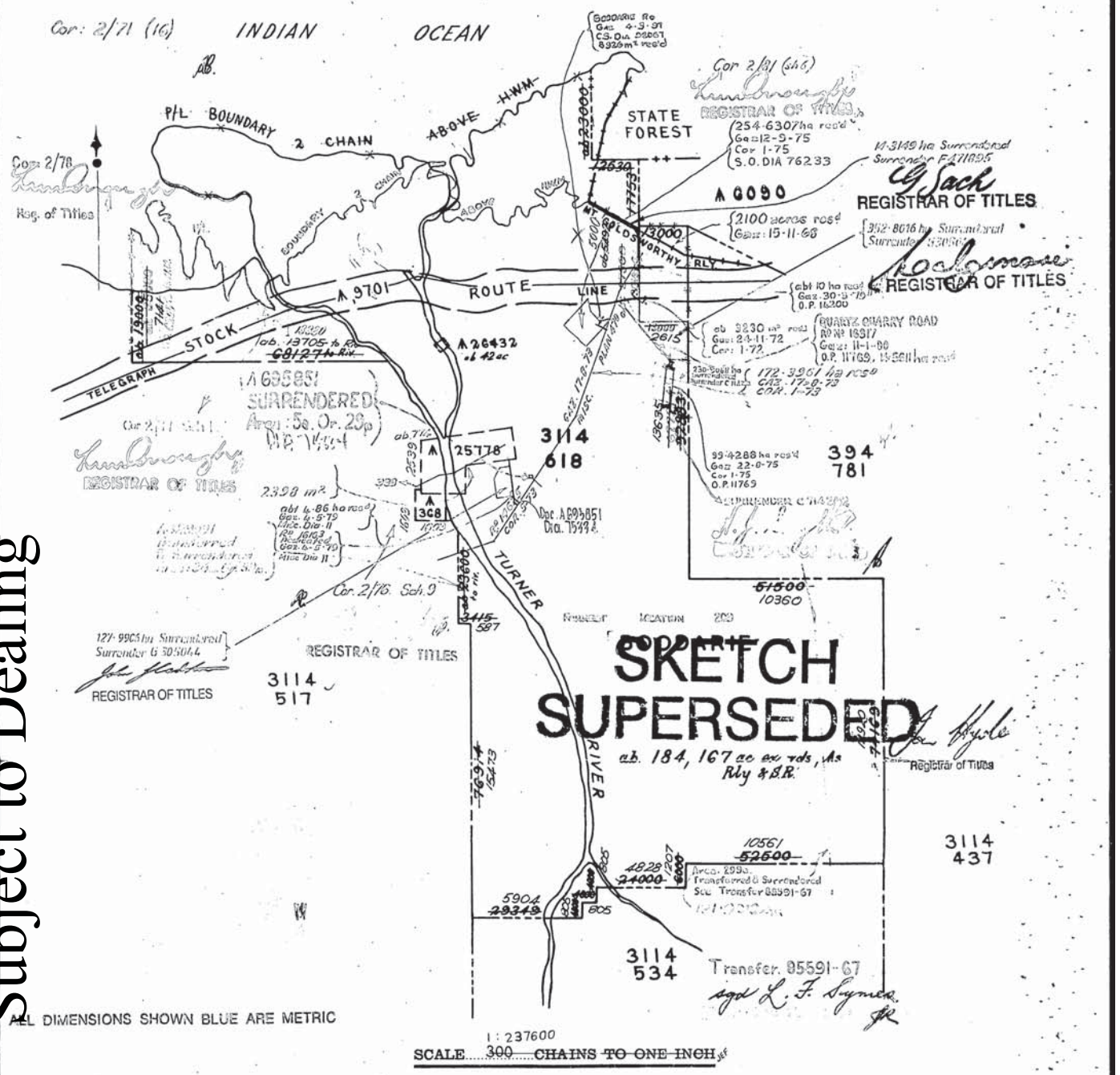
Provided also, that this lease is granted subject to the powers, conditions and reservations relating thereto in Part VI of the said Act contained, and to the provisions of the Mining Act, 1904, and the Forests Act, 1918, and to all rights and privileges lawfully acquired or exercisable thereunder; and that the right is reserved to Us, Our Heirs and Successors, to dispose of such portions of the demised land under the provisions of the said Act as may be required for any purpose of public utility or for otherwise facilitating the improvement and settlement of the State as therein prescribed.

83757/5/64—2M—11

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

PLAN HEREIN REFERRED TO



Subject to Dealing

The area and measurements on the above Plan are more or less.

IN WITNESS whereof we have caused Our said Minister for Lands to affix hereto his Seal and set his hand.

Dated this Sixteenth *day of* January 19 67.

An Officer authorised in this behalf by the Governor.
By order of the Minister for Lands.

Registered the 16th day of January 1967,

in conformity with Section 81c of the Act No. 56 Victoria No. 14 and numbered 58/1967

PRICE PER 1,000 ACRES.....

PLAN ROEBOURNE & PORT HEDLAND

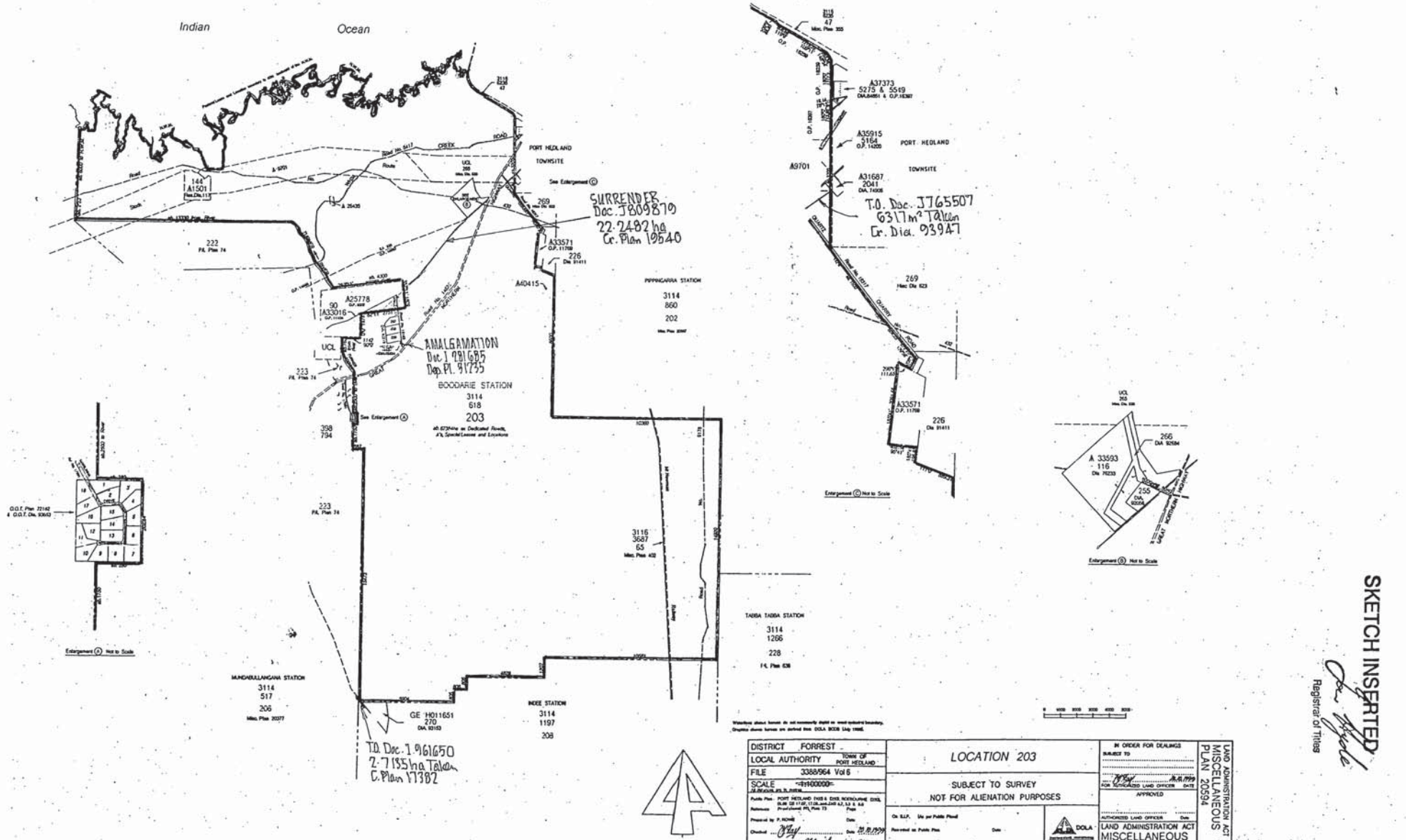
CORR. 3388/64

Asst. Registrar of Titles.

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

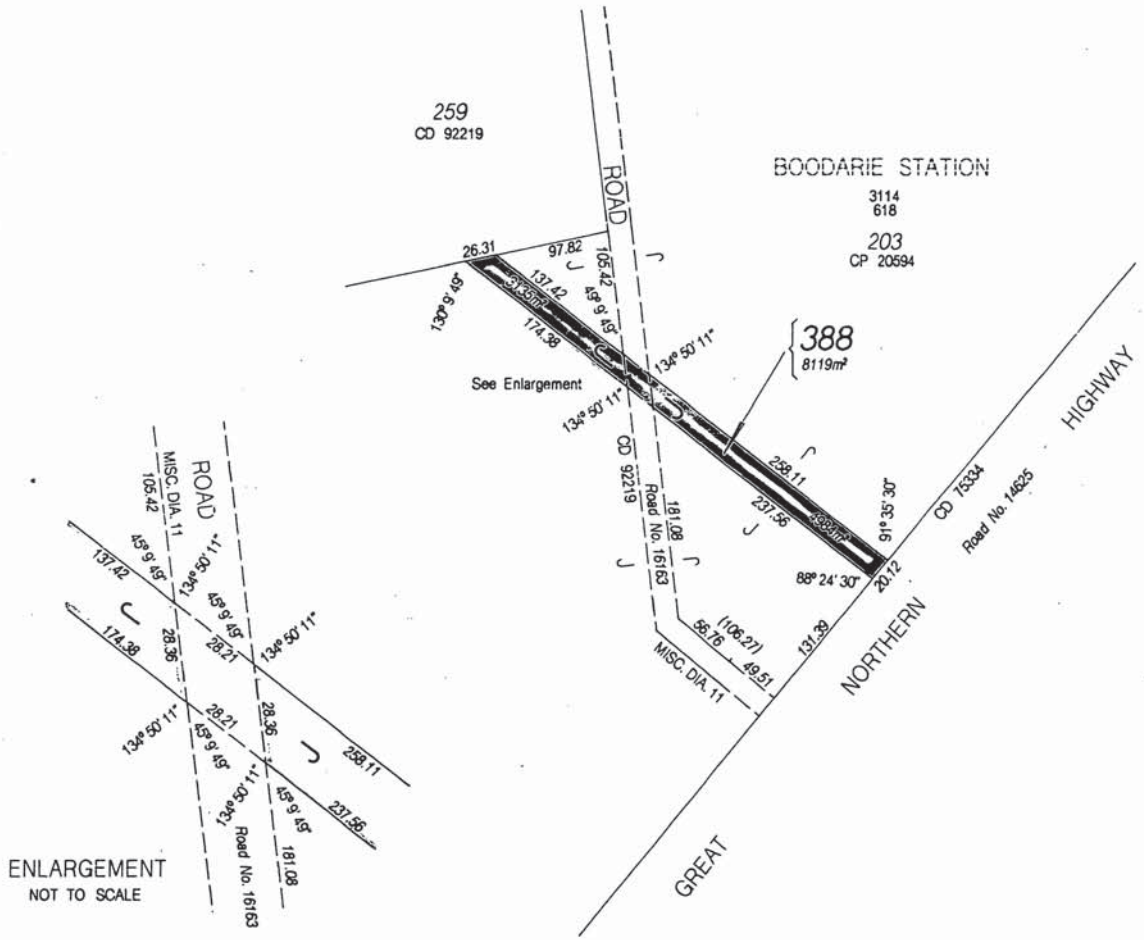
LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Subject to Dealing



Subject to Dealing

ED/VER	AMENDMENT	BY	SIGNATURE	DATE	APPROVED Authorized Land Officer Date
1 / 2	AMALGAMATION Doc.I 281685	the D.L.I.		15-9-2003	



TYPE	CROWN
PURPOSE	SUBDIVISION
PLAN OF	LOT 388

DP 31235

DISTRICT FORREST TOWNSITE		DOLA FILE 03388-1964-06
LOCAL AUTHORITY TOWN OF PORT HEDLAND LOCALITY BOODARIE		
FORMER TENURE	ON INDEX: PORT HEDLAND & BEDOUT ISLAND (250)	REFERENCE PT. FORREST LOC. 113 ON CD75334

SCALE: ALL DISTANCES ARE IN METRES 1: 4000 (0 40 80 120 160 200)

SUBJECT TO SURVEY
NOT FOR ALIENATION PURPOSES

LODGED	TYPE OF VALIDATION	SURVEY FIRM
DATE 3.4.2002	FULL AUDIT 23.4.2002	DOLA - G. BALDINI
FEE PAID N/A	LEGAL COMPONENT	
ASSESS No. —	CERTIFIED CORRECT P.B. Smith 23/4/02 Manager Statutory Services	

IN ORDER FOR DEALINGS
SUBJECT TO /

G Marshall 23.4.2002
FOR AUTHORISED LAND OFFICER DATE

APPROVED
31.10.2002
AUTHORIZED LAND OFFICER DATE

DOLA
Department of LAND ADMINISTRATION

DEPOSITED PLAN
31235

SHEET 1 OF 1
EDITION 1 VERSION 2

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

RECEIPTS:

1166 - 91
582 - 91

Transfer 85591 [illegible]. Portion of the within Crown Lease (2499 acres) is Transferred and Surrendered to Her Majesty Queen Elizabeth the Second Registered 30th October 1967 at 9.08 a.m.

L. J. Jones
Asst. Registrar of Titles.

The area of the within Lease is now reduced to (183,868 acres) and the half yearly rental to $ 306.08

L. J. Jones
Asst. Registrar of Titles.

Lands Act 1933.

Con. 1-68 Charter 15-11-68 Area 2100 acres [illegible]

Portion of the land [illegible] is required for
the purpose of Extension to Port Hedland Townsite
by Instrument dated 6-11-68

[illegible]
Registrar of Titles.

Transfer A 300100 to Pelegrino Bardis Restaurateur and Jane Spiridula Bardis of 92 Lyngar Street Carnarvon and each [illegible] Murdeena Pty Ltd of Perth [illegible] Registered 21st June 1970 at [illegible]

Transfer A300100 to Murdeena Pty Ltd of Perth, to Pelegrino Bardis Restaurateur and Jane Spiridula Bardis of 92 Lyngar Street Carnarvon and each [illegible] Registered 21st June 1970 at 3.40 p.m.

Con. 2/70 Schedule 71

The area of the within lease has been amended to
181,768 acres 0 roods 0 perches and the Half
Yearly rental is $304.21

O. L. Brigstocke
Registrar of Titles

Con. 2/71 Schedule 16 - The area of the within lease has been amended to 170,500 a. and the half yearly rental to 285.83

R.

Transfer A 429991. Portion of the within lease (34 a. 0r. 39 p.) transferred and surrendered to Her Majesty Queen Elizabeth Second. Registered 14th August 1971 at 11.38 o'c.

Transfer A 429991. The area of the within lease is now reduced to (170,466 a).

Lands Act 1933.

Con. 1-72 Charter 24-11-72 Area 32.30 ac. S.O. 74-905

[illegible]
the Sewerage Site
by [illegible] 14-11-72.

[illegible]
5-12-72.

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Surrender A695851. Portion of the within lease (5a 0r 24p) is now surrendered to Her Majesty Queen Elizabeth the Second.
Registered 18th July 1973 at 10.28 oc

Surrender A695851. The area of the within lease is now reduced to 170,461 ac

1-73 PORTION 17-8-73 172.3961ha MISC. PLAN 470 R.D. 56-73 6-7-73 21-9-73 L&S.O.P. 11104

ROAD 10-1-73 PORTION

Corr. 8/1973 Schedule 1577.
The area of the within lease has been amended to
68.811 ha.
68,811
Asst. Registrar of Titles.

Land Act 1933.
Cor. 1-75 22-8-75 99.4288ha O.P. 11769
Portion
for the purpose of Quarry & Access
from 13-8-75

Land Act 1933.
Cor. 1-75 12-9-75 254.6307ha 76233
Portion
for the purpose of Stock Holding Yard
from 5-9-75
Acting Registrar of Titles

Mortgage B39046 to Dalgety Australia Limited Registered 20th October 1975 at 9.28 oc. DISCHARGED

Corr. 2/76 Schedule 8
The area of the within lease has been amended to
ab 68556 ha. and the half
yearly rental to $ 284 1/6
Registrar of Titles.

Corr. 2/76 Schedule 9
The area of the within lease has been amended to
ab. 68457 ha.
Registrar of Titles.

Mortgage B142704 to The Rural Reconstruction Authority
Registered 4th May 1976 at 9.03 oc DISCHARGED

Mortgage B233447 to THE COMMISSIONERS OF THE RURAL AND INDUSTRIES BANK OF WESTERN AUSTRALIA
Registered 21st October 1976 at 11.17 oc. DISCHARGED

Corr. 2/77 Schedule 1
The area of the within lease has been amended to
68392 ha.
Registrar of Titles.

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Corr. 2/78 Schedule 103 & 104
The area of the within lease has been amended to ab. 68 422 ha and the ~~rental to~~
Registrar of Titles.

Corr. 2-78 Schedule 105
The area of the within lease has been amended to ab. 68127 ha
Registrar of Titles.

30-3-79 abt 10 ha O.P. 14200
Portion
Recreation
21-3-79
Registrar of Titles.

4-5-79 abt. 4.86 ha Misc } 11
Portion
Road
18-4-79

Corr. 2/79 Schedule 60
The area of the within lease has been amended to 68112 ha
Registrar of Titles.

As to Subject of Surrender C714202.
Discharge C714199 of Mortgage B233464. Registered 21st February 1984 at 10.18 o'c.

As to Subject of Surrender C714202.
Discharge C714200 of Mortgage B39046. Registered 21st February 1984 at 10.18 o'c.

As to Subject of Surrender C714202.
Discharge C714201 of Mortgage B142704. Registered 21st February 1984 at 10.18 o'c.

Surrender C714202. Portion of the within lease (area 230.9088 ha) is now surrendered to Her Majesty Queen Elizabeth the Second. Registered 21st February 1984 at 16.18 o'c.

Surrender C714202. the area of the within lease is now reduced to (67,881 hectares) and the half yearly rental to $139.32c.

Memorial D311183. Section 134C Land Act 1933. Registered 26th August 1986 at 3.10 o'c.

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Transfer D335693 of Mortgage B233447 to Rural Adjustment & Finance Corporation of Western Australia. Registered 6th October, 1986 at 1.45 o'c.

DISCHARGED

Dup. Lease not prod. (since produced)

Corr. 8/1987 Schedule 38
The area of the within lease has been amended to 67881 ha and the half yearly rental to $ 155-83
1-1-87 Asst. Registrar of Titles

As to the portion the subject of Surrender D613628 only:
Discharge D613625 of Mortgage B39046. Registered 26th November, 1987 at 15.51 hrs.

As to the portion the subject of Surrender D613628 only:
Discharge D613626 of Mortgage B142704. Registered 26th November, 1987 at 15.51 hrs.

As to the portion the subject of Surrender D613628 only:
Discharge D613627 of Mortgage B233447. Registered 26th November, 1987 at 15.51 hrs.

Surrender D613628. Portion of the within Lease (1 ha) is now surrendered to Her Majesty Queen Elizabeth the Second. Registered 26th November, 1987 at 15.51 hrs.

Surrender D613628. The area of the within lease is now reduced to 67880 ha.

Discharge D690019 of Mortgage B39046. Registered 4th March, 1988 at 14.35 hrs.

Dup. Lease not prod. (since produced)

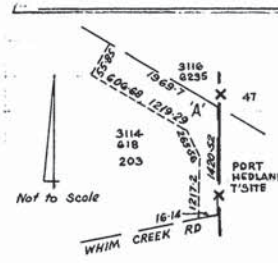
Forrest Location 203
12/10/89 REGISTRAR OF TITLES

Discharge E352569 of Mortgage B233447. Registered 3rd May, 1990 at 10.36 hrs.

Dup. Lease not prod. (since produced)

Mortgage E978286 to Elders Rural Finance Ltd. Registered 2nd September 1992 at 10.06 hrs.

DISCHARGED

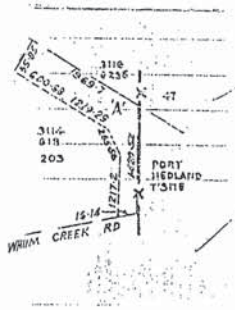


As to portion of the within lease marked 'A' on the map in the margin hereon.
Discharge F471896 of Mortgage E978286. Registered 3rd March, 1994 at 15.35 hrs.

As to portion of the within lease marked 'A' on the map in the margin hereon.
Discharge F471897 of Mortgage B142704. Registered 3rd March, 1994 at 15.35 hrs.

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***



Surrender F471895. Portion of the within Lease (14.3149 ha) marked 'A' on the map in the margin is now surrendered to Her Majesty Quee Elizabeth the Second. Registered 3rd May, 1994 at 15.35 hrs.

Surrender F471895. The area of the within lease is now reduced to about 67866 ha and the half yearly rental to $155.79.

Discharge F709863 of Mortgage B142704. Registered 24th October 1994 at 10.01 hrs.

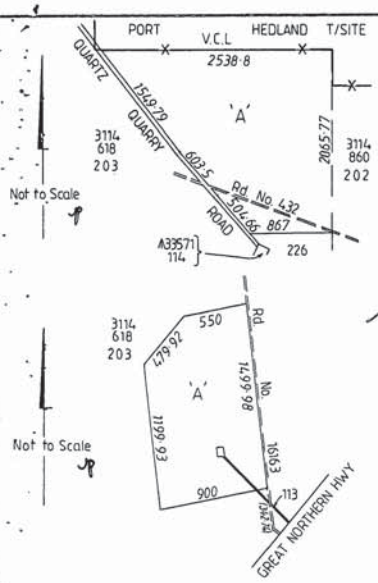
Discharge F812669 of Mortgage E978286. Registered 23rd February, 1995 at 9.42 hrs.

Transfer F812670 to BHP Direct Reduced Iron Pty Ltd of 18th Floor, 200 St George's Terrace, Perth. Registered 23rd February, 1995 at 9.42 hrs.

EASEMENT G225410 recorded pursuant to section 19(4) of the Petroleum Pipelines Act 1969 as amended by the Pilbara Energy Project Agreement Act 1994.

Recorded 10.7.1996 at 9.10 hrs.

DP 218567 (EA 320)



Surrender G305044. Portions of the within Lease (480.7922 ha) marked 'A' on the maps in the margin is now surrendered to Her Majesty Queen Elizabeth the Second. Registered 16.10.1996 at 14.16 hrs.

Corr. 3388/964V6 Schedule 10%
The area of the within lease has been amended to ab. 67384 ha
Registrar of Titles.

Surrender G305044. The area of the within lease is now reduced to Abt.67385 ha and the half yearly rental to $154.69.

Notification G893569 Pursuant to Section 20(5) of the Petroleum Pipelines Act 1969, the grantee of Easement G225410 is now Epic Energy (Pilbara Pipeline) Pty. Ltd. Lodged 3.9.98 at 15.37 hrs.

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Authorization Order H345098. Authorization for the taking of interests. Registered 24th January, 2000 at 16.08 hrs.

As to portion only.
Notice H345100. Notice of Intention to Take for the designated purpose of **Development for industrial purposes and associated and ancillary purposes and including stock yard and buffer.** Registered 24th January, 2000 at 16.08 hrs.

2. Notice H640234 Notice of Intention to Take H345100 period of currency is now increased to 2 years from the 24.1.2000. Registered 9th January, 2001 at 14.56 hrs.

3. Notice H977376 Notice of Intention to Take H345100 period of currency is now increased to 4 years from the 24.1.2000. Registered 7th January 2002 at 13.52 hrs.

4. **Amalgamation Order I281685. Lease amended to include Lot 388 on Deposited Plan 31235. Registered 31st October 2002 at 14.06 hrs.**

Corr. 3388/964 vol 7 Schedule III
The area of the within lease has been amended to
abt 67385 ha
Registrar of Titles.

1. Easement H532364 The right to enter upon the portion of the within land marked EASEMENT on Land Administration Miscellaneous Diagram E69 for the purpose of constructing installing, maintaining and operating the installation for the transmission of high voltage electricity limited however to a depth of 12.19 metres as set out in the said Easement is granted to State Energy Commission of Western Australia. Rggistered 23.8.00 at 13.46 hrs.
affects Lot 388 only

Notice I569749. Notice of Intention to Take for the designated purpose of Reserves. Registered 28th July, 2003 at 14.53 hrs.

ACTION COMPLETE

Notice I699059. Notice of Intention to Take H345100 Period of currency is now increased to 6 years from the 24.1.2000. Registered 18th November, 2003 at 12.39hrs.

As to portion of Forrest Location 203 only:
Notice I831601. Notice of Intention to Take for the designated purpose of **Road (Great Northern Highway).** Registered 25th March 2004 at 11.43 hrs.

ACTION COMPLETE

Notice I911157. Notice of Intention to Take I569749 period of currency is now increased to 3 years from the 28.7.2003. Registered 8th June, 2004 at 13.56 hrs.

ACTION COMPLETE

Taking Order I961650 Portion comprised in Lot 361 on DP217382 to Vol 3117 Fol 587. As to Location 203 only. Registered 22nd July 2004 at 10.51 hrs.
As to Location 203 only.

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Vol 8 Fol 1

Corr. 3388/964 vol 7 Schedule 287
The area of the within lease has been amended to abt 67382 ha and the half yearly rental to remain at $809.26
Registrar of Titles.

Sub-Lease J019516 to Christopher Murray Paterson and Carey Rae Paterson both of PO Box 2796, South Hedland commencing 1.6.2001 for a term of 14 years zero months and 28 days.
Registered 14th September 2004 at 8.20 hrs.

Application J155888. The correct name and address of the Lessee is now BHP Billiton Direct Reduced Iron Pty. Ltd. of 15th Floor, 225 St Georges Terrace, Perth. Registered 20th January 2005 at 8.17 hrs.

Notice J508875. Notice of Intention to Take H345100 period of currency is now increased to 8 years from 24.1.2000. Registered 14th November 2005 at 15.03hrs.

Taking Order J765507. Portion comprised in Lot 6024 on DP193947 to Vol.3137 Fol.753 Registered 30th May 2006 at 15.56hrs. As to Location 203 only.

Surrender J809879. As to the portion comprised in DP219540 only. Registered 29th June 2006. (Dup Lease not produced)

Corr. 3388/964 vol.9 Schedule 97 (Docs J765507 & J809879).
The area of the within lease has been amended to abt 67350 ha and the half yearly rental to $809.26
Registrar of Titles.

Authorization Order J977169. Authorization for the taking of interests. As to portion only. Registered 6th November, 2006 at 15.25 hrs.

Notice J977170. Notice of Intention to Take for the designated purpose of Stock Holding Yard. As to portion only. Registered 6th November, 2006 at 15.25 hrs.

Subject to Dealing

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Subject to Dealing

NOTE

CROWN LAND TITLES

3128/641
3127/360

HAVE BEEN ISSUED FOR THE LANDS THE SUBJECT OF THIS LEASE CL 58/1967

LANDGATE COPY OF ORIGINAL NOT TO SCALE Wed Feb 6 10:23:48 2008 JOB 29842632
*** SUBJECT TO DEALING *** *** SUBJECT TO DEALING ***

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

E 45/2834 EXPLORATION LICENCE

Status: Pending

Tenement Summary

File Reference :
Mark Out :
Received : 21/12/2005 14:45:00
Warden's Recommendation : Grant 08/01/2010
Purpose :

Death Reason :
Death Date :
Commence :
Expiry :

DESCRIPTION DETAILS

Type	Start Date	No. of Blocks	Remaining Blocks		
			Graticules		
			Million Plan	Primary	Blocks
Applied For	21/12/2005	70	HAMERSLEY RANGE	269	uz
			HAMERSLEY RANGE	270	qrtuvwxyz
			HAMERSLEY RANGE	271	mnopqrstuvwxy
			HAMERSLEY RANGE	272	l
			HAMERSLEY RANGE	341	ekoptuyz
			HAMERSLEY RANGE	342	abcdefghjklmnopqrstvwxy
			HAMERSLEY RANGE	343	abcdfghj
			HAMERSLEY RANGE	413	de
			HAMERSLEY RANGE	414	abcd

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	70.00000 BL

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON MINERALS PTY LTD
C/- STATEWIDE TENEMENT & ADVISORY SERVICES PTY LTD, PO BOX 8095 PERTH BUSINESS CENTRE, PERTH, WA, 6849

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2006	21/12/2005	1593	MB	$6,454.00

EXPENDITURE DETAILS

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/62 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No 6a

Datum : Commencing at Zone SF50 AMG reference co-ordinates 660923 m E, 7743268 m N

Boundary : THENCE:

Westerly to AMG 660810 m E, 7743269 m N

Northerly to AMG 660780 m E, 7743399 m N

Easterly to AMG 660887 m E, 7743424 m N

Southerly to AMG 660923 m E, 7743268 m n

Back to commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	1.61260 HA
Applied For		23/06/1995	1.61260 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	1.61260 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$26.60
2011	20/07/2010	81864	PE	$28.38
2010	15/07/2009	67141	PE	$27.72
2009	17/07/2008	53897	PE	$26.62
2008	25/07/2007	40363	PE	$25.74
2007	24/07/2006	26785	PE	$24.64
2006	25/07/2005	13556	PE	$23.76
2005	28/07/2004	905	PE	$23.10
2004	12/08/2003	63172	PE	$22.44
2003	05/09/2002	52479	PE	$21.78
2002	11/09/2001	40665	PE	$21.12
2001	24/08/2000	27151	PE	$21.12
2000	24/08/2000	27152	PE	$0.19
2000	22/07/1999	13675	PE	$19.20
1999	25/08/1998	833	PE	$19.20
1998	06/08/1997	165693	PE	$18.60
1997	05/09/1996	149108	PE	$18.60
1996	23/06/1995	127920	PE	$18.60

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/63 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No 7

Datum : Commencing at Zone SF50 AMG reference coordinates 660573 m E, 7744283 m N

Boundary : THENCE:

East to AMG 660686 m E, 7744283 m N

Southerly to AMG 660887 m E, 7743424 m N

Westerly to AMG 660780 m E, 7743399 m N

Northerly to AMG 660573 m E, 7744283 m N

Back to commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.84150 HA
Applied For		23/06/1995	9.84150 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.84150 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/64 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No 8

Datum : Commencing at Zone SF50 AMG reference coordinates 660454 m E, 7744819 m N

Boundary : THENCE:

Easterly to AMG 660661 m E, 7744819 m N

Southerly to AMG 660686 m E, 7744283 m N

Westerly to AMG 660573 m E, 7744283 m N

Northerly to AMG 660454 m E, 7744819 m N

Back to commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	8.57600 HA
Applied For		23/06/1995	8.57600 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	8.57600 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$119.70
2011	20/07/2010	81864	PE	$127.71
2010	15/07/2009	67141	PE	$124.74
2009	17/07/2008	53897	PE	$119.79
2008	25/07/2007	40363	PE	$115.83
2007	24/07/2006	26785	PE	$110.88
2006	25/07/2005	13556	PE	$106.92
2005	28/07/2004	905	PE	$103.95
2004	12/08/2003	63172	PE	$100.98
2003	05/09/2002	52479	PE	$98.01
2002	11/09/2001	40665	PE	$95.04
2001	24/08/2000	27151	PE	$95.04
2000	24/08/2000	27152	PE	$0.87
2000	22/07/1999	13675	PE	$86.40
1999	25/08/1998	833	PE	$86.40
1998	06/08/1997	165693	PE	$83.70
1997	05/09/1996	149108	PE	$83.70
1996	23/06/1995	127920	PE	$83.70

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/67 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 11

Datum : Commencing at Zone SF50 AMG reference coordinates 660977 m East,7748137 m North

Boundary : THENCE:

East to AMG 661153 m East, 7748137 m North

South to AMG 661153 m East, 7747663 m North

West to AMG 660977 m East, 7747663 m North

North to AMG 660977 m East, 7748137 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	8.34240 HA
Applied For		23/06/1995	8.34240 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	8.34240 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$119.70
2011	20/07/2010	81864	PE	$127.71
2010	15/07/2009	67141	PE	$124.74
2009	17/07/2008	53897	PE	$119.79
2008	25/07/2007	40363	PE	$115.83
2007	24/07/2006	26785	PE	$110.88
2006	25/07/2005	13556	PE	$106.92
2005	28/07/2004	905	PE	$103.95
2004	12/08/2003	63172	PE	$100.98
2003	05/09/2002	52479	PE	$98.01
2002	11/09/2001	40665	PE	$95.04
2001	24/08/2000	27151	PE	$95.04
2000	24/08/2000	27152	PE	$0.87
2000	22/07/1999	13675	PE	$86.40
1999	25/08/1998	833	PE	$86.40
1998	06/08/1997	165693	PE	$83.70
1997	05/09/1996	149108	PE	$83.70
1996	23/06/1995	127920	PE	$83.70

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/68 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 12

Datum : Commencing at Zone SF50 AMG reference coordinates 661078 m East,7747663 m North

Boundary : THENCE:

South to AMG 661078 m East, 7747031 m North

West to AMG 660977 m East, 7747031 m North

North to AMG 660977 m East, 7747663 m North

East to AMG 661078 m East, 7747663m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	6.38320 HA
Applied For		23/06/1995	6.38320 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	6.38320 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$93.10
2011	20/07/2010	81864	PE	$99.33
2010	15/07/2009	67141	PE	$97.02
2009	17/07/2008	53897	PE	$93.17
2008	25/07/2007	40363	PE	$90.09
2007	24/07/2006	26785	PE	$86.24
2006	25/07/2005	13556	PE	$83.16
2005	28/07/2004	905	PE	$80.85
2004	12/08/2003	63172	PE	$78.54
2003	05/09/2002	52479	PE	$76.23
2002	11/09/2001	40665	PE	$73.92
2001	24/08/2000	27151	PE	$73.92
2000	24/08/2000	27152	PE	$0.68
2000	22/07/1999	13675	PE	$67.20
1999	25/08/1998	833	PE	$67.20
1998	06/08/1997	165693	PE	$65.10
1997	05/09/1996	149108	PE	$65.10
1996	23/06/1995	127920	PE	$65.10

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/74 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 18

Datum : Commencing at Zone SF50 AMG reference coordinates 660661 m East, 7747347 m North

Boundary : THENCE:

East to AMG 660977 m East, 7747347 m North

South to AMG 660977 m East, 7747031 m North

West to AMG 660661 m East, 7747031 m North

North to AMG 660661 m East, 7747347 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/75 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 19

Datum : Commencing at Zone SF50 AMG reference coordinates 660661 m East, 7747031 m North

Boundary : THENCE:

East to AMG 660977 m East, 7747031 m North

South to AMG 660977 m East, 7746715 m North

West to AMG 660661m East, 7746715 m North

North to AMG 660661 m East, 7747031 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/76 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 20

Datum : Commencing at Zone SF50 AMG reference coordinates 660661 m East, 7746715 m North

Boundary : THENCE:

East to AMG 660977 m East, 7746715 m North

South to AMG 660977 m East, 7746399 m North

West to AMG 660661 m East, 7746399 m North

North to AMG 660661 m East, 7746715 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/77 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 21

Datum : Commencing at Zone SF50 AMG reference coordinates 660661 m East, 7746399 m North

Boundary : THENCE:

East to AMG 660977 m East, 7746399 m North

South to AMG 660977 m East, 7746083 m North

West to AMG 660661 m East, 7746083 m North

North to AMG 660661 m East, 7746399 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/78 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 22

Datum : Commencing at Zone SF50 AMG reference coordinates 660661 m East, 7746083 m North

Boundary : THENCE:

East to AMG 660977 m East, 7746083 m North

South to AMG 660977 m East, 7745767 m North

West to AMG 660661 m East, 7745767 m North

North to AMG 660661 m East, 7746083 m North

Back to Commencemenet

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/79 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 23

Datum : Commencing at Zone SF50 AMG reference coordinates 660661 m East, 7745767 m North

Boundary : THENCE:

East to AMG 660977 m East, 7745767 m North

South to AMG 660977 m East, 7745451 m North

West to AMG 660661 m East, 7745451 m North

North to AMG 660661 m East, 7745767 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/80 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Death Reason :
Mark Out : N/A
Death Date :
Received : 23/06/1995 15:25:00
Commence : 07/08/1995 **Expiry :** 06/08/2016
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 24

Datum : Commencing at Zone SF50 AMG reference coordinates 660661 m East, 7745451 m North

Boundary : THENCE:

East to AMG 660861 m East, 7745451 m North

South southwesterly to AMG 660767 m East, 7744819 m North

West to AMG 660661 m East, 7744819 m North

North to AMG 660661 m East, 7745451 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.66960 HA
Applied For		23/06/1995	9.66960 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.66960 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/91 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : 01/01/1995 00:00:00
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 36

Datum : Commencing at Zone SF50 AMG reference coordinates 660345 m East, 7745451 m North

Boundary : THENCE:

East to AMG 660661 m East, 7745451 m North

South to AMG 660661 m East, 7745135 m North

West to AMG 660345 m East, 7745135 m North

North to AMG 660345 m East, 7745451 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		01/01/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/92 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile, Residue Disposal and Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 37

Datum : Commencing at Zone SF50 AMG reference coordinates 660345 m East, 7745135 m North

Boundary : THENCE:

East to AMG 660661 m East, 7745135 m North

South to AMG 660661 m East, 7744819 m North

West to AMG 660345 m East, 7744819 m North

North to AMG 660345 m East, 7745135 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/104 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 50

Datum : Commencing at Zone SF50 AMG reference co-ordinates 660029 metres East: 7745135 metres north

Boundary : THENCE:

East to: AMG 660345 metres east: 7745135 metres north

South to: AMG 660345 metres east: 7744819 metres north

West to: AMG 660029 metres east: 7744819 metres north

North to: AMG 660029 metres east: 7745135 metres north

BACK TO COMMENCEMENT

NOTE: APPLICATION INVITED UNDER SECTION 19 OF THE MINING ACT 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/116 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 63

Datum : Commencing at Zone SF50 AMG reference co-ordinates 659713 metres east: 7745135 metres north

Boundary : THENCE:

East to: AMG 660029 metres east: 7745135 metres north

South to: AMG 660029 metres east: 7744819 metres north

West to: AMG 659713 metres east: 7744819 metres north

North to: AMG 659713 metres east: 7745135 metres north

BACK TO COMMENCEMENT

NOTE: APPLICATION INVITED UNDER SECTION 19 OF THE MINING ACT 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/127 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 76

Datum : Commencing at Zone SF50 AMG reference co-ordinates 659397 metres east: 7745135 metres north

Boundary : THENCE:

East to: AMG 659713 metres east: 7745135 metres north

South to: AMG 659713 metres east: 7744819 metres north

West to: AMG 659397 metres east: 7744819 metres north

North to: AMG 659397 metres east: 7745135 metres north

BACK TO COMMENCEMENT

NOTE: APPLICATION INVITED UNDER SECTION 19 OF THE MINING ACT 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/138 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 89

Datum : Commencing at Zone SF50 AMG reference co-ordinates 659081 metres east: 7745135 metres north

Boundary : THENCE:

East to: AMG 659397 metres east: 7745135 metres north

South to: AMG 659397 metres east: 7744819 metres north

West to: AMG 659081 metres east: 7744819 metres north

North to: AMG 659081 metres east: 7745135 metres north

BACK TO COMMENCEMENT

NOTE: APPLICATION INVITED UNDER SECTION 19 OF THE MINING ACT 1978

Area :

Type	Dealing No	Start Date	Area
Surveyed		19/06/1997	9.98700 HA
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98700 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
9.98700 HA	19/06/1997	YOUNGE, CA	1	30/05/1997	10708

Standard Plan	Diagram
TENGRAPH	27578 (2490)

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number :
Project :
Reporting Date :
Affecting Period :

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/149 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites, Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 102

Datum : Commencing at Zone SF50 AMG reference co-ordinates 658765m E, 7745135m N

Boundary : Thence:

East to AMG 659081m E, 7745135m N

South to AMG 659081m E, 7744819m N

West to AMG 658765m E, 7744819m N

North to AMG 658765m E, 7744819m N

Back to commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Surveyed		19/06/1997	9.98700 HA
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98700 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
9.98700 HA	19/06/1997	YOUNGE, CA	1	30/05/1997	10708

Standard Plan	Diagram
TENGRAPH	27578 (2490)

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/160 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 115

Datum : Commencing at Zone SF50 AMG reference co-ordinates 658449m E, 7745135m N

Boundary : Thence:

East to AMG 658765m E, 7745135m N

South to AMG 658765m E, 7744819m N

West to AMG 658449m E, 7744819m N

North to AMG 658449m E, 7745135m N

Back to commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Surveyed		19/06/1997	9.98700 HA
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98700 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
9.98700 HA	19/06/1997	YOUNGE, CA	1	30/05/1997	10708

Standard Plan	Diagram
TENGRAPH	27578 (2490)

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/171 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 02/08/1995
Purpose : Plant Sites Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 128

Datum : Commencing at Zone SF50 AMG reference co-ordinates 658133m E, 7745135m N

Boundary : Thence:

East to AMG 658449m E, 7745135m N

South to AMG 658449m E, 7744819m N

West to AMG 658133m E, 7744819m N

North to AMG 658133m E, 7745135m N

Back to commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Surveyed		19/06/1997	9.98700 HA
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98700 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
9.98700 HA	19/06/1997	YOUNGE, CA	1	30/05/1997	10708

Standard Plan	Diagram
TENGRAPH	27578 (2490)

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/181 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Plant Sites Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No.141

Datum : Commencing at Zone SF50 AMG reference coordinates 657817 m E, 7745135 m N

Boundary : THENCE:

East to AMG 658133 m E, 7745135 m N

South to AMG 658133 m E, 7744819 m N

West to AMG 657817 m E, 7744819 m N

North to AMG 657817 m E, 7745135 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Surveyed		19/06/1997	9.98700 HA
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98700 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
9.98700 HA	19/06/1997	YOUNGE, CA	1	30/05/1997	10708

Standard Plan	Diagram
TENGRAPH	27578 (2490)

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	10/11/2011	102434	PE	$53.20
2012	02/08/2011	97856	PE	$79.80
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/188 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Plant Sites Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 154

Datum : Commencing at Zone SF50 AMG reference coordinates 657501 m E, 7745135 m N

Boundary : THENCE:

East to AMG 657817 m E, 7745135 m N

South to AMG 657817 m E, 7744819 m N

West to AMG 657501 m E, 7744819 m N

North to AMG 657501 m E, 7745135 m N

Back to commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/195 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Plant Sites Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - -No. 167

Datum : Commencing at Zone SF50 AMG reference coordinates 657185 m E, 7745135 m N

Boundary : THENCE:

East to AMG 657501 m East, 7745135 m North

South to AMG 657501 m East, 7744819 m North

West to AMG 657185 m East, 7744819 m North

North to AMG 657185 m East, 7745135 m North

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/201 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Plant Sites Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 180

Datum : Commencing at Zone SF50 AMG reference coordinates 656869 m E, 7745135 m N

Boundary : THENCE:

East to AMG 657185 m E, 7745135 m N

South to AMG 657185 m E, 7744819 m N

West to AMG 656869 m E, 7744819 m N

North to AMG 656869 m E, 7745135 m N

Back to Commencement

NOTE: Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.98560 HA
Applied For		23/06/1995	9.98560 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.98560 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/220 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 209

Datum : Commencing at Zone SF50 AMG reference co-ordinates 662511 metres east: 7744136 metres north

Boundary : PURPOSE: INFRASTRUCTURE CORRIDOR

NOTE: APPLICATION INVITED UNDER SECTION 19
OF THE MINING ACT 1978

.....

THENCE:

Westerly to:
AMG 661608 metres east: 7744013 metres north

Northerly to:
AMG 661595 metres east: 7744071 metres north

Easterly to:
AMG 662501 metres east: 7744195 metres north

Southerly to:
AMG 662511 metres east: 7744136 metres north

BACK TO COMMENCEMENT

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	5.43335 HA
Applied For		23/06/1995	5.43335 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	5.43335 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD

LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$79.80
2011	20/07/2010	81864	PE	$85.14
2010	15/07/2009	67141	PE	$83.16
2009	17/07/2008	53897	PE	$79.86
2008	25/07/2007	40363	PE	$77.22
2007	24/07/2006	26785	PE	$73.92
2006	25/07/2005	13556	PE	$71.28
2005	28/07/2004	905	PE	$69.30
2004	12/08/2003	63172	PE	$67.32
2003	05/09/2002	52479	PE	$65.34
2002	11/09/2001	40665	PE	$63.36
2001	24/08/2000	27151	PE	$63.36
2000	24/08/2000	27152	PE	$0.58
2000	22/07/1999	13675	PE	$57.60
1999	25/08/1998	833	PE	$57.60
1998	06/08/1997	165693	PE	$55.80
1997	05/09/1996	149108	PE	$55.80
1996	23/06/1995	127920	PE	$55.80

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/221 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 210

Datum : Commencing at Zone SF 50 AMG reference co-ordinates 661553 metres east: 7744250 metres north

Boundary : PURPOSE: INFRASTRUCTURE CORRIDOR

NOTE: APPLICATION INVITED UNDER SECTION 19
OF THE MINING ACT 1978

.....

THENCE:

Southerly to:
AMG 661653 metres east: 7743821 metres north

Westerly to:
AMG 661450 metres east: 7743773 metres north

Northerly to:
AMG 661349 metres east: 7744203 metres north

Easterly to:
AMG 661553 metres east: 7744250 metres north

BACK TO COMMENCEMENT

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.21770 HA
Applied For		23/06/1995	9.21770 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.21770 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD

LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/222 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 211

Datum : Commencing at Zone SF50 AMG Reference co-ordinates 661246 metres east: 7743726 metres north

Boundary : PURPOSE: INFRASTRUCTURE CORRIDOR

NOTE: APPLICATION INVITED UNDER SECTION 19
OF THE MINING ACT 1978

.....

THENCE:

Northerly to:
AMG 661146 metres east: 7744155 metres north

Easterly to:
AMG 661349 metres east: 7744203 metres north

Southerly to:
AMG 661450 metres east: 7743773 metres north

Westerly to:
AMG 661246 metres east: 7743726 metres north

BACK TO COMMENCMENT

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.21770 HA
Applied For		23/06/1995	9.21770 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.21770 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD

LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/223 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 212

Datum : Commencing at Zone SF50 AMG reference co-ordinates 661043 metres east: 7743678 metres north

Boundary : PURPOSE: INFRASTRUCTURE CORRIDOR

NOTE: APPLICATION INVITED UNDER SECTION 19
OF THE MINING ACT 1978

.....

THENCE:

Northerly to:
AMG 660942 metres east: 7744108 metres north

Easterly to:
AMG 661146 metres east: 7744155 metres north

Southerly to:
AMG 661246 metres east: 7743726 metres north

Westerly to:
AMG 661043 metres east: 7743678 metres north

BACK TO COMMENCEMENT

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.21770 HA
Applied For		23/06/1995	9.21770 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.21770 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD

LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/224 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 213

Datum : Commencing at Zone SF50 AMG reference co-ordinates 660839 metres east: 7743631 metres north

Boundary : PURPOSE: INFRASTRUCTURE CORRIDOR

NOTE: APPLICATION INVITED UNDER SECTION 19
OF THE MINING ACT 1978

.....

THENCE:

Northerly to:
AMG 660738 metres east: 7744060 metres north

Easterly to:
AMG 660942 metres east: 7744108 metres north

Southerly to:
AMG 661043 metres east: 7743678 metres north

Westerly to:
AMG 660839 metres east: 7743631 metres north

BACK TO COMMENCEMENT

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.24155 HA
Applied For		23/06/1995	9.24155 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.24155 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD

LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	165693	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/235 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Plant Sites Stock Pile, Residue Disposal Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland

Datum : Commencing at Zone SF50 AMG reference coordinates 660977 m E, 7745643 m N

Boundary : THENCE:

North to AMG 660977 m E, 7746211 m N

Southeast to AMG 661142 m E, 7746119 m N

South to AMG 661142 m E, 7745643 m N

West to AMG 660977 m E, 7745643 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	8.61300 HA
Applied For		23/06/1995	8.61300 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	8.61300 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$119.70
2011	20/07/2010	81864	PE	$127.71
2010	15/07/2009	67141	PE	$124.74
2009	17/07/2008	53897	PE	$119.79
2008	25/07/2007	40363	PE	$115.83
2007	24/07/2006	26785	PE	$110.88
2006	25/07/2005	13556	PE	$106.92
2005	28/07/2004	905	PE	$103.95
2004	12/08/2003	63172	PE	$100.98
2003	05/09/2002	52479	PE	$98.01
2002	11/09/2001	40665	PE	$95.04
2001	24/08/2000	27151	PE	$95.04
2000	24/08/2000	27152	PE	$0.87
2000	22/07/1999	13675	PE	$86.40
1999	25/08/1998	833	PE	$86.40
1998	06/08/1997	165693	PE	$83.70
1997	05/09/1996	149108	PE	$83.70
1996	23/06/1995	127920	PE	$83.70

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/240 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 23/06/1995 15:25:00
Warden's Recommendation : Grant 03/07/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 07/08/1995 **Expiry :** 06/08/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - N0. 229

Datum : Commencing at Zone SF 50 AMG reference co-ordinates 661165 m East: 7748137 m North

Boundary : THENCE:

South Easterly along boundary of Special Lease 3116/6235 to AMG 661482 m East, 7747500 m North

South Westerly to AMG 661363 m East, 7747287 m North

North Westerly to AMG 661165 m East, 7747663 m North

North to AMG 661165 m East, 7748137 m North

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		07/08/1995	9.52505 HA
Applied For		23/06/1995	9.52505 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.52505 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	02/08/2011	97856	PE	$133.00
2011	20/07/2010	81864	PE	$141.90
2010	15/07/2009	67141	PE	$138.60
2009	17/07/2008	53897	PE	$133.10
2008	25/07/2007	40363	PE	$128.70
2007	24/07/2006	26785	PE	$123.20
2006	25/07/2005	13556	PE	$118.80
2005	28/07/2004	905	PE	$115.50
2004	12/08/2003	63172	PE	$112.20
2003	05/09/2002	52479	PE	$108.90
2002	11/09/2001	40665	PE	$105.60
2001	24/08/2000	27151	PE	$105.60
2000	24/08/2000	27152	PE	$0.97
2000	22/07/1999	13675	PE	$96.00
1999	25/08/1998	833	PE	$96.00
1998	06/08/1997	16593	PE	$93.00
1997	05/09/1996	149108	PE	$93.00
1996	23/06/1995	127920	MB	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/241 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 21/08/1995 10:00:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 1

Datum : Commencing at Zone SF50 AMG reference co-ordinates 660851 metres east: 7739969 metres north:

Boundary : THENCE:

south east to AMG 661240 metres east: 7739680 metres north

south west to AMG 661127 metres east: 7739578 metres north

north west to AMG 660781 metreseast: 7739834 metres north

north east to AMG 660851 metres east: 7739969 metres north

BACK TO COMMENCEMENT

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	6.84825 HA
Applied For		21/08/1995	6.84825 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	6.84825 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$93.10
2011	20/10/2010	85689	PE	$99.33
2010	13/10/2009	70939	PE	$97.02
2009	20/10/2008	57648	PE	$93.17
2008	22/10/2007	43805	PE	$90.09
2007	27/10/2006	30483	PE	$86.24
2006	31/10/2005	17341	PE	$83.16
2005	01/11/2004	4365	PE	$80.85
2004	30/10/2003	65872	PE	$78.54
2003	01/11/2002	54365	PE	$76.23
2002	19/11/2001	42936	PE	$73.92
2001	24/11/2000	30546	PE	$73.92
2000	24/08/2000	27152	PE	$2.68
2000	04/02/2000	19725	PE	$67.20
1999	12/11/1998	4407	PE	$67.20
1998	19/11/1997	170873	PE	$65.10
1997	12/11/1996	152601	PE	$65.10
1996	21/08/1995	130699	PE	$65.10

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/242 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 21/08/1995 10:00:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South No. 2

Datum : Commencing at Zone SF50 AMG reference co-ordinates 661357 metres east: 7740935 metres north

Boundary : THENCE:

southerly to AMG 661383 metres east: 7740823 metres north

south west to AMG 660912 metres east: 7739924 metres north

north west to AMG 660851 metres east: 7739969 metres north

north east to AMG 661357 metres east: 7740935 metres north

BACK TO COMMENCEMENT

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	7.89110 HA
Applied For		21/08/1995	7.89110 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	7.89110 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$106.40
2011	20/10/2010	85689	PE	$113.52
2010	13/10/2009	70939	PE	$110.88
2009	20/10/2008	57648	PE	$106.48
2008	22/10/2007	43805	PE	$102.96
2007	27/10/2006	30483	PE	$98.56
2006	31/10/2005	17341	PE	$95.04
2005	01/11/2004	4365	PE	$92.40
2004	30/10/2003	65872	PE	$89.76
2003	01/11/2002	54365	PE	$87.12
2002	19/11/2001	42936	PE	$84.48
2001	24/11/2000	30546	PE	$84.48
2000	24/08/2000	27152	PE	$3.06
2000	04/02/2000	19725	PE	$76.80
1999	12/11/1998	4407	PE	$76.80
1998	19/11/1997	170873	PE	$74.40
1997	12/11/1996	152601	PE	$74.40
1996	21/08/1995	130699	PE	$74.40

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/243 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 21/08/1995 10:00:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 3

Datum : Commencing at Zone SF50 AMG reference coordinates 661401 m E, 7740747 m N

Boundary : THENCE:

Easterly to AMG 661508 m E, 7740772 m N

South East to AMG 661782 m E, 7740369 m N

Westerly to AMG 661453 m E, 7740521 m N

Northerly to AMG 661401 m E, 7740747 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	5.82105 HA
Applied For		21/08/1995	5.82105 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	5.82105 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$79.80
2011	20/10/2010	85689	PE	$85.14
2010	13/10/2009	70939	PE	$83.16
2009	20/10/2008	57648	PE	$79.86
2008	22/10/2007	43805	PE	$77.22
2007	27/10/2006	30483	PE	$73.92
2006	31/10/2005	17341	PE	$71.28
2005	01/11/2004	4365	PE	$69.30
2004	30/10/2003	65872	PE	$67.32
2003	01/11/2002	54365	PE	$65.34
2002	19/11/2001	42936	PE	$63.36
2001	24/11/2000	30546	PE	$63.36
2000	24/08/2000	27152	PE	$2.30
2000	04/02/2000	19725	PE	$57.60
1999	12/11/1998	4407	PE	$57.60
1998	19/11/1997	170873	PE	$55.80
1997	12/11/1996	152601	PE	$55.80
1996	21/08/1995	130699	PE	$55.80

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/244 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 21/08/1995 10:00:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 4

Datum : Commencing at Zone SF50 AMG reference coordinates 661401 m E, 7740747 m N

Boundary : THENCE:

Northerly to AMG 661194 m E, 7741631 m N

Easterly to AMG 661301 m E, 7741656 m N

Southerly to AMG 661508 m E, 7740772 m N

Westerly to AMG 661401 m E, 7740747 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.97630 HA
Applied For		21/08/1995	9.97630 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.97630 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	21/08/1995	130699	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/245 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 21/08/1995 10:00:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 5

Datum : Commencing at Zone SF50 AMG reference coordinates 661301 m E, 7741656 m N

Boundary : THENCE:

Westerly to AMG 661194 m E, 7741631 m N

Northerly to AMG 660987 m E, 7742515 m N

Easterly to AMG 661094 m E, 7742540 m N

Southerly to AMG 661301 m E, 7741656 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.97630 HA
Applied For		21/08/1995	9.97630 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.97630 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	21/08/1995	130699	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/246 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 21/08/1995 10:00:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South - No. 6

Datum : Commencing at Zone SF50 AMG reference coordinates 661094 m E, 7742540 m N

Boundary : THENCE:

Westerly to AMG 660987 m E, 7742515 m N

Northerly to AMG 660810 m E, 7743269 m N

Easterly to AMG 660923 m E, 7743268 m N

Southerly to AMG 661094 m E, 7742540 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	8.35980 HA
Applied For		21/08/1995	8.35980 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	8.35980 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$119.70
2011	20/10/2010	85689	PE	$127.71
2010	13/10/2009	70939	PE	$124.74
2009	20/10/2008	57648	PE	$119.79
2008	22/10/2007	43805	PE	$115.83
2007	27/10/2006	30483	PE	$110.88
2006	31/10/2005	17341	PE	$106.92
2005	01/11/2004	4365	PE	$103.95
2004	30/10/2003	65872	PE	$100.98
2003	01/11/2002	54365	PE	$98.01
2002	19/11/2001	42936	PE	$95.04
2001	24/11/2000	30546	PE	$95.04
2000	24/08/2000	27152	PE	$3.45
2000	04/02/2000	19725	PE	$86.40
1999	12/11/1998	4407	PE	$86.40
1998	19/11/1997	170873	PE	$83.70
1997	12/11/1996	152601	PE	$83.70
1996	21/08/1995	130699	PE	$83.70

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/247 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 230)

Datum : Commencing at Zone SF50 AMG reference coordinates 663245 m E, 7742634 m N

Boundary : THENCE:

North westerly to AMG 663072 m E, 7742734 m N

Westerly to AMG 662957 m E, 7742769 m N

Westerly to AMG 662597 m E, 7742836 m N

Northerly to AMG 662616 m E, 7742934 m N

Easterly to AMG 662975 m E, 7742867 m N

Easterly to AMG 663110 m E, 7742827 m N

South easterly to AMG 663299 m E, 7742718 m N

South westerly to AMG 663245 m E, 7742634 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	6.67060 HA
Applied For		06/10/1995	6.67060 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	6.67060 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$93.10
2011	20/10/2010	85689	PE	$99.33
2010	13/10/2009	70939	PE	$97.02
2009	20/10/2008	57648	PE	$93.17
2008	22/10/2007	43805	PE	$90.09
2007	27/10/2006	30483	PE	$86.24
2006	31/10/2005	17341	PE	$83.16
2005	01/11/2004	4365	PE	$80.85
2004	30/10/2003	65872	PE	$78.54
2003	01/11/2002	54365	PE	$76.23
2002	19/11/2001	42936	PE	$73.92
2001	24/11/2000	30546	PE	$73.92
2000	24/08/2000	27152	PE	$2.68
2000	04/02/2000	19725	PE	$67.20
1999	12/11/1998	4407	PE	$67.20
1998	19/11/1997	170873	PE	$65.10
1997	12/11/1996	152601	PE	$65.10
1996	06/10/1995	133186	PE	$65.10

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/248 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 231)

Datum : Commencing at Zone SF50 AMG reference coordinates 661682 m E, 7743109 m N

Boundary : THENCE:

South easterly to AMG 662616 m E, 7742934 m N

South westerly to AMG 662597 m E, 7742836 m N

North westerly to AMG 661664 m E, 7743011 m N

Northerly to AMG 661682 m E, 7743109 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.47205 HA
Applied For		06/10/1995	9.47205 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.47205 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	06/10/1995	133186	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/250 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 233)

Datum : Commencing at Zone SF50 AMG reference coordinates 661362 m E, 7743190 m N

Boundary : THENCE:

South westerly to AMG 661336 m E, 7743052 m N

North westerly to AMG 660957 m E, 7743123 m N

Northerly to AMG 660922 m E, 7743272 m N

South easterly to AMG 661362 m E, 7743190 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	5.84190 HA
Applied For		06/10/1995	5.84190 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	5.84190 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$79.80
2011	20/10/2010	85689	PE	$85.14
2010	13/10/2009	70939	PE	$83.16
2009	20/10/2008	57648	PE	$79.86
2008	22/10/2007	43805	PE	$77.22
2007	27/10/2006	30483	PE	$73.92
2006	31/10/2005	17341	PE	$71.28
2005	01/11/2004	4365	PE	$69.30
2004	30/10/2003	65872	PE	$67.32
2003	01/11/2002	54365	PE	$65.34
2002	19/11/2001	42936	PE	$63.36
2001	24/11/2000	30546	PE	$63.36
2000	24/08/2000	27152	PE	$2.30
2000	04/02/2000	19725	PE	$57.60
1999	12/11/1998	4407	PE	$57.60
1998	19/11/1997	170873	PE	$55.80
1997	12/11/1996	152601	PE	$55.80
1996	06/10/1995	133186	PE	$55.80

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/251 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 234)

Datum : Commencing at Zone SF50 AMG reference coordinates 660862 m E, 7743047 m N

Boundary : THENCE:

South westerly to AMG 660546 m E, 7742973 m N

North westerly to AMG 660476 m E, 7743270 m N

North easterly to AMG 660793 m E, 7743344 m N

South easterly to AMG 660862 m E, 7743047 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.91435 HA
Applied For		06/10/1995	9.91435 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.91435 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	06/10/1995	133186	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/252 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 235)

Datum : Commencing at Zone SF50 AMG reference coordinates 660723 m E, 7743641 m N

Boundary : THENCE:

South easterly to AMG 660793 m E, 7743344 m N

South westerly to AMG 660476 m E, 7743270 m N

North westerly to AMG 660407 m E, 7743567 m N

North easterly to AMG 660723 m E, 7743641 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.91435 HA
Applied For		06/10/1995	9.91435 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.91435 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	06/10/1995	133186	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/253 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 236)

Datum : Commencing at Zone SF50 AMG reference coordinates 660723 m E, 7743641 m N

Boundary : THENCE:

South westerly to AMG 660407 m E, 7743567 m N

North westerly to AMG 660337 m E, 7743863 m N

North easterly to AMG 660654 m E, 7743938 m N

South easterly to AMG 660723 m E, 7743641 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.90200 HA
Applied For		06/10/1995	9.90200 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.90200 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	06/10/1995	133186	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/254 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 237)

Datum : Commencing at Zone SF50 AMG reference coordinates 660654 m E, 7743938 m N

Boundary : THENCE:

South westerly to AMG 660337 m E, 7743863 m N

North westerly to AMG 660268 m E, 7744160 m N

North easterly to AMG 660584 m E, 7744235 m N

South easterly to AMG 660654 m E, 7743938 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.92130 HA
Applied For		06/10/1995	9.92130 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.92130 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	06/10/1995	133186	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/255 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 238)

Datum : Commencing at Zone SF50 AMG reference coordinates 660584 m E, 7744235 m N

Boundary : THENCE:

South westerly to AMG 660268 m E, 7744160 m N

North westerly to AMG 660198 m E, 7744457 m N

North easterly to AMG 660515 m E, 7744532 m N

South easterly to AMG 660584 m E, 7744235 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.92130 HA
Applied For		06/10/1995	9.92130 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.92130 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	06/10/1995	133186	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/256 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 06/10/1995 14:30:00
Warden's Recommendation : Grant 13/11/1995
Purpose : Infrastructure Corridor

Death Reason :
Death Date :
Commence : 24/11/1995 **Expiry :** 23/11/2016

DESCRIPTION DETAILS

Locality : Port Hedland South (No 239)

Datum : Commencing at Zone SF50 AMG reference coordinates 660515 m E, 7744532 m N

Boundary : THENCE:

South westerly to AMG 660237 m E, 7744467 m N

North westerly to AMG 660163 m E, 7744819 m N

East to AMG 660454 m E, 7744819 m N

South easterly to AMG 660515 m E, 7744532 m N

Back to Commencement

Application invited under Section 19 of the Mining Act 1978

Area :

Type	Dealing No	Start Date	Area
Granted		24/11/1995	9.30915 HA
Applied For		06/10/1995	9.30915 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.30915 HA

CURRENT HOLDER DETAILS

Name and Address
BHP BILLITON DIRECT REDUCED IRON PTY LTD
LAND TENURE TEAM, PO BOX 7474 CLOISTERS SQUARE, PERTH, WA, 6850

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	01/09/2011	99449	PE	$133.00
2011	20/10/2010	85689	PE	$141.90
2010	13/10/2009	70939	PE	$138.60
2009	20/10/2008	57648	PE	$133.10
2008	22/10/2007	43805	PE	$128.70
2007	27/10/2006	30483	PE	$123.20
2006	31/10/2005	17341	PE	$118.80
2005	01/11/2004	4365	PE	$115.50
2004	30/10/2003	65872	PE	$112.20
2003	01/11/2002	54365	PE	$108.90
2002	19/11/2001	42936	PE	$105.60
2001	24/11/2000	30546	PE	$105.60
2000	24/08/2000	27152	PE	$3.83
2000	04/02/2000	19725	PE	$96.00
1999	12/11/1998	4407	PE	$96.00
1998	19/11/1997	170873	PE	$93.00
1997	12/11/1996	152601	PE	$93.00
1996	06/10/1995	133186	PE	$93.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

M 45/681 MINING LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : 06/09/1995 06:55:00
Received : 07/09/1995 09:15:00
Warden's Recommendation : Grant 19/10/1995
Purpose :

Death Reason :
Death Date :
Commence : 10/06/1996 **Expiry :** 09/06/2017

DESCRIPTION DETAILS

Locality : Port Hedland

Datum : Datum peg is located 1100 metres from Sand Hill Well on a bearing of 176 degrees

Boundary : THENCE:

900 metres on a bearing of 195 degrees

500 metres on a bearing of 285 degrees

1000 metres on a bearing of 15 degrees

300 metres on a bearing of 105 degrees

225 metres on a bearing of 135 degrees

Back to Datum

Area :

Type	Dealing No	Start Date	Area
Surveyed		21/10/2008	44.24500 HA
Granted		10/06/1996	49.00000 HA
Applied For		06/09/1995	49.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	44.24500 HA

CURRENT HOLDER DETAILS

Name and Address
YOUNG, Bradford John
PO BOX 288, PORT HEDLAND, WA, 6721

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
44.24500 HA	21/10/2008	GROGAN, DT	9	14/07/2008	12419

Standard Plan	Diagram
TENGRAPH	65422

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date
308366	WESTPAC BANKING CORPORATION	$90,000.00	31/12/2008	Recorded	31/12/2008

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**
Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	24/05/2011	94616	PE	$717.75
2011	14/05/2010	79177	PE	$702.90
2010	28/08/2009	(REFUND) 65203	PE	$59.84
2010	27/05/2009	65203	PE	$733.04
2009	28/08/2009	(REFUND) 51945	PE	$58.08
2009	27/05/2008	51945	PE	$711.48
2008	28/08/2009	(REFUND) 37773	PE	$55.44
2008	22/05/2007	37773	PE	$679.14
2007	28/08/2009	(REFUND) 24858	PE	$53.68
2007	31/05/2006	24858	PE	$657.58
2006	28/08/2009	(REFUND) 11432	PE	$52.36
2006	26/05/2005	11432	PE	$641.41
2005	28/08/2009	(REFUND) 71751	PE	$51.04
2005	10/05/2004	71751	PE	$625.24
2004	28/08/2009	(REFUND) 59860	PE	$49.28
2004	01/05/2003	59860	PE	$603.68
2003	28/08/2009	(REFUND) 49127	PE	$15.17
2003	28/08/2009	(REFUND) 49681	PE	$32.83
2003	13/06/2002	49681	PE	$32.83
2003	27/05/2002	49127	PE	$555.17
2002	28/08/2009	(REFUND) 36850	PE	$45.32
2002	22/05/2001	36850	PE	$555.17
2001	28/08/2009	(REFUND) 25001	PE	$44.96
2001	14/07/2000	25001	PE	$47.44
2001	08/06/2000	474666	KR	$504.70
2000	28/08/2009	(REFUND) 11642	PE	$41.20
2000	24/05/1999	11642	PE	$504.70
1999	28/08/2009	(REFUND) 179363	PE	$40.00
1999	05/06/1998	179363	PE	$490.00
1998	28/08/2009	(REFUND) 162341	PE	$40.00
1998	28/05/1997	162341	PE	$490.00
1997	28/08/2009	(REFUND) 9001	MB	$40.00
1997	07/09/1995	9001	MB	$490.00

EXPENDITURE DETAILS

Year	Expenditure Lodged	Minimum Expenditure	Expenditure Claimed	Exemption Amount	Exemption Number	Outcome	Outcome Date
2012		$10,000.00					
2011	24/05/2011	$10,000.00	$34,039.00				
2010	14/05/2010	$10,000.00	$80,025.00				
2009	27/05/2009	$10,000.00	$162,961.00	$10,000.00	MB77/045	Granted	03/10/2005
2008	27/05/2008	$10,000.00	$8,204.00	$10,000.00	MB77/045	Granted	03/10/2005
2007	22/05/2007	$10,000.00	$6,386.08	$10,000.00	MB77/045	Granted	03/10/2005
2006	31/05/2006	$10,000.00	$1,297.00	$10,000.00	MB77/045	Granted	03/10/2005
2005	26/05/2005	$10,000.00	$1,335.00	$10,000.00	MB77/045	Granted	03/10/2005
2004	10/05/2004	$10,000.00	$1,279.00	$10,000.00	MB170/001	Granted	01/08/2001
2003	01/05/2003	$10,000.00	$1,236.00	$10,000.00	MB170/001	Granted	01/08/2001
2002	27/05/2002	$10,000.00	$1,178.00	$10,000.00	MB170/001	Granted	01/08/2001
2001	21/05/2001	$10,000.00	$1,181.00	$10,000.00	MB37/989	Granted	17/12/1998
2000	09/06/2000	$10,000.00	$1,125.00	$10,000.00	MB37/989	Granted	17/12/1998
1999	24/05/1999	$10,000.00	$0.00	$10,000.00	MB37/989	Granted	17/12/1998
1998	05/06/1998	$10,000.00	$6,492.00	$3,508.00	MB342/978	Granted	12/08/1998
1997	28/05/1997	$10,000.00	$2,018.00	$7,982.00	MB396/967	Granted	22/10/1997

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

E 45/2574 EXPLORATION LICENCE

Status: Pending

Tenement Summary

File Reference :
Mark Out :
Received : 15/12/2003 14:45:00
Warden's Recommendation : Grant 09/10/2009
Purpose :

Death Reason :
Death Date :
Commence :
Expiry :

DESCRIPTION DETAILS

Type	Start Date	No. of Blocks	Remaining Blocks		
			Graticules		
			Million Plan	Primary	Blocks
Applied For	15/12/2003	70	HAMERSLEY RANGE	413	jkoptuyz
			HAMERSLEY RANGE	414	fghjlmnopqrstuvwx
			HAMERSLEY RANGE	415	lmnopqrstuvwxyz
			HAMERSLEY RANGE	485	de
			HAMERSLEY RANGE	486	a
			HAMERSLEY RANGE	487	abcdefghjklmnopqrstvwxy
			HAMERSLEY RANGE	559	abcd

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	70.00000 BL

CURRENT HOLDER DETAILS

Name and Address
CROYDON GOLD PTY LTD
C/- M & M WALTER CONSULTING, PO BOX 8197, SUBIACO EAST, WA, 6008

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2004	15/12/2003	4933	MB	$6,118.00

EXPENDITURE DETAILS

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/317 GENERAL PURPOSE LEASE

Status: Pending

Tenement Summary

File Reference :

Mark Out : 18/11/2009 15:46:00

Received : 27/11/2009 14:00:00

Death Reason :

Death Date :

Commence :

Expiry :

Warden's Recommendation :

Purpose : Aerodrome Electricity Generation Facility Tailings Dump Storage & Handling Facilities,Concentrates,Hydrocarbons,Water & Associated Infrastructure. Operating machinery thereon in connection with the Mining. Cable,Antenna,Tower & Other Communications Facilities Accommadation facilities.

DESCRIPTION DETAILS

Locality : BOORDARIE

Datum : Datum situated at GDA94 Grid Coordinates 7740537N & 661894E (Zone 50)

Boundary :
Thence 313m at 24 degrees 19 minutes
Thence 128m at 78 degrees 16 minutes
Thence 75m at 207 degrees 05 minutes
Thence 227m at 114 degrees 19 minutes
Thence 137m at 227 degrees 28 minutes
Thence 173m at 294 degrees 14 minutes
Thence 187m at 204 degrees 15 minutes
Thence 100m at 294 degrees 21 minutes
Back to datum

Area :

Type	Dealing No	Start Date	Area
Applied For		18/11/2009	7.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	7.00000 HA

CURRENT HOLDER DETAILS

Name and Address
FERRO METALS AUSTRALIA PTY LTD
C/- MCMAHON MINING TITLE SERVICES PTY LTD, PO BOX 592, MAYLANDS, WA, 6931

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2010	27/11/2009	5782	MB	$88.20

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/318 GENERAL PURPOSE LEASE

Status: Pending

Tenement Summary

File Reference :

Mark Out : 18/11/2009 16:31:00

Received : 27/11/2009 14:00:00

Death Reason :

Death Date :

Commence :

Expiry :

Warden's Recommendation :

Purpose : Aerodrome Electricity Generation Facility Tailings Dump Storage & Handling Facilities,Concentrates,Hydrocarbons,Water & Associated Infrastructure. Operating machinery thereon in connection with the Mining. Cable,Antenna,Tower & Other Communications Facilities Accommadation facilities.

DESCRIPTION DETAILS

Locality : BOODARIE

Datum : Datum situated at GDA94 Grid Coordinates 7740052N & 661657E (Zone 50)

Boundary :
Thence 1215m at 77 degrees 22 minutes
Thence 239m at 100 degrees 10 minutes
Thence 1698m at 255 degrees 24 minutes
Thence 302m at 47 degrees 28 minutes
Back to Datum

Area :

Type	Dealing No	Start Date	Area
Applied For		18/11/2009	18.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	18.00000 HA

CURRENT HOLDER DETAILS

Name and Address
FERRO METALS AUSTRALIA PTY LTD
C/- MCMAHON MINING TITLE SERVICES PTY LTD, PO BOX 592, MAYLANDS, WA, 6931

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan

Diagram

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**
Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2010	27/11/2009	5782	MB	$226.80

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 45/217 MISCELLANEOUS LICENCE

Status: Pending

Tenement Summary

File Reference :
Mark Out : 29/03/2010 11:42:00
Received : 07/04/2010 16:15:00
Warden's Recommendation :
Purpose : Road Pipeline Power Line Water Management Facility Taking Water Meteorological Station Storage or Transport Facility for Minerals or Mineral Concentrate

Death Reason :
Death Date :
Commence :
Expiry :

DESCRIPTION DETAILS

Locality : Boodarie

Datum : Datum situated at GDA94 Grid Co-ordinates 7736659N & 654089E (Zone 50)

Boundary :
Thence 594m @ 357 degrees 02minutes
Thence 3751m @ 67 degrees 37 minutes
Thence 645m @ 179 degrees 28 minutes
Thence 3708m @ 248 degrees 13 minutes
Back to Datum

Area :

Type	Dealing No	Start Date	Area
Applied For		29/03/2010	217.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	217.00000 HA

CURRENT HOLDER DETAILS

Name and Address
FERRO METALS AUSTRALIA PTY LTD
C/- MCMAHON MINING TITLE SERVICES PTY LTD, PO BOX 592, MAYLANDS, WA, 6931

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2011	07/04/2010	6151	MB	$2,734.20

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 45/218 MISCELLANEOUS LICENCE

Status: Pending

Tenement Summary

File Reference :
Mark Out : 28/03/2010 11:34:00
Received : 07/04/2010 16:15:00
Warden's Recommendation :
Purpose : Power Line Pipeline Road

Death Reason :
Death Date :
Commence :
Expiry :

DESCRIPTION DETAILS

Locality : Boodarie

Datum : Datum situated at GDA94 Grid Co-ordinates 7736862N & 654081E (Zone 50)

Boundary :
THENCE 7737095N & 654546E
THENCE 7737131N & 654646E
THENCE 7737335N & 655024E
THENCE 7737335N & 655025E
THENCE 7737336N & 655026E
THENCE 7737337N & 655030E
THENCE 7737424N & 655261E
THENCE 7737615N & 655774E
THENCE 7737782N & 656219E
THENCE 7737944N & 656650E
THENCE 7738103N & 657078E
THENCE 7738255N & 657451E
THENCE 7738399N & 657867E
THENCE 7738563N & 658304E
THENCE 7738601N & 658406E
THENCE 7738715N & 658712E
THENCE 7738878N & 659147E
THENCE 7738930N & 659285E
THENCE 7739103N & 659750E
THENCE 7739259N & 660166E
THENCE 7739451N & 660678E
THENCE 7739538N & 660911E
THENCE 7739686N & 661075E
THENCE 7739935N & 661353E
THENCE 7740074N & 661507E
THENCE 7740075N & 661508E
THENCE 7740075N & 661509E
THENCE 7740077N & 661511E
THENCE 7740081N & 661516E
THENCE 7740083N & 661520E
THENCE 7740100N & 661552E
THENCE 7740169N & 661631E
THENCE 7740247N & 661720E
THENCE 7740371N & 661866E
THENCE 7740356N & 661911E
THENCE 7740216N & 661746E
THENCE 7740139N & 661658E

THENCE 7740066N & 661575E
THENCE 7740047N & 661539E
THENCE 7740047N & 661537E
THENCE 7740046N & 661536E
THENCE 7740045N & 661535E
THENCE 7740044N & 661534E
THENCE 7739906N & 661380E
THENCE 7739656N & 661102E
THENCE 7739503N & 660932E
THENCE 7739413N & 660692E
THENCE 7739221N & 660180E
THENCE 7739066N & 659764E
THENCE 7738892N & 659299E
THENCE 7738840N & 659161E
THENCE 7738677N & 658726E
THENCE 7738564N & 658420E
THENCE 7738525N & 658319E
THENCE 7738362N & 657882E
THENCE 7738217N & 657495E
THENCE 7738066N & 657092E
THENCE 7737906N & 656664E
THENCE 7737745N & 656233E
THENCE 7737578N & 655788E
THENCE 7737387N & 655275E
THENCE 7737300N & 655044E
THENCE 7737299N & 655043E
THENCE 7737299N & 655042E
THENCE 7737095N & 654634E
THENCE 7737060N & 654564E
THENCE 7736818N & 654083E
BACK TO DATUM

Area :

Type	Dealing No	Start Date	Area
Applied For		28/03/2010	35.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	35.00000 HA

CURRENT HOLDER DETAILS

Name and Address
FERRO METALS AUSTRALIA PTY LTD
C/- MCMAHON MINING TITLE SERVICES PTY LTD, PO BOX 592, MAYLANDS, WA, 6931

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number :
Project :
Reporting Date :
Affecting Period :

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2011	07/04/2010	6151	MB	$441.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 47/230 MISCELLANEOUS LICENCE

Status: Pending

Tenement Summary

File Reference :
Mark Out : 15/12/2007 09:20:59
Received : 19/12/2007 11:30:00
Warden's Recommendation :
Purpose : Pipeline Powerline Road

Death Reason :
Death Date :
Commence :
Expiry :

DESCRIPTION DETAILS

Locality : Balla Balla

Datum : Datum situated at GDA94 Grid Zone 50
Coordinates 20deg 46min 04sec 117deg 57min 42sec

Boundary : Commencing at a point (intersection of Transmission Line AND PL22)
20deg 46min 03.8479sec 117deg 57min 41.5281sec thence to points along PL22
20deg 46min 02.4201sec 117deg 57min 44.1255sec
20deg 45min 54.1000sec 117deg 57min 59.3046sec
20deg 45min 46.4202sec 117deg 58min 13.3198sec
20deg 45min 36.6383sec 117deg 58min 31.1338sec
20deg 45min 25.7629sec 117deg 58min 50.9655sec
20deg 45min 16.3632sec 117deg 59min 08.0895sec
20deg 45min 07.0923sec 117deg 59min 24.9617sec
20deg 45min 04.7500sec 117deg 59min 29.2205sec
20deg 44min 59.0098sec 117deg 59min 39.6961sec
20deg 44min 52.3359sec 117deg 59min 51.8765sec
20deg 44min 47.7262sec 118deg 00min 00.2614sec
20deg 44min 41.1897sec 118deg 00min 12.1561sec
20deg 44min 34.2309sec 118deg 00min 24.8490sec
20deg 44min 27.3448sec 118deg 00min 37.4121sec
20deg 44min 21.5994sec 118deg 00min 47.8686sec
20deg 44min 20.6340sec 118deg 00min 49.6764sec
20deg 44min 17.3924sec 118deg 00min 55.5271sec
20deg 44min 10.1422sec 118deg 01min 07.1467sec
20deg 44min 01.4078sec 118deg 01min 21.0980sec
20deg 43min 54.8017sec 118deg 01min 31.6769sec
20deg 43min 45.8657sec 118deg 01min 45.9412sec
20deg 43min 40.1275sec 118deg 01min 55.1156sec
20deg 43min 33.1052sec 118deg 02min 06.3455sec
20deg 43min 24.9648sec 118deg 02min 19.3523sec
20deg 43min 14.5684sec 118deg 02min 35.9620sec
20deg 43min 06.1269sec 118deg 02min 49.4435sec
20deg 42min 58.4548sec 118deg 03min 01.7084sec
20deg 42min 49.6636sec 118deg 03min 15.7747sec
20deg 42min 41.2298sec 118deg 03min 29.2366sec
20deg 42min 32.7209sec 118deg 03min 42.8526sec
20deg 42min 23.7781sec 118deg 03min 57.1096sec
20deg 42min 15.5748sec 118deg 04min 10.2321sec
20deg 42min 10.1201sec 118deg 04min 18.8913sec
20deg 42min 07.0596sec 118deg 04min 23.8212sec

20deg 41min 57.8700sec 118deg 04min 38.4915sec
20deg 41min 50.5180sec 118deg 04min 50.2330sec
20deg 41min 41.7360sec 118deg 05min 04.2575sec
20deg 41min 33.8315sec 118deg 05min 16.8838sec
20deg 41min 24.4599sec 118deg 05min 31.8428sec
20deg 41min 15.8607sec 118deg 05min 45.5793sec
20deg 41min 07.0099sec 118deg 05min 59.6975sec
20deg 40min 58.8185sec 118deg 06min 12.7714sec
20deg 40min 55.8487sec 118deg 06min 17.5147sec
20deg 40min 48.1114sec 118deg 06min 29.8483sec
20deg 40min 40.1640sec 118deg 06min 42.5550sec
20deg 40min 40.0346sec 118deg 06min 42.7465sec
20deg 40min 32.8639sec 118deg 06min 54.2247sec
20deg 40min 24.6143sec 118deg 07min 07.3858sec
20deg 40min 15.9185sec 118deg 07min 21.2463sec
20deg 40min 07.8918sec 118deg 07min 34.0660sec
20deg 39min 58.0994sec 118deg 07min 49.6963sec
20deg 39min 49.3132sec 118deg 08min 03.7082sec
20deg 39min 40.0271sec 118deg 08min 18.5439sec
20deg 39min 30.9669sec 118deg 08min 32.9728sec
20deg 39min 22.7487sec 118deg 08min 46.0883sec
20deg 39min 13.6643sec 118deg 09min 00.5828sec
20deg 39min 09.9400sec 118deg 09min 06.4529sec
20deg 39min 04.4406sec 118deg 09min 15.2918sec
20deg 38min 56.7439sec 118deg 09min 27.5674sec
20deg 38min 49.5724sec 118deg 09min 39.0104sec
20deg 38min 42.1645sec 118deg 09min 50.8389sec
20deg 38min 33.9331sec 118deg 10min 03.9698sec
20deg 38min 25.3362sec 118deg 10min 17.6861sec
20deg 38min 17.6670sec 118deg 10min 24.8175sec
20deg 38min 16.6461sec 118deg 10min 25.7736sec
20deg 38min 07.7864sec 118deg 10min 33.9958sec
20deg 37min 55.9702sec 118deg 10min 44.9818sec
20deg 37min 44.8476sec 118deg 10min 55.3346sec
20deg 37min 37.1779sec 118deg 11min 02.4493sec
20deg 37min 24.7051sec 118deg 11min 14.0257sec
20deg 37min 23.6654sec 118deg 11min 14.9751sec
20deg 37min 13.9061sec 118deg 11min 24.0927sec
20deg 37min 03.1372sec 118deg 11min 34.0474sec
20deg 36min 51.9007sec 118deg 11min 44.5059sec
20deg 36min 41.1443sec 118deg 11min 54.4796sec
20deg 36min 38.3681sec 118deg 11min 57.0411sec
20deg 36min 28.5498sec 118deg 12min 06.1661sec
20deg 36min 22.6787sec 118deg 12min 11.6128sec
20deg 36min 22.6775sec 118deg 12min 11.6138sec
20deg 36min 19.9302sec 118deg 12min 14.1729sec
20deg 36min 09.0001sec 118deg 12min 24.3033sec
20deg 36min 01.9709sec 118deg 12min 30.8636sec
20deg 36min 01.9298sec 118deg 12min 30.9075sec
20deg 36min 01.8962sec 118deg 12min 30.9484sec
20deg 36min 01.8453sec 118deg 12min 31.0195sec
20deg 35min 52.6507sec 118deg 12min 48.7008sec
20deg 35min 46.5190sec 118deg 13min 00.3011sec
20deg 35min 43.0766sec 118deg 13min 06.8686sec
20deg 35min 36.0476sec 118deg 13min 20.3620sec
20deg 35min 35.5435sec 118deg 13min 21.2868sec
20deg 35min 29.4179sec 118deg 13min 33.0589sec
20deg 35min 27.0613sec 118deg 13min 37.5890sec
20deg 35min 18.8170sec 118deg 13min 53.3998sec
20deg 35min 13.1522sec 118deg 14min 04.2164sec
20deg 35min 05.8951sec 118deg 14min 18.1401sec
20deg 34min 58.6053sec 118deg 14min 32.1017sec
20deg 34min 50.1510sec 118deg 14min 48.3182sec
20deg 34min 50.1508sec 118deg 14min 48.3188sec
20deg 34min 31.3262sec 118deg 15min 24.4932sec
20deg 34min 26.4267sec 118deg 15min 33.8414sec

20deg 34min 18.6097sec 118deg 15min 48.8102sec
20deg 34min 17.2335sec 118deg 15min 51.3956sec
20deg 34min 17.2294sec 118deg 15min 51.4034sec
20deg 34min 14.9474sec 118deg 15min 55.8063sec
20deg 34min 07.5572sec 118deg 16min 10.0161sec
20deg 34min 00.1329sec 118deg 16min 24.2023sec
20deg 33min 52.8217sec 118deg 16min 38.2114sec
20deg 33min 45.3084sec 118deg 16min 52.6030sec
20deg 33min 38.7524sec 118deg 17min 05.1342sec
20deg 33min 38.7522sec 118deg 17min 05.1345sec
20deg 33min 31.0701sec 118deg 17min 19.8364sec
20deg 33min 22.5111sec 118deg 17min 36.2069sec
20deg 33min 15.2571sec 118deg 17min 50.0861sec
20deg 33min 08.2097sec 118deg 18min 03.5873sec
20deg 33min 04.5160sec 118deg 18min 10.6466sec
20deg 32min 58.5852sec 118deg 18min 21.9356sec
20deg 32min 53.8695sec 118deg 18min 31.0291sec
20deg 32min 47.6346sec 118deg 18min 42.9524sec
20deg 32min 47.6345sec 118deg 18min 42.9527sec
20deg 32min 40.8523sec 118deg 18min 55.9344sec
20deg 32min 33.7831sec 118deg 19min 09.4250sec
20deg 32min 26.5777sec 118deg 19min 23.2220sec
20deg 32min 10.8679sec 118deg 19min 53.2524sec
20deg 32min 10.8674sec 118deg 19min 53.2535sec
20deg 32min 03.0373sec 118deg 20min 08.2763sec
20deg 31min 55.8890sec 118deg 20min 21.8985sec
20deg 31min 47.9934sec 118deg 20min 36.9957sec
20deg 31min 38.9179sec 118deg 20min 54.2813sec
20deg 31min 38.9169sec 118deg 20min 54.2831sec
20deg 31min 31.3126sec 118deg 21min 08.8571sec
20deg 31min 24.3327sec 118deg 21min 22.2372sec
20deg 31min 16.2621sec 118deg 21min 37.6479sec
20deg 31min 16.2621sec 118deg 21min 37.6479sec
20deg 31min 09.1694sec 118deg 21min 51.1926sec
20deg 31min 02.1856sec 118deg 22min 04.5585sec
20deg 30min 53.5599sec 118deg 22min 21.0237sec
20deg 30min 53.5597sec 118deg 22min 21.0240sec
20deg 30min 45.9360sec 118deg 22min 35.5939sec
20deg 30min 35.0879sec 118deg 22min 56.3456sec
20deg 30min 28.4391sec 118deg 23min 09.0662sec
20deg 30min 20.1601sec 118deg 23min 24.8280sec
20deg 30min 13.6137sec 118deg 23min 37.3724sec
20deg 30min 06.1538sec 118deg 23min 51.6499sec
20deg 29min 58.4357sec 118deg 24min 06.4168sec
20deg 29min 52.6832sec 118deg 24min 17.3815sec
20deg 29min 52.6829sec 118deg 24min 17.3820sec
20deg 29min 44.3264sec 118deg 24min 33.3392sec
20deg 29min 36.9584sec 118deg 24min 47.4382sec
20deg 29min 30.2874sec 118deg 25min 00.1817sec
20deg 29min 23.0005sec 118deg 25min 14.0993sec
20deg 29min 15.4365sec 118deg 25min 28.5374sec
20deg 29min 08.9464sec 118deg 25min 40.9409sec
20deg 29min 01.7273sec 118deg 25min 54.7120sec
20deg 29min 01.1255sec 118deg 25min 55.8224sec
20deg 28min 53.3757sec 118deg 26min 10.6592sec
20deg 28min 46.7413sec 118deg 26min 23.3286sec
20deg 28min 39.9039sec 118deg 26min 36.3486sec
20deg 28min 32.6290sec 118deg 26min 50.2393sec
20deg 28min 26.8289sec 118deg 27min 01.2832sec
20deg 28min 26.8279sec 118deg 27min 01.2852sec
20deg 28min 22.1698sec 118deg 27min 10.2141sec
20deg 28min 16.6382sec 118deg 27min 20.7464sec
20deg 28min 09.9512sec 118deg 27min 34.6005sec
20deg 27min 31.3006sec 118deg 28min 54.5014sec
20deg 27min 30.1280sec 118deg 28min 56.9196sec
20deg 27min 30.1272sec 118deg 28min 56.9212sec

20deg 27min 23.3801sec 118deg 29min 10.9151sec
20deg 27min 23.3571sec 118deg 29min 10.9663sec
20deg 27min 20.4522sec 118deg 29min 18.9343sec
20deg 27min 14.0779sec 118deg 29min 36.5617sec
20deg 27min 08.5110sec 118deg 29min 51.8998sec
20deg 27min 03.1480sec 118deg 30min 06.6874sec
20deg 26min 57.8266sec 118deg 30min 21.4160sec
20deg 26min 52.7768sec 118deg 30min 35.2750sec
20deg 26min 47.9729sec 118deg 30min 48.5608sec
20deg 26min 42.5161sec 118deg 31min 03.5940sec
20deg 26min 41.2304sec 118deg 31min 07.0736sec
20deg 26min 37.4461sec 118deg 31min 17.5891sec
20deg 26min 32.0175sec 118deg 31min 32.5673sec
20deg 26min 30.2923sec 118deg 31min 37.2825sec
20deg 26min 24.5041sec 118deg 31min 53.2714sec
20deg 26min 19.3161sec 118deg 32min 07.5768sec
20deg 26min 12.9191sec 118deg 32min 25.1842sec
20deg 26min 12.9189sec 118deg 32min 25.1848sec
20deg 26min 09.9316sec 118deg 32min 33.4286sec
20deg 26min 04.9029sec 118deg 32min 39.2558sec
20deg 25min 56.6622sec 118deg 32min 48.7970sec
20deg 25min 52.1508sec 118deg 32min 54.0226sec
20deg 25min 52.1213sec 118deg 32min 54.0588sec
20deg 25min 52.0669sec 118deg 32min 54.1348sec
20deg 25min 51.4127sec 118deg 32min 55.4423sec
20deg 25min 49.0346sec 118deg 32min 58.2628sec
20deg 25min 46.4769sec 118deg 33min 01.2783sec
20deg 25min 41.8854sec 118deg 33min 06.9265sec
being a point bearing 287deg 48min 13sec for a distance of 46.88 metres
Thence running parallel to and at a width of 40 metres to a point 20deg 46min 02.5935sec 117deg 57min 41.0689sec
Thence back to the datum point abutting Miscellaneous Licence 47/229

Area :

Type	Dealing No	Start Date	Area
Applied For		15/12/2007	300.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	300.00000 HA

CURRENT HOLDER DETAILS

Name and Address
FERRO METALS AUSTRALIA PTY LTD
C/- MCMAHON MINING TITLE SERVICES PTY LTD, PO BOX 592, MAYLANDS, WA, 6931

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number :
Project :
Reporting Date :
Affecting Period :

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2008	19/12/2007	3471	KR	$3,510.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

M 45/645 MINING LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : 19/10/1994 10:00:00
Received : 26/10/1994 16:15:00
Warden's Recommendation : Grant 16/12/1994
Purpose :

Death Reason :
Death Date :
Commence : 19/12/1995 **Expiry :** 18/12/2016

DESCRIPTION DETAILS

Locality : Adjacent Old Whim Creek Road

Datum : Datum situated approximately 1.5 kms south west of SEC Terminal: Lands and Surveys Bench Mark UJ46: South: 20 degrees 23.530 minutes: East 118 dergees 33.762 minutes

Boundary : THENCE:

800 metres bearing 260 degrees

500 metres bearing 170 degrees

800 metres bearing 80 degrees

500 metres bearing 350 degrees

Back to Datum

Area :

Type	Dealing No	Start Date	Area
Surveyed		08/01/1998	36.55000 HA
Granted		19/12/1995	40.00000 HA
Applied For		19/10/1994	40.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	36.55000 HA

CURRENT HOLDER DETAILS

Name and Address
HOPE DOWNS MANAGEMENT SERVICES PTY LTD
C/- HANCOCK PROSPECTING PTY LTD, 28-42 VENTNOR AVENUE, WEST PERTH, WA, 6005

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
36.55000 HA	08/01/1998	MC KIMMIE, MJ	227	08/08/1997	10718

Standard Plan
TENGRAPH

Diagram
48692 (432/52)

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date
385749	NATIONAL AUSTRALIA BANK LIMITED	$79,000.00	23/11/2011	Recorded	07/12/2011
208697	NATIONAL AUSTRALIA BANK LIMITED	$20,000.00	04/01/2005	Retired	09/11/2007
PE3119	WESTPAC BANKING CORPORATION	$20,000.00	17/12/1996	Retired	02/02/2005

COMBINED REPORTING DETAILS

C Number :
Project :
Reporting Date :
Affecting Period :

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	19/12/2011	104044	PE	$555.00
2011	24/11/2010	87116	PE	$590.15
2010	03/12/2009	73054	PE	$577.94
2009	25/11/2008	58920	PE	$553.52
2008	06/12/2007	45561	PE	$537.24
2007	24/01/2007	33448	PE	$512.82
2006	06/01/2006	19625	PE	$496.54
2005	28/09/2004	3138	PE	$484.33
2004	04/02/2004	68781	PE	$472.12
2003	10/01/2003	56357	PE	$455.84
2002	10/12/2001	43580	PE	$444.00
2001	05/01/2001	32092	PE	$419.21
2000	10/08/2000	26319	PE	$17.81
2000	20/12/1999	18519	PE	$381.10
1999	03/12/1998	5350	PE	$381.10
1998	06/10/1997	(REFUND) 168805	PE	$87.90
1998	06/10/1997	168805	PE	$400.00
1997	31/10/1996	152106	PE	$400.00
1996	26/10/1994	7660	MB	$372.00

EXPENDITURE DETAILS

Year	Expenditure Lodged	Minimum Expenditure	Expenditure Claimed	Exemption Amount	Exemption Number	Outcome	Outcome Date
2012		$10,000.00					
2011		$10,000.00					
2010	09/02/2011	$10,000.00	$12,057.00				
2009	09/02/2010	$10,000.00	$18,101.00				
2008	10/02/2009	$10,000.00	$10,812.00				
2007	08/02/2008	$10,000.00	$15,807.00	$10,000.00	282909	Granted	17/03/2008

Year	Expenditure Lodged	Minimum Expenditure	Expenditure Claimed	Exemption Amount	Exemption Number	Outcome	Outcome Date
2006	02/02/2007	$10,000.00	$14,092.00	$10,000.00	MB55/067	Withdrawn	07/02/2007
2005	01/02/2006	$10,000.00	$2,724.00	$7,323.00	MB73/045	Withdrawn	09/03/2005
		$10,000.00		$10,000.00	MB5/045	Granted	14/03/2005
2004	03/02/2005	$10,000.00	$2,677.00	$10,000.00	MB5/045	Granted	14/03/2005
2003	10/02/2004	$10,000.00	$2,632.00	$10,000.00	MB80/034	Granted	20/04/2004
2002	02/12/2002	$10,000.00	$2,721.00	$7,279.00	MB73/023	Granted	21/03/2003
2001	25/01/2002	$10,000.00	$2,594.00	$7,406.00	MB84/012	Granted	11/04/2002
2000	02/02/2001	$10,000.00	$2,531.00	$7,469.00	MB188/001	Granted	04/12/2001
1999	08/03/2000	$10,000.00	$0.00	$10,000.00	MB309/990	Granted	21/11/2000
1998	22/01/1999	$10,000.00	$0.00	$10,000.00	MB146/989	Granted	29/01/1999
1997	29/01/1998	$10,000.00	$2,150.00	$7,850.00	MB163/978	Granted	09/03/1998
1996	12/02/1997	$10,000.00	$0.00	$10,000.00	MB266/967	Granted	30/04/1997

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

G 45/265 GENERAL PURPOSE LEASE

Status: Live

Tenement Summary

File Reference :
Mark Out : 11/10/1999 16:45:00
Received : 20/10/1999 16:20:00
Warden's Recommendation : Grant 28/01/2000
Purpose : Plant Sites Stock Pile and Residue Disposal

Death Reason :
Death Date :
Commence : 06/06/2000 **Expiry :** 05/06/2021

DESCRIPTION DETAILS

Locality : BOODARIE

Datum : Situated at approximate AMG 84: Zone 50: Co-Ordinates: 661204m Easting: 7740641m Northing

Boundary : THENCE:

1004 metres bearing 207 degrees 03 minutes abutting G45/242

575 metres bearing 318 degrees 29 minutes abutting Forrest Location 116

759 metres bearing 22 degrees 20 minutes

600 metres bearing 113 degrees 28 minutes

BACK TO DATUM

Area :

Type	Dealing No	Start Date	Area
Surveyed		10/10/2008	49.90000 HA
Granted		06/06/2000	50.00000 HA
Applied For		11/10/1999	50.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	49.90000 HA

CURRENT HOLDER DETAILS

Name and Address
MESA MINERALS LIMITED
C/-, LOCKED BAG 3, CANNING BRIDGE, WA, 6153

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project
49.90000 HA	10/10/2008	GROGAN, DT	8	15/09/2008	12430

Standard Plan	Diagram
TENGRAPH	65423

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date
373823	NATIONAL AUSTRALIA BANK LIMITED	$83,000.00	13/06/2011	Recorded	14/07/2011
316339	NATIONAL AUSTRALIA BANK LIMITED	$26,000.00	26/03/2009	Retired	18/07/2011
314771	NATIONAL AUSTRALIA BANK LIMITED	$26,000.00	06/03/2009	Rejected	06/03/2009

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	30/05/2011	94878	PE	$709.50
2011	07/05/2010	78909	PE	$693.00
2010	15/05/2009	64844	PE	$665.50
2009	22/05/2008	51793	PE	$643.50
2008	21/05/2007	37696	PE	$616.00
2007	07/06/2006	25063	PE	$594.00
2006	31/05/2005	11610	PE	$577.50
2005	03/06/2004	72495	PE	$561.00
2004	10/06/2003	61133	PE	$544.50
2003	28/05/2002	49164	PE	$528.00
2002	14/06/2001	37579	PE	$528.00
2001	06/09/2000	27709	PE	$44.59
2001	22/10/1999	14725	MB	$480.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 45/200 MISCELLANEOUS LICENCE

Status: Live

Tenement Summary

File Reference :

Mark Out : 11/08/2008 10:20:00

Received : 11/08/2008 15:25:00

Death Reason :

Death Date :

Commence : 09/11/2011 **Expiry :** 08/11/2032

Warden's Recommendation :

Purpose : access road pipeline(gas and/or water) powerline bore borefield water management facility.

DESCRIPTION DETAILS

Locality : Pilbara

Datum : The datum is located at Easting 822058.7 Northing 7688827.44 and is located 3.832kms at a bearing of 157.59785 degrees from Kitty's Well. All coordinates are in MGA Zone 50

Boundary : Easting Northing
1.476km @ 279.567 deg to 820599.35 7689071.95
1.477km @ 272.149 deg to 819120.01 7689127.15
0.088km @ 228.312 deg to 819054.47 7689069.11
2.517km @ 271.606 deg to 816532.45 7689139.41
0.409km @ 272.850 deg to 816122.91 7689159.67
2.223km @ 270.819 deg to 813894.56 7689191.36
1.558km @ 266.518 deg to 812335.82 7689097.07
0.572km @ 258.804 deg to 811773.86 7688986.48
1.154km @ 258.490 deg to 810640.2 7688756.97
0.707km @ 287.187 deg to 809962.95 7688965.2
9.615km @ 271.536 deg to 800329.17 7689221.92
1.442km @ 265.909 deg to 798887.38 7689119.39
0.921km @ 282.540 deg to 797986.52 7689318.58
0.544km @ 296.816 deg to 797499.52 7689563.29
0.461km @ 289.435 deg to 797064.18 7689715.99
1.530km @ 276.961 deg to 795542 7689900.74
6.755km @ 280.173 deg to 788878.19 7691089.5
1.540km @ 255.967 deg to 787381.02 7690717.47
1.607km @ 294.437 deg to 785914.48 7691379.89
0.395km @ 282.514 deg to 785527.92 7691465.19
0.184km @ 302.144 deg to 785371.66 7691562.79
2.090km @ 277.435 deg to 783294.88 7691832.19
1.711km @ 287.964 deg to 781663.52 7692357.99
1.305km @ 253.680 deg to 780408.09 7691992.54
1.312km @ 279.565 deg to 779111.37 7692209.76
0.783km @ 283.409 deg to 778347.96 7692390.69
1.436km @ 288.635 deg to 776984.55 7692847.72
0.701km @ 291.646 deg to 776331.68 7693105.28
0.858km @ 283.976 deg to 775497.43 7693311.68
1.862km @ 275.609 deg to 773640.17 7693493.01
1.693km @ 289.089 deg to 772036.5 7694044.7
4.576km @ 272.490 deg to 767455.39 769424.78
2.600km @ 280.630 deg to 764894.85 7694720.55
0.727km @ 269.672 deg to 764166.58 7694716.41

0.347km @ 263.850 deg to 763821.05 7694679.4
0.870km @ 253.409 deg to 762985.25 7694431.82
0.780km @ 280.547 deg to 762217.35 7694573.95
0.671km @ 289.474 deg to 761583.31 7694796.83
0.569km @ 309.664 deg to 761144.73 7695158.29
0.595km @ 312.532 deg to 760705 7695559.26
0752km @ 343.430 deg to 760490.08 7696276.93
6.030km @ 320.247 deg to 756625.31 7700895.04
1.313km @ 306.591 deg to 755569.22 7701674.4
6.098km @ 296.571 deg to 750104.63 7704391.08
6.509km @ 298.519 deg to 744373.97 7707486.43
0.588km @ 313.561 deg to 743946.85 7707890.18
0.169km @ 305.206 deg to 743808.77 7707987.02
0.375km @ 279.909 deg to 743438.75 7708051.28
1.282km @ 272.785 deg to 742155.86 7708113.32
0.112km @ 305.676 deg to 742064.95 7708178.19
0.065km @ 2.5538 deg to 742067.83 7708242.58 coincident with the NE boundary of L45/153 and L45/189 thence
0.098km @ 272.095 deg to 741969.69 7708246.15 coincident with the North boundary of L45/153 and L45/189 thence
5.144km @ 305.659 deg to 737782.25 7711232.55
1.254km @ 270.278 deg to 736525.74 7711238.61
2.789km @ 300.781 deg to 734124.85 7712660.19
8.706km @ 297.233 deg to 726368.97 7716628
0.123km @ 268.109 deg to 726246.21 7716623.97
5.581km @ 297.393 deg to 721281.69 7719181.18
1.092km @ 289.743 deg to 720252.28 7719548.45
1.369km @ 317.731 deg to 719329.88 7720557.13
1.569km @ 301.942 deg to 717995.64 7721384.01
2.730km @ 306.092 deg to 715785.41 7722985.64
2.933km @ 320.454 deg to 713914.34 7725237.99
0.086km @ 277.887 deg to 713828.74 7725249.78
0.211km @ 316.487 deg to 713683.49 7725401.86
1.996km @ 298.091 deg to 711919.17 7726337.96
1.442km @ 316.481 deg to 710924.35 7727379.25
1.852km @ 281.636 deg to 709107.72 7727751.13
0.665km @ 279.535 deg to 708450.84 7727860.82
5.943km @ 283.346 deg to 702658.79 7729226.79
6.956km @ 296.115 deg to 696402.39 7732275.55
0.247km @ 74.4839 deg to 696163.82 7732209.7
0.606km @ 86.9888 deg to 695557.56 7732241.41
6.588km @ 299.618 deg to 689820.65 7735483.34
1.641km @ 264.878 deg to 688183.54 7735337.46
2.361km @ 272.472 deg to 685821.16 7735438.82
2.358km @ 272.967 deg to 683462.25 7735560.35
2.467km @ 275.932 deg to 681004.64 7735814.19
0.451km @ 258.440 deg to 680562.15 7735724.21
0.616km @ 275.786 deg to 679948.43 7735786.02
0.103km @ 263.780 deg to 679846 7735774.93
0.501km @ 295.608 deg to 679393.55 7735990.49
3.471km @ 277.716 deg to 675949.14 7736454.44
0.477km @ 293.821 deg to 675512.52 7736646.06
0.864km @ 277.672 deg to 674654.94 7736760.91
1.082km @ 279.113 deg to 673585.04 7736931.51
0.540km @ 280.646 deg to 673053.12 7737030.91
0.615km @ 278.177 deg to 672443.8 7737117.95
0.258km @ 286.735 deg to 672196.14 7737191.98
0.498km @ 280.405 deg to 671705.62 7737281.52
0.674km @ 277.365 deg to 671036.11 7737367.55
0.212km @ 266.618 deg to 670824.25 7737355.1
2.178km @ 293.716 deg to 668827.36 7738227.12
2.326km @ 290.526 deg to 666645.86 7739039.03
1.358km @ 290.500 deg to 665371.92 7739512.51
2.090km @ 287.745 deg to 663378.3 7740146.69
1.214km @ 280.830 deg to 662184.52 7740373.71
0.077km @ 22.9955 deg to 662214.69 7740444.41

0.103km @ 295.729 deg to 662121.92 7740488.85
0.082km @ 45.3859 deg to 662180.25 7740546.07
0.133km @ 110.587 deg to 662305.24 7740499.39
0.048km @ 202.914 deg to 662286.35 7740454.95
1.132km @ 100.790 deg to 663399.85 7740244
2.102km @ 107.734 deg to 665404.5 7739606.71
3.688km @ 110.516 deg to 668863.86 7738319.89
2.147km @ 113.859 deg to 670830.46 7737455.23
0.204km @ 86.6178 deg to 671034.16 7737467.2
0.691km @ 97.2828 deg to 671720.94 7737379.95
0.504km @ 100.402 deg to 672217.01 7737289.43
0.255km @ 106.793 deg to 672461.73 7737216.01
0.612km @ 98.1784 deg to 673068.52 7737129.32
0.542km @ 100.642 deg to 673601.77 7737029.71
1.079km @ 99.1134 deg to 674669.17 7736859.5
0.870km @ 97.6686 deg to 675532.48 7736743.94
0.478km @ 113.783 deg to 675970.79 7736551.92
3.470km @ 97.7129 deg to 679414.38 7736088.28
0.484km @ 116.177 deg to 679849.78 7735875.53
0.094km @ 83.782 deg to 679942.92 7735885.61
0.609km @ 95.8959 deg to 680549.65 7735823.33
0.451km @ 78.4393 deg to 680991.94 7735913.27
2.487km @ 95.8783 deg to 683469.58 7735659.68
1.345km @ 93.5414 deg to 684814 7735576.97
3.362km @ 92.3977 deg to 688177.84 7735436.95
1.654km @ 84.8782 deg to 689827.34 7735583.93
6.592km @ 119.605 deg to 695567.84 7732341.51
0.453km @ 81.067 deg to 696016.22 7732411.57
0.396km @ 84.7601 deg to 696411.01 7732411.57
6.976km @ 116.075 deg to 702687.37 7729322.41
5.477km @ 103.348 deg to 708025.1 7728063.36
0.639km @ 97.9632 deg to 708659.3 7727975.16
2.351km @ 102.368 deg to 710960 7727473.64
1.462km @ 136.229 deg to 711973.54 7726422.01
1.998km @ 118.091 deg to 713739.21 7725485.18
0.186km @ 138.885 deg to 713861.6 7725345.81
0.087km @ 97.8919 deg to 713947.43 7725333.98
2.968km @ 140.229 deg to 715849.54 7723062.42
2.718km @ 126.095 deg to 718050.19 7721467.57
1.572km @ 121.941 deg to 719386.66 7720639.32
1.651km @ 123.195 deg to 720770.89 7719739.08
0.730km @ 130.274 deg to 721329.14 7719268.92
5.542km @ 117.458 deg to 726256.01 7716723.94
0.123km @ 88.1079 deg to 726378.69 7716727.97
8.745km @ 117.191 deg to 734172 7712748.08
2.583km @ 120.900 deg to 736393.03 7711426.76
1.269km @ 90.0576 deg to 737664.05 7711425.49
5.250km @ 125.570 deg to 741943.16 7708383.63
1.315km @ 92.7594 deg to 743258.97 7708320.58
0.453km @ 107.956 deg to 743690.53 7708181.55
0.381km @ 123.930 deg to 744006.99 7707969.94
0.580km @ 133.670 deg to 744427.6 7707570.84
6.500km @ 118.518 deg to 750150.69 7704479.54
6.101km @ 116.570 deg to 755617.94 7701761.53
1.332km @ 126.558 deg to 756689.86 7700971.44
6.059km @ 140.232 deg to 760573.8 7696332.63
0.742km @ 163.662 deg to 760783.12 7695623.17
1.119km @ 131.302 deg to 761625.3 7694887.7
0.651km @ 109.522 deg to 762240.08 7694671.02
0.740km @ 100.964 deg to 762968.41 7694530.76
0.863km @ 73.4083 deg to 763796.82 7694776.16
0.363km @ 83.7223 deg to 764158.38 7694815.7
0.741km @ 89.6517 deg to 764901.11 7694820.19
0.135km @ 104.427 deg to 765031.88 7694786.75
2.467km @ 100.423 deg to 747463.22 7694342.13
4.580km @ 92.4903 deg to 772048.17 7694143.89

1.697km @ 109.065 deg to 773655.88 7693591.55
1.860km @ 95.6091 deg to 775510.88 7693410.44
0.872km @ 103.940 deg to 776359.14 7693201.13
0.707km @ 111.615 deg to 777017.82 7692941.69
1.428km @ 108.643 deg to 778373.43 7692487.04
0.776km @ 103.416 deg to 779129.96 7692307.64
1.277km @ 99.7876 deg to 780391.09 7692091.37
1.309km @ 73.6805 deg to 781650.21 7692457.89
1.741km @ 107.706 deg to 783312.43 7691930.36
2.097km @ 97.4346 deg to 785395.95 7691660.08
0.191km @ 121.653 deg to 785558.52 7691560.46
0.391km @ 102.514 deg to 785941.37 7691475.98
1.295km @ 114.427 deg to 787122.99 7690942.49
1.417km @ 76.3577 deg to 788503.14 7691275.52
7.152km @ 100.316 deg to 795555.54 7689999.43
1.534km @ 96.9608 deg to 797081.75 7689814.19
0.480km @ 109.294 deg to 797535.96 7689656.12
0.536km @ 116.932 deg to 798014.63 7689414.39
0.893km @ 102.672 deg to 798887.6 7689219.26
1.437km @ 85.9088 deg to 800324.51 7689321.44
9.629km @ 91.5339 deg to 809972.67 7689064.58
0.691km @ 107.536 deg to 810633 7688857.16
1.717km @ 78.5954 deg to 812319.67 7689195.42
1.570km @ 86.5014 deg to 813890.36 7689290.89
2.230km @ 90.816 deg to 816125.24 7689259.24
2.873km @ 92.0522 deg to 819002.8 7689156.74
0.088km @ 48.3153 deg to 819068.47 7689214.88
1.535km @ 91.6303 deg to 820606.53 7689171.36
1.490km @ 100.418 deg to 822075.36 7688902.9
0.078km @ 192.390 deg to 822058.7 7688827.44
Back to Datum

Area :

Type	Dealing No	Start Date	Area
Granted		09/11/2011	1,831.00000 HA
Applied For		11/08/2008	1,831.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
EAST PILBARA SHIRE	3220	1,831.00000 HA

CURRENT HOLDER DETAILS

Name and Address
MOLY METALS AUSTRALIA PTY LTD
C/- MOLY MINES LIMITED, PO BOX 8215, SUBIACO EAST, WA, 6008

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**
Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	11/08/2008	4274	MB	$22,155.10

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 45/249 MISCELLANEOUS LICENCE

Status: Pending

Tenement Summary

File Reference :
Mark Out : 07/12/2010 07:28:00
Received : 07/12/2010 12:03:00
Death Reason :
Death Date :
Commence :
Expiry :

Warden's Recommendation :

Purpose : road pipeline power line communications facility bore field water management facility power generation and transmission facility

DESCRIPTION DETAILS

Locality : Boodarie 1

Datum : datum situated at GDA 94 MGA Zone 50 coordinates 662426.72m E, 7740216.42m N

Boundary :
Thence to 662169.07m E 7740161.30m N
Thence to 661831.50m E 7740242.51m N (co-incident to GE l533788)
Thence to 662064.03m E 7740451.84m N (co-incident to GE l533788)
Thence to 662264.13m E 7740359.23m N
Thence to 662221.90m E 7740253.68m N
Thence Back To Datum

Area :

Type	Dealing No	Start Date	Area
Applied For		07/12/2010	9.03000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	9.03000 HA

CURRENT HOLDER DETAILS

Name and Address
MOLY METALS AUSTRALIA PTY LTD
C/- MOLY MINES LIMITED, PO BOX 8215, SUBIACO EAST, WA, 6008

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan
Diagram

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2011	07/12/2010	6993	MB	$129.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 45/258 MISCELLANEOUS LICENCE

Status: Pending

Tenement Summary

File Reference :
Mark Out : 29/04/2011 18:00:00
Received : 03/05/2011 10:15:00
Warden's Recommendation :
Purpose : a bore a communications facility a pipeline a power generation and transmission facility a power line a road a water management facility

Death Reason :
Death Date :
Commence :
Expiry :

DESCRIPTION DETAILS

Locality : BOODARIE 1

Datum : Datum situated at GDA 94 Zone 50 coordinates 662064.03ME 7740451.84 MN

Boundary : THENCE to
662264.13 ME 7740359.23 MN
662221.90 ME 7740253.68 MN
662426.72 ME 7740216.42 MN
662169.07 ME 7740161.30 MN
661831.50 ME 7740242.51 MN
Thence back to Datum

Area :

Type	Dealing No	Start Date	Area
Applied For		29/04/2011	8.03000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	8.03000 HA

CURRENT HOLDER DETAILS

Name and Address
MOLY METALS AUSTRALIA PTY LTD
C/- MOLY MINES LIMITED, PO BOX 8215, SUBIACO EAST, WA, 6008

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	03/05/2011	93470	PE	$116.10

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 45/110 MISCELLANEOUS LICENCE

Status: Live

Tenement Summary

File Reference :

Mark Out : 03/05/2002 14:45:00

Received : 10/05/2002 13:30:00

Death Reason :

Death Date :

Commence : 23/10/2003 **Expiry :** 22/10/2024

Warden's Recommendation :

Purpose : Road powerline an electricity generation transmission or distribution facility a storage, distribution or gathering or other transmission facility for gas a storage or transportation facility for minerals or mineral concentrate bores borelields pipeline other water management distribution facility communication to service a mining operation aerodrome

DESCRIPTION DETAILS

Locality : PORT HEDLAND - TELFER

Datum : DATUM ON THE BOUNDARY OF LR3104/330 AND ROAD 432. PT 1; LATITUDE 20 DEGREES 25 MINUTES 42 SECONDS SOUTH; LONGITUDE 118 DEGREES 33 MINUTES 5 SECONDS EAST

Boundary : HENCE ALONG BOUNDARY TO A POINT AT 2; 20 DEGREES 25 MINUTES 41 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 2 SECONDS EAST LONG.
THENCE TO A POINT AT 3; 20 DEGREES 25 MINUTES 27 SECONDS SOUTH LAT; 118 DEGREES 33 MINUTES 8 SECONDS EAST LONG.
THENCE TO A POINT AT 4; 20 DEGREES 25 MINUTES 28 SECONDS SOUTH LAT; 118 DEGREES 33 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT AT 5; 20 DEGREES 25 MINUTES 33 SECONDS SOUTH LAT; 118 DEGREES 33 MINUTES 9 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF RESERVE 33593 AND L3114/618 AT POINT 6; 20 DEGREES 25 MINUTES 36 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 16 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 7; 20 DEGREES 25 MINUTES 40 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 12 SECONDS EAST LONG.
THENCE TO A POINT AT 8; 20 DEGREES 25 MINUTES 42 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 15 SECONDS EAST LONG.
THENCE TO A POINT AT 9; 20 DEGREES 25 MINUTES 48 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 54 SECONDS EAST LONG.
THENCE TO A POINT 10;20 DEGREES 26 MINUTES 37 SECONDS SOUTH LAT;118 DEGREES 37 MINUTES 28 SECONDS EAST LONG.
THENCE TO A POINT 11;20 DEGREES 26 MINUTES 10 SECONDS SOUTH LAT;118 DEGREES 41 MINUTES 21 SECONDS EAST LONG.
THENCE TO A POINT AT 12;20 DEGREES 25 MINUTES 36 SECONDS SOUTH LAT;118 DEGREES 44 MINUTES 17 SECONDS EAST LONG.
THENCE TO A POINT AT 13;20 DEGREES 24 MINUTES 46 SECONDS SOUTH LAT;118 DEGREES 49 MINUTES 41 SECONDS EAST LONG.
THENCE TO A POINT AT 14;20 DEGREES 24 MINUTES 14 SECONDS SOUTH LAT;118 DEGREES 55 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT 15; 20 DEGREES 23 MINUTES 47 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF ROAD 14821 POINT 16; 20 DEGREES 23 MINUTES 43 SECONDS; 118 DEGREES 57 MINUTES 27 SECONDS EAST LONG.

THENCE ALONG BOUNDARY TO A POINT 17; 20 DEGREES 23 MINUTES 43 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 30 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 18; 20 DEGREES 23 MINUTES 43 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 33 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 19; 20 DEGREES 23 MINUTES 42 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 34 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 20; 20 DEGREES 23 MINUTES 40 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 36 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 21; 20 DEGREES 23 MINUTES 37 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 38 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 22; 20 DEGREES 23 MINUTES 9 SECONDS SOUTH LAT;118 DEGREES 58 MINUTES 7 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 23; 20 DEGREES 22 MINUTES 24 SECONDS SOUTH LAT;118 DEGREES 59 MINUTES 52 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 24; 20 DEGREES 22 MINUTES 18 SECONDS SOUTH LAT;119 DEGREES 0 MINUTES 5 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 25; 20 DEGREES 21 MINUTES 58 SECONDS SOUTH LAT;119 DEGREES 0 MINUTES 38 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 26; 20 DEGREES 21 MINUTES 39 SECONDS SOUTH LAT;119 DEGREES 1 MINUTE 9 SECONDS EAST LONG.
THENCE ALONG BOUNDAARY TO A POINT AT 27; 20 DEGREES 21 MINUTES 37 SECONDS SOUTH LAT;119 DEGREES 1 MINUTE 13 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 28; 20 DEGREES 21 MINUTES 27 SECONDS SOUTH LAT;119 DEGREES 1 MINUTE 32 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 29; 20 DEGREES 20 MINUTES 50 SECONDS SOUTH LAT;119 DEGREES 3 MINUTES 19 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TOA POINT AT 30; 20 DEGREES 21 MINUTES 2 SECONDS SOUTH LAT;119 DEGREES 5 MINUTES49 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 31; 20 DEGREES 20 MINUTES 53 SECONDS SOUTH LAT;119 DEGREES 6 MINUTES 27 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 32; 20 DEGREES 20 MINUTES 42SECONDS SOUTH LAT;119 DEGREES 7 MINUTES 17 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 33; 20 DEGREES 20 MINUTES 42 SECONDS SOUTH LAT;119 DEGREES 8 MINUTES 6 SECONDSEAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 34; 20 DEGREES 20 MINUTES 12 SECONDS SOUTH LAT;119 DEGREES 11 MINUTES 1 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 35; 20 DEGREES 20 MINUTES 2 SECONDS SOUTH LAT;119 DEGREES 11 MINUTES 17 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 36; 20 DEGREES 19 MINUTES 30 SECONDS SOUTH LAT;119 DEGREES 11 MINUTES 40 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 37; 20 DEGREES 19 MINUTES 24 SECONDS SOUTH LAT;119 DEGREES 11 MINUTES 43 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 38; 20 DEGREES 19 MINUTES 17 SECONDS SOUTH LAT;119 DEGREES 11 MINUTES 52 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 39; 20 DEGREES 19 MINUTES 14 SECONDS SOUTH LAT;119 DEGREES 12 MINUTES 4 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 40; 20 DEGREES 19 MINUTES 8 SECONDS SOUTH LAT;119 DEGREES 13 MINUTES 18 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO APOINT AT 41; 20 DEGREES 19 MINUTES 6 SECONDS SOUTH LAT;119 DEGREES 13 MINUTES 35 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 42; 20 DEGREES 19 MINUTES 10 SECONDS SOUTH LAT;119 DEGREES 14 MINUTES 11 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 43; 20 DEGREES 19 MINUTES 7 SECONDS SOUTH LAT;119 DEGREES 14 32 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 44; 20 DEGREES 18 MINUTES 58 SECONDS SOUTH LAT;119 DEGREES 14 MINUTES 42 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 45; 20 DEGREES 18 MINUTES 44 SECONDS SOUTH LAT;119 DEGREES 14 MINUTES 54 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 46; 20 DEGREES 18 MINUTES 29 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 7 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 47; 20 DEGREES 18 MINUTES 25 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 10 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 48; 20 DEGREES 18 MINUTES 18 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 21 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 49; 20 DEGREES 18 MINUTES 17 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 25 SECONDS EAST LONG.

THENCE ALONG BOUNDARY TO A POINT AT 50; 20 DEGREES 18 MINUTES 15 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 32 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 51; 20 DEGREES 18 MINUTES 14 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 45 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 52; 20 DEGREES 18 MINUTES 14 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 55 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 53; 20 DEGREES 18 MINUTES 13 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 55 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 54; 20 DEGREES 18 MINUTES 9 SECONDS SOUTH LAT;119 DEGREES 16 MINUTES 47 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 55; 20 DEGREES 18MINUTES 28 SECONDS SOUTH LAT;119 DEGREES 18 MINUTES 49 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 56; 20 DEGREES 18 MINUTES 29 SECONDS SOUTH LAT;119 DEGREES 19 MINUTES 21 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 57; 20 DEGREES 18 MINUTES 34 SECONDS SOUTH LAT;119 DEGREES 21 MINUTES 27 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 58; 20 DEGREES 19 MINUTES 13 SECONDS SOUTH LAT;119 DEGREES 26 MINUTES 18 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 59; 20 DEGREES 19 MINUTES 13 SECONDS SOUTH LAT;119 DEGREES 26 MINUTES 20 SECONDS EAST LONG.
THENCE TO A POINT AT 60; 20 DEGREES 19 MINUTES 27 SECONDS SOUTH LAT;119 DEGREES 26 MINUTES 59 SECONDS EAST LONG.
THENCE TO A POINT AT 61; 20 DEGREES 19 MINUTES 38 SECONDS SOUTH LAT;119 DEGREES 27 MINUTES 19 SECONDS EAST LONG.
THENCE TO A POINT AT 62; 20 DEGREES 19 MINUTES 58 SECONDS SOUTH LAT;119 DEGREES 27 MINUTES 44 SECONDS EAST LONG.
THENCE TO A POINT AT 63; 20 DEGREES 20 MINUTES 13 SECONDS SOUTH LAT;119 DEGREES 30 MINUTES 5 SECONDS EAST LONG.
THENCE TO A POINT AT 64; 20 DEGREES 20 MINUTES 22 SECONDS SOUTH LAT;119 DEGREES 30 MINUTES 50 SECONDS EAST LONG.
THENCE TO A POINT AT 65; 20 DEGREES 20 MINUTES 18 SECONDS SOUTH LAT;119 DEGREES 31 MINUTES 12 SECONDS EAST LONG.
THENCE AT A POINT AT 66; 20 DEGREES 20 MINUTES 14 SECONDS SOUTH LAT;119 DEGREES 31 MINUTES 29 SECONDS EAST LONG.
THENCE TO A POINT AT 67; 20 DEGREES 20 MINUTES 1 SECOND SOUTH LAT;119 DEGREES 31 MINUTES 26 SECONDS EAST LONG.
THENCE TO A POINT AT 68; 20 DEGREES 20 MINUTES 1 SECOND SOUTH LAT;119 DEGREES 31 MINUTES 29 SECONDS EAST LONG.
THENCE TO A POINT AT 69; 20 DEGREES 20 MINUTES 13 SECONDS SOUTH LAT;119 DEGREES 31 MINUTES 32 SECONDS EAST LONG.
THENCE TO A POINT AT 70; 20 DEGREES 20 MINUTES 7 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 5 SECONDS EAST LONG.
THENCE TO A POINT AT 71; 20 DEGREES 20 MINUTES 6 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT AT 72; 20 DEGREES 20 MINUTES 6 SECONDS SOUTH LAT;119 DEGREE 32 MINUTES 16 SECONDS EAST LONG.
THENCE TOA POINT AT 73; 20 DEGREES 20 MINUTES 6 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 21 SECONDS LONG.
THENCE TO A POINT AT 74; 20 DEGREES 20 MINUTES 6 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 28 SECONDS EAST LONG.
THENCE TO A POINT AT 75; 20 DEGREES 20 MINUTES 7 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 31 SECONDS EAST LONG.
THENCE TO A POINT AT 76; 20 DEGREES 20 MINUTES 8 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 32 SECONDS EAST LONG.
THENCE TO A POINT AT 77; 20 DEGREES 20 MINUTES 8 SECONDS SOUTH LAT 119 DEGREES 32 MINUTES 35 SECONDS EAST LONG.
THENCE TO A POINT AT 78; 20 DEGREES 20 MINUTES 4 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 59 SECONDS EAST LONG.
THENCE TO A POINT AT 79; 20 DEGREES 19 MINUTES 56 SECONDS SOUTH LAT;119 DEGREES 33 MINUTES 35 SECONDS EAST LONG.
THENCE TO A POINT AT 80; 20 DEGREES 19 MINUTES 55 SECONDS SOUTH LAT;119 DEGREES 33 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT AT 81; 20 DEGREES 19 MINUTES 54 SECONDS SOUTH LAT;119 DEGREES 33 MINUTES 54 SECONDS EAST LONG.
THENCE TO A POINT AT 82; 20 DEGREES 19 MINUTES 54 SECONDS SOUTH LAT;119 DEGREES 34 MINUTES 1 SECONDS EAST LONG.

THENCE TO A POINT AT 83; 20 DEGREES 20 MINUTES 16 SECONDS SOUTH LAT;119 DEGREES 39 MINUTES 5 SECONDS EAST LONG.
THENCE TO A POINT AT 84; 20 DEGREES 20 MINUTES 22 SECONDS SOUTH LAT;119 DEGREES 40 MINUTES 34 SECONDS EAST LONG.
THENCE TO A POINT AT 85; 20 DEGREES 20 MINUTES 23 SECONDS SOUTH LAT;119 DEGREES 40 MINUTES 39 SECONDS EAST LONG.
THENCE TO A POINT AT 86; 20 DEGREES 20 MINUTES 23 SECONDS SOUTH LAT;119 DEGREES 40 MINUTES 45 SECONDS EAST LONG.
THENCE TO A POINT AT 87; 20 DEGREES 21 MINUTES 46 SECONDS SOUTH LAT;119 DEGREES 49 MINUTES 47 SECONDS EAST LONG.
THENCE TO A POINT AT 88; 20 DEGREES 21 MINUTES 48 SECONDS SOUTH LAT;119 DEGREES 49 MINUTES 60 SECONDS EAST LONG.
THENCE TO A POINT AT 89; 20 DEGREES 22 MINUTES 59 SECONDS SOUTH LAT;119 DEGREES 54 MINUTES 46 SECONDS EAST LONG
THENCE TO A POINT AT 90; 20 DEGREES 23 MINUTES 1 SECONDS SOUTH LAT;119 DEGREES 56 MINUTES 26 SECONDS EAST LONG.
THENCE TO A POINT AT 91; 20 DEGREES 22 MINUTES 45 SECONDS SOUT LAT;119 DEGREES 56 MINUTES 26 SECONDS EAST LONG.
THENCE TO A POINT AT 92; 20 DEGREES 22 MINUTES 45 SECONDS SOUTH LAT;119 DEGREES 56 MINUTES 44 SECONDS EAST LONG.
THENCE TO A POINT AT 93; 20 DEGREES 23 MINUTES 1 SECONDS SOUTH LAT;119 DEGREES 56 MINUTES 43 SECONDS EAST LONG.
THENCE TO A POINT AT 94; 20 DEGREES 23 MINUTES 6 SECONDS SOUTH LAT;119 DEGREES 59 MINUTES 53 SECONDS EAST LONG.
THENCE TO A POINT AT 95; 20 DEGREES 22 MINUTES 50 SECONDS SOUTH LAT; 120 DEGREES 1 MINUTES 52 SECONDS EAST LONG.
THENCE TO A POINT AT 96; 20 DEGREES 24 MINUTES 29 SECONDS SOUTH LAT; 120 DEGREES 6 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT AT 97; 20 DEGREES 26 MINUTES 30 SECONDS SOUTH LAT; 120 DEGREES 13 MINUTES 23 SECONDS EAST LONG.
THENCE TO A POINT AT 98; 20 DEGREES 27 MINUTES 5 SECONDS SOUTH LAT; 120 DEGREES 18 MINUTES 52 SECONDS EAST LONG.
THENCE TO A POINT AT 99; 20 DEGREES 29 MINUTES 16 SECONDS SOUTH LAT; 120 DEGEES 25 MINUTES 18 SECONDS EAST LONG.
THENCE TO A POINT AT 100; 20 DEGREES 29 MINUTES 27 SECONDS SOUTH LAT; 120 DEGREES 27 MINUTES 0 SECONDS EAST LONG.
THENCE TO A POINT AT 101; 20 DEGREES 30 MINUTES 53 SECONDS SOUTH LAT; 120 DEGREES 30 MINUTES 25 SECONDS EAST LONG.
THENCE TO A POINT AT 102; 20 DEGREES 32 MINUTES 52 SECONDS SOUTH LAT; 120 DEGREES 35 MINUTES 7 SECONDS EAST LONG.
THENCE TO A POINT AT 103; 20 DEGREES 33 MINUTES 55 SECONDS SOUT LAT; 120 DEGREES 37 MINUTES 36 SECONDS EAST LONG.
THENCE TO A POINT AT 104; 104 DEGREES 20 MINUTES 34 SECONDS SOUT LAT; 120 DEGREES 38 MINUTES 16 SECONDS EAST LONG.
THENCE TO A POINT AT 105; 20 DEGREES 35 MINUTES 57 SECONDS SOUTH LAT; 120 DEGREES 42 MINUTES 44 SECONDS EAST LONG.
THENCE TO A POINT AT 106; 20 DEGREES 36 MINUTES 47 SECONDS SOUTH LAT; 120 DEGREES 43 MINUTES 50 SECONDS EAST LONG.
THENCE TO A POINT AT 107; 20 DEGREES 36 MINUTES 41 SECONDS SOUTH LAT; 120 DEGREES 43 MINUTES 55 SECONDS EAST LONG.
THENCE TO A POINT AT 108; 20 DEGREES 36 MINUTES 43 SECONDS SOUTH LAT; 120 DEGREES 43 MINUTES 57 SECONDS EAST LONG.
THENCE TO A POINT AT 109; 20 DEGREES 36 MINUTES 38 SECONDS SOUTH LAT; 120 DEGREES 44 MINUTES 2 SECONDS EAST LONG.
THENCE TO A POINT AT 110; 20 DEGREES 36 MINUTES 40 SECONDS SOUTH LAT; 120 MINUTES 44 MINUTES 4 SECONDS EAST LONG.
THENCE TO A POINT AT 111; 20 DEGREES 36 MINUTES 38 SECONDS SOUTH LAT; 120 DEGREES 44 MINUTES 7 SECONDS EAST LONG.
THENCE TO A POINT AT 112; 20 DEGREES 36 MINUTES 50 SECONDS SOUTH LAT; 120 DEGREES 44 MINUTES 23 SECONDS EAST LONG.
THENCE TO A POINT AT 113; 20 DEGREES 37 MINUTES 3 SECONDS SOUTH LAT; 120 DEGREES 44 MINUTES 12 SECONDS EAST LONG.
THENCE TO A POINT AT 115; 20 DEGREES 39 MINUTES 118 SECONDS SOUTH LAT; 120 DEGREES 47 MINUTES 6 SECONDS EAST LONG.
THENCE TO A POINT AT 116; 20 DEGREES 39 MINUTES 54 SECONDS SOUTH LAT; 120 DEGREES 49 MINUTES 46 SECONDS EAST LONG.

THENCE TO A POINT AT 117; 20 DEGREES 41 MINUTES 15 SECONDS SOUTH LAT; 120 DEGREES 52 MINUTES 10 SECONDS EAST LONG.
THENCE TO A POINT AT 118; 20 DEGREES 43 MINUTES 10 SECONDS SOUTH LAT; 120 DEGREES 55 MINUTES 4 SECONDS EAST LONG.
THENCE TO A POINT AT 119; 20 DEGREES 44 MINUTES 10 SECONDS SOUTH LAT; 120 DEGREES 56 MINUTES 35 SECONDS EAST LONG.
THENCE TO A POINT AT 120; 20 DEGREES 44 MINUTES 26 SECONDS SOUTH LAT; 120 DEGREES 57 MINUTES 51 SECONDS EAST LONG.
THENCE TO A POINT AT 121; 20 DEGREES 44 MINUTES 46 SECONDS SOUTH LAT; 120 DEGREES 58 MINUTES 59 SECONDS EAST LONG.
THENCE TO A POINT AT 122 20 DEGREES 45 MINUTES 15 SECONDS SOUTH LAT; 121 DEGREES 0 MINUTES 0 SECONDS EAST LONG.
THENCE TO A POINT AT 123; 20 DEGREES 46 MINUTES 48 SECONDS SOUTH LAT; 121 DEGREES 3 MINUTES 45 SECONDS EAST LONG.
THENCE TO A POINT AT 124; 20 DEGREES 50 MINUTES 5 SECONDS SOUTH LAT; 121 DEGREES 4 MINUTES 36 SECONDS EAST LONG.
THENCE TO A POINT AT 125; 20 DEGREES 52 MINUTES 45 SECONDS SOUTH LAT; 121 DEGREES 6 MINUTES 41 SECONDS EAST LONG.
THENCE TO A POINT AT 126; 21 DEGREES 0 MINUTES 8 SECONDS SOUTH LAT; 121 DEGREES 15 MINUTES 3 SECONDS EAST LONG.
THENCE TO A POINT AT 127; 21 DEGREES 0 MINUTES 38 SECONDS SOUTH LAT; 121 DEGREES 15 MINUTES 17 SECONDS EAST LONG.
THENCE TO A POINT AT 128; 21 DEGREES 6 MINUTES 60 SECONDS SOUTH LAT; 121 DEGREES 20 MINUTES 50 SECONDS EAST LONG.
THENCE TO A POINT AT 129; 21 DEGREES10 MINUTES 33 SECONDS SOUTH LAT; 121 DEGREES 22 MINUTES 14 SECONDS EAST LONG.
THENCE TO A POINT AT 130; 21 DEGREES 12 MINUTES 54 SECONDS SOUTH LAT; 121 DEGREES 24 MINUTES 58 SECONDS EAST LONG.
THENCE TO A POINT AT 131; 21 DEGREES 12 MINUTES 42 SECONDS SOUTH LAT; 121 DEGREES 25 MINUTES 10 SECONDS EAST LONG.
THENCE TO A POINT AT 132; 21 DEGREES 12 MINUTES 42 SECONDS SOUTH LAT; 121 DEGREES 25 MINUTES 10 SECONDS EAST LONG.
THENCE TO A POINT AT 133; 21 DEGREES 0 MINUTES 8 SECONDS SOUTH LAT; 121 DEGREES 15 MINUTES 3 SECONDS EAST LONG.
THENCE TO A POINT AT 134; 21 DEGREES 13 MINUTES 37 SECONDS SOUTH LAT; 121 DEGREES 25 MINUTES 48 SECONDS EAST LONG.
THENCE TO A POINT AT 135; 21 DEGREES 16 MINUTES 0 SECONDS SOUTH LAT; 121 DEGREES 27 MINUTES 41 SECONDS EAST LONG.
THENCE TO A POINT AT 136; 21 DEGREES 17 MINUTES 2 SECONDS SOUTH LAT; 121 DEGREES 30 MINUTES 45 SECONDS EAST LONG.
THENCE TO A POINT AT 137; 21 DEGREES 18 MINUTES 32 SECONDS SOUTH LAT; 121 DEGREES 33 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT AT 138; 21 DEGREES 21 MINUTES 19 SECONDS SOUTH LAT; 121 DEGREES 32 MINUTES 33 SECONDS EAST LONG.
THENCE TO A POINT ON NORTHERN BOUNDARY OF L45/101 POINT AT 139; 21 DEGREES 25 MINUTES 10 SECONDS SOUTH LAT; 121 DEGREES 38 MINUTES 52 SECONDS EAST LONG.
THENCE TO A POINT AT 140; 21 DEGREES 25 MINUTES 15 SECONDS SOUTH LAT; 121 DEGREES 39 MINUTES 12 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 141; 21 DEGREES 25 MINUTES 29 SECONDS SOUTH LAT; 121 DEGREES 39 MINUTES 49 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 142; 21 DEGREES 25 MINUTES 45 SECONDS SOUTH LAT; 121 DEGREES 40 MINUTES 16 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 143; 21 DEGREES 25 MINUTES 52 SECONDS SOUTH LAT; 121 DEGREES 40 MINUTES 38 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 144; 21 DEGREES 26 MINUTES 5 SECONDS SOUTH LAT; 121 DEGREES 41 MINUTES 6 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 145; 21 DEGREES 26 MINUTES 19 SECONDS SOUTH LAT; 121 DEGREES 41 MINUTES 53 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 146; 21 DEGREES 26 MINUTES 41 SECONDS SOUTH LAT; 121 DEGREES 42 MINUTES 24 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 147; 21 DEGREES 27 MINUTES 1 SECONDS SOUTH LAT; 121 DEGREES 43 MINUTES 7 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 148; 21 DEGREES 27 MINUTES 8 SECONDS SOUTH LAT; 121 DEGREES 43 MINUTES 29 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 149; 21 DEGREES 27 MINUTES 16 SECONDS SOUTH LAT; 121 DEGREES 43 MINUTES 50 SECONDS EAST LONG.

THENCE ALONG BOUNDARY TO A POINT AT 150; 21 DEGREES 27 MINUTES 38 SECONDS SOUTH LAT; 121 DEGREES 44 MINUTES 37 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 151; 21 DEGREES 27 MINUTES 46 SECONDS SOUTH LAT; 121 DEGREES 44 MINUTES 59 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 152; 21 DEGREES 27 MINUTES 54 SECONDS SOUTH LAT; 121 DEGREES 45 MINUTES 13 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 153; 21 DEGREES 28 MINUTES 2 SECONDS SOUTH LAT; 121 DEGREES 45 MINUTES 33 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 154; 21 DEGREES 28 MINUTES 15 SECONDS SOUTH LAT; 121 DEGREES 45 MINUTES 56 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 155; 21 DEGREES 28 MINUTES 34 SECONDS SOUTH LAT; 121 DEGREES 46 MINUTES 32 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 156; 21 DEGREES 28 MINUTES 46 SECONDS SOUTH LAT; 121 DEGREES 46 MINUTES 59 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 157; 21 DEGREES 29 MINUTES 6 SECONDS SOUTH LAT; 121 DEGREES 48 MINUTES 33 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 158; 21 DEGREES 29 MINUTES 19 SECONDS SOUTH LAT; 121 DEGREES 49 MINUTES 29 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 159; 21 DEGREES 29 MINUTES 23 SECONDS SOUTH LAT; 121 DEGREES 49 MINUTES 42 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 160; 21 DEGREES 30 MINUTES 56 SECONDS SOUTH LAT; 121 DEGREES 52 MINUTES 42 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 161; 21 DEGREES 31 MINUTES 45 SECONDS SOUTH LAT; 121 DEGREES 54 MINUTES 31 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 162; 21 DEGREES 32 MINUTES 21 SECONDS SOUTH LAT; 121 DEGREES 55 MINUTES 50 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 163; 21 DEGREES 32 MINUTES 34 SECONDS SOUTH LAT; 121 DEGREES 56 MINUTES 21 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 164; 21 DEGREES 32 MINUTES 48 SECONDS SOUTH LAT; 121 DEGREES 56 MINUTES 55 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 165; 21 DEGREES 33 MINUTES 34 SECONDS SOUTH LAT; 121 DEGREES 58 MINUTES 60 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 166; 21 DEGREES 33 MINUTES 51 SECONDS SOUTH LAT; 121 DEGREES 59 MINUTES 53 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 167; 21 DEGREES 33 MINUTES 58 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 7 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 168; 21 DEGREES 34 MINUTES 8 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 19 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 169; 21 DEGREES 34 MINUTES 19 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 27 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 171; 21 DEGREES 35 MINUTES 58 SECONDS SOUTH LAT; 122 DEGREES 1 MINUTES 2 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 172; 21 DEGREES 36 MINUTES 9 SECONDS SOUTH LAT; 122 DEGREES 1 MINUTES 10 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 173; 21 DEGREES 36 MINUTES 47 SECONDS SOUTH LAT; 122 DEGREES 1 MINUTES 56 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 174; 21 DEGREES 37 MINUTES 18 SECONDS SOUTH LAT; 122 DEGREES 2 MINUTES 38 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 175; 21 DEGREES 37 MINUTES 48 SECONDS SOUTH LAT; 122 DEGREES3 MINUTES 14 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 176; 21 DEGREES 38 MINUTES 23 SECONDS SOUTH LAT; 122 DEGREES 3 MINUTES 49 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 177; 21 DEGREES 38 MINUTES 47 SECONDS SOUTH LAT; 122 DEGREES 4 MINUTES 11 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 178; 21 DEGREES 39 MINUTES 0 SECONDS SOUTH LAT; 122 DEGREES 4 MINUTES 23 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 179; 21 DEGREES 39 MINUTES 9 SECONDS SOUTH LAT; 122 DEGREES 4 MINUTES 40 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 180; 21 DEGREES 39 MINUTES 19 SECONDS SOUTH LAT; 122 DEGREES 5 MINUTES 7 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 181; 21 DEGREES 39 MINUTES 36 SECONDS SOUTH LAT; 122 DEGREES 5 MINUTES 34 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 182; 21 DEGREES 39 MINUTES 34 SECONDS SOUTH LAT; 122 DEGREES 6 MINUTES 18 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 183; 21 DEGREES 39 MINUTES 45 SECONDS SOUTH LAT; 122 DEGREES 6 MINUTES 39 SECONDS EAST LONG.

THENCE ALONG BOUNDARY TO A POINT AT 184; 21 DEGREES 39 MINUTES 48 SECONDS SOUTH LAT; 122 DEGREES 6 MINUTES 54 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF M45/210 POINT 185; 21 DEGREES 39 MINUTES 56 SECONDS SOUTH LAT; 122 DEGREES 7 MINUTES 6 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT AT 186; 21 DEGREES 40 MINUTES 18 SECONDS SOUTH LAT; 122 DEGREES 6 MINUTES 41 SECONDS EAST LONG.
THENCE TO A POINT AT 187; 21 DEGREES 39 MINUTES 8 SECONDS SOUTH LAT; 122 DEGREES 4 MINUTES 17 SECONDS EAST LONG.
THENCE TO A POINT AT 188; 21 DEGREES 38 MINUTES 53 SECONDS SOUTH LAT; 122 DEGREES 4 MINUTES 3 SECONDS EAST LONG.
THENCE TO A POINT AT 189; 21 DEGREES 38 MINUTES 30 SECONDS SOUTH LAT; 122 DEGREES 3 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT AT 190; 21 DEGREES 37 MINUTES 55 SECONDS SOUTH LAT; 122 DEGREES 3 MINUTES 7 SECONDS EAST LONG.
THENCE TO A POINT AT 191; 21 DEGREES 37 MINUTES 25 SECONDS SOUTH LAT; 122 DEGREES 2 MINUTES 31 SECONDS EAST LONG.
THENCE TO A POINT AT 192; 21 DEGREES 36 MINUTES 54 SECONDS SOUTH LAT; 122 DEGREES 1 MINUTES 49 SECONDS EAST LONG.
THENCE TO A POINT AT 193; 21 DEGREES 36 MINUTES 16 SECONDS SOUTH LAT; 122 DEGREES 1 MINUTES 3 SECONDS EAST LONG.
THENCE TO A POINT AT 194; 21 DEGREES 36 MINUTES 2 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 52 SECONDS EAST LONG.
THENCE TO A POINT AT 195; 21 DEGREES 35 MINUTES 48 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 47 SECONDS EAST LONG.
THENCE TO A POINT AT 196; 21 DEGREES 34 MINUTES 24 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 17 SECONDS EAST LONG.
THENCE TO A POINT AT 197; 21 DEGREES 34 MINUTES 14 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT AT 198; 21 DEGREES 34 MINUTES 6 SECONDS SOUTH LAT; 122 DEGREES 0 MINUTES 1 SECONDS EAST LONG.
THENCE TO A POINT AT 199; 21 DEGREES 33 MINUTES 60 SECONDS SOUTH LAT; 121 DEGREES 59 MINUTES 49 SECONDS EAST LONG.
THENCE TO A POINT AT 200; 21 DEGREES 33 MINUTES44 SECONDS SOUTH LAT; 121 DEGREES 58 MINUTES 56 SECONDS EAST LONG.
THENCE TO A POINT AT 201; 21 DEGREES 32 MINUTES 57 SECONDS SOUTH LAT; 121 DEGREES 56 MINUTES 51 SECONDS EAST LONG.
THENCE TO A POINT AT 202; 21 DEGREES 32 MINUTES 43 SECONDS SOUTH LAT; 121 DEGREES 56 MINUTES 17 SECONDS EAST LONG.
THENCE TO A POINT AT 203; 21 DEGREES 32 MINUTES 30 SECONDS SOUTH LAT; 121 DEGREES 55 MINUTES 46 SECONDS EAST LONG.
THENCE TO A POINT AT 204; 21 DEGREES 31 MINUTES 54 SECONDS SOUTH LAT; 121 DEGREES 54 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT AT 205; 21 DEGREES 31 MINUTES 5 SECONDS SOUTH LAT; 121 DEGREES 52 MINUTES 38 SECONDS EAST LONG.
THENCE TO A POINT AT 206; 21 DEGREES 29 MINUTES 32 SECONDS SOUTH LAT; 121 DEGREES 49 MINUTES 38 SECONDS EAST LONG.
THENCE TO A POINT AT 207; 21 DEGREES 29 MINUTES 28 SECONDS SOUTH LAT; 121 DEGREES 49 MINUTES 26 SECONDS EAST LONG.
THENCE TO A POINT AT 208; 21 DEGREES 29 MINUTES 16 SECONDS SOUTH LAT; 121 DEGREES 48 MINUTES 30 SECONDS EAST LONG.
THENCE TO A POINT AT 209; 21 DEGREES 28 MINUTES 55 SECONDS SOUTH LAT; 121 DEGREES 46 MINUTES 55 SECONDS EAST LONG.
THENCE TO A POINT AT 210; 21 DEGREES 28 MINUTES 43 SECONDS SOUTH LAT; 121 DEGREES 46 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT AT 211; 21 DEGREES 28 MINUTES 23 SECONDS SOUTH LAT; 121 DEGREES 45 MINUTES 51 SECONDS EAST LONG.
THENCE TO A POINT AT 212; 21 DEGREES 28 MINUTES 11 SECONDS SOUTH LAT; 121 DEGREES 45 MINUTES 29 SECONDS EAST LONG.
THENCE TO A POINT AT 213; 21 DEGREES 28 MINUTES 3 SECONDS SOUTH LAT; 121 DEGREES 45 MINUTES 8 SECONDS EAST LONG.
THENCE TO A POINT AT 214; 21 DEGREES 27 MINUTES 55 SECONDS SOUTH LAT; 121 DEGREES 44 MINUTES 54 SECONDS EAST LONG.
THENCE TO A POINT AT 215; 21 DEGREES 27 MINUTES 47 SECONDS SOUTH LAT; 121 DEGREES 44 MINUTES 32 SECONDS EAST LONG.
THENCE TO A POINT AT 216; 21 DEGREES 27 MINUTES 25 SECONDS SOUTH LAT; 121DEGREES 43 MINUTES 46 SECONDS EAST LONG.

THENCE TO A POINT AT 217; 21 DEGREES 27 MINUTES 18 SECONDS SOUTH LAT; 122 DEGREES 43 MINUTES 25 SECONDS EAST LONG.
THENCE TO A POINT AT 218; 21 DEGREES 27 MINUTES 10 SECONDS SOUTH LAT; 121DEGREES 43 MINUTES 2 SECONDS EAST LONG.
THENCE TO A POINT AT 219; 21 DEGREES 26 MINUTES 50 SECONDS SOUTH LAT; 121 DEGREES 42 MINUTES 18 SECONDS EAST LONG.
THENCE TO A POINT AT 220; 21 DEGREES 26 MINUTES 28 SECONDS SOUTH LAT; 121 DEGREES 41 MINUTES 48 SECONDS EAST LONG.
THENCE TO A POINT AT 221; 21 DEGREES 26 MINUTES 14 SECONDS SOUTH LAT; 121 DEGREES 41 MINUTES 2 SECONDS EAST LONG.
THENCE TO A POINT AT222; 21 DEGREES 26 MINUTES 1 SECONDS SOUTH LAT; 121 DEGREES 40 MINUTES 33 SECONDS EAST LONG.
THENCE TO A POINT AT 223; 21 DEGREES 25 MINUTES 54 SECONDS SOUTH LAT; 121 DEGREES 40 MINUTES 12 SECONDS EAST LONG.
THENCE TO A POINT AT 224; 21 DEGREES 25 MINUTES 38 SECONDS SOUTH LAT; 121 DEGREES 39 MINUTES 44 SECONDS EAST LONG.
THENCE TO A POINT AT 225; 21 DEGREES 25 MINUTES 24 SECONDS SOUTH LAT; 121 DEGREES 39 MINUTES 9 SECONDS EAST LONG.
THENCE TO A POINT AT 226; 21 DEGREES 25 MINUTES 21 SECONDS SOUTH LAT; 121 DEGREES 38 MINUTES 54 SECONDS EAST LONG.
THENCE TO A POINT AT 227; 21 DEGREES 20 MINUTES 1 SECONDS SOUTH LAT; 121 DEGREES 35 MINUTES 30 SECONDS EAST LONG.
THENCE TO A POINT AT 228; 21 DEGREES 18 MINUTES 35 SECONDS SOUTH LAT; 121 DEGREES 33 MINUTES 40 SECONDS EAST LONG.
THENCE TO A POINT AT 229; 21 DEGREES 17 MINUTES 5 SECONDS SOUTH LAT; 121 DEGREES 30 MINUTES 44 SECONDS EAST LONG.
THENCE TO A POINT AT 230; 21 DEGREES 16 MINUTES 3 SECONDS SOUTH LAT; 121 DEGREES 27 MINUTES 39 SECONDS EAST LONG.
THENCE TO A POINT AT 231; 21 DEGREES 13 MINUTES 39 SECONDS SOUTH LAT; 121 DEGREES 25 MINUTES 45 SECONDS EAST LONG.
THENCE TO A POINT AT 232; 21 DEGREES 10 MINUTES 35 SECONDS SOUTH LAT; 121 DEGREES 22 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT AT 233; 21 DEGREES 7 MINUTES 1 SECONDS SOUTH LAT; 121 DEGREES 20 MINUTES 47 SECONDS EAST LONG.
THENCE TO A POINT AT 234; 21 DEGREES 0 MINUTES 39 SECONDS SOUTH LAT; 121 DEGREES 15 MINUTES 14 SECONDS EAST LONG.
THENCE TO A POINT AT235; 21 DEGREES 0 MINUTES 10 SECONDS SOUTH LAT; 121 DEGREES 15 MINUTES 0 SECONDS EAST LONG.
THENCE TO A POINT AT 236; 20 DEGREES 52 MINUTES 48 SECONDS SOUTH LAT; 121 DEGREES 6 MINUTES 38 SECONDS EAST LONG.
THENCE TO A POINT AT 237 : 20 DEGREES 50 MINUTES 7 SECONDS SOUTH LAT; 121 DEGREES 4 MINUTES 33 SECONDS EAST LONG.
THENCE TO A POINT AT 238; 20 DEGREES 46 MINUTES 50 SECONDS SOUTH LAT; 121 DEGREES 3 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT AT 239; 20 DEGREES 45 MINUTES 19 SECONDS SOUTH LAT; 121 DEGREES 0 MINUTES 0 SECONDS EAST LONG.
THENCE TO A POINT AT 240; 20 DEGREES 44 MINUTES 49 SECONDS SOUTH LAT; 121 DEGREES 58 MINUTES 47 SECONDS EAST LONG.
THENCE TO A POINT AT 241; 20 DEGREES 44 MINUTES 29 SECONDS SOUTH LAT; 120 DEGREES 57 MINUTES 50 SECONDS EAST LONG.
THENCE TO A POINT AT242; 20 DEGREES 44 MINUTES 13 SECONDS SOUTH LAT; 120 DEGREES 56 MINUTES 33 SECONDS EAST LONG.
THENCE TO A POINT AT 243; 20 DEGREES 43 MINUTES 10 SECONDS SOUTH LAT; 120 DEGREES 54 MINUTES 58 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF ROAD 4274 POINT 244; 20 DEGREES 43 MINUTES 10 SECONDS SOUTH LAT; 120 DEGREES 54 MINUTES 58 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 245; 20 DEGREES 39 MINUTES 57 SECONDS SOUTH LAT; 120 DEGREES 49 MINUTES 45 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 246; 20 DEGREES 39 MINUTES 14 SECONDS SOUTH LAT; 120 DEGREES 47 MINUTES 4 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT247; 20 DEGREES 38 MINUTES 41 SECONDS SOUTH LAT; 120 DEGREES 46 MINUTES 19 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 248; 20 DEGREES 36 MINUTES 0 SECONDS SOUTH LAT; 120 DEGREES 42 MINUTES 42 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT249; 20 DEGREES 34 MINUTES 9 SECONDS SOUTH LAT; 120 DEGREES 38 MINUTES 14 SECONDS EAST LONG.

THENCE ALONG BOUNDARY TO A POINT 250; 20 DEGREES 33 MINUTES 58 SECONDS SOUTH LAT; 120 DEGREES 37 MINUTES 35 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 251; 20 DEGREES 32 MINUTES 55 SECONDS SOUTH LAT; 120 DEGREES 35 MINUTES 5 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 252; 20 DEGREES 30 MINUTES 57 SECONDS SOUTH LAT; 120 DEGREES 30 MINUTES 25 SECONDS EAST LONG
THENCE ALONG BOUNDARY TO A POINT 253; 20 DEGREES 29 MINUTES 31 SECONDS SOUTH LAT; 120 DEGREES 26 MINUTES 60 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 254; 20 DEGREES 29 MINUTES 36 SECONDS SOUTH LAT; 120 DEGREES 26 MINUTES 28 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 255; 20 DEGREES 29 MINUTES 35 SECONDS SOUTH LAT; 120 DEGREES 26 MINUTES 2 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 256; 20 DEGREES 29 MINUTES 31 SECONDS SOUTH LAT; 120 DEGREES 25 MINUTES 39 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 257; 20 DEGREES 27 MINUTES 38 SECONDS SOUTH LAT; 120 DEGREES 19 MINUTES 58 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 258; 20 DEGREES 27 MINUTES 8 SECONDS SOUTH LAT; 120 DEGREES 18 MINUTES 51 SECONDS EAST LONG.
THENCE TO A POINT 259; 20 DEGREES 26 MINUTES 33 SECONDS SOUTH LAT; 120 DEGREES 13 MINUTES 23 SECONDS EAST LONG.
THENCE TO A POINT 260; 20 DEGREES 24 MINUTES 32 SECONDS SOUTH LAT; 120 DEGREES 06 MINUTES 41 SECONDS EAST LONG.
THENCE TO A POINT 261; 20 DEGREES 24 MINUTES 31 SECONDS SOUTH LAT; 120 DEGREES 06 MINUTES 34 SECONDS EAST LONG.
THENCE TO A POINT 262; 20 DEGREES 24 MINUTES 29 SECONDS SOUTH LAT; 120 DEGREES 06 MINUTES 25 SECONDS EAST LONG.
THENCE TO A POINT 263; 20 DEGREES 24 MINUTES 26 SECONDS SOUTH LAT; 120 DEGREES 06 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT 264; 20 DEGREES 24 MINUTES 24 SECONDS SOUTH LAT; 120 DEGREES 06 MINUTES 03 SECONDS EAST LONG.
THENCE TO A POINT 265; 20 DEGREES 24 MINUTES 24 SECONDS SOUTH LAT; 120 DEGREES 05 MINUTES 58 SECONDS EAST LONG.
THENCE TO A POINT 266; 20 DEGREES 24 MINUTES 24 SECONDS SOUTH LAT; 120 DEGREES 05 MINUTES 50 SECONDS EAST LONG.
THENCE TO A POINT 267; 20 DEGREES 24 MINUTES 23 SECONDS SOUTH LAT; 120 DEGREES 05 MINUTES 25 SECONDS EAST LONG.
THENCE TO A POINT 268; 20 DEGREES 24 MINUTES 22 SECONDS SOUTH LAT; 120 DEGREES 05 MINUTES 18 SECONDS EAST LONG.
THENCE TO A POINT 269; 20 DEGREES 24 MINUTES 19 SECONDS SOUTH LAT; 120 DEGREES 05 MINUTES 07 SECONDS EAST LONG.
THENCE TO A POINT 270; 20 DEGREES 24 MINUTES 13 SECONDS SOUTH LAT; 120 DEGREES 04 MINUTES 51 SECONDS EAST LONG.
THENCE TO A POINT 271; 20 DEGREES 24 MINUTES 04 SECONDS SOUTH LAT; 120 DEGREES 04 MINUTES 23 SECONDS EAST LONG.
THENCE TO A POINT 272; 20 DEGREES 23 MINUTES 57 SECONDS SOUTH LAT; 120 DEGREES 04 MINUTES 05 SECONDS EAST LONG.
THENCE TO A POINT 273; 20 DEGREES 23 MINUTES 52 SECONDS SOUTH LAT; 120 DEGREES 03 MINUTES 52 SECONDS EAST LONG.
THENCE TO A POINT 274; 20 DEGREES 23 MINUTES 50 SECONDS SOUTH LAT; 120 DEGREES 03 MINUTES 49 SECONDS EAST LONG.
THENCE TO A POINT 275; 20 DEGREES 23 MINUTES 47 SECONDS SOUTH LAT; 120 DEGREES 03 MINUTES 47 SECONDS EAST LONG.
THENCE TO A POINT 276; 20 DEGREES 23 MINUTES 42 SECONDS SOUTH LAT; 120 DEGREES 03 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT 277; 20 DEGREES 23 MINUTES 38 SECONDS SOUTH LAT; 120 DEGREES 03 MINUTES 38 SECONDS EAST LONG.
THENCE TO A POINT 278; 20 DEGREES 23 MINUTES 32 SECONDS SOUTH LAT; 120 DEGREES 03 MINUTES 24 SECONDS EAST LONG.
THENCE TO A POINT 279; 20 DEGREES 23 MINUTES 24 SECONDS SOUTH LAT; 120 DEGREES 03 MINUTES 04 SECONDS EAST LONG.
THENCE TO A POINT 280; 20 DEGREES 23 MINUTES 14 SECONDS SOUTH LAT; 120 DEGREES 02 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT 281; 20 DEGREES 23 MINUTES 08 SECONDS SOUTH LAT; 120 DEGREES 02 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT 282; 20 DEGREES 23 MINUTES 01 SECONDS SOUTH LAT; 120 DEGREES 02 MINUTES 08 SECONDS EAST LONG.

THENCE TO A POINT 283; 20 DEGREES 22 MINUTES 53 SECONDS SOUTH LAT; 120 DEGREES 01 MINUTES 51 SECONDS EAST LONG.
THENCE TO A POINT 284; 20 DEGREES 23 MINUTES 09 SECONDS SOUTH LAT;119 DEGREES 59 MINUTES 53 SECONDS EAST LONG.
THENCE TO A POINT 285; 20 DEGREES 23 MINUTES 02 SECONDS SOUTH LAT;119 DEGREES 54 MINUTES 46 SECONDS EAST LONG.
THENCE TO A POINT 286; 20 DEGREES 21 MINUTES 51 SECONDS SOUTH LAT;119 DEGREES 49 MINUTES 59 SECONDS EAST LONG.
THENCE TO A POINT 287; 20 DEGREES 21 MINUTES 49 SECONDS SOUTH LAT;119 DEGREES 49 MINUTES 47 SECONDS EAST LONG.
THENCE TO A POINT 288; 20 DEGREES 21 MINUTES 37 SECONDS SOUTH LAT;119 DEGREES 48 MINUTES 30 SECONDS EAST LONG.
THENCE TO A POINT 289; 20 DEGREES 20 MINUTES 26 SECONDS SOUTH LAT;119 DEGREES 40 MINUTES 45 SECONDS EAST LONG.
THENCE TO A POINT 290; 20 DEGREES 20 MINUTES 25 SECONDS SOUTH LAT;119 DEGREES 40 MINUTES 33 SECONDS EAST LONG.
THENCE TO A POINT 291; 20 DEGREES 20 MINUTES 19 SECONDS SOUTH LAT;119 DEGREES 39 MINUTES 05 SECONDS EAST LONG.
THENCE TO A POINT 292; 20 DEGREES 19 MINUTES 57 SECONDS SOUTH LAT;119 DEGREES 34 MINUTES 01 SECONDS EAST LONG.
THENCE TO A POINT 293; 20 DEGREES 19 MINUTES 57 SECONDS SOUTH LAT;119 DEGREES 33 MINUTES 55 SECONDS EAST LONG.
THENCE TO A POINT 294; 20 DEGREES 19 MINUTES 58 SECONDS SOUTH LAT;119 DEGREES 33 MINUTES 49 SECONDS EAST LONG.
THENCE TO A POINT 295; 20 DEGREES 19 MINUTES 59 SECONDS SOUTH LAT;119 DEGREES 33 MINUTES 36 SECONDS EAST LONG.
THENCE TO A POINT 296; 20 DEGREES 20 MINUTES 07 SECONDS SOUTH LAT;119 DEGREES 33 MINUTES 60 SECONDS EAST LONG.
THENCE TO A POINT 297; 20 DEGREES 20 MINUTES 12 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 35 SECONDS EAST LONG.
THENCE TO A POINT 298; 20 DEGREES 20 MINUTES 10 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 30 SECONDS EAST LONG.
THENCE TO A POINT 299; 20 DEGREES 20 MINUTES 09 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT 300; 20 DEGREES 20 MINUTES 09 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 21 SECONDS EAST LONG.
THENCE TO A POINT 301; 20 DEGREES 20 MINUTES 10 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 16 SECONDS EAST LONG.
THENCE TO A POINT 302; 20 DEGREES 20 MINUTES 10 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT 303; 20 DEGREES 20 MINUTES 10 SECONDS SOUTH LAT;119 DEGREES 32 MINUTES 05 SECONDS EAST LONG.
THENCE TO A POINT 304; 20 DEGREES 20 MINUTES 21 SECONDS SOUTH LAT;119 DEGREES 31 MINUTES 13 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF SPECIAL LEASE 3116/6235 305; 20 DEGREES 20 MINUTES 25 SECONDS SOUTH LAT;119 DEGREES 30 MINUTES 52 SECONDS EAST LONG.
THENCE ALONG A BOUNDARY TO A POINT 306; 20 DEGREES 23 MINUTES 58 SECONDS SOUTH LAT;119 DEGREES 30 MINUTES 38 SECONDS EAST LONG.
THENCE ALONG A BOUNDARY TO A POINT 307; 20 DEGREES 20 MINUTES 16 SECONDS SOUTH LAT;119 DEGREES 30 MINUTES 04 SECONDS EAST LONG.
THENCE ALONG A BOUNDARY TO A POINT 308; 20 DEGREES 20 MINUTES 01 SECONDS SOUTH LAT;119 DEGREES 27 MINUTES 43 SECONDS EAST LONG.
THENCE ALONG A BOUNDARY TO A POINT 309; 20 DEGREES 19 MINUTES 52 SECONDS SOUTH LAT;119 DEGREES 27 MINUTES 24 SECONDS EAST LONG.
THENCE ALONG A BOUNDARY TO A POINT 310; 20 DEGREES 19 MINUTES 40 SECONDS SOUTH LAT;119 DEGREES 27 MINUTES 07 SECONDS EAST LONG.
THENCE ALONG A BOUNDARY TO A POINT 311; 20 DEGREES 19 MINUTES 31 SECONDS SOUTH LAT;119 DEGREES 26 MINUTES 49 SECONDS EAST LONG.
THENCE TO A POINT 312; 20 DEGREES 19 MINUTES 21 SECONDS SOUTH LAT;119 DEGREES 26 MINUTES 29 SECONDS EAST LONG.
THENCE TO A POINT 313; 20 DEGREES 18 MINUTES 40 SECONDS SOUTH LAT;119 DEGREES 21 MINUTES 26 SECONDS EAST LONG.
THENCE TO A POINT 314; 20 DEGREES 18 MINUTES 35 SECONDS SOUTH LAT;119 DEGREES 19 MINUTES 21 SECONDS EAST LONG.
THENCE TO A POINT 315; 20 DEGREES 18 MINUTES 34 SECONDS SOUTH LAT;119 DEGREES 18 MINUTES 48 SECONDS EAST LONG.

THENCE TO A POINT 316; 20 DEGREES 18 MINUTES 16 SECONDS SOUTH LAT;119 DEGREES 16 MINUTES 47 SECONDS EAST LONG.
THENCE TO A POINT 317; 20 DEGREES 18 MINUTES 20 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 56 SECONDS EAST LONG.
THENCE TO A POINT 318; 20 DEGREES 18 MINUTES 20 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 46 SECONDS EAST LONG.
THENCE TO A POINT 319; 20 DEGREES 18 MINUTES 21 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 36 SECONDS EAST LONG.
THENCE TO A POINT 320; 20 DEGREES 19 MINUTES 01 SECONDS SOUTH LAT;119 DEGREES 15 MINUTES 02 SECONDS EAST LONG.
THENCE TO A POINT 321; 20 DEGREES 19 MINUTES 13 SECONDS SOUTH LAT;119 DEGREES 14 MINUTES 33 SECONDS EAST LONG.
THENCE TO A POINT 322; 20 DEGREES 19 MINUTES 17 SECONDS SOUTH LAT;119 DEGREES 14 MINUTES 11 SECONDS EAST LONG.
THENCE TO A POINT 324; 20 DEGREES 19 MINUTES 17 SECONDS SOUTH LAT;119 DEGREES 12 MINUTES 40 SECONDS EAST LONG.
THENCE TO A POINT 325; 20 DEGREES 19 MINUTES 28 SECONDS SOUTH LAT;119 DEGREES 12 MINUTES 30 SECONDS EAST LONG.
THENCE TO A POINT 326; 20 DEGREES 19 MINUTES 30 SECONDS SOUTH LAT;119 DEGREES 12 MINUTES 02 SECONDS EAST LONG.
THENCE TO A POINT 327; 20 DEGREES 20 MINUTES 10 SECONDS SOUTH LAT;119 DEGREES 11 MINUTES 34 SECONDS EAST LONG.
THENCE TO A POINT 328; 20 DEGREES 20 MINUTES 45 SECONDS SOUTH LAT;119 DEGREES 08 MINUTES 06 SECONDS EAST LONG.
THENCE TO A POINT 329; 20 DEGREES 20 MINUTES 45 SECONDS SOUTH LAT;119 DEGREES 07 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT 330; 20 DEGREES 20 MINUTES 45 SECONDS SOUTH LAT;119 DEGREES 07 MINUTES 17 SECONDS EAST LONG.
THENCE TO A POINT 331; 20 DEGREES 20 MINUTES 57 SECONDS SOUTH LAT;119 DEGREES 06 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT 332; 20 DEGREES 20 MINUTES 60 SECONDS SOUTH LAT;119 DEGREES 06 MINUTES 12 SECONDS EAST LONG.
THENCE TO A POINT 333; 20 DEGREES 21 MINUTES 04 SECONDS SOUTH LAT;119 DEGREES 05 MINUTES 37 SECONDS EAST LONG.
THENCE TO A POINT 334; 20 DEGREES 20 MINUTES 58 SECONDS SOUTH LAT;119 DEGREES 04 MINUTES 16 SECONDS EAST LONG.
THENCE TO A POINT 335; 20 DEGREES 20 MINUTES 54 SECONDS SOUTH LAT;119 DEGREES 03 MINUTES 20 SECONDS EAST LONG.
THENCE TO A POINT 336; 20 DEGREES 21 MINUTES 27 SECONDS SOUTH LAT;119 DEGREES 16 MINUTES 43 SECONDS EAST LONG.
THENCE TO A POINT 337; 20 DEGREES 22 MINUTES 14 SECONDS SOUTH LAT;119 DEGREES 00 MINUTES 25 SECONDS EAST LONG.
THENCE TO A POINT 338; 20 DEGREES 22 MINUTES 25 SECONDS SOUTH LAT;119 DEGREES 00 MINUTES 06 SECONDS EAST LONG.
THENCE TO A POINT 339; 20 DEGREES 23 MINUTES 09 SECONDS SOUTH LAT;118 DEGREES 58 MINUTES 24 SECONDS EAST LONG.
THENCE TO A POINT 340; 20 DEGREES 23 MINUTES 21 SECONDS SOUTH LAT;118 DEGREES 58 MINUTES 19 SECONDS EAST LONG.
THENCE TO A POINT 341; 20 DEGREES 23 MINUTES 50 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 48 SECONDS EAST LONG.
THENCE TO A POINT 342; 20 DEGREES 23 MINUTES 46 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 28 SECONDS EAST LONG.
THENCE TO A POINT 343; 20 DEGREES 23 MINUTES 50 SECONDS SOUTH LAT;118 DEGREES 57 MINUTES 12 SECONDS EAST LONG.
THENCE TO A POINT 344; 20 DEGREES 24 MINUTES 17 SECONDS SOUTH LAT;118 DEGREES 55 MINUTES 27 SECONDS EAST LONG.
THENCE TO A POINT 345; 20 DEGREES 24 MINUTES 49 SECONDS SOUTH LAT;118 DEGREES 49 MINUTES 42 SECONDS EAST LONG.
THENCE TO A POINT 346; 20 DEGREES 25 MINUTES 39 SECONDS SOUTH LAT;118 DEGREES 44 MINUTES 17 SECONDS EAST LONG.
THENCE TO A POINT 347; 20 DEGREES 26 MINUTES 13 SECONDS SOUTH LAT;118 DEGREES 41 MINUTES 21 SECONDS EAST LONG.
THENCE TO A POINT 348; 20 DEGREES 26 MINUTES 40 SECONDS SOUTH LAT;118 DEGREES 37 MINUTES 28 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF ROAD 432, 349; 20 DEGREES 25 MINUTES 51 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 53 SECONDS EAST LONG.

THENCE ALONG BOUNDARY TO A POINT 350; 20 D17EGREES 25 MINUTES 49 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 43 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF LEASE G45/241 351; 20 DEGREES 26 MINUTES 04 SECONDS SOUTH LAT;118 DEGREES 32 MINUTES 44 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 352; 20 DEGREES 26 MINUTES 02 SECONDS SOUTH LAT;118 DEGREES 32 MINUTES 41 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF LR3104/330 353; 20 DEGREES 25 MINUTES 54 SECONDS SOUTH LAT;118 DEGREES 32 MINUTES 47 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 354; 20 DEGREES 25 MINUTES 57 SECONDS SOUTH LAT;118 DEGREES 32 MINUTES 52 SECONDS EAST LONG.
THENCE TO A POINT ON THE BOUNDARY OF ROAD 432, 355; 20 DEGREES 25 MINUTES 48 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 35 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 356; 20 DEGREES 25 MINUTES 45 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 14 SECONDS EAST LONG.
THENCE ALONG BOUNDARY TO A POINT 357; 20 DEGREES 25 MINUTES 41 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 06 SECONDS EAST LONG.
THENCE BACK TO DATUM 1 20 DEGREES 25 MINUTES 42 SECONDS SOUTH LAT;118 DEGREES 33 MINUTES 05 SECONDS EAST LONG.

Area :

Type	Dealing No	Start Date	Area
Vol. Part. Surrender	Partial Surrender - Voluntary 823H/045	05/05/2005	6,611.32040 HA
Granted		23/10/2003	6,745.00000 HA
Applied For		03/05/2002	6,745.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
EAST PILBARA SHIRE	3220	4,956.32040 HA
PORT HEDLAND TOWN	7280	1,655.00000 HA

CURRENT HOLDER DETAILS

Name and Address
NEWCREST MINING LIMITED
C/- AUSTRALIAN TENEMENT MANAGER, PO BOX 6213 ST KILDA ROAD CENTRAL, MELBOURNE, VIC, 8008

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date
280286	NATIONAL AUSTRALIA BANK LIMITED	$1,540,000.00	17/12/2007	Recorded	17/12/2007
PE8722	NATIONAL AUSTRALIA BANK LIMITED	$2,700,000.00	24/10/2003	Retired	25/01/2008

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**
Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	25/10/2011	101706	PE	$87,939.60
2011	02/11/2010	086210	PE	$90,524.28
2011	28/10/2010	86041	PE	$3,300.00
2010	07/10/2009	70718	PE	$91,642.32
2009	28/10/2008	57982	PE	$88,005.72
2008	24/10/2007	43940	PE	$85,096.44
2007	30/10/2006	30550	PE	$81,459.84
2006	24/10/2005	17081	PE	$78,550.56
2005	11/10/2004	3555	PE	$77,904.75
2004	23/09/2003	64576	PE	$6,475.20
2004	10/05/2002	3386	MB	$64,752.00

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

DISCLAIMER: This is not the official Register referred to in Reg. 84C of the Mining Regulations 1981.

L 1SA MISCELLANEOUS LICENSE S.A.

Status: Live

Tenement Summary

File Reference :
Mark Out : N/A
Received : 29/11/2006 15:30:00
Warden's Recommendation :
Purpose : Railway and Other Purposes

Death Reason :
Death Date :
Commence : 29/11/2006 **Expiry :** 28/11/2056

DESCRIPTION DETAILS

Locality : Port Hedland to Chichester Range

Datum : N/A

Boundary : The ground being applied for is identical to File Notation Area No 7330 as shown on the Department of Industry and Resources Public Plan. See Attachment 'A' showing details of co-ordinates

Area :

Type	Dealing No	Start Date	Area
Vol. Part. Surrender	Partial Surrender - Voluntary 357556	15/10/2010	7,326.92110 HA
Vol. Part. Surrender	Partial Surrender - Voluntary 322515	04/06/2009	25,314.71030 HA
Applied For		29/11/2006	20,541.60000 HA
Granted		29/11/2006	25,324.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
ASHBURTON SHIRE	250	480.00000 HA
EAST PILBARA SHIRE	3220	2,110.00000 HA
PORT HEDLAND TOWN	7280	4,736.92110 HA

CURRENT HOLDER DETAILS

Name and Address
THE PILBARA INFRASTRUCTURE PTY LTD
C/- TENEMENT ADMINISTRATION SERVICES PTY LTD, LEVEL 2 - 326 HAY STREET, EAST PERTH, WA, 6004

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012				
2011				
2010				
2009	10/12/2008	59404	PE	$264,375.54
2008	26/11/2007	45177	PE	$33,075.90
2007	29/11/2006	31768	PE	$31,662.40

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

L 45/199 MISCELLANEOUS LICENCE

Status: Live

Tenement Summary

File Reference :
Mark Out : 03/08/2008 11:15:11
Received : 08/08/2008 14:00:00
Warden's Recommendation :
Purpose : a conveyor system powerline pipeline

Death Reason :
Death Date :
Commence : 11/09/2009 **Expiry :** 10/09/2030

DESCRIPTION DETAILS

Locality : Port Hedland

Datum : Datum situated at GDA94 MGA Z50 663163.62 mE & 7747276.95 mN

Boundary :
Then to 663011.44 mE & 7746719.33 mN
Then to 662951.34 mE & 7746753.53 mN
Then to 663091.14 mE & 7747278.40 mN
Back to datum 663163.62 mE & 7747276.95 mN

Area :

Type	Dealing No	Start Date	Area
Granted		11/09/2009	4.00000 HA
Applied For		03/08/2008	4.00000 HA

SHIRE DETAILS

Shire	Shire No	Area
PORT HEDLAND TOWN	7280	4.00000 HA

CURRENT HOLDER DETAILS

Name and Address
THE PILBARA INFRASTRUCTURE PTY LTD
C/- TENEMENT ADMINISTRATION SERVICES PTY LTD, LEVEL 2 - 326 HAY STREET, EAST PERTH, WA, 6004

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**

Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012	13/09/2011	99991	PE	$53.20
2011	16/09/2010	84258	PE	$56.76
2010	07/08/2009	68135	PE	$4.84
2010	08/08/2008	4270	MB	$48.40

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Government of Western Australia
Department of Mines and Petroleum

eMiTS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

DISCLAIMER: This is not the official Register referred to in Reg. 84C of the Mining Regulations 1981.

L 4SA MISCELLANEOUS LICENSE S.A.

Status: Live

Tenement Summary

File Reference :

Mark Out : N/A

Received : 01/07/2011 08:00:00

Death Reason :

Death Date :

Commence : 05/07/2011 **Expiry :** 04/07/2041

Warden's Recommendation :

Purpose : Special Railway Licence for railway and other purposes. Pursuant to the Railway (Roy Hill Infrastructure Pty Ltd) Agreement Act 2010.

DESCRIPTION DETAILS

Locality : Port Hedland to Chichester Ranges

Datum : Datum is located at GDA 94 Zone 50 co-ordinates 656836.33 mE and 7742030.91 mN

Boundary : UTM Coordinates - GDA94 MGA Zone 50

No	metres E	metres N
1	656836.33	7742030.91
2	656837.97	7738304.87
3	656838.29	7737575.03
4	656837.85	7737537.71
5	656838.19	7737500.40
6	656839.33	7737463.11
7	656841.25	7737425.84
8	656843.97	7737388.63
9	656847.47	7737351.48
10	656851.76	7737314.41
11	656856.83	7737277.44
12	656862.69	7737240.59
13	656869.32	7737203.87
14	656876.74	7737167.30
15	656884.92	7737130.90
16	656893.88	7737094.68
17	656903.60	7737058.65
18	656914.08	7737022.84
19	656925.32	7736987.26
20	656937.32	7736951.92
21	656950.05	7736916.85
22	656963.53	7736882.06
23	656977.74	7736847.56
24	656992.69	7736813.36
25	657008.35	7736779.50
26	657024.72	7736745.97
27	657041.81	7736712.80
28	657059.59	7736679.99
29	657078.06	7736647.57
30	657097.22	7736615.55
31	657117.05	7736583.94
32	657137.55	7736552.76
33	657427.03	7736078.20

34 658523.15 7734403.58
35 658652.63 7734228.13
36 658801.00 7734068.32
37 659029.81 7733848.08
38 659147.80 7733732.73
39 659610.48 7734308.41
40 660602.59 7733424.53
41 660091.80 7732954.15
42 660391.71 7732648.86
43 660831.98 7732022.21
44 661019.19 7732138.62
45 661531.32 7731476.17
46 661287.75 7731324.07
47 662226.74 7729915.88
48 662494.66 7730012.97
49 662901.84 7729295.01
50 662644.76 7729234.20
51 662696.03 7729150.41
52 662698.26 7729146.66
53 662742.14 7729071.23
54 662742.57 7729070.50
55 662744.31 7729067.44
56 662786.87 7728991.26
57 662788.96 7728987.43
58 662830.19 7728910.52
59 662832.22 7728906.65
60 662872.10 7728829.03
61 662873.95 7728825.36
62 662874.06 7728825.14
63 662912.58 7728746.83
64 662914.47 7728742.90
65 662951.61 7728663.93
66 662953.44 7728659.97
67 662989.20 7728580.37
68 662990.95 7728576.37
69 663025.32 7728496.16
70 663026.49 7728493.38
71 663027.00 7728492.13
72 663059.96 7728411.33
73 663061.58 7728407.28
74 663093.12 7728325.92
75 663094.66 7728321.83
76 663124.79 7728239.93
77 663126.26 7728235.82
78 663154.94 7728153.41
79 663155.57 7728151.58
80 663156.34 7728149.28
81 663183.59 7728066.37
82 663184.91 7728062.22
83 663210.71 7727978.85
84 663211.96 7727974.67
85 663236.30 7727890.87
86 663237.48 7727886.67
87 663260.35 7727802.45
88 663260.57 7727801.64
89 663261.45 7727798.23
90 663282.85 7727713.63
91 663283.88 7727709.39
92 663303.80 7727624.43
93 663304.76 7727620.17
94 663323.19 7727534.87
95 663324.02 7727530.85
96 663324.07 7727530.60
97 663341.01 7727445.00
98 663341.82 7727440.71
99 663357.26 7727354.82

100 663357.96 7727350.74
101 663370.53 7727273.48
102 663370.87 7727271.38
103 663372.01 7727263.96
104 663372.06 7727263.64
105 663373.19 7727256.22
106 663373.23 7727255.95
107 663374.36 7727248.53
108 663374.39 7727248.30
109 663375.51 7727240.88
110 663375.54 7727240.70
111 663376.65 7727233.28
112 663376.68 7727233.10
113 663378.89 7727218.26
114 663378.90 7727218.16
115 663424.02 7726916.12
116 663868.26 7727076.74
117 664138.45 7727176.69
118 664212.05 7726623.28
119 664267.07 7726209.57
120 663892.01 7726092.67
121 663559.75 7725977.31
122 663711.98 7724992.62
123 664054.66 7725010.59
124 664075.79 7724714.03
125 664100.83 7724362.74
126 664121.28 7724075.68
127 664139.46 7723890.47
128 664139.70 7723878.17
129 664134.31 7723757.69
130 663898.83 7723772.46
131 663949.90 7723411.76
132 663959.82 7723341.47
133 664714.64 7723285.58
134 664738.76 7723125.70
135 664763.62 7722960.87
136 664736.51 7722318.17
137 664099.01 7722280.64
138 664106.31 7722168.68
139 664305.80 7721078.06
140 664393.54 7720623.70
141 664464.69 7720625.84
142 664491.99 7720138.32
143 664610.16 7719528.79
144 664829.09 7718399.54
145 665013.44 7717448.60
146 665019.99 7717352.69
147 665029.19 7717243.69
148 665057.62 7716975.59
149 665104.65 7716538.36
150 665111.40 7716478.85
151 665119.58 7716400.73
152 665161.50 7716013.19
153 665183.18 7715813.39
154 665192.59 7715724.43
155 665202.41 7715634.04
156 665223.47 7715438.54
157 665237.99 7715301.52
158 665259.46 7715103.97
159 665282.49 7714914.73
160 665346.97 7714526.72
161 665377.00 7714342.14
162 665400.82 7714181.77
163 665438.53 7713948.61
164 665479.62 7713718.87
165 665556.03 7713203.71

166 665716.55 7712290.87
167 665828.96 7711669.03
168 665940.97 7711080.78
169 665973.65 7710907.88
170 666022.33 7710916.47
171 666082.57 7710584.49
172 666218.83 7709846.64
173 666315.07 7709325.74
174 666438.88 7708657.30
175 666315.74 7708635.57
176 666198.06 7708372.00
177 666198.72 7708229.39
178 666246.33 7708196.94
179 666491.82 7708127.83
180 666600.67 7707744.25
181 666638.45 7707617.78
182 666668.78 7707514.04
183 666378.54 7707525.04
184 666414.61 7707332.50
185 666438.69 7707208.41
186 666540.03 7707059.40
187 666901.21 7706875.56
188 667031.11 7706439.34
189 667201.36 7705901.19
190 667419.39 7705217.45
191 667501.63 7704954.33
192 667579.19 7704706.20
193 667655.39 7704477.20
194 667743.50 7704238.28
195 667764.93 7704185.50
196 667675.23 7704144.62
197 667822.87 7703819.98
198 667911.77 7703860.06
199 668254.27 7703147.27
200 668351.91 7702947.25
201 668403.10 7702853.58
202 668455.49 7702761.91
203 668524.15 7702653.96
204 668607.10 7702536.48
205 668670.99 7702453.53
206 668758.31 7702347.17
207 668821.01 7702278.11
208 668864.67 7702231.68
209 668943.65 7702152.30
210 669038.90 7702063.40
211 669206.78 7701924.89
212 669458.00 7701750.27
213 670472.02 7701130.35
214 671498.53 7700504.60
215 671701.92 7700380.23
216 672382.80 7699960.15
217 672928.63 7699625.19
218 673147.18 7699488.66
219 673294.29 7699377.53
220 673409.65 7699273.02
221 673525.27 7699148.67
222 673664.02 7698968.18
223 673730.89 7698859.91
224 673803.71 7698721.69
225 673872.08 7698560.82
226 673925.63 7698394.03
227 673970.50 7698184.48
228 673992.30 7697961.59
229 673992.51 7697814.91
230 673976.00 7697621.65
231 673942.98 7697439.83

232 673765.25 7696683.28
233 673490.23 7695460.74
234 673337.62 7694793.99
235 673307.35 7694660.43
236 673249.56 7694407.70
237 673189.45 7694145.45
238 673123.53 7693851.04
239 673098.19 7693693.99
240 673077.61 7693607.51
241 673057.58 7693486.97
242 673050.07 7693432.89
243 673040.86 7693360.93
244 673024.71 7693202.45
245 673009.89 7692956.13
246 673006.98 7692691.54
247 673013.33 7692525.91
248 673021.01 7692404.20
249 673035.03 7692243.60
250 673049.58 7692123.22
251 673069.16 7691989.07
252 673106.99 7691778.99
253 673171.82 7691465.73
254 673257.28 7691056.15
255 673328.98 7690706.90
256 673366.29 7690525.92
257 673408.36 7690276.95
258 673475.82 7689879.02
259 673505.46 7689708.36
260 673532.98 7689543.52
261 673558.64 7689388.74
262 673614.73 7689053.78
263 673675.85 7688692.36
264 673720.56 7688422.75
265 673817.40 7687850.98
266 673988.32 7686833.13
267 674027.75 7686597.91
268 674121.94 7686037.52
269 674171.95 7685744.10
270 674186.76 7685658.90
271 674219.57 7685493.54
272 674239.41 7685404.37
273 674284.13 7685226.84
274 674387.58 7684881.56
275 674811.47 7683508.93
276 674855.45 7683367.32
277 674579.70 7683277.47
278 674807.98 7682651.68
279 674850.53 7682535.95
280 675082.55 7682629.70
281 675294.70 7681935.49
282 675346.21 7681774.89
283 675375.48 7681678.49
284 675514.59 7681227.42
285 675832.24 7680191.48
286 675992.34 7679677.32
287 675800.82 7679618.50
288 675845.81 7679473.01
289 675814.50 7679463.55
290 675869.86 7679285.18
291 675936.12 7679071.48
292 676157.32 7679138.31
293 676313.15 7678630.52
294 676357.82 7678487.05
295 676375.44 7678429.12
296 676569.95 7677797.10
297 676607.54 7677675.42

298 676792.78 7677072.83
299 676846.36 7676882.50
300 676860.67 7676828.25
301 676901.53 7676622.78
302 676927.32 7676460.72
303 676946.51 7676299.65
304 676956.16 7676188.21
305 676959.42 7676087.04
306 676965.95 7675976.08
307 676969.21 7675845.53
308 676987.66 7675623.02
309 676979.57 7675316.73
310 676980.53 7675302.43
311 676992.92 7675141.13
312 677027.63 7674727.53
313 677077.83 7674732.99
314 677081.52 7674689.22
315 677085.44 7674645.22
316 677091.72 7674587.40
317 677041.82 7674573.12
318 677120.97 7673966.57
319 677160.53 7673676.90
320 677171.04 7673596.51
321 677220.89 7673602.96
322 677225.01 7673569.94
323 677248.55 7673400.78
324 677273.66 7673218.93
325 677288.41 7673113.48
326 677295.82 7673060.04
327 677301.64 7673015.59
328 677334.23 7672780.00
329 677352.33 7672649.62
330 677364.50 7672561.88
331 677407.10 7672255.81
332 677429.38 7672094.36
333 677438.07 7672031.90
334 677443.58 7671992.64
335 677456.97 7671898.40
336 677464.17 7671839.76
337 677471.67 7671778.42
338 677478.72 7671702.15
339 677488.17 7671573.96
340 677492.37 7671465.85
341 677493.48 7671347.47
342 677490.14 7671189.68
343 677471.67 7670945.17
344 677428.09 7670961.21
345 677388.06 7670630.27
346 677337.54 7670187.87
347 677290.46 7669721.70
348 677340.14 7669716.28
349 677332.17 7669650.57
350 677315.12 7669491.28
351 677298.99 7669342.91
352 677285.81 7669190.99
353 677281.05 7669047.79
354 677283.43 7668946.51
355 677286.61 7668884.76
356 677295.81 7668772.68
357 677313.52 7668578.63
358 677333.94 7668480.84
359 677360.29 7668374.16
360 677391.62 7668269.49
361 677422.42 7668179.00
362 677463.80 7668071.48
363 677542.80 7667898.86

364 677636.96 7667734.19
365 677732.85 7667585.94
366 677806.66 7667485.00
367 678140.49 7667054.72
368 678197.12 7666981.70
369 678296.60 7666851.52
370 678459.85 7666638.27
371 678678.39 7666347.22
372 678850.25 7666067.37
373 679162.28 7665533.59
374 679658.94 7664680.08
375 679874.84 7664308.60
376 680685.79 7662914.78
377 680916.51 7662518.96
378 681378.47 7661723.89
379 681543.58 7661436.51
380 681687.77 7661145.77
381 681837.52 7660779.59
382 682088.61 7659960.96
383 682514.07 7658517.39
384 682575.71 7658310.49
385 682623.60 7658147.50
386 682663.03 7658013.63
387 682861.24 7657244.35
388 682952.52 7656739.66
389 683178.02 7655885.98
390 683746.74 7654819.28
391 683472.10 7654811.93
392 684135.82 7653184.89
393 684139.57 7653174.58
394 684218.60 7652911.79
395 684498.87 7651856.41
396 684606.10 7651547.02
397 684766.36 7651198.09
398 685245.84 7650334.71
399 686325.92 7647958.75
400 686331.63 7647945.97
401 686337.40 7647930.66
402 686337.50 7647930.35
403 686502.99 7647440.73
404 686507.64 7647425.39
405 686507.75 7647424.96
406 687212.67 7644775.35
407 687216.27 7644759.85
408 687218.94 7644743.71
409 687220.54 7644727.43
410 687220.99 7644717.62
411 687237.31 7644094.71
412 687245.61 7643915.50
413 687306.32 7643812.30
414 687385.58 7643665.34
415 687256.77 7643639.09
416 687333.80 7641568.50
417 687412.69 7641157.08
418 687413.15 7641154.64
419 688389.07 7635777.58
420 688445.49 7635442.20
421 688458.30 7635355.88
422 688458.87 7635351.80
423 688458.90 7635351.56
424 688470.21 7635265.03
425 688470.73 7635260.70
426 688480.53 7635173.98
427 688480.98 7635169.64
428 688489.26 7635082.77
429 688489.63 7635078.42

430 688496.39 7634991.42
431 688496.61 7634988.40
432 688496.69 7634987.07
433 688501.94 7634899.96
434 688502.16 7634895.60
435 688505.88 7634808.42
436 688506.03 7634804.05
437 688508.23 7634716.82
438 688508.30 7634712.45
439 688508.97 7634625.19
440 688508.98 7634623.26
441 688508.97 7634621.76
442 688508.68 7634571.80
443 688508.67 7634571.66
444 688508.66 7634570.37
445 688508.58 7634562.87
446 688508.57 7634562.54
447 688508.47 7634555.04
448 688508.47 7634554.76
449 688508.36 7634547.26
450 688508.36 7634547.03
451 688508.25 7634539.53
452 688508.24 7634539.34
453 688508.13 7634531.84
454 688508.12 7634531.63
455 688507.75 7634509.13
456 688507.75 7634509.06
457 688281.68 7621199.24
458 688277.37 7620945.26
459 688191.38 7615882.69
460 688191.14 7615867.87
461 688191.03 7615860.70
462 688190.93 7615853.61
463 688190.84 7615846.64
464 688190.77 7615839.78
465 688190.73 7615833.04
466 688190.70 7615827.40
467 688190.98 7615792.17
468 688191.92 7615757.94
469 688193.52 7615723.74
470 688195.80 7615689.58
471 688198.74 7615655.46
472 688202.35 7615621.42
473 688206.62 7615587.45
474 688211.56 7615553.56
475 688217.33 7615518.80
476 688218.32 7615513.25
477 688219.52 7615506.62
478 688220.76 7615499.87
479 688222.04 7615493.02
480 688223.35 7615486.05
481 688224.69 7615478.97
482 688226.06 7615471.79
483 689081.12 7611004.23
484 689081.13 7611004.15
485 689083.95 7610989.42
486 689084.00 7610989.13
487 689085.40 7610981.76
488 689085.47 7610981.42
489 689086.85 7610974.05
490 689086.94 7610973.59
491 689088.32 7610966.22
492 689088.42 7610965.64
493 689089.78 7610958.26
494 689089.91 7610957.57
495 689091.24 7610950.19

496 689091.39 7610949.38
497 689092.70 7610942.00
498 689092.85 7610941.03
499 689093.15 7610939.41
500 689098.89 7610904.98
501 689099.57 7610900.67
502 689104.72 7610866.14
503 689105.31 7610861.93
504 689105.32 7610861.82
505 689109.87 7610827.21
506 689110.40 7610822.88
507 689114.33 7610788.20
508 689114.79 7610783.86
509 689118.12 7610749.11
510 689118.50 7610744.76
511 689121.22 7610709.96
512 689121.45 7610706.81
513 689121.52 7610705.61
514 689123.64 7610670.77
515 689123.86 7610666.41
516 689125.37 7610631.54
517 689125.52 7610627.18
518 689126.42 7610592.28
519 689126.49 7610588.30
520 689126.78 7610559.40
521 689126.79 7610557.18
522 689126.79 7610557.15
523 689126.79 7610549.65
524 689126.79 7610549.45
525 689126.79 7610548.83
526 689126.77 7610541.33
527 689126.77 7610540.63
528 689126.73 7610533.13
529 689126.73 7610532.54
530 689126.67 7610525.04
531 689126.67 7610524.57
532 689126.59 7610517.07
533 689126.59 7610516.72
534 689126.51 7610509.22
535 689126.51 7610508.99
536 689126.42 7610501.49
537 689126.42 7610501.35
538 689103.50 7608656.64
539 689103.42 7608649.32
540 689103.34 7608642.12
541 689103.27 7608635.03
542 689103.22 7608628.06
543 689103.18 7608621.20
544 689103.16 7608614.46
545 689103.17 7608608.74
546 689103.55 7608575.77
547 689104.52 7608543.73
548 689106.07 7608511.71
549 689108.20 7608479.73
550 689110.92 7608447.79
551 689114.23 7608415.91
552 689118.12 7608384.09
553 689122.59 7608352.35
554 689127.64 7608320.70
555 689133.27 7608289.14
556 689139.34 7608258.39
557 689347.24 7607319.56
558 689127.33 7607274.98
559 689134.76 7607218.52
560 689363.58 7607254.18
561 689665.07 7605895.14

562 689666.36 7605889.86
563 689880.05 7604930.05
564 689880.06 7604930.00
565 689883.32 7604915.35
566 689883.35 7604915.22
567 689886.60 7604900.57
568 689886.65 7604900.34
569 689889.89 7604885.70
570 689889.94 7604885.47
571 689891.55 7604878.14
572 689892.02 7604875.92
573 689927.95 7604705.13
574 689928.50 7604702.44
575 689928.81 7604700.85
576 689961.76 7604529.46
577 689962.54 7604525.17
578 689992.49 7604353.22
579 689993.20 7604348.92
580 690020.14 7604176.48
581 690020.49 7604174.18
582 690022.22 7604162.34
583 690022.26 7604162.12
584 690023.34 7604154.70
585 690023.37 7604154.51
586 690025.52 7604139.66
587 690025.55 7604139.48
588 690027.69 7604124.63
589 690027.70 7604124.54
590 690029.84 7604109.69
591 690029.84 7604109.67
592 690701.26 7599440.01
593 690702.31 7599432.77
594 690703.34 7599425.64
595 690704.37 7599418.62
596 690705.40 7599411.72
597 690706.42 7599404.95
598 690707.45 7599398.29
599 690708.32 7599392.71
600 690714.17 7599358.11
601 690720.51 7599324.61
602 690727.50 7599291.25
603 690735.14 7599258.02
604 690743.43 7599224.95
605 690752.36 7599192.05
606 690761.92 7599159.32
607 690772.13 7599126.79
608 690782.96 7599094.47
609 690794.42 7599062.36
610 690806.51 7599030.48
611 690819.21 7598998.84
612 690832.53 7598967.46
613 690846.46 7598936.34
614 690860.99 7598905.50
615 690876.12 7598874.95
616 690891.84 7598844.70
617 690908.14 7598814.76
618 690925.03 7598785.14
619 690942.49 7598755.86
620 690960.52 7598726.92
621 690979.11 7598698.34
622 690998.25 7598670.13
623 691017.94 7598642.30
624 691038.16 7598614.85
625 691058.92 7598587.81
626 691080.20 7598561.17
627 691102.00 7598534.96

628 691124.30 7598509.17
629 691147.10 7598483.82
630 691170.38 7598458.92
631 691194.15 7598434.48
632 691218.40 7598410.51
633 691243.82 7598386.33
634 691247.95 7598382.49
635 691252.91 7598377.92
636 691257.96 7598373.28
637 691263.10 7598368.58
638 691268.35 7598363.80
639 691273.66 7598358.98
640 691284.64 7598349.03
641 691717.35 7597957.41
642 691728.34 7597947.47
643 691733.66 7597942.66
644 691738.93 7597937.92
645 691744.13 7597933.26
646 691749.24 7597928.70
647 691754.28 7597924.23
648 691758.50 7597920.51
649 691785.53 7597897.24
650 691812.23 7597875.17
651 691839.36 7597853.62
652 691866.91 7597832.62
653 691894.87 7597812.17
654 691923.24 7597792.27
655 691951.99 7597772.94
656 691981.11 7597754.19
657 692010.61 7597736.01
658 692040.45 7597718.42
659 692070.64 7597701.43
660 692101.16 7597685.03
661 692132.00 7597669.24
662 692163.14 7597654.07
663 692082.66 7597489.25
664 692159.88 7597460.99
665 692237.19 7597622.98
666 692290.54 7597599.63
667 692323.03 7597587.61
668 692356.71 7597575.90
669 692362.05 7597574.11
670 692362.00 7597574.01
671 692368.45 7597571.88
672 692374.96 7597569.75
673 692381.59 7597567.59
674 692388.34 7597565.41
675 692395.20 7597563.20
676 692402.17 7597560.97
677 692445.76 7597546.66
678 692446.00 7597546.83
679 693980.75 7597057.11
680 693987.71 7597054.88
681 693994.58 7597052.70
682 694001.34 7597050.56
683 694007.99 7597048.46
684 694014.54 7597046.42
685 694020.97 7597044.43
686 694026.43 7597042.76
687 694058.45 7597033.37
688 694089.74 7597024.81
689 694121.18 7597016.84
690 694152.76 7597009.45
691 694184.48 7597002.65
692 694216.31 7596996.44
693 694248.26 7596990.82

694 694281.22 7596985.65
695 694286.87 7596984.82
696 694293.54 7596983.88
697 694300.33 7596982.93
698 694307.24 7596981.98
699 694314.26 7596981.03
700 694321.41 7596980.08
701 694328.66 7596979.12
702 694649.85 7596936.67
703 694649.92 7596936.66
704 694664.79 7596934.69
705 694665.08 7596934.65
706 694672.52 7596933.66
707 694672.87 7596933.61
708 694680.30 7596932.61
709 694680.76 7596932.55
710 694688.19 7596931.53
711 694688.77 7596931.45
712 694696.20 7596930.41
713 694696.90 7596930.32
714 694704.32 7596929.26
715 694705.14 7596929.14
716 694712.56 7596928.06
717 694715.16 7596927.67
718 694749.65 7596922.28
719 694753.95 7596921.56
720 694788.34 7596915.57
721 694792.63 7596914.78
722 694826.91 7596908.19
723 694828.46 7596907.89
724 694831.19 7596907.33
725 694865.34 7596900.14
726 694869.60 7596899.20
727 694903.63 7596891.42
728 694907.88 7596890.41
729 694941.76 7596882.03
730 694945.99 7596880.95
731 694979.72 7596871.98
732 694980.20 7596871.85
733 694983.93 7596870.82
734 695017.50 7596861.27
735 695021.69 7596860.03
736 695055.09 7596849.89
737 695059.25 7596848.59
738 695092.47 7596837.87
739 695096.05 7596836.69
740 695096.61 7596836.49
741 695129.64 7596825.19
742 695133.76 7596823.75
743 695166.58 7596811.87
744 695170.67 7596810.35
745 695203.28 7596797.91
746 695207.34 7596796.32
747 695239.73 7596783.30
748 695242.21 7596782.29
749 695243.77 7596781.64
750 695275.93 7596768.07
751 695279.93 7596766.33
752 695311.85 7596752.20
753 695315.82 7596750.40
754 695347.49 7596735.71
755 695351.43 7596733.84
756 695382.83 7596718.60
757 695384.25 7596717.90
758 695386.74 7596716.66
759 695417.87 7596700.87

760 695421.75 7596698.86
761 695452.60 7596682.54
762 695456.44 7596680.46
763 695487.00 7596663.60
764 695490.80 7596661.46
765 695521.07 7596644.07
766 695521.49 7596643.82
767 695524.83 7596641.86
768 695554.79 7596623.94
769 695558.51 7596621.67
770 695588.15 7596603.23
771 695591.84 7596600.89
772 695621.15 7596581.94
773 695624.29 7596579.87
774 695624.79 7596579.54
775 695653.77 7596560.07
776 695657.37 7596557.61
777 695686.00 7596537.65
778 695689.56 7596535.12
779 695717.84 7596514.66
780 695721.35 7596512.07
781 695749.27 7596491.12
782 695751.40 7596489.50
783 695752.74 7596488.47
784 695780.28 7596467.03
785 695783.71 7596464.32
786 695810.88 7596442.41
787 695814.25 7596439.64
788 695841.03 7596417.25
789 695844.35 7596414.43
790 695870.74 7596391.58
791 695871.94 7596390.54
792 695874.02 7596388.69
793 695900.00 7596365.39
794 695903.23 7596362.45
795 695928.80 7596338.69
796 695931.97 7596335.69
797 695957.13 7596311.50
798 695960.25 7596308.44
799 695984.98 7596283.81
800 695985.33 7596283.46
801 695988.04 7596280.70
802 696012.34 7596255.64
803 696015.35 7596252.48
804 696039.21 7596227.00
805 696042.16 7596223.79
806 696065.57 7596197.90
807 696068.07 7596195.08
808 696068.47 7596194.63
809 696091.42 7596168.33
810 696094.26 7596165.02
811 696116.75 7596138.33
812 696119.53 7596134.97
813 696141.55 7596107.88
814 696144.27 7596104.47
815 696165.82 7596077.01
816 696167.46 7596074.90
817 696168.48 7596073.55
818 696189.54 7596045.72
819 696192.15 7596042.21
820 696212.72 7596014.01
821 696215.26 7596010.47
822 696235.34 7595981.91
823 696237.82 7595978.32
824 696257.39 7595949.42
825 696258.28 7595948.11

826 696259.81 7595945.79
827 696278.88 7595916.55
828 696281.23 7595912.88
829 696299.78 7595883.31
830 696302.07 7595879.59
831 696320.11 7595849.71
832 696322.33 7595845.95
833 696339.84 7595815.76
834 696340.09 7595815.33
835 696342.00 7595811.97
836 696358.98 7595781.47
837 696361.07 7595777.64
838 696377.52 7595746.85
839 696379.54 7595742.99
840 696395.45 7595711.91
841 696397.14 7595708.55
842 696397.40 7595708.01
843 696412.77 7595676.67
844 696414.65 7595672.74
845 696429.47 7595641.13
846 696431.28 7595637.16
847 696445.55 7595605.30
848 696447.29 7595601.30
849 696461.00 7595569.20
850 696462.03 7595566.74
851 696462.67 7595565.17
852 696475.81 7595532.83
853 696477.42 7595528.78
854 696489.99 7595496.21
855 696491.53 7595492.13
856 696503.53 7595459.35
857 696505.00 7595455.24
858 696516.43 7595422.26
859 696516.94 7595420.76
860 696517.82 7595418.13
861 696528.67 7595384.95
862 696529.99 7595380.79
863 696540.26 7595347.43
864 696541.51 7595343.25
865 696551.20 7595309.71
866 696552.37 7595305.51
867 696561.47 7595271.81
868 696561.60 7595271.34
869 696562.57 7595267.59
870 696571.08 7595233.74
871 696572.11 7595229.50
872 696580.03 7595195.50
873 696580.98 7595191.24
874 696588.31 7595157.11
875 696589.07 7595153.43
876 696589.19 7595152.84
877 696595.91 7595118.59
878 696596.72 7595114.30
879 696602.85 7595079.94
880 696603.58 7595075.63
881 696609.10 7595041.17
882 696609.76 7595036.85
883 696614.68 7595002.30
884 696615.05 7594999.65
885 696615.26 7594997.97
886 696619.58 7594963.34
887 696620.09 7594959.00
888 696623.80 7594924.29
889 696624.23 7594919.95
890 696627.34 7594885.18
891 696627.69 7594880.83

892 696630.20 7594846.02
893 696630.30 7594844.44
894 696630.47 7594841.66
895 696632.37 7594806.81
896 696632.56 7594802.45
897 696633.85 7594767.57
898 696633.97 7594763.21
899 696634.65 7594728.31
900 696634.70 7594723.94
901 696634.77 7594689.04
902 696634.77 7594688.55
903 696634.74 7594684.67
904 696634.20 7594649.77
905 696634.09 7594645.41
906 696632.94 7594610.52
907 696632.76 7594606.16
908 696631.00 7594571.30
909 696630.78 7594567.54
910 696630.74 7594566.95
911 696628.38 7594532.12
912 696628.04 7594527.77
913 696625.07 7594492.99
914 696624.66 7594488.65
915 696621.08 7594453.93
916 696620.60 7594449.59
917 696616.41 7594414.93
918 696616.07 7594412.28
919 696615.85 7594410.61
920 696611.06 7594376.03
921 696610.42 7594371.71
922 696605.03 7594337.23
923 696604.59 7594334.51
924 696603.08 7594325.53
925 696602.91 7594324.52
926 696601.64 7594317.13
927 696601.50 7594316.32
928 696600.21 7594308.94
929 696600.09 7594308.24
930 696598.77 7594300.86
931 696598.67 7594300.28
932 696597.33 7594292.90
933 696597.25 7594292.44
934 696595.90 7594285.06
935 696595.84 7594284.72
936 696594.48 7594277.34
937 696594.44 7594277.11
938 696593.08 7594269.74
939 696593.05 7594269.60
940 696338.12 7592895.13
941 696336.73 7592887.62
942 696335.38 7592880.33
943 696334.08 7592873.25
944 696332.81 7592866.31
945 696331.57 7592859.44
946 696330.37 7592852.71
947 696329.20 7592846.03
948 696328.26 7592840.51
949 696322.62 7592805.22
950 696317.82 7592770.83
951 696313.70 7592736.35
952 696310.27 7592701.81
953 696307.53 7592667.19
954 696305.47 7592632.53
955 696304.10 7592597.84
956 696303.42 7592563.12
957 696303.43 7592528.40

958 696304.13 7592493.69
959 696305.52 7592459.00
960 696307.59 7592424.34
961 696310.35 7592389.73
962 696313.80 7592355.18
963 696317.93 7592320.70
964 696322.75 7592286.32
965 696328.25 7592252.04
966 696333.93 7592220.61
967 696259.98 7592134.15
968 696359.91 7591985.56
969 696397.79 7591979.17
970 696407.93 7591950.30
971 696420.07 7591917.77
972 696432.86 7591885.49
973 696446.29 7591853.47
974 696460.35 7591821.73
975 696475.04 7591790.27
976 696490.35 7591759.10
977 696506.27 7591728.25
978 696522.80 7591697.72
979 696539.94 7591667.51
980 696554.07 7591643.72
981 696382.27 7591516.13
982 696463.79 7591409.63
983 696624.29 7591536.27
984 696634.41 7591521.95
985 696656.48 7591492.00
986 696663.10 7591482.57
987 696670.25 7591471.07
988 696679.75 7591460.93
989 696689.27 7591449.39
990 696718.98 7591411.13
991 696849.94 7591242.41
992 697046.72 7590988.92
993 697019.40 7590959.03
994 697043.38 7590922.46
995 697083.39 7590941.67
996 697890.04 7589902.50
997 697710.89 7589798.46
998 697935.69 7589509.43
999 698108.36 7589621.25
1000 697237.07 7590455.37
1001 698412.73 7589229.14
1002 698421.92 7589217.28
1003 698422.08 7589217.08
1004 698426.66 7589211.15
1005 698426.81 7589210.96
1006 698431.39 7589205.02
1007 698431.56 7589204.80
1008 698436.14 7589198.86
1009 698436.34 7589198.60
1010 698440.90 7589192.65
1011 698440.95 7589192.59
1012 698442.33 7589190.77
1013 698494.82 7589121.05
1014 698497.42 7589117.54
1015 698548.68 7589046.92
1016 698551.21 7589043.37
1017 698601.24 7588971.87
1018 698603.71 7588968.27
1019 698652.47 7588895.90
1020 698653.03 7588895.08
1021 698654.88 7588892.26
1022 698702.38 7588819.06
1023 698704.72 7588815.38

1024 698750.94 7588741.35
1025 698752.58 7588738.69
1026 698772.27 7588706.25
1027 698772.85 7588705.28
1028 698776.71 7588698.86
1029 698776.88 7588698.57
1030 698780.74 7588692.14
1031 698780.88 7588691.90
1032 698784.73 7588685.46
1033 698784.85 7588685.26
1034 698788.69 7588678.82
1035 698788.82 7588678.60
1036 698796.49 7588665.70
1037 698796.60 7588665.52
1038 698938.14 7588427.12
1039 698945.69 7588414.44
1040 698949.40 7588408.21
1041 698953.12 7588401.99
1042 698955.43 7588398.14
1043 698929.44 7588081.13
1044 699044.46 7587932.44
1045 699206.65 7588020.85
1046 699239.80 7587976.41
1047 699273.48 7587932.36
1048 699307.66 7587888.70
1049 699342.76 7587844.95
1050 699346.87 7587839.89
1051 699351.41 7587834.32
1052 699356.00 7587828.71
1053 699360.61 7587823.07
1054 699365.25 7587817.41
1055 699374.68 7587805.93
1056 700156.15 7586854.93
1057 700156.21 7586854.85
1058 700165.73 7586843.26
1059 700165.85 7586843.12
1060 700170.61 7586837.32
1061 700170.73 7586837.17
1062 700175.48 7586831.37
1063 700175.62 7586831.19
1064 700180.37 7586825.38
1065 700180.55 7586825.16
1066 700185.29 7586819.35
1067 700185.49 7586819.09
1068 700190.22 7586813.27
1069 700191.71 7586811.43
1070 700246.11 7586743.20
1071 700248.80 7586739.77
1072 700302.01 7586670.60
1073 700302.18 7586670.36
1074 700304.64 7586667.12
1075 700356.63 7586597.03
1076 700359.19 7586593.50
1077 700409.95 7586522.52
1078 700412.46 7586518.95
1079 700461.97 7586447.09
1080 700463.98 7586444.14
1081 700464.42 7586443.47
1082 700512.67 7586370.76
1083 700514.76 7586367.55
1084 700550.37 7586312.07
1085 700551.35 7586310.53
1086 700555.35 7586304.19
1087 700555.53 7586303.91
1088 700559.52 7586297.56
1089 700559.67 7586297.32

1090 700563.66 7586290.97
1091 700563.79 7586290.77
1092 700567.77 7586284.42
1093 700567.87 7586284.26
1094 700571.85 7586277.90
1095 700571.95 7586277.74
1096 700579.89 7586265.02
1097 700579.95 7586264.94
1098 701106.18 7585421.76
1099 701106.22 7585421.69
1100 701114.15 7585408.97
1101 701114.31 7585408.72
1102 701118.27 7585402.35
1103 701118.46 7585402.05
1104 701122.41 7585395.68
1105 701122.66 7585395.28
1106 701126.60 7585388.90
1107 701126.90 7585388.40
1108 701131.77 7585376.80
1109 701133.25 7585374.38
1110 701133.67 7585373.69
1111 701137.56 7585367.27
1112 701138.64 7585365.44
1113 701138.91 7585365.01
1114 701156.68 7585334.97
1115 701158.02 7585332.68
1116 701158.87 7585331.20
1117 701176.12 7585300.85
1118 701178.24 7585297.04
1119 701194.95 7585266.39
1120 701197.01 7585262.54
1121 701213.19 7585231.61
1122 701215.17 7585227.73
1123 701230.81 7585196.52
1124 701231.51 7585195.12
1125 701232.73 7585192.60
1126 701247.82 7585161.12
1127 701249.67 7585157.17
1128 701264.20 7585125.44
1129 701265.98 7585121.46
1130 701279.96 7585089.47
1131 701281.68 7585085.46
1132 701295.10 7585053.23
1133 701295.28 7585052.79
1134 701296.74 7585049.19
1135 701309.59 7585016.74
1136 701311.17 7585012.67
1137 701323.45 7584979.99
1138 701324.95 7584975.90
1139 701336.67 7584943.01
1140 701337.90 7584939.48
1141 701338.09 7584938.89
1142 701349.23 7584905.81
1143 701350.59 7584901.66
1144 701361.15 7584868.39
1145 701362.43 7584864.22
1146 701372.41 7584830.77
1147 701373.62 7584826.58
1148 701383.01 7584792.96
1149 701383.71 7584790.40
1150 701384.15 7584788.75
1151 701387.65 7584775.32
1152 701849.37 7585144.04
1153 701994.48 7584193.09
1154 701520.40 7583547.14
1155 701865.82 7582568.14

1156 702040.92 7582638.70
1157 702118.67 7582242.30
1158 702216.66 7581742.72
1159 702169.91 7581585.90
1160 702686.08 7579987.16
1161 702927.31 7579186.93
1162 702934.17 7579173.18
1163 703784.84 7578586.25
1164 703569.91 7578188.67
1165 703952.47 7577623.22
1166 704131.86 7577358.07
1167 704140.16 7577345.80
1168 704144.19 7577339.86
1169 704148.18 7577334.00
1170 704152.12 7577328.24
1171 704156.00 7577322.59
1172 704159.83 7577317.05
1173 704163.05 7577312.43
1174 704183.69 7577283.49
1175 704204.30 7577255.78
1176 704225.45 7577228.48
1177 704247.14 7577201.60
1178 704269.35 7577175.15
1179 704292.08 7577149.15
1180 704315.32 7577123.60
1181 704339.06 7577098.52
1182 704363.29 7577073.90
1183 704388.00 7577049.78
1184 704413.18 7577026.14
1185 704438.82 7577003.00
1186 704464.92 7576980.38
1187 704491.45 7576958.28
1188 704518.42 7576936.70
1189 704545.81 7576915.66
1190 704573.61 7576895.16
1191 704601.80 7576875.22
1192 704630.39 7576855.84
1193 704659.35 7576837.02
1194 704688.67 7576818.78
1195 704718.36 7576801.12
1196 704748.38 7576784.06
1197 704778.73 7576767.58
1198 704809.41 7576751.71
1199 704840.39 7576736.45
1200 704871.67 7576721.80
1201 704903.23 7576707.78
1202 704935.06 7576694.37
1203 704967.14 7576681.60
1204 704999.48 7576669.47
1205 705032.05 7576657.97
1206 705064.83 7576647.12
1207 705097.83 7576636.92
1208 705131.02 7576627.37
1209 705164.39 7576618.48
1210 705198.92 7576610.01
1211 705204.40 7576608.73
1212 705210.97 7576607.22
1213 705217.65 7576605.71
1214 705224.46 7576604.18
1215 705231.38 7576602.65
1216 705238.39 7576601.10
1217 705252.86 7576597.92
1218 707922.08 7576012.90
1219 708331.29 7576690.57
1220 708634.57 7576624.06
1221 709183.41 7576089.06

1222 709077.89 7575759.57
1223 709648.14 7575634.59
1224 709662.83 7575631.36
1225 709663.12 7575631.30
1226 709670.44 7575629.68
1227 709670.78 7575629.61
1228 709678.10 7575627.98
1229 709678.56 7575627.88
1230 709685.88 7575626.24
1231 709686.45 7575626.11
1232 709693.77 7575624.45
1233 709694.45 7575624.29
1234 709701.76 7575622.62
1235 709702.57 7575622.43
1236 709709.87 7575620.73
1237 709711.38 7575620.35
1238 709712.42 7575620.12
1239 709746.33 7575611.84
1240 709750.56 7575610.77
1241 709784.32 7575601.90
1242 709785.50 7575601.58
1243 709788.54 7575600.75
1244 709822.14 7575591.29
1245 709826.32 7575590.07
1246 709859.75 7575580.03
1247 709863.92 7575578.74
1248 709897.17 7575568.11
1249 709901.32 7575566.75
1250 709934.43 7575555.52
1251 709938.50 7575554.11
1252 709971.35 7575542.33
1253 709975.45 7575540.82
1254 710008.10 7575528.47
1255 710012.16 7575526.89
1256 710044.59 7575513.97
1257 710047.74 7575512.69
1258 710048.63 7575512.32
1259 710080.83 7575498.84
1260 710084.84 7575497.12
1261 710116.79 7575483.07
1262 710120.77 7575481.29
1263 710152.48 7575466.69
1264 710156.43 7575464.83
1265 710187.88 7575449.68
1266 710189.95 7575448.67
1267 710191.79 7575447.75
1268 710222.97 7575432.05
1269 710226.85 7575430.06
1270 710257.75 7575413.82
1271 710261.59 7575411.76
1272 710292.20 7575394.98
1273 710296.01 7575392.85
1274 710326.32 7575375.55
1275 710327.38 7575374.94
1276 710330.10 7575373.35
1277 710360.10 7575355.52
1278 710362.09 7575354.33
1279 710363.89 7575353.23
1280 710364.06 7575353.12
1281 710364.39 7575352.93
1282 710370.79 7575349.02
1283 710371.49 7575348.59
1284 710377.88 7575344.67
1285 710378.48 7575344.30
1286 710384.86 7575340.35
1287 710385.36 7575340.04

1288 710391.73 7575336.08
1289 710392.13 7575335.84
1290 710398.49 7575331.86
1291 710398.78 7575331.68
1292 710405.14 7575327.70
1293 710405.39 7575327.54
1294 710418.13 7575319.54
1295 710670.15 7575161.19
1296 710682.88 7575153.19
1297 710683.13 7575153.03
1298 710689.48 7575149.03
1299 710689.77 7575148.85
1300 710696.11 7575144.84
1301 710696.51 7575144.59
1302 710702.84 7575140.57
1303 710703.33 7575140.25
1304 710709.65 7575136.22
1305 710710.24 7575135.84
1306 710716.55 7575131.79
1307 710717.24 7575131.34
1308 710723.54 7575127.27
1309 710725.57 7575125.94
1310 710725.74 7575125.83
1311 710754.85 7575106.56
1312 710755.75 7575105.96
1313 710758.47 7575104.12
1314 710787.23 7575084.35
1315 710790.81 7575081.85
1316 710819.23 7575061.58
1317 710822.76 7575059.01
1318 710850.81 7575038.25
1319 710854.30 7575035.62
1320 710881.99 7575014.37
1321 710885.43 7575011.69
1322 710912.75 7574989.95
1323 710916.14 7574987.21
1324 710943.07 7574965.01
1325 710946.41 7574962.20
1326 710972.96 7574939.53
1327 710975.43 7574937.39
1328 710976.25 7574936.67
1329 711002.39 7574913.54
1330 711005.63 7574910.62
1331 711031.37 7574887.04
1332 711034.56 7574884.06
1333 711059.88 7574860.03
1334 711063.02 7574857.00
1335 711087.92 7574832.53
1336 711089.46 7574831.00
1337 711091.00 7574829.45
1338 711115.47 7574804.55
1339 711118.50 7574801.41
1340 711142.52 7574776.09
1341 711145.45 7574772.96
1342 711168.20 7574748.14
1343 711169.54 7574746.65
1344 711169.92 7574746.25
1345 711174.93 7574740.67
1346 711175.48 7574740.06
1347 711180.47 7574734.46
1348 711180.93 7574733.94
1349 711185.91 7574728.33
1350 711186.30 7574727.89
1351 711191.27 7574722.27
1352 711191.58 7574721.91
1353 711196.53 7574716.28

1354 711196.76 7574716.02
1355 711201.72 7574710.37
1356 711201.90 7574710.16
1357 711211.81 7574698.85
1358 711548.23 7574314.21
1359 712097.11 7573686.68
1360 713299.10 7572312.44
1361 714024.35 7572750.81
1362 714380.99 7573066.08
1363 715112.87 7572552.20
1364 715096.40 7572176.95
1365 714043.86 7571529.10
1366 714106.55 7571483.57
1367 714316.29 7571373.94
1368 714396.42 7571338.81
1369 714517.40 7571291.06
1370 714694.84 7571244.32
1371 715133.73 7571145.97
1372 716334.68 7570879.41
1373 717221.66 7570680.63
1374 717236.34 7570677.34
1375 717236.62 7570677.28
1376 717243.94 7570675.63
1377 717244.28 7570675.55
1378 717251.60 7570673.89
1379 717252.06 7570673.78
1380 717259.37 7570672.11
1381 717259.93 7570671.98
1382 717267.24 7570670.28
1383 717267.93 7570670.12
1384 717275.23 7570668.41
1385 717276.03 7570668.22
1386 717283.32 7570666.49
1387 717285.06 7570666.05
1388 717285.88 7570665.86
1389 717319.75 7570657.43
1390 717323.97 7570656.33
1391 717357.71 7570647.30
1392 717361.90 7570646.14
1393 717395.45 7570636.52
1394 717399.64 7570635.28
1395 717433.02 7570625.08
1396 717437.18 7570623.77
1397 717470.38 7570612.99
1398 717473.52 7570611.95
1399 717474.52 7570611.61
1400 717507.52 7570600.25
1401 717511.64 7570598.79
1402 717544.44 7570586.86
1403 717548.53 7570585.33
1404 717581.12 7570572.83
1405 717585.18 7570571.23
1406 717617.54 7570558.16
1407 717657.71 7570541.12
1408 717693.57 7570525.12
1409 717729.15 7570508.49
1410 717764.43 7570491.25
1411 717799.40 7570473.39
1412 717953.33 7570377.66
1413 719154.82 7569630.41
1414 720751.18 7568545.07
1415 720848.51 7568738.31
1416 720997.66 7568617.71
1417 720929.44 7568442.38
1418 720993.75 7568405.33
1419 721006.76 7568397.83

1420 721013.43 7568393.98
1421 721020.12 7568390.11
1422 721026.88 7568386.18
1423 721033.70 7568382.22
1424 721040.58 7568378.19
1425 721047.51 7568374.11
1426 721094.52 7568345.86
1427 721098.24 7568343.58
1428 721142.63 7568315.82
1429 721146.31 7568313.48
1430 721190.22 7568284.95
1431 721192.88 7568283.19
1432 721193.85 7568282.54
1433 721237.25 7568253.25
1434 721239.10 7568251.99
1435 721240.16 7568251.26
1436 721240.42 7568251.08
1437 721246.59 7568246.82
1438 721247.04 7568246.51
1439 721253.21 7568242.23
1440 721253.59 7568241.97
1441 721259.75 7568237.68
1442 721260.07 7568237.46
1443 721266.22 7568233.16
1444 721266.47 7568232.99
1445 721272.61 7568228.68
1446 721272.81 7568228.55
1447 721278.95 7568224.24
1448 721279.11 7568224.13
1449 721291.40 7568215.49
1450 722376.35 7567452.55
1451 722396.56 7567519.24
1452 722974.80 7567060.27
1453 722966.02 7567030.26
1454 723048.64 7566972.16
1455 723148.23 7566902.13
1456 723268.76 7566816.86
1457 723356.96 7566749.08
1458 723400.26 7566713.18
1459 723443.32 7566675.59
1460 723479.63 7566642.74
1461 723506.59 7566618.18
1462 723535.49 7566591.86
1463 723549.18 7566623.49
1464 724533.07 7565856.32
1465 724536.14 7565854.06
1466 725058.10 7565441.23
1467 725346.25 7565221.12
1468 726174.03 7562411.72
1469 726451.57 7562492.59
1470 726607.20 7562542.42
1471 726742.71 7562557.08
1472 726744.64 7562476.19
1473 726778.11 7561787.84
1474 726695.91 7561744.72
1475 726554.17 7561870.82
1476 726313.34 7562000.55
1477 726303.48 7562006.49
1478 726144.85 7561837.60
1479 727041.73 7560419.32
1480 727049.66 7560406.80
1481 727053.50 7560400.74
1482 727057.31 7560394.76
1483 727061.06 7560388.88
1484 727064.77 7560383.11
1485 727068.43 7560377.46

1486 727071.54 7560372.68
1487 727090.12 7560344.82
1488 727108.68 7560318.08
1489 727127.73 7560291.69
1490 727147.27 7560265.67
1491 727152.57 7560258.88
1492 727292.96 7560251.81
1493 728732.04 7560558.53
1494 728812.00 7560468.64
1495 728788.76 7559791.50
1496 728795.94 7559646.29
1497 728165.48 7559606.70
1498 727818.64 7559756.83
1499 727725.79 7559691.71
1500 728703.79 7558723.51
1501 728714.55 7558713.02
1502 728714.76 7558712.81
1503 728720.13 7558707.57
1504 728720.38 7558707.33
1505 728725.73 7558702.08
1506 728726.07 7558701.75
1507 728731.42 7558696.49
1508 728731.83 7558696.08
1509 728737.17 7558690.81
1510 728737.67 7558690.31
1511 728742.99 7558685.02
1512 728743.56 7558684.46
1513 728748.87 7558679.14
1514 728750.72 7558677.27
1515 728775.14 7558652.33
1516 728778.16 7558649.18
1517 728802.14 7558623.82
1518 728805.11 7558620.62
1519 728828.65 7558594.84
1520 728857.49 7558562.11
1521 728880.11 7558535.52
1522 728903.82 7558506.70
1523 728929.48 7558474.44
1524 728955.97 7558439.77
1525 728979.24 7558408.14
1526 729009.13 7558365.75
1527 729014.11 7558358.47
1528 729018.79 7558351.59
1529 729023.38 7558344.80
1530 729027.89 7558338.08
1531 729032.32 7558331.46
1532 729032.48 7558331.23
1533 729036.68 7558324.93
1534 729045.18 7558312.17
1535 729787.64 7557196.02
1536 729872.36 7557065.89
1537 729957.42 7556926.40
1538 729958.30 7556924.90
1539 729958.43 7556924.69
1540 729962.23 7556918.22
1541 729962.39 7556917.95
1542 729966.18 7556911.48
1543 729966.32 7556911.23
1544 729970.10 7556904.75
1545 729970.23 7556904.54
1546 729974.00 7556898.06
1547 729974.09 7556897.91
1548 729977.86 7556891.43
1549 729977.97 7556891.24
1550 729989.29 7556871.75
1551 730425.82 7556119.22

1552 730485.22 7556018.49
1553 730546.89 7555919.29
1554 730610.99 7555821.63
1555 730677.47 7555725.58
1556 730781.57 7555584.65
1557 730890.77 7555447.47
1558 732918.89 7552966.03
1559 733237.19 7553519.60
1560 733299.36 7553471.26
1561 733469.60 7553930.60
1562 733632.95 7554241.47
1563 734071.57 7554130.32
1564 734112.01 7553811.31
1565 733998.35 7553568.40
1566 734045.91 7553067.93
1567 734074.93 7552882.05
1568 734053.11 7552581.35
1569 733418.42 7551953.38
1570 733580.79 7551439.36
1571 733678.26 7551461.47
1572 735162.98 7550947.43
1573 735166.29 7549791.98
1574 735139.24 7549364.80
1575 734114.08 7549717.03
1576 734740.99 7547853.27
1577 735018.65 7547322.62
1578 735227.23 7546855.53
1579 735331.18 7546396.86
1580 735413.55 7545700.45
1581 735449.96 7545392.70
1582 735549.08 7544465.87
1583 735644.21 7543709.19
1584 735708.04 7543591.48
1585 735711.47 7543585.17
1586 735714.86 7543578.95
1587 735718.22 7543572.84
1588 735721.53 7543566.83
1589 735724.80 7543560.94
1590 735727.54 7543556.04
1591 735745.47 7543524.87
1592 735763.48 7543494.94
1593 735782.09 7543465.38
1594 735801.28 7543436.19
1595 735821.05 7543407.40
1596 735841.40 7543379.00
1597 735862.31 7543351.02
1598 735883.77 7543323.45
1599 735905.77 7543296.33
1600 735928.32 7543269.64
1601 735951.39 7543243.41
1602 735974.98 7543217.65
1603 735999.08 7543192.37
1604 736023.68 7543167.57
1605 736048.77 7543143.26
1606 736074.34 7543119.46
1607 736100.38 7543096.18
1608 736126.88 7543073.42
1609 736153.83 7543051.19
1610 736181.22 7543029.51
1611 736209.04 7543008.38
1612 736237.27 7542987.81
1613 736265.90 7542967.80
1614 736294.93 7542948.37
1615 736324.35 7542929.52
1616 736354.13 7542911.27
1617 736384.27 7542893.61

1618 736414.76 7542876.56
1619 736430.61 7542868.10
1620 736563.71 7543381.31
1621 737293.24 7543666.02
1622 737423.02 7543584.29
1623 736973.58 7542594.88
1624 738250.66 7541954.13
1625 738251.31 7541954.31
1626 738598.53 7542265.84
1627 738947.94 7541573.66
1628 738921.72 7541564.89
1629 739912.39 7540852.94
1630 739924.60 7540844.16
1631 739924.84 7540843.99
1632 739930.92 7540839.60
1633 739931.21 7540839.40
1634 739937.28 7540835.00
1635 739937.66 7540834.73
1636 739943.73 7540830.32
1637 739944.20 7540829.98
1638 739950.26 7540825.56
1639 739950.84 7540825.14
1640 739956.88 7540820.70
1641 739957.54 7540820.22
1642 739963.57 7540815.77
1643 739965.38 7540814.40
1644 739965.68 7540814.19
1645 739993.54 7540793.15
1646 739995.05 7540791.99
1647 739996.99 7540790.49
1648 740024.48 7540768.97
1649 740027.89 7540766.25
1650 740054.99 7540744.25
1651 740058.35 7540741.48
1652 740085.07 7540719.01
1653 740088.39 7540716.17
1654 740114.70 7540693.24
1655 740115.32 7540692.70
1656 740117.97 7540690.35
1657 740143.88 7540666.96
1658 740147.10 7540664.01
1659 740172.60 7540640.18
1660 740175.76 7540637.17
1661 740200.84 7540612.90
1662 740203.76 7540610.03
1663 740203.95 7540609.83
1664 740228.61 7540585.12
1665 740231.66 7540582.01
1666 740255.89 7540556.87
1667 740258.88 7540553.70
1668 740282.66 7540528.15
1669 740285.61 7540524.93
1670 740308.94 7540498.96
1671 740310.93 7540496.72
1672 740311.82 7540495.69
1673 740334.69 7540469.32
1674 740337.53 7540466.00
1675 740360.02 7540439.14
1676 740360.71 7540438.28
1677 740361.70 7540437.10
1678 740366.45 7540431.30
1679 740366.97 7540430.67
1680 740371.71 7540424.85
1681 740372.15 7540424.31
1682 740376.87 7540418.48
1683 740377.24 7540418.02

1684 740381.94 7540412.18
1685 740382.23 7540411.82
1686 740386.93 7540405.97
1687 740387.15 7540405.69
1688 740391.83 7540399.83
1689 740392.02 7540399.60
1690 740401.40 7540387.85
1691 740972.76 7539671.47
1692 741406.57 7539941.69
1693 741527.21 7539939.82
1694 741624.29 7539681.30
1695 741516.79 7539202.92
1696 741431.45 7539096.36
1697 741626.29 7538852.06
1698 741635.66 7538840.31
1699 741635.84 7538840.08
1700 741640.51 7538834.21
1701 741640.73 7538833.93
1702 741645.39 7538828.05
1703 741645.67 7538827.69
1704 741650.32 7538821.80
1705 741650.69 7538821.34
1706 741655.32 7538815.44
1707 741655.75 7538814.89
1708 741660.37 7538808.98
1709 741660.88 7538808.34
1710 741665.47 7538802.41
1711 741666.32 7538801.31
1712 741667.08 7538800.32
1713 741688.19 7538772.52
1714 741690.80 7538769.03
1715 741711.42 7538740.86
1716 741713.97 7538737.32
1717 741734.10 7538708.80
1718 741736.58 7538705.22
1719 741756.21 7538676.35
1720 741757.34 7538674.67
1721 741758.63 7538672.72
1722 741777.75 7538643.52
1723 741779.88 7538640.21
1724 741794.88 7538616.49
1725 741795.39 7538615.65
1726 741796.06 7538614.62
1727 741800.01 7538608.24
1728 741800.44 7538607.56
1729 741804.37 7538601.17
1730 741804.74 7538600.57
1731 741808.65 7538594.17
1732 741808.96 7538593.66
1733 741812.86 7538587.26
1734 741813.10 7538586.86
1735 741816.99 7538580.45
1736 741817.17 7538580.15
1737 741821.05 7538573.73
1738 741821.20 7538573.48
1739 741828.96 7538560.59
1740 742210.87 7537926.28
1741 742393.93 7537999.51
1742 742394.46 7538000.06
1743 742553.19 7537866.66
1744 742439.76 7537646.18
1745 742723.39 7537339.32
1746 743091.76 7537010.50
1747 743524.29 7536701.23
1748 743608.46 7537025.97
1749 744123.58 7537389.04

1750 744316.63 7537138.96
1751 743993.77 7536606.71
1752 743924.54 7536448.59
1753 744675.87 7536179.37
1754 745114.03 7536071.01
1755 745704.63 7535981.20
1756 746017.66 7535960.98
1757 746649.75 7535920.14
1758 747348.28 7535875.01
1759 748077.77 7535827.88
1760 748460.39 7535803.16
1761 749109.19 7535761.24
1762 749791.46 7535497.04
1763 750079.18 7535385.63
1764 750114.37 7535464.91
1765 750294.60 7535450.93
1766 750549.22 7535381.47
1767 750492.54 7535192.84
1768 750592.03 7535145.03
1769 750765.61 7535057.82
1770 750847.86 7535016.49
1771 750907.83 7534986.36
1772 751225.96 7534825.98
1773 751226.83 7534825.62
1774 751229.98 7534824.29
1775 751262.04 7534810.49
1776 751266.03 7534808.73
1777 751297.85 7534794.38
1778 751301.81 7534792.55
1779 751333.38 7534777.64
1780 751335.41 7534776.67
1781 751336.45 7534776.17
1782 751336.89 7534775.95
1783 751343.66 7534772.66
1784 751344.40 7534772.30
1785 751351.13 7534769.00
1786 751351.73 7534768.71
1787 751358.49 7534765.37
1788 751359.01 7534765.11
1789 751365.73 7534761.78
1790 751366.15 7534761.57
1791 751372.86 7534758.22
1792 751373.18 7534758.06
1793 751379.89 7534754.70
1794 751380.15 7534754.57
1795 751393.58 7534747.83
1796 751777.72 7534554.83
1797 751887.00 7534828.09
1798 752156.02 7535230.51
1799 752156.91 7535230.09
1800 752283.29 7535166.90
1801 752301.19 7535157.18
1802 752257.79 7534865.30
1803 752186.30 7534526.32
1804 752261.04 7534492.98
1805 752615.85 7534753.13
1806 752667.88 7534782.20
1807 752936.27 7534833.93
1808 753447.27 7534573.14
1809 753382.12 7534506.90
1810 752912.52 7533984.69
1811 753060.11 7533910.53
1812 753102.14 7533903.21
1813 753101.63 7533889.67
1814 754556.33 7533158.80
1815 754569.78 7533152.04

1816 754570.04 7533151.91
1817 754576.74 7533148.53
1818 754577.05 7533148.38
1819 754583.74 7533144.99
1820 754584.16 7533144.78
1821 754590.85 7533141.38
1822 754591.37 7533141.11
1823 754598.04 7533137.70
1824 754598.67 7533137.38
1825 754605.34 7533133.94
1826 754606.07 7533133.57
1827 754612.72 7533130.11
1828 754613.59 7533129.64
1829 754615.05 7533128.89
1830 754645.86 7533112.48
1831 754649.70 7533110.40
1832 754680.22 7533093.45
1833 754683.95 7533091.34
1834 754714.23 7533073.83
1835 754717.99 7533071.62
1836 754747.90 7533053.62
1837 754751.62 7533051.34
1838 754781.21 7533032.82
1839 754784.89 7533030.47
1840 754814.15 7533011.45
1841 754816.75 7533009.73
1842 754817.79 7533009.03
1843 754846.71 7532989.50
1844 754850.31 7532987.02
1845 754878.89 7532966.99
1846 754882.44 7532964.45
1847 754910.67 7532943.91
1848 754914.17 7532941.32
1849 754942.04 7532920.29
1850 754943.65 7532919.06
1851 754945.50 7532917.63
1852 754972.99 7532896.13
1853 754976.40 7532893.41
1854 755003.52 7532871.42
1855 755006.88 7532868.65
1856 755033.61 7532846.19
1857 755036.92 7532843.36
1858 755063.25 7532820.44
1859 755063.96 7532819.82
1860 755066.52 7532817.55
1861 755092.45 7532794.18
1862 755095.66 7532791.23
1863 755121.17 7532767.40
1864 755124.34 7532764.40
1865 755149.43 7532740.14
1866 755151.83 7532737.79
1867 755165.14 7532724.57
1868 755165.74 7532723.97
1869 755166.28 7532723.43
1870 755171.57 7532718.11
1871 755172.14 7532717.53
1872 755177.41 7532712.19
1873 755177.91 7532711.69
1874 755183.16 7532706.33
1875 755183.57 7532705.92
1876 755188.81 7532700.56
1877 755189.15 7532700.21
1878 755194.38 7532694.84
1879 755194.62 7532694.59
1880 755199.84 7532689.21
1881 755200.05 7532689.00

1882 755210.51 7532678.20
1883 755394.14 7532488.49
1884 755404.45 7532477.85
1885 755409.45 7532472.70
1886 755414.40 7532467.62
1887 755419.27 7532462.63
1888 755424.07 7532457.74
1889 755428.81 7532452.94
1890 755432.80 7532448.93
1891 755457.62 7532424.52
1892 755482.20 7532401.27
1893 755507.22 7532378.50
1894 755532.68 7532356.22
1895 755558.56 7532334.43
1896 755584.86 7532313.15
1897 755611.56 7532292.38
1898 755638.67 7532272.13
1899 755666.16 7532252.41
1900 755694.02 7532233.22
1901 755722.25 7532214.58
1902 755750.84 7532196.48
1903 755779.77 7532178.94
1904 755805.63 7532163.95
1905 755871.28 7532309.02
1906 756196.40 7532330.27
1907 756229.13 7532335.88
1908 756271.01 7532294.96
1909 756747.32 7531866.33
1910 757437.29 7531707.21
1911 757889.64 7531601.13
1912 757904.28 7531597.69
1913 757904.56 7531597.62
1914 757911.86 7531595.90
1915 757912.21 7531595.82
1916 757919.50 7531594.09
1917 757919.95 7531593.98
1918 757927.25 7531592.23
1919 757927.82 7531592.09
1920 757935.11 7531590.33
1921 757935.79 7531590.16
1922 757943.08 7531588.38
1923 757943.87 7531588.18
1924 757951.15 7531586.37
1925 757953.34 7531585.81
1926 757953.70 7531585.73
1927 757987.49 7531576.95
1928 757989.36 7531576.46
1929 757991.70 7531575.82
1930 758025.33 7531566.46
1931 758029.52 7531565.25
1932 758062.98 7531555.30
1933 758067.15 7531554.02
1934 758100.43 7531543.49
1935 758104.58 7531542.14
1936 758137.67 7531531.03
1937 758138.47 7531530.76
1938 758141.80 7531529.61
1939 758174.69 7531517.92
1940 758178.79 7531516.43
1941 758211.47 7531504.17
1942 758215.54 7531502.60
1943 758248.01 7531489.78
1944 758251.82 7531488.23
1945 758252.05 7531488.14
1946 758284.29 7531474.75
1947 758288.01 7531473.17

1948 758315.38 7531461.27
1949 758316.02 7531460.98
1950 758317.49 7531460.34
1951 758324.34 7531457.29
1952 758325.10 7531456.96
1953 758331.94 7531453.88
1954 758332.58 7531453.59
1955 758339.41 7531450.50
1956 758339.94 7531450.25
1957 758346.77 7531447.14
1958 758347.19 7531446.95
1959 758354.01 7531443.83
1960 758354.33 7531443.68
1961 758361.15 7531440.55
1962 758361.41 7531440.43
1963 758375.07 7531434.13
1964 759093.23 7531102.73
1965 759093.17 7531102.72
1966 759122.32 7531089.30
1967 759122.37 7531089.28
1968 759122.40 7531089.27
1969 759136.01 7531082.98
1970 759136.28 7531082.86
1971 759143.09 7531079.71
1972 759143.41 7531079.56
1973 759150.21 7531076.40
1974 759150.63 7531076.20
1975 759157.42 7531073.02
1976 759157.95 7531072.77
1977 759164.74 7531069.58
1978 759165.38 7531069.28
1979 759172.16 7531066.07
1980 759172.89 7531065.72
1981 759179.66 7531062.49
1982 759181.94 7531061.38
1983 759182.03 7531061.34
1984 759213.37 7531045.97
1985 759213.84 7531045.74
1986 759217.27 7531044.01
1987 759248.34 7531028.10
1988 759252.20 7531026.07
1989 759282.98 7531009.62
1990 759286.82 7531007.52
1991 759317.31 7530990.53
1992 759320.61 7530988.66
1993 759321.10 7530988.37
1994 759351.29 7530970.85
1995 759355.04 7530968.63
1996 759384.92 7530950.58
1997 759388.64 7530948.29
1998 759418.20 7530929.73
1999 759421.87 7530927.38
2000 759451.10 7530908.30
2001 759453.36 7530906.81
2002 759454.74 7530905.88
2003 759483.63 7530886.30
2004 759487.22 7530883.82
2005 759515.77 7530863.73
2006 759517.91 7530862.21
2007 759523.68 7530858.06
2008 759524.07 7530857.76
2009 759524.40 7530857.54
2010 759530.47 7530853.14
2011 759531.14 7530852.65
2012 759537.19 7530848.23
2013 759537.76 7530847.81

2014 759543.81 7530843.38
2015 759544.28 7530843.03
2016 759550.31 7530838.58
2017 759550.69 7530838.30
2018 759556.72 7530833.83
2019 759557.00 7530833.62
2020 759563.02 7530829.15
2021 759563.26 7530828.98
2022 759575.29 7530820.02
2023 759575.33 7530819.98
2024 759575.35 7530819.97
2025 759762.08 7530680.82
2026 759932.42 7531010.73
2027 760324.50 7530775.90
2028 760140.64 7530408.48
2029 760200.46 7530373.70
2030 760230.88 7530357.21
2031 760261.61 7530341.32
2032 760292.66 7530326.04
2033 760324.00 7530311.38
2034 760355.62 7530297.34
2035 760388.45 7530283.53
2036 760393.66 7530281.41
2037 760399.91 7530278.89
2038 760406.28 7530276.35
2039 760412.76 7530273.77
2040 760419.36 7530271.17
2041 760426.03 7530268.54
2042 760439.83 7530263.14
2043 761272.97 7529936.96
2044 761398.33 7529887.88
2045 761693.93 7529772.15
2046 761955.06 7530348.50
2047 762682.93 7530004.39
2048 762439.67 7529474.78
2049 762443.62 7529472.92
2050 762475.06 7529457.76
2051 762477.06 7529456.79
2052 762478.98 7529455.84
2053 762510.15 7529440.13
2054 762514.03 7529438.13
2055 762544.92 7529421.89
2056 762548.77 7529419.82
2057 762579.37 7529403.04
2058 762583.18 7529400.91
2059 762613.49 7529383.59
2060 762614.47 7529383.02
2061 762617.26 7529381.39
2062 762647.26 7529363.55
2063 762650.99 7529361.29
2064 762680.68 7529342.92
2065 762684.37 7529340.60
2066 762713.73 7529321.72
2067 762717.38 7529319.33
2068 762746.40 7529299.94
2069 762746.44 7529299.91
2070 762749.26 7529298.00
2071 762765.95 7529286.52
2072 762766.27 7529286.28
2073 762767.36 7529285.54
2074 762773.51 7529281.25
2075 762774.18 7529280.78
2076 762780.32 7529276.46
2077 762780.89 7529276.06
2078 762787.02 7529271.73
2079 762787.49 7529271.39

2080 762793.61 7529267.04
2081 762793.98 7529266.77
2082 762800.09 7529262.42
2083 762800.38 7529262.21
2084 762806.48 7529257.84
2085 762806.72 7529257.67
2086 762818.90 7529248.93
2087 762818.93 7529248.91
2088 762818.97 7529248.88
2089 763391.12 7528840.89
2090 763519.01 7529030.31
2091 764185.73 7528603.76
2092 764085.61 7528427.44
2093 764117.79 7528416.55
2094 764150.16 7528406.29
2095 764182.73 7528396.66
2096 764215.48 7528387.66
2097 764248.40 7528379.31
2098 764281.48 7528371.59
2099 764314.70 7528364.51
2100 764348.05 7528358.08
2101 764381.52 7528352.30
2102 764415.09 7528347.17
2103 764449.74 7528342.56
2104 764455.35 7528341.88
2105 764462.04 7528341.09
2106 764468.85 7528340.31
2107 764475.78 7528339.53
2108 764482.83 7528338.75
2109 764489.96 7528337.97
2110 764504.69 7528336.37
2111 765294.11 7528249.81
2112 765458.99 7528220.55
2113 765571.80 7528193.27
2114 765572.95 7528193.04
2115 765607.15 7528186.07
2116 765611.42 7528185.16
2117 765645.50 7528177.59
2118 765649.75 7528176.61
2119 765683.69 7528168.45
2120 765687.92 7528167.39
2121 765721.71 7528158.64
2122 765723.74 7528158.10
2123 765725.93 7528157.51
2124 765759.56 7528148.17
2125 765763.75 7528146.96
2126 765797.22 7528137.04
2127 765801.39 7528135.76
2128 765834.68 7528125.25
2129 765838.83 7528123.90
2130 765871.93 7528112.82
2131 765872.88 7528112.49
2132 765965.79 7528100.32
2133 766705.78 7527926.96
2134 766738.45 7527916.00
2135 766771.33 7527905.69
2136 766804.41 7527896.02
2137 766837.67 7527887.01
2138 766871.10 7527878.65
2139 766904.69 7527870.96
2140 766938.42 7527863.92
2141 766972.29 7527857.55
2142 767006.27 7527851.86
2143 767040.37 7527846.83
2144 767074.55 7527842.47
2145 767108.81 7527838.79

2146 767143.14 7527835.78
2147 767177.52 7527833.45
2148 767211.94 7527831.79
2149 767246.38 7527830.82
2150 767280.84 7527830.52
2151 767315.30 7527830.90
2152 767349.74 7527831.96
2153 767384.16 7527833.70
2154 767418.54 7527836.11
2155 767452.86 7527839.20
2156 767487.11 7527842.97
2157 767521.28 7527847.41
2158 767555.36 7527852.52
2159 767589.33 7527858.31
2160 767623.18 7527864.76
2161 767656.90 7527871.87
2162 767690.47 7527879.65
2163 767723.88 7527888.09
2164 767757.12 7527897.18
2165 767790.17 7527906.93
2166 767823.02 7527917.32
2167 767855.67 7527928.36
2168 767888.09 7527940.04
2169 767920.27 7527952.36
2170 767952.20 7527965.31
2171 767983.88 7527978.88
2172 768016.19 7527993.49
2173 768021.30 7527995.87
2174 768027.40 7527998.74
2175 768033.60 7528001.68
2176 768039.89 7528004.68
2177 768046.29 7528007.74
2178 768052.75 7528010.84
2179 768066.10 7528017.28
2180 768252.14 7528095.08
2181 768351.86 7528139.57
2182 768656.80 7528272.85
2183 768817.30 7528328.77
2184 768968.16 7528369.33
2185 769157.31 7528404.77
2186 769290.19 7528419.81
2187 769414.98 7528426.71
2188 769471.22 7528427.55
2189 769617.38 7528423.15
2190 769906.07 7528386.20
2191 770026.84 7528359.26
2192 770137.18 7528331.58
2193 770378.86 7528238.76
2194 770560.37 7528149.39
2195 770851.16 7527982.90
2196 771040.40 7527885.31
2197 771270.62 7527802.10
2198 771363.89 7527778.36
2199 771423.86 7527765.93
2200 771510.21 7527751.83
2201 771649.52 7527738.30
2202 771929.14 7527744.79
2203 772024.56 7527757.33
2204 772102.02 7527771.48
2205 772271.37 7527815.29
2206 772427.44 7527872.39
2207 772716.62 7528011.47
2208 773039.03 7528170.58
2209 773165.92 7528233.19
2210 773711.11 7528502.24
2211 773570.29 7529320.05

2212 774169.29 7529472.89
2213 774300.95 7528793.32
2214 774794.46 7529036.67
2215 774980.55 7529116.20
2216 775064.24 7529145.73
2217 775215.38 7529189.93
2218 775315.25 7529212.96
2219 775558.64 7529249.55
2220 775520.86 7529783.37
2221 775761.48 7529808.43
2222 775860.27 7529818.72
2223 775908.01 7529255.40
2224 776286.95 7529229.47
2225 776341.21 7529832.65
2226 776995.11 7529783.20
2227 776949.02 7529181.52
2228 777586.52 7529136.16
2229 777700.12 7529128.07
2230 778064.81 7529102.12
2231 778418.45 7529077.45
2232 778619.58 7529079.09
2233 778784.71 7529097.85
2234 778934.00 7529128.43
2235 779715.30 7529327.18
2236 780432.04 7529542.43
2237 781809.04 7530041.32
2238 781823.11 7530046.52
2239 781823.38 7530046.63
2240 781830.42 7530049.22
2241 781830.75 7530049.34
2242 781837.79 7530051.92
2243 781838.23 7530052.09
2244 781845.27 7530054.66
2245 781845.82 7530054.86
2246 781852.88 7530057.41
2247 781853.54 7530057.65
2248 782254.12 7530202.01
2249 782351.55 7530229.53
2250 782458.32 7530239.35
2251 782740.49 7530208.68
2252 783004.26 7530196.41
2253 783249.63 7530184.15
2254 783402.99 7530171.88
2255 783771.04 7530141.21
2256 783795.94 7530121.17
2257 784064.79 7530003.96
2258 784195.30 7529946.98
2259 784347.62 7529880.47
2260 784531.40 7529813.02
2261 784785.48 7529768.93
2262 785001.84 7529772.86
2263 785182.11 7529805.32
2264 785401.38 7529884.08
2265 785581.82 7529987.75
2266 785693.54 7530074.73
2267 785811.37 7530192.43
2268 785908.27 7530318.37
2269 786027.18 7530496.99
2270 786351.60 7530981.02
2271 786495.45 7531192.70
2272 786610.10 7531331.41
2273 786776.71 7531498.74
2274 786932.83 7531627.61
2275 787109.47 7531747.82
2276 787247.62 7531825.97
2277 787410.47 7531902.54

2278 787631.34 7531982.48
2279 787995.06 7532060.87
2280 788219.26 7532078.73
2281 788487.73 7532070.62
2282 788846.86 7532022.46
2283 788926.87 7532011.03
2284 789129.12 7531982.14
2285 789647.66 7532173.81
2286 789654.80 7532171.52
2287 789655.13 7532171.41
2288 789662.27 7532169.11
2289 789662.55 7532169.02
2290 789676.82 7532164.39
2291 789676.88 7532164.37
2292 789692.89 7531901.60
2293 790461.14 7531791.85
2294 790760.50 7531738.24
2295 790966.62 7531677.38
2296 791144.37 7531606.94
2297 791627.35 7531372.50
2298 791688.92 7531683.04
2299 792116.57 7531589.24
2300 792036.41 7531213.91
2301 792096.03 7531199.89
2302 792663.49 7531314.41
2303 792764.97 7532056.12
2304 792843.39 7532042.35
2305 792933.99 7532024.51
2306 793067.33 7531998.26
2307 793069.51 7531997.83
2308 792977.53 7531200.65
2309 793389.52 7531245.57
2310 793391.57 7531506.58
2311 793631.63 7531506.58
2312 793631.04 7531266.77
2313 794397.50 7531335.09
2314 794781.24 7531371.42
2315 795037.85 7531395.72
2316 795417.94 7531432.22
2317 795734.18 7531499.33
2318 796017.17 7531615.37
2319 796233.43 7531747.70
2320 796501.69 7531984.95
2321 796682.06 7532213.18
2322 796805.41 7532383.07
2323 796393.52 7533172.91
2324 796467.29 7533211.23
2325 796548.60 7533253.45
2326 796662.25 7533312.49
2327 797309.71 7533648.77
2328 797571.59 7533030.83
2329 797686.51 7533081.76
2330 797619.62 7533561.84
2331 798702.58 7533620.42
2332 800016.44 7533691.49
2333 800009.07 7533268.43
2334 801031.05 7533175.49
2335 801024.84 7533264.03
2336 801204.55 7533264.03
2337 801200.43 7533160.09
2338 801822.65 7533097.69
2339 801822.18 7533423.32
2340 802697.46 7533412.64
2341 802702.87 7533023.45
2342 803304.99 7532946.61
2343 803304.19 7533331.64

2344 803772.58 7533323.73
2345 803771.26 7532926.83
2346 806328.52 7532837.30
2347 806380.64 7533492.96
2348 806900.67 7533446.36
2349 806842.78 7532793.21
2350 806897.76 7532783.36
2351 806943.99 7532774.25
2352 806944.40 7532774.17
2353 806948.26 7532773.36
2354 806994.33 7532763.44
2355 806998.59 7532762.49
2356 807044.47 7532751.76
2357 807048.71 7532750.73
2358 807094.41 7532739.21
2359 807097.97 7532738.28
2360 807098.63 7532738.10
2361 807144.11 7532725.79
2362 807148.31 7532724.61
2363 807193.58 7532711.50
2364 807197.76 7532710.25
2365 807242.78 7532696.35
2366 807246.94 7532695.02
2367 807291.72 7532680.34
2368 807294.18 7532679.52
2369 807295.85 7532678.95
2370 807340.37 7532663.48
2371 807344.48 7532662.02
2372 807388.71 7532645.78
2373 807392.80 7532644.24
2374 807436.74 7532627.23
2375 807440.80 7532625.62
2376 807484.44 7532607.85
2377 807485.84 7532607.28
2378 807488.47 7532606.17
2379 807531.80 7532587.64
2380 807535.79 7532585.89
2381 807578.79 7532566.61
2382 807582.76 7532564.79
2383 807625.41 7532544.76
2384 807629.34 7532542.87
2385 807671.64 7532522.10
2386 807672.01 7532521.91
2387 807675.54 7532520.14
2388 807717.47 7532498.63
2389 807721.34 7532496.61
2390 807762.88 7532474.37
2391 807766.71 7532472.28
2392 807807.86 7532449.32
2393 807811.07 7532447.50
2394 807811.66 7532447.16
2395 807852.40 7532423.49
2396 807856.16 7532421.27
2397 807896.48 7532396.89
2398 807900.20 7532394.60
2399 807940.09 7532369.52
2400 807943.77 7532367.16
2401 807983.22 7532341.39
2402 807985.38 7532339.96
2403 807986.85 7532338.98
2404 808025.84 7532312.52
2405 808029.43 7532310.04
2406 808067.96 7532282.90
2407 808071.51 7532280.36
2408 808109.56 7532252.56
2409 808113.06 7532249.96

2410 808150.61 7532221.49
2411 808151.81 7532220.58
2412 808154.07 7532218.83
2413 808191.12 7532189.72
2414 808194.53 7532186.99
2415 808231.07 7532157.24
2416 808234.43 7532154.45
2417 808270.45 7532124.06
2418 808273.76 7532121.22
2419 808309.24 7532090.21
2420 808309.55 7532089.94
2421 808312.50 7532087.31
2422 808347.43 7532055.68
2423 808350.64 7532052.73
2424 808385.02 7532020.50
2425 808388.18 7532017.48
2426 808421.99 7531984.66
2427 808424.61 7531982.07
2428 808425.09 7531981.59
2429 808458.32 7531948.18
2430 808461.37 7531945.06
2431 808494.01 7531911.07
2432 808497.01 7531907.90
2433 808529.05 7531873.35
2434 808531.99 7531870.13
2435 808563.43 7531835.02
2436 808565.15 7531833.08
2437 808566.31 7531831.75
2438 808597.13 7531796.10
2439 808599.96 7531792.77
2440 808630.15 7531756.59
2441 808632.91 7531753.22
2442 808662.47 7531716.52
2443 808665.18 7531713.09
2444 808694.09 7531675.88
2445 808695.01 7531674.69
2446 808696.74 7531672.41
2447 808724.99 7531634.70
2448 808727.58 7531631.19
2449 808755.17 7531592.99
2450 808757.70 7531589.43
2451 808784.62 7531550.76
2452 808787.09 7531547.15
2453 808813.33 7531508.02
2454 808813.56 7531507.67
2455 808815.73 7531504.37
2456 808841.29 7531464.78
2457 808843.62 7531461.10
2458 808868.48 7531421.07
2459 808870.76 7531417.34
2460 808894.92 7531376.88
2461 808896.78 7531373.70
2462 808897.12 7531373.12
2463 808920.57 7531332.24
2464 808922.71 7531328.44
2465 808945.44 7531287.16
2466 808947.52 7531283.32
2467 808969.53 7531241.65
2468 808971.53 7531237.78
2469 808992.81 7531195.73
2470 808993.97 7531193.41
2471 808994.75 7531191.82
2472 809015.29 7531149.41
2473 809017.16 7531145.47
2474 809036.96 7531102.71
2475 809038.76 7531098.73

2476 809057.81 7531055.63
2477 809059.54 7531051.63
2478 809077.83 7531008.20
2479 809078.41 7531006.81
2480 809079.49 7531004.16
2481 809097.02 7530960.42
2482 809098.61 7530956.36
2483 809115.38 7530912.32
2484 809116.90 7530908.23
2485 809132.90 7530863.91
2486 809134.34 7530859.79
2487 809149.56 7530815.19
2488 809149.70 7530814.80
2489 809150.94 7530811.05
2490 809165.38 7530766.19
2491 809166.68 7530762.03
2492 809180.33 7530716.93
2493 809181.56 7530712.74
2494 809194.43 7530667.41
2495 809195.41 7530663.85
2496 809578.49 7530746.54
2497 809920.56 7530820.38
2498 809991.33 7529252.86
2499 809987.03 7529227.50
2500 809975.15 7529163.77
2501 809965.07 7529114.10
2502 809217.31 7529190.35
2503 809216.28 7529186.11
2504 809204.76 7529140.42
2505 809203.83 7529136.85
2506 809203.65 7529136.19
2507 809191.33 7529090.71
2508 809190.16 7529086.51
2509 809177.05 7529041.25
2510 809175.80 7529037.07
2511 809161.90 7528992.04
2512 809160.57 7528987.88
2513 809145.89 7528943.10
2514 809145.07 7528940.64
2515 809144.49 7528938.97
2516 809129.03 7528894.46
2517 809127.56 7528890.35
2518 809111.33 7528846.11
2519 809109.79 7528842.03
2520 809092.78 7528798.08
2521 809091.17 7528794.02
2522 809073.40 7528750.38
2523 809072.83 7528748.99
2524 809071.72 7528746.35
2525 809053.19 7528703.02
2526 809051.44 7528699.03
2527 809032.16 7528656.03
2528 809030.34 7528652.07
2529 809010.31 7528609.41
2530 809008.42 7528605.48
2531 808987.65 7528563.18
2532 808987.46 7528562.81
2533 808985.69 7528559.28
2534 808964.18 7528517.35
2535 808962.19 7528513.55
2536 808940.70 7528473.36
2537 808940.00 7528472.10
2538 808939.54 7528471.22
2539 808935.94 7528464.64
2540 808935.64 7528464.10
2541 808932.02 7528457.53

2542 808931.77 7528457.08
2543 808928.14 7528450.52
2544 808927.93 7528450.13
2545 808924.29 7528443.57
2546 808924.12 7528443.28
2547 808920.47 7528436.72
2548 808920.34 7528436.50
2549 808916.68 7528429.95
2550 808916.58 7528429.76
2551 808909.25 7528416.67
2552 808909.23 7528416.63
2553 808909.22 7528416.62
2554 808030.84 7526848.70
2555 808019.92 7526829.20
2556 808016.36 7526822.83
2557 808012.81 7526816.46
2558 808009.29 7526810.13
2559 808005.80 7526803.84
2560 808002.66 7526798.18
2561 807974.30 7526746.07
2562 807946.90 7526694.22
2563 807920.14 7526642.04
2564 807894.03 7526589.53
2565 807868.57 7526536.70
2566 807843.76 7526483.56
2567 807819.61 7526430.12
2568 807796.13 7526376.38
2569 807773.31 7526322.36
2570 807751.15 7526268.06
2571 807729.67 7526213.50
2572 807708.87 7526158.67
2573 807688.74 7526103.59
2574 807669.07 7526047.62
2575 807666.96 7526041.49
2576 807664.63 7526034.68
2577 807662.30 7526027.83
2578 807659.95 7526020.93
2579 807657.61 7526014.02
2580 807650.45 7525992.84
2581 806713.41 7523219.33
2582 806708.67 7523205.30
2583 806706.39 7523198.49
2584 806704.14 7523191.77
2585 806701.94 7523185.16
2586 806699.79 7523178.64
2587 806697.69 7523172.24
2588 806695.97 7523166.89
2589 806685.32 7523132.58
2590 806675.64 7523099.04
2591 806666.64 7523065.32
2592 806658.31 7523031.42
2593 806650.66 7522997.37
2594 806643.68 7522963.17
2595 806637.39 7522928.83
2596 806631.79 7522894.38
2597 806626.88 7522859.82
2598 806622.65 7522825.17
2599 806619.12 7522790.45
2600 806616.28 7522755.66
2601 806614.14 7522720.82
2602 806612.69 7522685.94
2603 806611.93 7522651.05
2604 806611.88 7522616.14
2605 806612.51 7522581.24
2606 806613.85 7522546.36
2607 806615.88 7522511.52

2608 806618.60 7522476.72
2609 806622.12 7522440.96
2610 806622.74 7522435.38
2611 806623.50 7522428.69
2612 806624.29 7522421.88
2613 806625.11 7522414.95
2614 806625.96 7522407.92
2615 806626.83 7522400.79
2616 806628.65 7522386.08
2617 806779.05 7521170.04
2618 806810.04 7520919.51
2619 806906.14 7520142.49
2620 806908.89 7520120.30
2621 806909.80 7520113.06
2622 806910.71 7520105.83
2623 806911.62 7520098.64
2624 806912.53 7520091.51
2625 806913.36 7520085.06
2626 806921.05 7520028.44
2627 806929.32 7519972.58
2628 806938.25 7519916.81
2629 806947.84 7519861.15
2630 806958.09 7519805.61
2631 806969.01 7519750.20
2632 806980.58 7519694.92
2633 806992.80 7519639.78
2634 807005.69 7519584.79
2635 807019.22 7519529.96
2636 807033.41 7519475.29
2637 807048.24 7519420.80
2638 807063.91 7519365.86
2639 807065.73 7519359.61
2640 807067.76 7519352.71
2641 807069.81 7519345.76
2642 807071.87 7519338.78
2643 807073.95 7519331.78
2644 807080.33 7519310.35
2645 807522.75 7517825.78
2646 807522.76 7517825.74
2647 807522.77 7517825.70
2648 807527.05 7517811.33
2649 807527.13 7517811.05
2650 807529.26 7517803.86
2651 807529.36 7517803.52
2652 807531.48 7517796.32
2653 807531.62 7517795.87
2654 807533.72 7517788.67
2655 807533.89 7517788.12
2656 807535.98 7517780.91
2657 807536.17 7517780.24
2658 807538.24 7517773.03
2659 807538.47 7517772.24
2660 807540.52 7517765.03
2661 807541.16 7517762.68
2662 807541.22 7517762.49
2663 807550.39 7517728.81
2664 807550.66 7517727.82
2665 807551.50 7517724.59
2666 807555.90 7517707.27
2667 807660.19 7517363.31
2668 807719.54 7517088.62
2669 807743.08 7516842.37
2670 807742.07 7516638.69
2671 807704.55 7516327.45
2672 807668.10 7516164.71
2673 807603.59 7515966.21

2674 807515.92 7515761.10
2675 807394.93 7515546.55
2676 807251.93 7515346.22
2677 807102.84 7515177.84
2678 806828.02 7514927.89
2679 806280.42 7514475.10
2680 806278.35 7514473.91
2681 805931.76 7514252.76
2682 805931.52 7514252.65
2683 805930.40 7514252.11
2684 805921.38 7514247.79
2685 805920.25 7514247.25
2686 805911.21 7514242.98
2687 805910.07 7514242.45
2688 805901.01 7514238.22
2689 805899.88 7514237.70
2690 805890.79 7514233.51
2691 805889.66 7514232.99
2692 805880.55 7514228.86
2693 805879.41 7514228.34
2694 805870.29 7514224.25
2695 805869.15 7514223.75
2696 805860.00 7514219.70
2697 805858.86 7514219.20
2698 805849.69 7514215.20
2699 805848.54 7514214.70
2700 805839.36 7514210.75
2701 805838.21 7514210.26
2702 805829.00 7514206.35
2703 805827.85 7514205.87
2704 805818.63 7514202.00
2705 805817.77 7514201.65
2706 805817.47 7514201.52
2707 805808.23 7514197.71
2708 805807.07 7514197.24
2709 805797.81 7514193.47
2710 805796.65 7514193.00
2711 805787.37 7514189.28
2712 805786.21 7514188.81
2713 805776.91 7514185.14
2714 805775.74 7514184.68
2715 805766.43 7514181.05
2716 805765.26 7514180.60
2717 805755.92 7514177.02
2718 805754.76 7514176.57
2719 805745.40 7514173.04
2720 805744.23 7514172.60
2721 805734.86 7514169.11
2722 805733.69 7514168.68
2723 805724.30 7514165.24
2724 805723.12 7514164.81
2725 805713.72 7514161.41
2726 805712.54 7514160.99
2727 805703.12 7514157.64
2728 805701.94 7514157.23
2729 805692.50 7514153.93
2730 805691.32 7514153.52
2731 805681.86 7514150.26
2732 805680.88 7514149.93
2733 805680.68 7514149.86
2734 805671.21 7514146.65
2735 805670.02 7514146.26
2736 805660.54 7514143.10
2737 805659.35 7514142.70
2738 805649.84 7514139.59
2739 805648.66 7514139.21

2740 805639.14 7514136.14
2741 805637.95 7514135.76
2742 805628.41 7514132.75
2743 805627.22 7514132.37
2744 805617.67 7514129.40
2745 805616.48 7514129.04
2746 805606.91 7514126.12
2747 805605.71 7514125.75
2748 805596.14 7514122.88
2749 805594.94 7514122.52
2750 805585.35 7514119.70
2751 805584.15 7514119.35
2752 805574.54 7514116.57
2753 805573.34 7514116.23
2754 805563.72 7514113.50
2755 805562.51 7514113.16
2756 805552.88 7514110.48
2757 805551.67 7514110.15
2758 805542.03 7514107.52
2759 805540.92 7514107.22
2760 805540.82 7514107.19
2761 805531.16 7514104.61
2762 805529.95 7514104.29
2763 805520.28 7514101.75
2764 805519.07 7514101.44
2765 805509.38 7514098.95
2766 805508.17 7514098.64
2767 805498.47 7514096.20
2768 805497.26 7514095.90
2769 805487.55 7514093.51
2770 805486.34 7514093.21
2771 805476.61 7514090.87
2772 805475.40 7514090.58
2773 805465.66 7514088.29
2774 805464.45 7514088.00
2775 805454.70 7514085.76
2776 805453.48 7514085.48
2777 805443.73 7514083.29
2778 805442.51 7514083.01
2779 805432.74 7514080.87
2780 805431.52 7514080.60
2781 805421.74 7514078.50
2782 805420.52 7514078.24
2783 805410.73 7514076.19
2784 805409.51 7514075.94
2785 805399.71 7514073.94
2786 805398.48 7514073.69
2787 805388.68 7514071.74
2788 805388.66 7514071.74
2789 805387.45 7514071.50
2790 805377.63 7514069.60
2791 805376.40 7514069.36
2792 805366.58 7514067.51
2793 805365.35 7514067.28
2794 805355.51 7514065.48
2795 805354.28 7514065.26
2796 805344.44 7514063.50
2797 805343.21 7514063.28
2798 805333.35 7514061.58
2799 805332.12 7514061.37
2800 805322.26 7514059.71
2801 805321.03 7514059.51
2802 805311.16 7514057.90
2803 805309.92 7514057.70
2804 805300.04 7514056.15
2805 805298.81 7514055.95

2806 805288.92 7514054.45
2807 805287.69 7514054.26
2808 805277.79 7514052.80
2809 805276.56 7514052.62
2810 805266.66 7514051.21
2811 805265.42 7514051.04
2812 805255.51 7514049.68
2813 805254.27 7514049.51
2814 805244.36 7514048.20
2815 805244.23 7514048.19
2816 805243.12 7514048.04
2817 805233.20 7514046.78
2818 805231.96 7514046.63
2819 805222.03 7514045.42
2820 805220.79 7514045.27
2821 805210.86 7514044.11
2822 805209.62 7514043.97
2823 805199.68 7514042.85
2824 805198.44 7514042.72
2825 805188.49 7514041.66
2826 805187.25 7514041.53
2827 805177.30 7514040.51
2828 805176.06 7514040.39
2829 805166.10 7514039.43
2830 805164.86 7514039.31
2831 805154.90 7514038.40
2832 805153.66 7514038.29
2833 805143.69 7514037.42
2834 805142.45 7514037.32
2835 805132.48 7514036.51
2836 805131.23 7514036.41
2837 805121.26 7514035.64
2838 805120.02 7514035.55
2839 805110.04 7514034.84
2840 805108.80 7514034.75
2841 805098.82 7514034.09
2842 805098.58 7514034.07
2843 805097.57 7514034.01
2844 805087.59 7514033.40
2845 805086.34 7514033.32
2846 805076.36 7514032.76
2847 805075.11 7514032.69
2848 805065.12 7514032.18
2849 805063.87 7514032.12
2850 805053.88 7514031.65
2851 805052.64 7514031.60
2852 805042.64 7514031.18
2853 805041.40 7514031.13
2854 805031.40 7514030.77
2855 805030.15 7514030.73
2856 805020.16 7514030.41
2857 805018.91 7514030.38
2858 805008.91 7514030.11
2859 805007.66 7514030.08
2860 804997.66 7514029.87
2861 804996.55 7514029.85
2862 804988.75 7514029.72
2863 804988.13 7514029.71
2864 804985.93 7514029.68
2865 804985.23 7514029.67
2866 804975.23 7514029.55
2867 804974.23 7514029.54
2868 804964.23 7514029.46
2869 804963.45 7514029.46
2870 804953.45 7514029.41
2871 804952.87 7514029.41

2872 804942.87 7514029.39
2873 804942.50 7514029.39
2874 804932.50 7514029.38
2875 804932.32 7514029.38
2876 804823.09 7514029.38
2877 804822.15 7514029.29
2878 804818.29 7514029.07
2879 804449.76 7514010.63
2880 804437.50 7514010.32
2881 803496.50 7514009.46
2882 803496.30 7514009.46
2883 802846.30 7514009.39
2884 802846.29 7514009.39
2885 802846.27 7514009.39
2886 802846.10 7514009.39
2887 802836.10 7514009.39
2888 802835.51 7514009.40
2889 802825.51 7514009.43
2890 802824.50 7514009.43
2891 802814.50 7514009.50
2892 802813.07 7514009.52
2893 802803.07 7514009.64
2894 802801.23 7514009.67
2895 802791.23 7514009.88
2896 802789.50 7514009.92
2897 802783.77 7514010.07
2898 802782.55 7514010.11
2899 802778.28 7514010.25
2900 802776.49 7514010.31
2901 802766.50 7514010.70
2902 802764.00 7514010.81
2903 802754.01 7514011.30
2904 802751.52 7514011.44
2905 802741.54 7514012.03
2906 802739.97 7514012.13
2907 802739.04 7514012.19
2908 802729.06 7514012.88
2909 802726.57 7514013.07
2910 802716.60 7514013.86
2911 802714.11 7514014.07
2912 802704.15 7514014.96
2913 802701.66 7514015.19
2914 802691.71 7514016.18
2915 802689.23 7514016.44
2916 802679.29 7514017.53
2917 802676.80 7514017.82
2918 802666.87 7514019.00
2919 802664.39 7514019.31
2920 802654.47 7514020.60
2921 802654.04 7514020.66
2922 802652.00 7514020.94
2923 802642.09 7514022.32
2924 802639.62 7514022.68
2925 802629.73 7514024.17
2926 802627.26 7514024.55
2927 802617.39 7514026.14
2928 802614.92 7514026.55
2929 802605.06 7514028.23
2930 802602.60 7514028.66
2931 802592.76 7514030.45
2932 802590.30 7514030.90
2933 802580.48 7514032.78
2934 802578.72 7514033.13
2935 802578.03 7514033.27
2936 802568.23 7514035.24
2937 802565.78 7514035.75

2938 802556.00 7514037.83
2939 802553.55 7514038.36
2940 802543.79 7514040.53
2941 802541.36 7514041.09
2942 802531.62 7514043.36
2943 802529.19 7514043.94
2944 802519.47 7514046.31
2945 802517.04 7514046.91
2946 802507.35 7514049.38
2947 802504.93 7514050.01
2948 802495.27 7514052.57
2949 802494.63 7514052.74
2950 802492.85 7514053.22
2951 802483.21 7514055.88
2952 802480.81 7514056.56
2953 802471.19 7514059.31
2954 802468.80 7514060.02
2955 802459.21 7514062.87
2956 802456.82 7514063.59
2957 802447.26 7514066.54
2958 802444.88 7514067.29
2959 802435.35 7514070.33
2960 802432.97 7514071.10
2961 802423.48 7514074.24
2962 802421.56 7514074.88
2963 802421.11 7514075.04
2964 802411.65 7514078.27
2965 802409.28 7514079.09
2966 802399.85 7514082.42
2967 802397.50 7514083.26
2968 802388.10 7514086.68
2969 802385.76 7514087.55
2970 802376.40 7514091.06
2971 802374.06 7514091.95
2972 802364.73 7514095.56
2973 802362.41 7514096.48
2974 802353.12 7514100.18
2975 802350.80 7514101.11
2976 802341.55 7514104.91
2977 802340.73 7514105.24
2978 802339.24 7514105.87
2979 802330.03 7514109.75
2980 802327.73 7514110.74
2981 802318.55 7514114.72
2982 802316.26 7514115.72
2983 802307.13 7514119.79
2984 802304.85 7514120.82
2985 802295.76 7514124.98
2986 802293.49 7514126.03
2987 802284.44 7514130.28
2988 802282.18 7514131.36
2989 802273.17 7514135.70
2990 802271.15 7514136.69
2991 802270.93 7514136.80
2992 802261.96 7514141.23
2993 802259.73 7514142.35
2994 802250.81 7514146.87
2995 802249.03 7514147.78
2996 802243.70 7514150.54
2997 802242.60 7514151.11
2998 802239.05 7514152.96
2999 802237.66 7514153.70
3000 802228.83 7514158.39
3001 802227.14 7514159.30
3002 802218.35 7514164.06
3003 802217.03 7514164.77

3004 802208.26 7514169.59
3005 802207.32 7514170.11
3006 802198.57 7514174.96
3007 802197.99 7514175.28
3008 802189.26 7514180.16
3009 802189.02 7514180.29
3010 801822.50 7514385.38
3011 801822.36 7514385.46
3012 801813.64 7514390.35
3013 801812.96 7514390.73
3014 801804.25 7514395.64
3015 801802.97 7514396.37
3016 801794.30 7514401.34
3017 801793.47 7514401.81
3018 801792.42 7514402.42
3019 801783.79 7514407.46
3020 801782.32 7514408.32
3021 801780.05 7514409.67
3022 801778.69 7514410.48
3023 801772.39 7514414.27
3024 801769.91 7514415.78
3025 801762.39 7514420.43
3026 801760.70 7514421.48
3027 801759.72 7514422.10
3028 801757.75 7514423.35
3029 801749.34 7514428.75
3030 801745.85 7514431.03
3031 801737.52 7514436.57
3032 801737.12 7514436.84
3033 801734.07 7514438.90
3034 801725.84 7514444.58
3035 801722.43 7514446.97
3036 801714.29 7514452.79
3037 801710.92 7514455.24
3038 801702.89 7514461.19
3039 801699.56 7514463.69
3040 801691.62 7514469.77
3041 801691.47 7514469.89
3042 801688.33 7514472.34
3043 801680.50 7514478.55
3044 801677.25 7514481.17
3045 801669.52 7514487.51
3046 801666.33 7514490.18
3047 801658.70 7514496.65
3048 801655.64 7514499.29
3049 801655.55 7514499.37
3050 801648.03 7514505.97
3051 801644.92 7514508.74
3052 801637.52 7514515.46
3053 801634.46 7514518.29
3054 801627.17 7514525.13
3055 801624.15 7514528.01
3056 801616.98 7514534.98
3057 801614.36 7514537.55
3058 801608.97 7514542.94
3059 801608.92 7514542.99
3060 801607.51 7514544.41
3061 801605.84 7514546.11
3062 801604.19 7514547.80
3063 801597.24 7514555.00
3064 801594.96 7514557.39
3065 801588.11 7514564.68
3066 801586.33 7514566.59
3067 801579.55 7514573.95
3068 801578.26 7514575.36
3069 801571.54 7514582.77

3070 801570.72 7514583.68
3071 801564.04 7514591.12
3072 801563.70 7514591.50
3073 801558.62 7514597.18
3074 801558.57 7514597.23
3075 801483.69 7514681.03
3076 801483.60 7514681.12
3077 801476.94 7514688.58
3078 801476.46 7514689.12
3079 801469.82 7514696.60
3080 801468.88 7514697.67
3081 801462.29 7514705.18
3082 801462.24 7514705.24
3083 801460.90 7514706.78
3084 801454.37 7514714.35
3085 801452.54 7514716.49
3086 801446.10 7514724.13
3087 801443.91 7514726.76
3088 801437.84 7514734.17
3089 801436.59 7514735.70
3090 801436.32 7514736.03
3091 801434.97 7514737.73
3092 801428.76 7514745.57
3093 801426.33 7514748.67
3094 801426.19 7514748.86
3095 801420.11 7514756.80
3096 801417.61 7514760.13
3097 801411.66 7514768.17
3098 801409.21 7514771.54
3099 801403.39 7514779.68
3100 801401.00 7514783.09
3101 801395.32 7514791.32
3102 801393.29 7514794.32
3103 801392.99 7514794.78
3104 801387.45 7514803.10
3105 801385.17 7514806.59
3106 801379.77 7514815.01
3107 801377.55 7514818.54
3108 801372.29 7514827.05
3109 801370.13 7514830.61
3110 801365.02 7514839.20
3111 801363.35 7514842.06
3112 801362.92 7514842.81
3113 801357.95 7514851.48
3114 801355.90 7514855.12
3115 801351.08 7514863.88
3116 801349.10 7514867.55
3117 801344.42 7514876.38
3118 801342.50 7514880.09
3119 801337.97 7514889.00
3120 801336.63 7514891.67
3121 801336.11 7514892.73
3122 801331.73 7514901.72
3123 801329.94 7514905.49
3124 801325.71 7514914.55
3125 801323.98 7514918.34
3126 801319.90 7514927.47
3127 801318.23 7514931.29
3128 801314.30 7514940.49
3129 801313.27 7514942.95
3130 801312.70 7514944.34
3131 801308.93 7514953.60
3132 801307.39 7514957.47
3133 801303.77 7514966.80
3134 801302.30 7514970.70
3135 801298.83 7514980.08

3136 801297.42 7514984.00
3137 801294.12 7514993.44
3138 801293.35 7514995.67
3139 801292.78 7514997.39
3140 801289.63 7515006.88
3141 801288.35 7515010.85
3142 801285.37 7515020.39
3143 801284.15 7515024.38
3144 801281.33 7515033.97
3145 801280.18 7515037.98
3146 801277.51 7515047.62
3147 801276.98 7515049.59
3148 801276.44 7515051.65
3149 801273.93 7515061.33
3150 801272.92 7515065.37
3151 801270.57 7515075.10
3152 801269.63 7515079.16
3153 801267.45 7515088.92
3154 801266.57 7515092.99
3155 801264.56 7515102.79
3156 801264.21 7515104.48
3157 801263.75 7515106.88
3158 801261.89 7515116.70
3159 801261.15 7515120.81
3160 801259.46 7515130.66
3161 801258.79 7515134.78
3162 801257.27 7515144.66
3163 801256.66 7515148.79
3164 801255.30 7515158.69
3165 801255.12 7515160.09
3166 801254.77 7515162.83
3167 801253.57 7515172.76
3168 801253.11 7515176.90
3169 801252.08 7515186.85
3170 801251.69 7515191.00
3171 801250.82 7515200.96
3172 801250.50 7515205.12
3173 801249.80 7515215.09
3174 801249.72 7515216.18
3175 801249.54 7515219.25
3176 801249.01 7515229.24
3177 801248.82 7515233.41
3178 801248.46 7515243.40
3179 801248.34 7515247.57
3180 801248.14 7515257.56
3181 801248.10 7515261.73
3182 801248.07 7515271.73
3183 801248.06 7515272.51
3184 801248.09 7515275.90
3185 801248.22 7515285.90
3186 801248.31 7515290.07
3187 801248.62 7515300.07
3188 801248.78 7515304.23
3189 801249.25 7515314.22
3190 801249.48 7515318.38
3191 801250.11 7515328.36
3192 801250.14 7515328.82
3193 801250.41 7515332.52
3194 801251.21 7515342.49
3195 801251.58 7515346.64
3196 801252.55 7515356.60
3197 801252.99 7515360.74
3198 801254.12 7515370.68
3199 801254.63 7515374.82
3200 801255.93 7515384.73
3201 801255.95 7515384.88

3202 801256.51 7515388.86
3203 801257.97 7515398.75
3204 801258.62 7515402.87
3205 801260.25 7515412.74
3206 801260.96 7515416.85
3207 801262.75 7515426.68
3208 801263.50 7515430.61
3209 801263.54 7515430.78
3210 801265.49 7515440.59
3211 801266.34 7515444.67
3212 801268.46 7515454.44
3213 801269.38 7515458.51
3214 801271.67 7515468.24
3215 801272.65 7515472.30
3216 801275.10 7515481.99
3217 801276.02 7515485.56
3218 801276.15 7515486.03
3219 801278.76 7515495.68
3220 801279.88 7515499.70
3221 801282.65 7515509.31
3222 801283.83 7515513.30
3223 801286.76 7515522.86
3224 801288.02 7515526.84
3225 801291.10 7515536.35
3226 801292.16 7515539.55
3227 801292.42 7515540.31
3228 801295.67 7515549.77
3229 801297.05 7515553.70
3230 801300.45 7515563.10
3231 801301.91 7515567.01
3232 801305.46 7515576.36
3233 801306.98 7515580.24
3234 801310.69 7515589.52
3235 801311.84 7515592.35
3236 801312.27 7515593.38
3237 801316.14 7515602.60
3238 801317.79 7515606.44
3239 801321.81 7515615.59
3240 801323.52 7515619.40
3241 801327.69 7515628.48
3242 801329.46 7515632.26
3243 801333.79 7515641.27
3244 801334.98 7515643.73
3245 801335.62 7515645.02
3246 801340.10 7515653.96
3247 801341.99 7515657.67
3248 801346.61 7515666.54
3249 801348.57 7515670.22
3250 801353.34 7515679.01
3251 801355.36 7515682.66
3252 801360.28 7515691.37
3253 801361.48 7515693.47
3254 801362.36 7515694.98
3255 801367.42 7515703.61
3256 801369.56 7515707.18
3257 801374.76 7515715.72
3258 801376.96 7515719.27
3259 801382.31 7515727.72
3260 801384.56 7515731.22
3261 801390.05 7515739.58
3262 801391.21 7515741.34
3263 801392.37 7515743.05
3264 801397.99 7515751.32
3265 801400.36 7515754.75
3266 801406.13 7515762.92
3267 801408.56 7515766.31

3268 801414.45 7515774.38
3269 801416.94 7515777.73
3270 801422.97 7515785.71
3271 801424.05 7515787.13
3272 801425.51 7515789.01
3273 801431.68 7515796.89
3274 801434.27 7515800.15
3275 801440.57 7515807.92
3276 801443.22 7515811.14
3277 801449.64 7515818.80
3278 801452.34 7515821.98
3279 801458.89 7515829.54
3280 801459.86 7515830.65
3281 801461.65 7515832.66
3282 801468.32 7515840.11
3283 801471.13 7515843.19
3284 801477.93 7515850.53
3285 801480.79 7515853.56
3286 801487.71 7515860.78
3287 801490.62 7515863.77
3288 801497.66 7515870.87
3289 801498.47 7515871.69
3290 801500.61 7515873.81
3291 801507.77 7515880.79
3292 801510.78 7515883.68
3293 801518.05 7515890.55
3294 801521.10 7515893.38
3295 801528.49 7515900.13
3296 801531.59 7515902.91
3297 801539.09 7515909.53
3298 801539.72 7515910.08
3299 801542.24 7515912.26
3300 801549.84 7515918.76
3301 801553.04 7515921.44
3302 801560.75 7515927.80
3303 801563.99 7515930.43
3304 801571.80 7515936.66
3305 801575.09 7515939.24
3306 801583.01 7515945.34
3307 801583.42 7515945.66
3308 801586.33 7515947.86
3309 801594.35 7515953.83
3310 801597.72 7515956.29
3311 801605.84 7515962.13
3312 801609.24 7515964.53
3313 801617.46 7515970.23
3314 801620.90 7515972.58
3315 801629.21 7515978.14
3316 801629.39 7515978.26
3317 801632.70 7515980.43
3318 801641.10 7515985.86
3319 801644.62 7515988.09
3320 801653.11 7515993.37
3321 801656.67 7515995.55
3322 801665.25 7516000.69
3323 801668.75 7516002.74
3324 801668.84 7516002.80
3325 801677.50 7516007.79
3326 801681.13 7516009.85
3327 801689.88 7516014.70
3328 801693.54 7516016.69
3329 801702.36 7516021.40
3330 801704.58 7516022.56
3331 801706.34 7516023.48
3332 801708.19 7516024.43
3333 801715.33 7516028.07

3334 801718.31 7516029.57
3335 801718.69 7516029.75
3336 801727.66 7516034.16
3337 801731.42 7516035.96
3338 801740.46 7516040.22
3339 801744.25 7516041.96
3340 801753.37 7516046.07
3341 801757.18 7516047.75
3342 801766.37 7516051.70
3343 801769.54 7516053.04
3344 801770.21 7516053.32
3345 801779.46 7516057.12
3346 801783.32 7516058.67
3347 801792.64 7516062.31
3348 801796.53 7516063.80
3349 801805.90 7516067.29
3350 801809.82 7516068.71
3351 801819.24 7516072.05
3352 801822.21 7516073.07
3353 801823.18 7516073.40
3354 801832.67 7516076.58
3355 801836.63 7516077.87
3356 801846.16 7516080.88
3357 801850.14 7516082.11
3358 801859.73 7516084.97
3359 801863.73 7516086.12
3360 801873.36 7516088.82
3361 801876.09 7516089.57
3362 801877.38 7516089.91
3363 801887.05 7516092.45
3364 801891.09 7516093.47
3365 801900.81 7516095.85
3366 801904.86 7516096.80
3367 801914.61 7516099.01
3368 801918.68 7516099.90
3369 801928.47 7516101.95
3370 801930.95 7516102.46
3371 801932.56 7516102.77
3372 801942.38 7516104.66
3373 801946.48 7516105.41
3374 801956.33 7516107.13
3375 801960.44 7516107.82
3376 801970.31 7516109.38
3377 801974.43 7516109.99
3378 801984.34 7516111.38
3379 801986.54 7516111.68
3380 801988.47 7516111.93
3381 801998.39 7516113.16
3382 802002.53 7516113.64
3383 802012.47 7516114.70
3384 802016.62 7516115.11
3385 802026.58 7516116.00
3386 802030.73 7516116.34
3387 802040.71 7516117.07
3388 802042.62 7516117.21
3389 802044.86 7516117.34
3390 802054.85 7516117.91
3391 802059.01 7516118.11
3392 802069.00 7516118.51
3393 802073.17 7516118.64
3394 802083.16 7516118.87
3395 802087.33 7516118.93
3396 802097.33 7516118.99
3397 802098.10 7516118.97
3398 802098.95 7516119.00
3399 802101.50 7516118.99

3400 802111.50 7516118.89
3401 802115.66 7516118.81
3402 802125.66 7516118.54
3403 802129.82 7516118.39
3404 802139.81 7516117.96
3405 802143.97 7516117.74
3406 802153.96 7516117.14
3407 802155.27 7516117.06
3408 802158.11 7516116.85
3409 802168.08 7516116.09
3410 802172.23 7516115.73
3411 802182.19 7516114.80
3412 802186.33 7516114.37
3413 802196.27 7516113.28
3414 802200.41 7516112.78
3415 802210.33 7516111.52
3416 802211.33 7516111.39
3417 802214.46 7516110.96
3418 802224.36 7516109.53
3419 802228.48 7516108.89
3420 802238.35 7516107.30
3421 802242.45 7516106.60
3422 802252.30 7516104.84
3423 802256.39 7516104.07
3424 802266.21 7516102.15
3425 802266.90 7516102.01
3426 802270.29 7516101.32
3427 802280.07 7516099.23
3428 802284.14 7516098.33
3429 802293.88 7516096.08
3430 802297.93 7516095.11
3431 802307.64 7516092.69
3432 802311.67 7516091.66
3433 802321.34 7516089.08
3434 802321.72 7516088.98
3435 802325.35 7516087.98
3436 802334.97 7516085.24
3437 802338.97 7516084.07
3438 802348.54 7516081.18
3439 802352.52 7516079.94
3440 802362.04 7516076.89
3441 802366.00 7516075.58
3442 802375.47 7516072.37
3443 802375.56 7516072.34
3444 802379.41 7516071.00
3445 802388.82 7516067.63
3446 802392.73 7516066.20
3447 802402.09 7516062.67
3448 802405.98 7516061.17
3449 802415.28 7516057.49
3450 802418.95 7516056.01
3451 802419.14 7516055.93
3452 802428.37 7516052.09
3453 802432.21 7516050.46
3454 802441.38 7516046.47
3455 802445.18 7516044.78
3456 802454.29 7516040.64
3457 802458.07 7516038.88
3458 802467.10 7516034.59
3459 802470.39 7516033.00
3460 802470.85 7516032.77
3461 802479.81 7516028.33
3462 802483.52 7516026.45
3463 802492.41 7516021.86
3464 802496.09 7516019.92
3465 802504.90 7516015.18

3466 802508.55 7516013.18
3467 802517.28 7516008.29
3468 802520.19 7516006.64
3469 802520.90 7516006.23
3470 802529.54 7516001.20
3471 802533.13 7515999.07
3472 802541.68 7515993.90
3473 802545.23 7515991.72
3474 802553.70 7515986.41
3475 802557.21 7515984.16
3476 802565.60 7515978.71
3477 802568.14 7515977.03
3478 802569.07 7515976.41
3479 802577.36 7515970.81
3480 802580.79 7515968.45
3481 802588.99 7515962.72
3482 802592.38 7515960.31
3483 802600.48 7515954.44
3484 802603.84 7515951.97
3485 802611.84 7515945.97
3486 802614.02 7515944.31
3487 802615.15 7515943.44
3488 802623.05 7515937.31
3489 802626.32 7515934.73
3490 802634.11 7515928.46
3491 802637.34 7515925.83
3492 802645.03 7515919.43
3493 802648.21 7515916.74
3494 802655.79 7515910.22
3495 802657.63 7515908.63
3496 802658.93 7515907.48
3497 802666.40 7515900.84
3498 802669.49 7515898.04
3499 802676.85 7515891.27
3500 802679.90 7515888.43
3501 802687.14 7515881.54
3502 802690.14 7515878.64
3503 802697.27 7515871.63
3504 802698.78 7515870.13
3505 802700.22 7515868.68
3506 802707.23 7515861.56
3507 802710.13 7515858.56
3508 802717.02 7515851.32
3509 802719.87 7515848.28
3510 802726.64 7515840.92
3511 802729.44 7515837.83
3512 802736.08 7515830.36
3513 802737.29 7515828.99
3514 802738.83 7515827.22
3515 802745.35 7515819.64
3516 802748.04 7515816.46
3517 802754.44 7515808.78
3518 802757.08 7515805.55
3519 802763.34 7515797.76
3520 802765.93 7515794.49
3521 802772.06 7515786.59
3522 802772.99 7515785.39
3523 802774.59 7515783.28
3524 802780.59 7515775.28
3525 802783.07 7515771.93
3526 802788.94 7515763.84
3527 802791.35 7515760.44
3528 802797.09 7515752.25
3529 802799.45 7515748.81
3530 802805.04 7515740.53
3531 802805.73 7515739.51

3532 802807.35 7515737.06
3533 802812.80 7515728.68
3534 802815.05 7515725.17
3535 802820.37 7515716.70
3536 802822.55 7515713.15
3537 802827.73 7515704.59
3538 802829.85 7515701.01
3539 802834.89 7515692.37
3540 802835.35 7515691.57
3541 802836.95 7515688.75
3542 802841.84 7515680.02
3543 802843.84 7515676.37
3544 802848.59 7515667.57
3545 802850.53 7515663.88
3546 802855.12 7515655.00
3547 802857.01 7515651.28
3548 802861.45 7515642.33
3549 802861.72 7515641.78
3550 802863.27 7515638.58
3551 802867.57 7515629.55
3552 802869.33 7515625.77
3553 802873.47 7515616.67
3554 802875.16 7515612.86
3555 802879.16 7515603.69
3556 802880.79 7515599.86
3557 802884.63 7515590.63
3558 802884.74 7515590.34
3559 802886.19 7515586.77
3560 802889.88 7515577.47
3561 802891.38 7515573.58
3562 802894.91 7515564.23
3563 802896.34 7515560.32
3564 802899.72 7515550.90
3565 802901.09 7515546.97
3566 802904.30 7515537.50
3567 802904.30 7515537.49
3568 802905.61 7515533.54
3569 802908.67 7515524.02
3570 802909.91 7515520.04
3571 802912.80 7515510.47
3572 802913.98 7515506.47
3573 802916.71 7515496.86
3574 802917.74 7515493.13
3575 802917.82 7515492.84
3576 802920.40 7515483.18
3577 802921.44 7515479.14
3578 802923.85 7515469.44
3579 802924.39 7515467.25
3580 802924.58 7515466.45
3581 802925.06 7515464.42
3582 802927.12 7515455.48
3583 802927.98 7515451.58
3584 802930.07 7515441.80
3585 802930.79 7515438.31
3586 802930.91 7515437.72
3587 802932.84 7515427.90
3588 802933.61 7515423.81
3589 802935.37 7515413.97
3590 802936.07 7515409.86
3591 802937.67 7515399.99
3592 802938.30 7515395.87
3593 802939.74 7515385.97
3594 802940.18 7515382.74
3595 802940.30 7515381.84
3596 802941.57 7515371.92
3597 802942.06 7515367.79

3598 802943.17 7515357.85
3599 802943.59 7515353.70
3600 802944.53 7515343.75
3601 802944.89 7515339.60
3602 802945.66 7515329.63
3603 802945.82 7515327.38
3604 802945.88 7515326.56
3605 802945.93 7515325.86
3606 802946.01 7515324.48
3607 802946.56 7515315.32
3608 802946.73 7515312.22
3609 802947.00 7515306.52
3610 802947.09 7515304.46
3611 802947.26 7515300.17
3612 802947.35 7515297.50
3613 802947.63 7515287.51
3614 802947.70 7515284.33
3615 802947.86 7515274.33
3616 802947.89 7515271.85
3617 802947.95 7515261.85
3618 802947.95 7515260.36
3619 802947.95 7515260.07
3620 802947.94 7515250.07
3621 802947.94 7515248.98
3622 802947.88 7515238.98
3623 802947.88 7515238.55
3624 802945.49 7514908.70
3625 802945.43 7514899.32
3626 802945.41 7514890.61
3627 802945.45 7514882.60
3628 802945.55 7514875.28
3629 802945.73 7514868.29
3630 802945.87 7514864.41
3631 802945.93 7514863.24
3632 802946.30 7514856.75
3633 802946.73 7514850.93
3634 802947.25 7514845.12
3635 802947.88 7514839.32
3636 802948.60 7514833.53
3637 802949.41 7514827.76
3638 802950.33 7514822.00
3639 802951.33 7514816.25
3640 802952.44 7514810.52
3641 802953.64 7514804.81
3642 802954.93 7514799.13
3643 802956.32 7514793.46
3644 802957.80 7514787.82
3645 802959.38 7514782.20
3646 802961.05 7514776.62
3647 802962.82 7514771.05
3648 802964.67 7514765.52
3649 802966.62 7514760.03
3650 802968.66 7514754.56
3651 802970.79 7514749.13
3652 802973.01 7514743.74
3653 802975.32 7514738.38
3654 802977.72 7514733.06
3655 802980.20 7514727.79
3656 802982.78 7514722.55
3657 802985.44 7514717.36
3658 802988.19 7514712.22
3659 802991.02 7514707.12
3660 802993.94 7514702.07
3661 802996.94 7514697.06
3662 803000.02 7514692.11
3663 803003.19 7514687.21

3664 803006.43 7514682.37
3665 803009.76 7514677.58
3666 803013.17 7514672.84
3667 803016.66 7514668.17
3668 803020.22 7514663.55
3669 803023.86 7514658.99
3670 803027.57 7514654.49
3671 803031.36 7514650.06
3672 803035.22 7514645.69
3673 803039.16 7514641.38
3674 803043.17 7514637.14
3675 803047.24 7514632.97
3676 803051.39 7514628.86
3677 803055.60 7514624.83
3678 803059.88 7514620.87
3679 803064.23 7514616.98
3680 803068.64 7514613.16
3681 803073.11 7514609.41
3682 803077.64 7514605.74
3683 803082.24 7514602.15
3684 803086.89 7514598.63
3685 803091.60 7514595.19
3686 803096.37 7514591.84
3687 803101.20 7514588.56
3688 803106.07 7514585.36
3689 803111.00 7514582.24
3690 803115.99 7514579.21
3691 803121.02 7514576.26
3692 803126.10 7514573.39
3693 803131.23 7514570.61
3694 803136.40 7514567.91
3695 803141.62 7514565.30
3696 803146.88 7514562.78
3697 803152.18 7514560.35
3698 803157.52 7514558.00
3699 803162.90 7514555.75
3700 803168.31 7514553.58
3701 803173.77 7514551.51
3702 803179.25 7514549.52
3703 803184.77 7514547.63
3704 803190.32 7514545.83
3705 803195.89 7514544.12
3706 803201.50 7514542.51
3707 803207.13 7514540.99
3708 803212.79 7514539.56
3709 803218.47 7514538.23
3710 803224.17 7514536.99
3711 803229.89 7514535.85
3712 803235.63 7514534.81
3713 803241.38 7514533.86
3714 803247.15 7514533.00
3715 803252.93 7514532.24
3716 803258.73 7514531.58
3717 803264.54 7514531.02
3718 803270.35 7514530.55
3719 803276.88 7514530.13
3720 803277.70 7514530.09
3721 803281.94 7514529.90
3722 803288.92 7514529.67
3723 803296.27 7514529.52
3724 803304.30 7514529.43
3725 803313.04 7514529.39
3726 803322.45 7514529.38
3727 803768.15 7514529.31
3728 803768.03 7514523.35
3729 804099.30 7514518.38

3730 805107.51 7514496.92
3731 805170.39 7514510.03
3732 805200.46 7514515.38
3733 805230.44 7514521.25
3734 805260.30 7514527.64
3735 805290.05 7514534.55
3736 805319.68 7514541.99
3737 805349.17 7514549.93
3738 805378.51 7514558.40
3739 805407.71 7514567.37
3740 805436.74 7514576.85
3741 805465.61 7514586.83
3742 805494.29 7514597.32
3743 805522.79 7514608.31
3744 805551.09 7514619.79
3745 805579.19 7514631.77
3746 805607.07 7514644.23
3747 805634.74 7514657.18
3748 805662.17 7514670.61
3749 805689.36 7514684.51
3750 805716.31 7514698.89
3751 805743.00 7514713.74
3752 805769.43 7514729.05
3753 805795.59 7514744.82
3754 805821.46 7514761.04
3755 805847.06 7514777.71
3756 805872.35 7514794.83
3757 806320.00 7515147.22
3758 806787.26 7515571.74
3759 807000.41 7515859.53
3760 807135.81 7516143.47
3761 807216.64 7516438.45
3762 807244.91 7516751.76
3763 807222.55 7517030.56
3764 807163.52 7517280.28
3765 807067.39 7517599.52
3766 807055.70 7517641.86
3767 806910.87 7518130.47
3768 806601.14 7519167.59
3769 806601.13 7519167.63
3770 806601.12 7519167.65
3771 806594.70 7519189.22
3772 806594.64 7519189.43
3773 806592.51 7519196.62
3774 806592.46 7519196.79
3775 806590.33 7519203.99
3776 806590.26 7519204.22
3777 806588.14 7519211.41
3778 806588.06 7519211.68
3779 806585.95 7519218.88
3780 806585.85 7519219.19
3781 806583.75 7519226.39
3782 806583.42 7519227.56
3783 806583.29 7519227.99
3784 806566.99 7519285.16
3785 806566.19 7519288.03
3786 806550.58 7519345.39
3787 806550.32 7519346.35
3788 806549.81 7519348.26
3789 806534.88 7519405.81
3790 806534.15 7519408.69
3791 806519.90 7519466.41
3792 806519.21 7519469.29
3793 806505.65 7519527.18
3794 806504.99 7519530.08
3795 806492.11 7519588.12

3796 806491.49 7519591.02
3797 806479.31 7519649.21
3798 806478.81 7519651.66
3799 806478.72 7519652.12
3800 806467.23 7519710.45
3801 806466.67 7519713.37
3802 806455.88 7519771.84
3803 806455.36 7519774.76
3804 806444.77 7519836.28
3805 806338.63 7520657.55
3806 806132.42 7522324.75
3807 806132.42 7522324.76
3808 806132.42 7522324.83
3809 806130.58 7522339.72
3810 806130.54 7522340.01
3811 806129.63 7522347.45
3812 806129.59 7522347.80
3813 806128.69 7522355.24
3814 806128.64 7522355.72
3815 806127.75 7522363.16
3816 806127.68 7522363.74
3817 806126.82 7522371.19
3818 806126.73 7522371.89
3819 806125.89 7522379.34
3820 806125.80 7522380.16
3821 806124.97 7522387.61
3822 806124.87 7522388.76
3823 806124.67 7522390.54
3824 806120.76 7522430.24
3825 806120.32 7522435.20
3826 806117.21 7522474.97
3827 806116.98 7522478.14
3828 806116.87 7522479.95
3829 806114.55 7522519.77
3830 806114.31 7522524.75
3831 806112.78 7522564.62
3832 806112.64 7522569.60
3833 806111.91 7522609.49
3834 806111.87 7522614.06
3835 806111.87 7522614.47
3836 806111.94 7522654.36
3837 806112.00 7522659.35
3838 806112.86 7522699.23
3839 806113.01 7522704.22
3840 806114.67 7522744.07
3841 806114.93 7522749.05
3842 806117.38 7522788.87
3843 806117.44 7522789.86
3844 806117.73 7522793.84
3845 806120.98 7522833.60
3846 806121.43 7522838.57
3847 806125.47 7522878.26
3848 806126.03 7522883.21
3849 806130.85 7522922.81
3850 806131.15 7522925.18
3851 806131.51 7522927.75
3852 806137.12 7522967.25
3853 806137.87 7522972.18
3854 806144.28 7523011.55
3855 806145.13 7523016.47
3856 806152.31 7523055.70
3857 806153.03 7523059.43
3858 806153.26 7523060.60
3859 806161.23 7523099.69
3860 806162.28 7523104.56
3861 806171.02 7523143.48

3862 806172.16 7523148.34
3863 806181.68 7523187.08
3864 806182.92 7523191.91
3865 806193.21 7523230.45
3866 806193.27 7523230.65
3867 806194.55 7523235.25
3868 806205.61 7523273.58
3869 806207.04 7523278.36
3870 806218.86 7523316.46
3871 806219.52 7523318.49
3872 806219.75 7523319.26
3873 806222.05 7523326.40
3874 806222.31 7523327.18
3875 806224.64 7523334.31
3876 806224.86 7523334.98
3877 806227.21 7523342.10
3878 806227.39 7523342.65
3879 806229.76 7523349.77
3880 806229.91 7523350.22
3881 806232.29 7523357.33
3882 806232.40 7523357.66
3883 806234.79 7523364.77
3884 806234.88 7523365.05
3885 806239.68 7523379.26
3886 806239.70 7523379.33
3887 806261.62 7523444.21
3888 805657.11 7523673.34
3889 805794.12 7524107.99
3890 806411.22 7523887.00
3891 806574.37 7524689.05
3892 806667.17 7524963.61
3893 807034.02 7526049.07
3894 807103.14 7526252.55
3895 807163.15 7526409.12
3896 807225.25 7526565.34
3897 807261.74 7526657.06
3898 807326.33 7526795.69
3899 807391.46 7526928.19
3900 807519.82 7527168.23
3901 807719.34 7527508.75
3902 808472.99 7528660.97
3903 808480.26 7528673.94
3904 808483.80 7528680.28
3905 808487.30 7528686.57
3906 808490.75 7528692.78
3907 808494.15 7528698.92
3908 808497.50 7528705.00
3909 808500.37 7528710.24
3910 808520.27 7528747.46
3911 808539.80 7528785.54
3912 808558.65 7528823.92
3913 808576.83 7528862.62
3914 808594.33 7528901.64
3915 808611.14 7528940.95
3916 808627.27 7528980.56
3917 808642.70 7529020.43
3918 808657.43 7529060.58
3919 808671.46 7529100.97
3920 808684.78 7529141.60
3921 808697.40 7529182.46
3922 808709.29 7529223.53
3923 808720.47 7529264.80
3924 808730.93 7529306.26
3925 808740.66 7529347.90
3926 808749.66 7529389.70
3927 808757.94 7529431.65

3928 808765.47 7529473.74
3929 808772.28 7529515.96
3930 808778.34 7529558.29
3931 808783.67 7529600.71
3932 808788.25 7529643.23
3933 808792.10 7529685.81
3934 808795.19 7529728.46
3935 808797.55 7529771.16
3936 808799.15 7529813.89
3937 808800.02 7529856.64
3938 808800.13 7529899.40
3939 808799.50 7529942.15
3940 808798.12 7529984.89
3941 808796.00 7530027.60
3942 808793.13 7530070.26
3943 808789.52 7530112.87
3944 808785.17 7530155.41
3945 808780.07 7530197.86
3946 808774.23 7530240.22
3947 808767.66 7530282.47
3948 808760.35 7530324.60
3949 808752.30 7530366.60
3950 808743.52 7530408.45
3951 808734.02 7530450.14
3952 808723.79 7530491.65
3953 808712.83 7530532.99
3954 808701.16 7530574.12
3955 808688.76 7530615.05
3956 808675.66 7530655.75
3957 808661.85 7530696.22
3958 808647.33 7530736.44
3959 808632.12 7530776.40
3960 808616.21 7530816.09
3961 808599.60 7530855.49
3962 808563.21 7530920.77
3963 808481.69 7531032.42
3964 808388.14 7531139.08
3965 808298.84 7531238.30
3966 808147.92 7531389.36
3967 807981.16 7531565.81
3968 807815.79 7531701.41
3969 807647.42 7531838.04
3970 807425.50 7531962.12
3971 807132.78 7532094.89
3972 806850.61 7532175.34
3973 806559.68 7532221.44
3974 805501.07 7532328.77
3975 803735.19 7532429.90
3976 801640.39 7532618.01
3977 799610.73 7532802.59
3978 799256.07 7532821.71
3979 798682.94 7532764.41
3980 798221.32 7532660.52
3981 797873.21 7532526.41
3982 797513.56 7532233.88
3983 797073.69 7531837.01
3984 796853.76 7531629.34
3985 796657.50 7531444.16
3986 796459.28 7531296.16
3987 796267.06 7531181.81
3988 796063.28 7531086.65
3989 795851.02 7531012.30
3990 795642.22 7530961.40
3991 795464.66 7530934.30
3992 795275.80 7530916.01
3993 794980.11 7530888.02

3994 794424.85 7530835.45
3995 794138.44 7530808.33
3996 793348.09 7530733.50
3997 793226.47 7530721.98
3998 793070.40 7530707.21
3999 792682.13 7530670.47
4000 792583.31 7530663.21
4001 792504.61 7530660.50
4002 792336.88 7530647.88
4003 792155.17 7530654.90
4004 791935.85 7530683.16
4005 791763.05 7530721.20
4006 791443.44 7530823.87
4007 791058.85 7530955.13
4008 790656.13 7531092.57
4009 790122.07 7531274.72
4010 789844.84 7531342.52
4011 789601.65 7531364.09
4012 789177.39 7531320.01
4013 788831.33 7531201.32
4014 788617.66 7531083.21
4015 788394.37 7530915.58
4016 788213.98 7530770.58
4017 788007.81 7530604.87
4018 787653.57 7530320.15
4019 787443.49 7530151.30
4020 787293.95 7530031.11
4021 787175.77 7529940.27
4022 787066.74 7529866.50
4023 787215.59 7529694.79
4024 786261.04 7528894.58
4025 785949.28 7529450.27
4026 785821.68 7529416.10
4027 785683.33 7529376.85
4028 785531.68 7529333.82
4029 785349.39 7529283.74
4030 785228.96 7529259.25
4031 785118.23 7529244.38
4032 785079.28 7529240.85
4033 785114.47 7528691.46
4034 784809.12 7528673.20
4035 784766.83 7529244.02
4036 784650.56 7529259.59
4037 784497.64 7529292.39
4038 784343.01 7529340.61
4039 784252.33 7529379.02
4040 784230.56 7529387.41
4041 784186.36 7529405.49
4042 784011.26 7529481.75
4043 783722.18 7529607.97
4044 783608.32 7529657.61
4045 783518.47 7529693.49
4046 783214.66 7529775.11
4047 782979.89 7529799.84
4048 782717.82 7529789.99
4049 782519.59 7529755.95
4050 782359.64 7529710.82
4051 782113.74 7529617.24
4052 782344.30 7529214.16
4053 781596.83 7528830.14
4054 781356.58 7529334.25
4055 780688.89 7529090.99
4056 780976.51 7528502.38
4057 780552.89 7528315.60
4058 780239.42 7528962.42
4059 779540.18 7528760.09

4060 779236.73 7528686.00
4061 778920.71 7528614.09
4062 778540.61 7528575.60
4063 778155.54 7528594.40
4064 777866.34 7528614.98
4065 777728.33 7528624.80
4066 777495.44 7528643.20
4067 775851.02 7528757.75
4068 775702.32 7528758.24
4069 775597.59 7528750.98
4070 775467.59 7528733.10
4071 775373.30 7528713.82
4072 775230.05 7528673.91
4073 775082.65 7528618.56
4074 774331.40 7528250.77
4075 773949.41 7528062.27
4076 773679.89 7527929.26
4077 773399.81 7527791.05
4078 772803.62 7527496.83
4079 772651.75 7527424.57
4080 772409.31 7527334.58
4081 772502.75 7526978.23
4082 772182.62 7526983.94
4083 772113.81 7527265.27
4084 771936.46 7527243.31
4085 771800.42 7527236.07
4086 771826.39 7526990.71
4087 771127.56 7527003.96
4088 771167.11 7527311.99
4089 771080.66 7527337.00
4090 770889.11 7527406.23
4091 770828.27 7527432.44
4092 770686.91 7527501.87
4093 770619.29 7527539.49
4094 770572.74 7527566.21
4095 770435.72 7527641.90
4096 770635.52 7527014.16
4097 770388.08 7527017.76
4098 770385.12 7526872.98
4099 770313.55 7526909.82
4100 770131.18 7527207.39
4101 769985.53 7527567.44
4102 769989.32 7527850.79
4103 769724.86 7527909.87
4104 769436.95 7527927.10
4105 769358.29 7527923.55
4106 769262.49 7527914.40
4107 769175.95 7527901.52
4108 769081.64 7527882.38
4109 768996.92 7527860.51
4110 768938.33 7527842.69
4111 768823.18 7527800.96
4112 768766.08 7527776.82
4113 768563.48 7527686.48
4114 768571.13 7527640.90
4115 768572.06 7527110.43
4116 768308.69 7527122.45
4117 768179.83 7527515.64
4118 767935.57 7527427.11
4119 767762.44 7527382.86
4120 767562.77 7527349.51
4121 767393.39 7527335.46
4122 767205.50 7527334.99
4123 766979.45 7527355.04
4124 766915.75 7527203.27
4125 766764.02 7526886.68

4126 766849.16 7526474.39
4127 766593.35 7526495.17
4128 766532.66 7526873.39
4129 766462.17 7526901.86
4130 766322.63 7526987.36
4131 766258.21 7527084.86
4132 766382.17 7527487.03
4133 766302.44 7527506.04
4134 765716.23 7527645.80
4135 765521.17 7527692.31
4136 765183.44 7527753.80
4137 765153.41 7527759.37
4138 765123.29 7527764.42
4139 765093.08 7527768.95
4140 765061.95 7527773.06
4141 765056.21 7527773.75
4142 765049.52 7527774.54
4143 765042.71 7527775.33
4144 765035.78 7527776.11
4145 765028.74 7527776.89
4146 765021.60 7527777.67
4147 765006.87 7527779.27
4148 764451.00 7527839.26
4149 764450.95 7527839.27
4150 764435.71 7527840.92
4151 764428.26 7527841.73
4152 764388.10 7527846.37
4153 764381.03 7527799.79
4154 764146.47 7527840.78
4155 764152.27 7527888.30
4156 764127.70 7527894.09
4157 764090.08 7527903.64
4158 764086.90 7527904.47
4159 764085.38 7527904.88
4160 764047.95 7527915.16
4161 764043.29 7527916.49
4162 764006.06 7527927.50
4163 764001.42 7527928.92
4164 763964.42 7527940.65
4165 763959.81 7527942.16
4166 763923.04 7527954.60
4167 763922.82 7527954.68
4168 763918.46 7527956.20
4169 763881.94 7527969.35
4170 763877.39 7527971.04
4171 763841.14 7527984.90
4172 763836.62 7527986.68
4173 763800.64 7528001.24
4174 763798.75 7528002.01
4175 763796.16 7528003.10
4176 763760.47 7528018.36
4177 763756.02 7528020.31
4178 763720.63 7528036.26
4179 763716.23 7528038.29
4180 763681.16 7528054.92
4181 763677.69 7528056.60
4182 763676.79 7528057.04
4183 763642.05 7528074.35
4184 763637.73 7528076.56
4185 763603.32 7528094.54
4186 763599.05 7528096.83
4187 763565.00 7528115.47
4188 763560.77 7528117.84
4189 763527.09 7528137.14
4190 763526.39 7528137.54
4191 763522.90 7528139.59

4192 763489.60 7528159.54
4193 763485.47 7528162.08
4194 763452.56 7528182.67
4195 763448.48 7528185.28
4196 763415.98 7528206.51
4197 763413.80 7528207.95
4198 763411.94 7528209.20
4199 763379.86 7528231.06
4200 763379.47 7528231.34
4201 763377.50 7528232.69
4202 763371.35 7528236.98
4203 763370.67 7528237.46
4204 763364.54 7528241.77
4205 763363.97 7528242.17
4206 763357.84 7528246.50
4207 763357.36 7528246.84
4208 763351.25 7528251.19
4209 763350.87 7528251.46
4210 763344.76 7528255.82
4211 763344.48 7528256.02
4212 763338.38 7528260.39
4213 763338.14 7528260.56
4214 763325.95 7528269.30
4215 763325.92 7528269.33
4216 763325.89 7528269.35
4217 762551.09 7528825.68
4218 762271.61 7528308.04
4219 761779.64 7528609.13
4220 762029.65 7529103.77
4221 761850.15 7529174.04
4222 761470.48 7528525.79
4223 761061.06 7528694.91
4224 761463.36 7529325.47
4225 761089.29 7529471.92
4226 760701.10 7528822.27
4227 760471.28 7528911.72
4228 760048.71 7529187.38
4229 760352.57 7529760.35
4230 760046.43 7529889.95
4231 759938.27 7529707.59
4232 759729.05 7529857.32
4233 759819.33 7530019.40
4234 759770.98 7530052.54
4235 759766.91 7530055.35
4236 759734.63 7530078.18
4237 759733.47 7530079.04
4238 759732.25 7530079.88
4239 759726.18 7530084.28
4240 759725.51 7530084.77
4241 759719.46 7530089.19
4242 759718.89 7530089.60
4243 759712.85 7530094.04
4244 759712.37 7530094.39
4245 759706.33 7530098.85
4246 759705.96 7530099.12
4247 759699.94 7530103.58
4248 759699.65 7530103.80
4249 759693.63 7530108.27
4250 759693.40 7530108.44
4251 759681.37 7530117.40
4252 759681.32 7530117.44
4253 759681.30 7530117.45
4254 759276.61 7530419.03
4255 759264.73 7530427.88
4256 759258.97 7530432.16
4257 759253.27 7530436.38

4258 759247.66 7530440.52
4259 759242.13 7530444.57
4260 759236.69 7530448.54
4261 759231.31 7530452.44
4262 759226.97 7530455.57
4263 759201.28 7530473.64
4264 759176.00 7530490.78
4265 759150.42 7530507.47
4266 759156.07 7530109.88
4267 759153.82 7530109.96
4268 758909.12 7530118.32
4269 758932.75 7530626.10
4270 758926.24 7530629.12
4271 758912.79 7530635.33
4272 758852.50 7530663.15
4273 758801.21 7530372.19
4274 758406.01 7530509.62
4275 758467.85 7530840.65
4276 758165.64 7530980.10
4277 758152.19 7530986.31
4278 758145.67 7530989.30
4279 758139.22 7530992.26
4280 758132.88 7530995.15
4281 758126.63 7530997.98
4282 758120.49 7531000.74
4283 758115.07 7531003.15
4284 758090.62 7531013.77
4285 758089.98 7531014.04
4286 758062.26 7531025.55
4287 758033.86 7531036.77
4288 758005.26 7531047.50
4289 757976.48 7531057.72
4290 757947.53 7531067.44
4291 757918.41 7531076.66
4292 757889.13 7531085.36
4293 757859.70 7531093.55
4294 757829.30 7531101.45
4295 757823.70 7531102.84
4296 757817.16 7531104.44
4297 757810.49 7531106.05
4298 757803.71 7531107.68
4299 757796.81 7531109.32
4300 757789.83 7531110.97
4301 757775.41 7531114.35
4302 757451.01 7531190.10
4303 757153.02 7531259.69
4304 757107.31 7530927.17
4305 757104.98 7530926.96
4306 756553.66 7530878.40
4307 755823.84 7530818.88
4308 755720.61 7531157.23
4309 755584.46 7531670.02
4310 755598.25 7531707.12
4311 755564.43 7531725.88
4312 755560.68 7531728.00
4313 755560.23 7531728.26
4314 755526.78 7531747.66
4315 755522.63 7531750.13
4316 755489.56 7531770.17
4317 755485.45 7531772.72
4318 755452.78 7531793.40
4319 755448.72 7531796.02
4320 755416.46 7531817.33
4321 755415.34 7531818.08
4322 755412.45 7531820.03
4323 755380.61 7531841.96

4324 755376.65 7531844.74
4325 755345.24 7531867.28
4326 755341.34 7531870.14
4327 755310.36 7531893.28
4328 755307.81 7531895.21
4329 755306.52 7531896.21
4330 755276.00 7531919.94
4331 755272.21 7531922.95
4332 755242.15 7531947.27
4333 755238.43 7531950.35
4334 755208.85 7531975.25
4335 755205.18 7531978.39
4336 755176.08 7532003.86
4337 755175.91 7532004.02
4338 755172.48 7532007.08
4339 755143.88 7532033.10
4340 755140.34 7532036.39
4341 755112.25 7532062.96
4342 755108.77 7532066.32
4343 755081.20 7532093.43
4344 755079.71 7532094.91
4345 755079.17 7532095.45
4346 755073.88 7532100.77
4347 755073.30 7532101.35
4348 755068.04 7532106.69
4349 755067.54 7532107.19
4350 755062.29 7532112.54
4351 755061.88 7532112.96
4352 755056.64 7532118.32
4353 755056.31 7532118.66
4354 755051.08 7532124.03
4355 755050.84 7532124.28
4356 755045.61 7532129.66
4357 755045.40 7532129.88
4358 755034.95 7532140.67
4359 754851.31 7532330.38
4360 754841.00 7532341.02
4361 754836.00 7532346.18
4362 754831.05 7532351.26
4363 754826.18 7532356.24
4364 754821.38 7532361.13
4365 754816.65 7532365.93
4366 754812.22 7532370.38
4367 754800.68 7532381.85
4368 754778.36 7532403.43
4369 754756.03 7532424.27
4370 754733.35 7532444.72
4371 754710.31 7532464.77
4372 754686.92 7532484.42
4373 754663.20 7532503.66
4374 754639.14 7532522.47
4375 754614.76 7532540.87
4376 754590.06 7532558.84
4377 754565.05 7532576.37
4378 754539.74 7532593.47
4379 754514.14 7532610.12
4380 754488.25 7532626.32
4381 754462.08 7532642.06
4382 754435.63 7532657.35
4383 754408.93 7532672.18
4384 754381.21 7532686.94
4385 754376.08 7532689.60
4386 754370.09 7532692.68
4387 754363.99 7532695.81
4388 754357.77 7532698.97
4389 754351.45 7532702.17

4390 754345.04 7532705.40
4391 754331.80 7532712.05
4392 753666.75 7533046.19
4393 751415.45 7534042.45
4394 750446.46 7534498.72
4395 750228.16 7534513.70
4396 750085.46 7534360.37
4397 749847.58 7534454.36
4398 749895.21 7534536.53
4399 749470.49 7534562.40
4400 748998.54 7534545.41
4401 748678.71 7534532.36
4402 748414.78 7534560.25
4403 748399.95 7534561.87
4404 748385.09 7534563.42
4405 748320.02 7534569.41
4406 748226.46 7534575.08
4407 748139.56 7534580.34
4408 748117.47 7534582.65
4409 748026.36 7534588.08
4410 747556.07 7534616.10
4411 746693.28 7534667.57
4412 745598.11 7534732.97
4413 745582.37 7534734.20
4414 745461.10 7534743.68
4415 745299.54 7534760.38
4416 745055.63 7534794.09
4417 744928.85 7534815.55
4418 744867.44 7534827.00
4419 744855.52 7534829.29
4420 744855.17 7534829.36
4421 744806.39 7534839.08
4422 744803.30 7534840.52
4423 744708.96 7534884.19
4424 744703.78 7534886.78
4425 744567.77 7534958.16
4426 744423.47 7535048.66
4427 744313.23 7535128.75
4428 744157.05 7535259.11
4429 743988.29 7535404.58
4430 743894.00 7535485.85
4431 743604.95 7535736.69
4432 743600.66 7535220.06
4433 743216.95 7535403.88
4434 743225.45 7535761.84
4435 743234.71 7536054.16
4436 742609.81 7536592.82
4437 742500.06 7536278.43
4438 742177.27 7536279.49
4439 742186.34 7536942.69
4440 742168.48 7536934.31
4441 741213.71 7536010.79
4442 740863.37 7536226.70
4443 741062.95 7537396.80
4444 741046.07 7537572.09
4445 741395.24 7538030.35
4446 741388.23 7538090.80
4447 741486.81 7538159.51
4448 741400.65 7538302.62
4449 741393.01 7538315.31
4450 741389.29 7538321.45
4451 741385.62 7538327.52
4452 741381.99 7538333.48
4453 741378.42 7538339.32
4454 741374.88 7538345.06
4455 741371.72 7538350.15

4456 741358.36 7538371.27
4457 741341.52 7538397.00
4458 741324.34 7538422.26
4459 741306.73 7538447.21
4460 741288.68 7538471.86
4461 741269.69 7538496.87
4462 741266.15 7538501.43
4463 741262.00 7538506.74
4464 741257.76 7538512.13
4465 741253.44 7538517.60
4466 741249.03 7538523.16
4467 741244.57 7538528.78
4468 741235.33 7538540.36
4469 741108.57 7538699.31
4470 740764.05 7538474.89
4471 740534.21 7538684.50
4472 740782.74 7538816.92
4473 740949.76 7538898.42
4474 740010.55 7540076.02
4475 740001.31 7540087.60
4476 739996.82 7540093.21
4477 739992.39 7540098.74
4478 739988.01 7540104.17
4479 739983.70 7540109.50
4480 739979.44 7540114.72
4481 739975.79 7540119.19
4482 739955.55 7540143.36
4483 739935.54 7540166.43
4484 739915.13 7540189.15
4485 739894.32 7540211.51
4486 739873.13 7540233.50
4487 739851.56 7540255.12
4488 739829.61 7540276.36
4489 739807.29 7540297.22
4490 739784.62 7540317.68
4491 739761.59 7540337.74
4492 739738.21 7540357.40
4493 739714.50 7540376.65
4494 739690.45 7540395.48
4495 739665.39 7540414.40
4496 739660.74 7540417.84
4497 739655.31 7540421.82
4498 739649.77 7540425.86
4499 739644.13 7540429.96
4500 739638.38 7540434.11
4501 739632.56 7540438.31
4502 739620.53 7540446.96
4503 738556.84 7541211.39
4504 738544.81 7541220.03
4505 738538.97 7541224.21
4506 738533.20 7541228.33
4507 738527.52 7541232.37
4508 738521.93 7541236.33
4509 738516.42 7541240.21
4510 738511.09 7541243.93
4511 738503.04 7541249.50
4512 738477.12 7541266.99
4513 738451.51 7541283.62
4514 738425.60 7541299.81
4515 738399.43 7541315.54
4516 738372.98 7541330.82
4517 738346.26 7541345.63
4518 738318.54 7541360.37
4519 738313.41 7541363.03
4520 738307.42 7541366.11
4521 738301.31 7541369.23

4522 738295.09 7541372.39
4523 738288.76 7541375.58
4524 738282.35 7541378.81
4525 738269.11 7541385.46
4526 738036.92 7541501.96
4527 737793.65 7541380.86
4528 737374.67 7541168.00
4529 737117.48 7541338.83
4530 736637.06 7541657.96
4531 736375.76 7541832.76
4532 735901.38 7542150.10
4533 735901.08 7542150.25
4534 735855.49 7542388.37
4535 736023.46 7542528.48
4536 736023.07 7542528.73
4537 736019.06 7542531.36
4538 736018.90 7542531.46
4539 735985.72 7542553.67
4540 735981.60 7542556.49
4541 735948.88 7542579.35
4542 735944.81 7542582.25
4543 735912.55 7542605.76
4544 735908.55 7542608.74
4545 735876.76 7542632.89
4546 735875.81 7542633.62
4547 735872.81 7542635.95
4548 735841.51 7542660.73
4549 735837.63 7542663.87
4550 735806.83 7542689.27
4551 735803.02 7542692.48
4552 735772.73 7542718.49
4553 735770.77 7542720.19
4554 735768.98 7542721.78
4555 735739.21 7542748.39
4556 735735.53 7542751.75
4557 735706.30 7542778.95
4558 735702.68 7542782.39
4559 735674.01 7542810.17
4560 735671.17 7542812.96
4561 735670.46 7542813.67
4562 735642.35 7542842.02
4563 735638.87 7542845.59
4564 735611.32 7542874.49
4565 735607.92 7542878.14
4566 735580.95 7542907.58
4567 735577.62 7542911.30
4568 735551.25 7542941.27
4569 735551.00 7542941.56
4570 735547.99 7542945.05
4571 735522.23 7542975.55
4572 735519.05 7542979.39
4573 735493.90 7543010.39
4574 735490.79 7543014.30
4575 735466.26 7543045.80
4576 735465.18 7543047.20
4577 735463.24 7543049.77
4578 735439.34 7543081.75
4579 735436.40 7543085.78
4580 735413.15 7543118.23
4581 735410.28 7543122.32
4582 735387.68 7543155.23
4583 735385.91 7543157.85
4584 735384.90 7543159.37
4585 735362.96 7543192.73
4586 735360.26 7543196.92
4587 735339.00 7543230.71

4588 735336.38 7543234.96
4589 735315.79 7543269.16
4590 735313.48 7543273.09
4591 735313.26 7543273.46
4592 735293.34 7543308.12
4593 735291.91 7543310.63
4594 735288.25 7543317.18
4595 735287.85 7543317.90
4596 735284.21 7543324.45
4597 735283.87 7543325.07
4598 735280.24 7543331.64
4599 735279.96 7543332.15
4600 735276.36 7543338.72
4601 735276.13 7543339.13
4602 735272.54 7543345.72
4603 735272.37 7543346.03
4604 735268.78 7543352.62
4605 735268.64 7543352.87
4606 735201.62 7543476.47
4607 734993.30 7545256.33
4608 734864.05 7546482.91
4609 734641.97 7547036.86
4610 734403.47 7547526.46
4611 734193.87 7547948.10
4612 734294.57 7548075.30
4613 734165.19 7548179.28
4614 734118.94 7548116.60
4615 733816.48 7548973.62
4616 733593.12 7549426.21
4617 733561.67 7549499.82
4618 733517.20 7549586.96
4619 733450.92 7549702.85
4620 733358.43 7549891.98
4621 732934.54 7550289.44
4622 733315.33 7550619.78
4623 733235.97 7550864.56
4624 732898.94 7551904.22
4625 732663.23 7552055.90
4626 732734.32 7552352.86
4627 732720.85 7552377.26
4628 732705.62 7552403.74
4629 732689.94 7552429.95
4630 732673.80 7552455.88
4631 732657.21 7552481.52
4632 732640.17 7552506.87
4633 732622.70 7552531.92
4634 732604.79 7552556.66
4635 732586.45 7552581.09
4636 732567.16 7552605.86
4637 732532.28 7552648.95
4638 732362.53 7552856.65
4639 731103.19 7553785.04
4640 730851.03 7553613.55
4641 730681.02 7553511.97
4642 730530.21 7553797.72
4643 730894.99 7554045.23
4644 730717.68 7554304.06
4645 730635.38 7554424.19
4646 730342.10 7554852.31
4647 729832.76 7554566.73
4648 729481.39 7555246.46
4649 729859.63 7555590.24
4650 729403.07 7556871.18
4651 729098.38 7557329.42
4652 728005.87 7556825.78
4653 727957.75 7556884.16

4654 727795.41 7557090.72
4655 727728.88 7557175.38
4656 727471.98 7557537.25
4657 727470.74 7557539.00
4658 728724.05 7557892.15
4659 728605.05 7558070.84
4660 728601.26 7558076.41
4661 728597.63 7558081.72
4662 728590.96 7558091.36
4663 728572.89 7558116.79
4664 728554.77 7558141.38
4665 728536.22 7558165.64
4666 728517.26 7558189.58
4667 728497.87 7558213.19
4668 728478.08 7558236.45
4669 728457.89 7558259.37
4670 728437.30 7558281.92
4671 728416.31 7558304.12
4672 728394.34 7558326.56
4673 728390.26 7558330.65
4674 728385.48 7558335.40
4675 728380.61 7558340.21
4676 728375.63 7558345.11
4677 728370.57 7558350.07
4678 728365.43 7558355.08
4679 728354.83 7558365.43
4680 726988.28 7559696.69
4681 726977.52 7559707.18
4682 726977.31 7559707.39
4683 726971.94 7559712.63
4684 726971.69 7559712.87
4685 726966.33 7559718.12
4686 726966.00 7559718.45
4687 726960.65 7559723.71
4688 726960.23 7559724.12
4689 726954.90 7559729.39
4690 726954.40 7559729.89
4691 726949.08 7559735.17
4692 726948.51 7559735.74
4693 726943.19 7559741.06
4694 726941.25 7559743.03
4695 726915.24 7559769.63
4696 726912.02 7559772.98
4697 726886.51 7559800.05
4698 726883.36 7559803.47
4699 726858.36 7559831.01
4700 726855.52 7559834.19
4701 726855.27 7559834.49
4702 726830.78 7559862.49
4703 726827.76 7559866.02
4704 726803.80 7559894.47
4705 726800.84 7559898.06
4706 726777.41 7559926.96
4707 726774.52 7559930.60
4708 726751.64 7559959.92
4709 726750.40 7559961.52
4710 726748.81 7559963.61
4711 726726.48 7559993.36
4712 726723.72 7559997.10
4713 726701.95 7560027.26
4714 726699.26 7560031.06
4715 726678.05 7560061.61
4716 726675.55 7560065.28
4717 726675.43 7560065.46
4718 726654.78 7560096.42
4719 726653.27 7560098.72

4720 726649.18 7560105.00
4721 726648.73 7560105.69
4722 726644.66 7560111.99
4723 726644.27 7560112.59
4724 726640.22 7560118.90
4725 726639.91 7560119.39
4726 726635.87 7560125.70
4727 726635.62 7560126.10
4728 726631.59 7560132.43
4729 726631.40 7560132.73
4730 726627.38 7560139.06
4731 726627.23 7560139.30
4732 726619.19 7560152.01
4733 725722.21 7561570.42
4734 725714.18 7561583.14
4735 725714.02 7561583.39
4736 725710.02 7561589.73
4737 725709.84 7561590.02
4738 725705.85 7561596.37
4739 725705.60 7561596.78
4740 725701.62 7561603.13
4741 725701.31 7561603.63
4742 725697.34 7561610.00
4743 725696.98 7561610.59
4744 725693.03 7561616.97
4745 725692.60 7561617.67
4746 725688.67 7561624.06
4747 725687.75 7561625.61
4748 725687.33 7561626.27
4749 725669.79 7561655.51
4750 725667.65 7561659.16
4751 725650.58 7561688.73
4752 725648.49 7561692.44
4753 725631.95 7561722.26
4754 725629.91 7561726.01
4755 725613.89 7561756.11
4756 725611.92 7561759.89
4757 725596.40 7561790.27
4758 725595.93 7561791.21
4759 725607.55 7561903.98
4760 725614.22 7562014.55
4761 725611.93 7562068.96
4762 725610.41 7562137.52
4763 725598.65 7562230.29
4764 725577.43 7562316.85
4765 725557.66 7562395.20
4766 725505.87 7562520.06
4767 725466.33 7562590.42
4768 725402.93 7562693.86
4769 725326.04 7562791.72
4770 725153.83 7562950.27
4771 724768.48 7563289.29
4772 724616.07 7563507.53
4773 724260.96 7564088.88
4774 724431.91 7564238.59
4775 724763.83 7564548.88
4776 724597.27 7564718.99
4777 723835.28 7564954.36
4778 723517.05 7565622.14
4779 723343.69 7565870.99
4780 723181.52 7566037.95
4781 723048.51 7566148.60
4782 722915.62 7566232.35
4783 722769.96 7566461.33
4784 722769.70 7566461.66
4785 722447.76 7566606.44

4786 722258.96 7566691.34
4787 722159.30 7566736.15
4788 722223.69 7566948.66
4789 721212.75 7567659.55
4790 721079.43 7567521.11
4791 720728.28 7567305.60
4792 720236.39 7567367.85
4793 719862.41 7567737.47
4794 719974.01 7568387.95
4795 719872.24 7568457.93
4796 719714.82 7568565.09
4797 719711.47 7568567.03
4798 719711.27 7568567.14
4799 719625.02 7568617.66
4800 719546.71 7568664.50
4801 719470.72 7568710.87
4802 719468.82 7568712.04
4803 719393.25 7568759.08
4804 719391.36 7568760.27
4805 719121.24 7568374.68
4806 719060.85 7568191.65
4807 718900.13 7567850.52
4808 718703.44 7567970.65
4809 718510.05 7568105.13
4810 718856.24 7568783.74
4811 718937.72 7569062.67
4812 718863.86 7569115.28
4813 718863.42 7569115.60
4814 718862.95 7569115.95
4815 718862.42 7569116.32
4816 718860.20 7569117.91
4817 718858.70 7569118.99
4818 718857.82 7569119.63
4819 718856.32 7569120.70
4820 718856.15 7569120.83
4821 718843.79 7569129.74
4822 718831.57 7569138.58
4823 718813.26 7569151.82
4824 718167.73 7569619.10
4825 717565.70 7570031.35
4826 717539.45 7570044.72
4827 717512.00 7570058.10
4828 717484.32 7570071.01
4829 717456.41 7570083.43
4830 717428.29 7570095.35
4831 717399.97 7570106.79
4832 717371.46 7570117.73
4833 717342.76 7570128.17
4834 717313.87 7570138.11
4835 717284.82 7570147.55
4836 717255.62 7570156.47
4837 717226.26 7570164.88
4838 717196.75 7570172.79
4839 717166.27 7570180.38
4840 717160.66 7570181.72
4841 717154.10 7570183.25
4842 717147.42 7570184.80
4843 717140.62 7570186.36
4844 717133.71 7570187.93
4845 717126.71 7570189.51
4846 717112.25 7570192.75
4847 715870.25 7570471.08
4848 715855.28 7570474.44
4849 715847.62 7570476.17
4850 715839.86 7570477.93
4851 715831.97 7570479.74

4852 715286.29 7570599.38
4853 715086.83 7570644.08
4854 714700.42 7570730.67
4855 714366.33 7570814.43
4856 714113.41 7570911.99
4857 713857.86 7571083.67
4858 712149.38 7572867.53
4859 711357.82 7573772.45
4860 711212.10 7573872.88
4861 710927.51 7573842.33
4862 710906.21 7574182.64
4863 710835.51 7574369.61
4864 710825.75 7574380.76
4865 710798.79 7574411.19
4866 710778.36 7574433.48
4867 710757.30 7574455.66
4868 710735.90 7574477.44
4869 710714.11 7574498.85
4870 710691.96 7574519.88
4871 710669.44 7574540.51
4872 710646.57 7574560.75
4873 710623.34 7574580.59
4874 710599.77 7574600.02
4875 710575.87 7574619.03
4876 710551.64 7574637.62
4877 710527.09 7574655.79
4878 710502.22 7574673.53
4879 710477.05 7574690.83
4880 710450.86 7574708.16
4881 710446.02 7574711.30
4882 710440.35 7574714.94
4883 710434.56 7574718.63
4884 710428.68 7574722.37
4885 710422.69 7574726.16
4886 710416.61 7574729.99
4887 710409.11 7574734.71
4888 709859.36 7575049.51
4889 709857.51 7575050.28
4890 709829.14 7575061.59
4891 709800.57 7575072.39
4892 709771.82 7575082.70
4893 709742.90 7575092.50
4894 709713.80 7575101.80
4895 709684.55 7575110.59
4896 709655.15 7575118.86
4897 709625.61 7575126.63
4898 709615.45 7575129.11
4899 708924.38 7575280.25
4900 708812.06 7574922.17
4901 707434.62 7573920.90
4902 707310.05 7573765.61
4903 706849.45 7573834.74
4904 705987.60 7574816.90
4905 706464.82 7575226.84
4906 707132.67 7575403.08
4907 707540.63 7575383.35
4908 707541.70 7575382.95
4909 707644.84 7575553.76
4910 707323.24 7575620.93
4911 706349.24 7575829.93
4912 705690.34 7575990.17
4913 705145.74 7576109.53
4914 705131.04 7576112.76
4915 705130.76 7576112.82
4916 705123.43 7576114.44
4917 705123.09 7576114.51

4918 705115.77 7576116.14
4919 705115.31 7576116.24
4920 705108.00 7576117.88
4921 705107.42 7576118.01
4922 705100.10 7576119.67
4923 705099.43 7576119.82
4924 705092.12 7576121.50
4925 705091.31 7576121.69
4926 705084.00 7576123.39
4927 705082.29 7576123.82
4928 705081.17 7576124.07
4929 705042.84 7576133.48
4930 705038.06 7576134.70
4931 704999.92 7576144.86
4932 704999.57 7576144.95
4933 704995.16 7576146.18
4934 704957.23 7576157.09
4935 704952.50 7576158.50
4936 704914.80 7576170.16
4937 704910.10 7576171.66
4938 704872.62 7576184.06
4939 704870.80 7576184.67
4940 704867.96 7576185.66
4941 704830.74 7576198.80
4942 704826.10 7576200.48
4943 704789.15 7576214.35
4944 704784.54 7576216.13
4945 704747.87 7576230.73
4946 704744.65 7576232.04
4947 704743.30 7576232.60
4948 704706.93 7576247.91
4949 704702.40 7576249.87
4950 704666.33 7576265.90
4951 704661.84 7576267.95
4952 704626.10 7576284.69
4953 704621.65 7576286.83
4954 704586.20 7576304.30
4955 704581.84 7576306.50
4956 704546.78 7576324.63
4957 704542.42 7576326.94
4958 704507.73 7576345.77
4959 704503.42 7576348.17
4960 704469.10 7576367.67
4961 704467.66 7576368.50
4962 704464.84 7576370.15
4963 704430.92 7576390.33
4964 704426.70 7576392.90
4965 704393.19 7576413.74
4966 704389.02 7576416.39
4967 704355.92 7576437.89
4968 704353.23 7576439.67
4969 704351.81 7576440.62
4970 704319.14 7576462.77
4971 704315.09 7576465.58
4972 704295.63 7576479.35
4973 704049.61 7576760.31
4974 703896.53 7576932.53
4975 703815.13 7577024.10
4976 703734.79 7577110.20
4977 703598.86 7577242.03
4978 703301.79 7577692.68
4979 703249.13 7577595.26
4980 703178.49 7577874.93
4981 702723.25 7578547.82
4982 702714.84 7578560.26
4983 702714.73 7578560.42

4984 702710.53 7578566.64
4985 702710.40 7578566.83
4986 702706.21 7578573.05
4987 702706.03 7578573.31
4988 702701.85 7578579.53
4989 702701.64 7578579.86
4990 702697.46 7578586.09
4991 702697.32 7578586.30
4992 702697.20 7578586.48
4993 702693.04 7578592.72
4994 702692.74 7578593.18
4995 702688.55 7578599.48
4996 702687.31 7578601.38
4997 702660.63 7578642.39
4998 702658.43 7578645.83
4999 702632.43 7578687.27
5000 702630.29 7578690.74
5001 702604.97 7578732.61
5002 702602.88 7578736.11
5003 702578.25 7578778.38
5004 702577.73 7578779.28
5005 702576.22 7578781.92
5006 702552.28 7578824.59
5007 702550.31 7578828.16
5008 702527.06 7578871.21
5009 702525.15 7578874.82
5010 702502.61 7578918.24
5011 702500.76 7578921.88
5012 702478.93 7578965.66
5013 702478.45 7578966.64
5014 702477.14 7578969.33
5015 702456.03 7579013.46
5016 702454.30 7579017.16
5017 702433.91 7579061.63
5018 702432.24 7579065.35
5019 702412.58 7579110.15
5020 702410.97 7579113.90
5021 702392.04 7579159.02
5022 702391.60 7579160.07
5023 702390.49 7579162.79
5024 702372.30 7579208.21
5025 702370.82 7579212.01
5026 702353.37 7579257.72
5027 702351.95 7579261.54
5028 702335.25 7579307.53
5029 702334.63 7579309.27
5030 702334.46 7579309.73
5031 702331.97 7579316.80
5032 702331.78 7579317.32
5033 702329.30 7579324.40
5034 702329.15 7579324.84
5035 702326.69 7579331.92
5036 702326.56 7579332.29
5037 702324.10 7579339.37
5038 702324.00 7579339.67
5039 702321.56 7579346.77
5040 702321.48 7579346.99
5041 702319.04 7579354.08
5042 702318.98 7579354.26
5043 702314.10 7579368.48
5044 702144.23 7579864.13
5045 702020.34 7580225.62
5046 701409.76 7581657.08
5047 701224.82 7582546.87
5048 701281.90 7582570.00
5049 701443.95 7582758.98

5050 701323.22 7582888.28
5051 701273.49 7583013.81
5052 701181.13 7583177.84
5053 701105.52 7583270.75
5054 700995.24 7583913.93
5055 700968.14 7584045.56
5056 701119.40 7584147.57
5057 700961.08 7584469.55
5058 700910.85 7584562.79
5059 700866.24 7584742.93
5060 700737.24 7585029.93
5061 700736.54 7585033.79
5062 700657.23 7585192.18
5063 700305.46 7585758.57
5064 700481.11 7585868.35
5065 700365.84 7586046.20
5066 700185.94 7585951.88
5067 700155.80 7586000.17
5068 700147.93 7586012.77
5069 700144.05 7586018.97
5070 700140.18 7586025.14
5071 700136.33 7586031.27
5072 700132.50 7586037.36
5073 700129.07 7586042.79
5074 700094.99 7586095.90
5075 700049.01 7586165.20
5076 700001.97 7586233.46
5077 699953.75 7586300.90
5078 699904.36 7586367.48
5079 699853.81 7586433.19
5080 699487.55 7586881.03
5081 698988.34 7587488.53
5082 698988.28 7587488.61
5083 698978.76 7587500.20
5084 698978.64 7587500.34
5085 698973.88 7587506.14
5086 698973.76 7587506.29
5087 698969.01 7587512.09
5088 698968.87 7587512.27
5089 698964.12 7587518.08
5090 698963.94 7587518.30
5091 698959.20 7587524.11
5092 698959.00 7587524.37
5093 698954.27 7587530.19
5094 698953.24 7587531.46
5095 698916.72 7587576.99
5096 698914.90 7587579.28
5097 698878.92 7587625.23
5098 698877.41 7587627.18
5099 698877.13 7587627.54
5100 698841.69 7587673.91
5101 698839.93 7587676.24
5102 698805.02 7587723.02
5103 698803.29 7587725.37
5104 698768.94 7587772.55
5105 698767.24 7587774.92
5106 698733.43 7587822.51
5107 698731.76 7587824.89
5108 698698.51 7587872.87
5109 698696.87 7587875.28
5110 698664.18 7587923.63
5111 698663.45 7587924.73
5112 698662.56 7587926.06
5113 698630.45 7587974.80
5114 698628.86 7587977.24
5115 698597.32 7588026.35

5116 698595.75 7588028.82
5117 698564.78 7588078.29
5118 698563.25 7588080.77
5119 698532.86 7588130.60
5120 698532.01 7588132.01
5121 698528.15 7588138.43
5122 698527.98 7588138.72
5123 698524.13 7588145.15
5124 698523.98 7588145.39
5125 698520.14 7588151.83
5126 698520.02 7588152.03
5127 698516.17 7588158.47
5128 698516.04 7588158.69
5129 698508.37 7588171.59
5130 698508.26 7588171.77
5131 698366.72 7588410.17
5132 698359.17 7588422.85
5133 698355.46 7588429.08
5134 698351.74 7588435.30
5135 698348.05 7588441.47
5136 698344.56 7588447.28
5137 698325.97 7588477.90
5138 698281.74 7588548.74
5139 698236.62 7588618.29
5140 698190.29 7588687.04
5141 698142.77 7588754.96
5142 698094.07 7588822.05
5143 698043.60 7588889.08
5144 698039.85 7588893.96
5145 698035.46 7588899.67
5146 698031.04 7588905.40
5147 698026.60 7588911.14
5148 698017.56 7588922.81
5149 696248.90 7591201.29
5150 696249.43 7591201.53
5151 696230.45 7591227.29
5152 696227.55 7591231.31
5153 696204.64 7591263.71
5154 696201.82 7591267.79
5155 696179.56 7591300.64
5156 696178.66 7591301.98
5157 696176.82 7591304.78
5158 696155.22 7591338.06
5159 696152.56 7591342.25
5160 696131.62 7591375.96
5161 696129.05 7591380.20
5162 696108.78 7591414.32
5163 696107.22 7591416.98
5164 696106.29 7591418.61
5165 696086.71 7591453.12
5166 696084.30 7591457.46
5167 696065.41 7591492.35
5168 696063.09 7591496.74
5169 696044.89 7591532.00
5170 696042.83 7591536.08
5171 696042.66 7591536.43
5172 696025.17 7591572.04
5173 696023.02 7591576.52
5174 696006.24 7591612.47
5175 696004.18 7591616.99
5176 695988.12 7591653.27
5177 695986.15 7591657.83
5178 695970.81 7591694.42
5179 695970.39 7591695.43
5180 695968.93 7591699.01
5181 695958.42 7591725.54

5182 696139.01 7591804.10
5183 696112.71 7591883.00
5184 695924.93 7591816.65
5185 695923.82 7591819.81
5186 695922.98 7591822.25
5187 695922.23 7591824.51
5188 695909.83 7591862.21
5189 695908.33 7591866.93
5190 695896.68 7591904.87
5191 695895.27 7591909.62
5192 695884.38 7591947.78
5193 695883.30 7591951.69
5194 695883.07 7591952.56
5195 695872.94 7591990.93
5196 695871.72 7591995.74
5197 695862.35 7592034.30
5198 695861.23 7592039.13
5199 695852.63 7592077.86
5200 695851.60 7592082.72
5201 695843.77 7592121.62
5202 695843.65 7592122.19
5203 695842.84 7592126.49
5204 695835.78 7592165.54
5205 695834.94 7592170.43
5206 695828.66 7592209.61
5207 695827.92 7592214.51
5208 695822.42 7592253.81
5209 695822.14 7592255.85
5210 695821.78 7592258.73
5211 695817.06 7592298.13
5212 695816.52 7592303.06
5213 695812.58 7592342.55
5214 695812.13 7592347.49
5215 695808.98 7592387.04
5216 695808.72 7592390.57
5217 695808.63 7592391.99
5218 695806.26 7592431.60
5219 695806.01 7592436.55
5220 695804.43 7592476.20
5221 695804.28 7592481.16
5222 695803.48 7592520.83
5223 695803.43 7592525.79
5224 695803.42 7592565.48
5225 695803.42 7592565.54
5226 695803.47 7592570.44
5227 695804.25 7592610.11
5228 695804.39 7592615.07
5229 695805.96 7592654.72
5230 695806.20 7592659.67
5231 695808.55 7592699.28
5232 695808.65 7592700.83
5233 695808.90 7592704.23
5234 695812.03 7592743.79
5235 695812.47 7592748.73
5236 695816.39 7592788.22
5237 695816.93 7592793.15
5238 695821.63 7592832.55
5239 695822.01 7592835.55
5240 695822.27 7592837.47
5241 695827.75 7592876.77
5242 695828.49 7592881.67
5243 695834.35 7592918.33
5244 695833.91 7592918.40
5245 696101.43 7594360.72
5246 696102.76 7594367.91
5247 696104.06 7594375.00

5248 696105.33 7594381.97
5249 696106.57 7594388.83
5250 696107.77 7594395.58
5251 696108.94 7594402.22
5252 696110.05 7594408.71
5253 696111.24 7594415.83
5254 696116.09 7594446.80
5255 696120.28 7594477.06
5256 696123.94 7594507.38
5257 696127.07 7594537.76
5258 696129.68 7594568.19
5259 696131.75 7594598.67
5260 696133.29 7594629.17
5261 696134.29 7594659.70
5262 696134.76 7594690.23
5263 696129.14 7594842.80
5264 696126.41 7594873.22
5265 696123.16 7594903.59
5266 696119.38 7594933.90
5267 696115.07 7594964.13
5268 696110.23 7594994.29
5269 696104.87 7595024.36
5270 696098.98 7595054.33
5271 696092.57 7595084.19
5272 696085.64 7595113.94
5273 696078.20 7595143.56
5274 696070.23 7595173.04
5275 696061.76 7595202.39
5276 696052.77 7595231.58
5277 696043.27 7595260.61
5278 696033.27 7595289.47
5279 696022.77 7595318.15
5280 696011.77 7595346.64
5281 696000.27 7595374.94
5282 695988.28 7595403.03
5283 695975.80 7595430.90
5284 695962.84 7595458.56
5285 695949.40 7595485.98
5286 695935.48 7595513.17
5287 695921.09 7595540.11
5288 695906.23 7595566.79
5289 695890.90 7595593.22
5290 695875.12 7595619.36
5291 695858.89 7595645.23
5292 695842.20 7595670.82
5293 695825.07 7595696.10
5294 695807.50 7595721.09
5295 695789.50 7595745.76
5296 695771.07 7595770.12
5297 695752.22 7595794.15
5298 695732.95 7595817.85
5299 695713.28 7595841.21
5300 695693.19 7595864.22
5301 695672.71 7595886.88
5302 695651.84 7595909.17
5303 695630.58 7595931.10
5304 695608.94 7595952.65
5305 695586.93 7595973.83
5306 695564.55 7595994.61
5307 695541.81 7596015.01
5308 695518.72 7596035.00
5309 695495.28 7596054.59
5310 695471.51 7596073.76
5311 695447.40 7596092.52
5312 695422.98 7596110.85
5313 695398.23 7596128.75

5314 695373.18 7596146.22
5315 695347.82 7596163.25
5316 695322.17 7596179.84
5317 695296.24 7596195.97
5318 695270.03 7596211.65
5319 695243.55 7596226.87
5320 695216.81 7596241.62
5321 695189.81 7596255.91
5322 695162.57 7596269.72
5323 695135.09 7596283.06
5324 695107.39 7596295.91
5325 695079.46 7596308.28
5326 695051.32 7596320.16
5327 695022.98 7596331.54
5328 694994.44 7596342.43
5329 694965.72 7596352.82
5330 694936.82 7596362.71
5331 694907.76 7596372.09
5332 694878.53 7596380.96
5333 694849.16 7596389.32
5334 694819.64 7596397.17
5335 694789.99 7596404.50
5336 694760.22 7596411.31
5337 694730.33 7596417.60
5338 694700.33 7596423.37
5339 694670.25 7596428.62
5340 694639.21 7596433.47
5341 694633.50 7596434.30
5342 694626.83 7596435.25
5343 694620.04 7596436.20
5344 694613.13 7596437.14
5345 694606.10 7596438.09
5346 694598.99 7596439.04
5347 694584.30 7596440.99
5348 694263.09 7596483.44
5349 694262.95 7596483.45
5350 694255.52 7596484.44
5351 694255.29 7596484.47
5352 694247.85 7596485.46
5353 694247.50 7596485.51
5354 694240.07 7596486.51
5355 694239.61 7596486.58
5356 694232.18 7596487.60
5357 694231.59 7596487.68
5358 694224.17 7596488.71
5359 694223.47 7596488.81
5360 694216.05 7596489.87
5361 694215.23 7596489.98
5362 694207.81 7596491.06
5363 694205.08 7596491.48
5364 694168.46 7596497.22
5365 694163.88 7596497.98
5366 694127.38 7596504.41
5367 694122.82 7596505.25
5368 694086.44 7596512.35
5369 694085.55 7596512.53
5370 694081.90 7596513.28
5371 694045.65 7596521.06
5372 694041.13 7596522.07
5373 694005.04 7596530.51
5374 694000.53 7596531.61
5375 693964.60 7596540.72
5376 693961.34 7596541.57
5377 693960.12 7596541.90
5378 693924.36 7596551.68
5379 693919.91 7596552.94

5380 693884.34 7596563.38
5381 693881.69 7596564.17
5382 693874.51 7596566.36
5383 693873.73 7596566.60
5384 693866.56 7596568.82
5385 693865.89 7596569.03
5386 693858.73 7596571.26
5387 693858.17 7596571.44
5388 693851.02 7596573.69
5389 693850.57 7596573.83
5390 693843.42 7596576.09
5391 693843.09 7596576.20
5392 693835.94 7596578.47
5393 693835.72 7596578.55
5394 693828.57 7596580.83
5395 693828.44 7596580.87
5396 692564.27 7596984.13
5397 692472.24 7597013.37
5398 692472.21 7597013.45
5399 692249.73 7597084.89
5400 692249.60 7597084.93
5401 692242.46 7597087.22
5402 692242.24 7597087.29
5403 692235.10 7597089.59
5404 692234.76 7597089.70
5405 692227.63 7597092.00
5406 692227.18 7597092.15
5407 692220.05 7597094.47
5408 692219.49 7597094.65
5409 692212.36 7597096.98
5410 692211.70 7597097.20
5411 692204.57 7597099.56
5412 692203.80 7597099.82
5413 692196.68 7597102.20
5414 692195.65 7597102.55
5415 692193.92 7597103.14
5416 692156.52 7597116.14
5417 692151.86 7597117.81
5418 692114.73 7597131.55
5419 692110.10 7597133.32
5420 692032.10 7597164.84
5421 692027.55 7597166.78
5422 691991.29 7597182.70
5423 691986.78 7597184.74
5424 691950.85 7597201.37
5425 691946.38 7597203.49
5426 691910.79 7597220.83
5427 691909.71 7597221.36
5428 691906.36 7597223.05
5429 691871.12 7597241.09
5430 691866.73 7597243.39
5431 691831.85 7597262.12
5432 691827.52 7597264.51
5433 691793.01 7597283.93
5434 691790.66 7597285.28
5435 691788.73 7597286.40
5436 691754.62 7597306.50
5437 691750.38 7597309.06
5438 691716.67 7597329.83
5439 691712.48 7597332.47
5440 691679.19 7597353.91
5441 691675.66 7597356.23
5442 691675.06 7597356.63
5443 691642.20 7597378.72
5444 691638.12 7597381.52
5445 691605.71 7597404.26

5446 691601.69 7597407.14
5447 691569.73 7597430.52
5448 691565.76 7597433.48
5449 691534.27 7597457.48
5450 691533.64 7597457.96
5451 691530.37 7597460.52
5452 691499.36 7597485.14
5453 691495.52 7597488.26
5454 691465.00 7597513.49
5455 691461.22 7597516.68
5456 691431.21 7597542.51
5457 691429.47 7597544.02
5458 691429.01 7597544.43
5459 691423.38 7597549.39
5460 691422.77 7597549.93
5461 691417.16 7597554.91
5462 691416.63 7597555.38
5463 691411.03 7597560.37
5464 691410.60 7597560.76
5465 691405.01 7597565.77
5466 691404.66 7597566.08
5467 691399.09 7597571.10
5468 691398.83 7597571.33
5469 691393.26 7597576.36
5470 691393.04 7597576.55
5471 691381.92 7597586.62
5472 691381.86 7597586.67
5473 690949.09 7597978.35
5474 690949.04 7597978.40
5475 690937.92 7597988.47
5476 690937.70 7597988.67
5477 690932.15 7597993.71
5478 690931.89 7597993.94
5479 690926.34 7597998.99
5480 690926.00 7597999.31
5481 690920.46 7598004.37
5482 690920.03 7598004.76
5483 690914.50 7598009.84
5484 690913.98 7598010.31
5485 690908.47 7598015.40
5486 690907.87 7598015.96
5487 690902.38 7598021.06
5488 690900.28 7598023.04
5489 690872.04 7598049.89
5490 690868.55 7598053.28
5491 690840.84 7598080.68
5492 690839.86 7598081.66
5493 690837.41 7598084.14
5494 690810.25 7598112.07
5495 690806.89 7598115.59
5496 690780.27 7598144.05
5497 690776.98 7598147.64
5498 690750.92 7598176.61
5499 690748.84 7598178.96
5500 690747.70 7598180.26
5501 690722.21 7598209.73
5502 690719.06 7598213.45
5503 690694.16 7598243.41
5504 690691.08 7598247.18
5505 690666.76 7598277.62
5506 690663.76 7598281.46
5507 690640.03 7598312.37
5508 690640.02 7598312.39
5509 690637.11 7598316.26
5510 690613.99 7598347.63
5511 690611.14 7598351.57

5512 690588.64 7598383.38
5513 690585.87 7598387.39
5514 690563.99 7598419.63
5515 690563.00 7598421.10
5516 690561.29 7598423.69
5517 690540.05 7598456.35
5518 690537.43 7598460.46
5519 690516.83 7598493.53
5520 690514.30 7598497.69
5521 690494.34 7598531.15
5522 690492.56 7598534.19
5523 690491.89 7598535.36
5524 690472.59 7598569.21
5525 690470.22 7598573.46
5526 690451.58 7598607.68
5527 690449.29 7598611.98
5528 690431.32 7598646.55
5529 690429.12 7598650.89
5530 690411.83 7598685.81
5531 690411.65 7598686.17
5532 690409.71 7598690.20
5533 690393.11 7598725.44
5534 690391.07 7598729.87
5535 690375.16 7598765.43
5536 690373.21 7598769.90
5537 690357.99 7598805.76
5538 690357.16 7598807.75
5539 690356.13 7598810.27
5540 690341.61 7598846.42
5541 690339.84 7598850.96
5542 690326.03 7598887.39
5543 690324.35 7598891.96
5544 690311.25 7598928.66
5545 690309.96 7598932.35
5546 690309.65 7598933.26
5547 690297.27 7598970.21
5548 690295.77 7598974.84
5549 690284.11 7599012.02
5550 690282.70 7599016.68
5551 690271.76 7599054.07
5552 690270.44 7599058.76
5553 690260.24 7599096.37
5554 690260.03 7599097.13
5555 690259.01 7599101.08
5556 690249.54 7599138.87
5557 690248.40 7599143.61
5558 690239.67 7599181.58
5559 690238.63 7599186.34
5560 690230.64 7599224.47
5561 690230.13 7599226.96
5562 690229.69 7599229.25
5563 690222.44 7599267.53
5564 690221.58 7599272.33
5565 690215.08 7599310.75
5566 690214.62 7599313.59
5567 690213.46 7599321.00
5568 690213.33 7599321.81
5569 690212.19 7599329.23
5570 690212.08 7599329.92
5571 690210.96 7599337.34
5572 690210.87 7599337.92
5573 690209.77 7599345.33
5574 690209.70 7599345.80
5575 690208.61 7599353.22
5576 690208.56 7599353.57
5577 690207.49 7599360.99

5578 690207.45 7599361.22
5579 690206.38 7599368.64
5580 690206.36 7599368.78
5581 689534.93 7604038.51
5582 689470.33 7604437.23
5583 689438.21 7604604.34
5584 689402.97 7604771.88
5585 689401.63 7604777.98
5586 689398.44 7604792.40
5587 689395.23 7604806.86
5588 689392.00 7604821.41
5589 689179.50 7605775.88
5590 689178.19 7605781.22
5591 688650.62 7608152.74
5592 688649.46 7608158.26
5593 688649.39 7608158.61
5594 688642.30 7608194.55
5595 688641.45 7608199.05
5596 688635.02 7608235.12
5597 688634.25 7608239.63
5598 688628.48 7608275.81
5599 688627.80 7608280.34
5600 688622.69 7608316.61
5601 688622.38 7608318.85
5602 688622.09 7608321.15
5603 688617.65 7608357.51
5604 688617.13 7608362.06
5605 688613.35 7608398.50
5606 688612.92 7608403.06
5607 688609.81 7608439.56
5608 688609.47 7608444.13
5609 688607.03 7608480.68
5610 688607.00 7608480.99
5611 688606.76 7608485.25
5612 688604.99 7608521.84
5613 688604.81 7608526.42
5614 688603.71 7608563.03
5615 688603.61 7608567.61
5616 688603.18 7608604.24
5617 688603.22 7608605.47
5618 688603.17 7608606.98
5619 688603.16 7608614.48
5620 688603.16 7608614.68
5621 688603.16 7608615.30
5622 688603.18 7608622.80
5623 688603.18 7608623.51
5624 688603.22 7608631.01
5625 688603.23 7608631.59
5626 688603.29 7608639.09
5627 688603.29 7608639.56
5628 688603.36 7608647.06
5629 688603.36 7608647.41
5630 688603.45 7608654.91
5631 688603.45 7608655.14
5632 688603.54 7608662.64
5633 688603.54 7608662.78
5634 688626.45 7610507.49
5635 688626.54 7610514.81
5636 688626.62 7610522.01
5637 688626.69 7610529.10
5638 688626.74 7610536.08
5639 688626.78 7610542.93
5640 688626.79 7610549.67
5641 688626.79 7610555.63
5642 688626.54 7610581.40
5643 688625.74 7610612.12

5644 688624.43 7610642.64
5645 688622.57 7610673.12
5646 688620.19 7610703.57
5647 688617.28 7610733.98
5648 688613.83 7610764.32
5649 688609.86 7610794.61
5650 688605.36 7610824.82
5651 688600.19 7610855.80
5652 688599.18 7610861.48
5653 688597.97 7610868.11
5654 688596.73 7610874.85
5655 688595.46 7610881.71
5656 688594.14 7610888.68
5657 688592.80 7610895.73
5658 688590.02 7610910.28
5659 688179.43 7613017.86
5660 688107.91 7613034.72
5661 687144.02 7614416.94
5662 687079.60 7614745.96
5663 687791.95 7615080.10
5664 687734.96 7615377.86
5665 687734.94 7615378.00
5666 687733.53 7615385.37
5667 687733.49 7615385.60
5668 687732.09 7615392.96
5669 687732.02 7615393.31
5670 687730.64 7615400.68
5671 687730.55 7615401.14
5672 687729.17 7615408.51
5673 687729.07 7615409.09
5674 687727.71 7615416.47
5675 687727.58 7615417.16
5676 687726.25 7615424.54
5677 687726.10 7615425.35
5678 687724.79 7615432.73
5679 687724.62 7615433.82
5680 687724.30 7615435.58
5681 687717.90 7615474.19
5682 687717.15 7615479.02
5683 687711.50 7615517.74
5684 687711.03 7615521.17
5685 687710.84 7615522.59
5686 687705.96 7615561.41
5687 687705.39 7615566.27
5688 687701.27 7615605.18
5689 687700.80 7615610.05
5690 687697.44 7615649.03
5691 687697.06 7615653.91
5692 687694.46 7615692.96
5693 687694.45 7615693.22
5694 687694.19 7615697.84
5695 687692.35 7615736.93
5696 687692.17 7615741.81
5697 687691.10 7615780.93
5698 687691.01 7615785.82
5699 687690.71 7615824.95
5700 687690.73 7615825.86
5701 687690.70 7615826.90
5702 687690.70 7615827.84
5703 687690.73 7615835.34
5704 687690.73 7615836.16
5705 687690.79 7615843.66
5706 687690.79 7615844.37
5707 687690.87 7615851.87
5708 687690.87 7615852.45
5709 687690.97 7615859.95

5710 687690.97 7615860.42
5711 687691.08 7615867.92
5712 687691.08 7615868.27
5713 687691.20 7615875.77
5714 687691.20 7615876.06
5715 687691.45 7615891.06
5716 687691.46 7615891.14
5717 687790.35 7621713.70
5718 687794.40 7621952.29
5719 687919.07 7629292.33
5720 687836.71 7630330.94
5721 687929.01 7632147.55
5722 687986.92 7633287.16
5723 688003.08 7634238.72
5724 688007.82 7634517.51
5725 688008.19 7634539.87
5726 688008.31 7634547.16
5727 688008.42 7634554.45
5728 688008.52 7634561.69
5729 688008.61 7634568.89
5730 688008.69 7634575.51
5731 688008.97 7634623.04
5732 688008.33 7634706.40
5733 688006.24 7634789.28
5734 688002.71 7634872.11
5735 687997.73 7634954.86
5736 687991.30 7635037.51
5737 687983.44 7635120.04
5738 687974.14 7635202.42
5739 687963.40 7635284.62
5740 687951.23 7635366.62
5741 687937.46 7635449.39
5742 687936.39 7635455.45
5743 687935.14 7635462.54
5744 687933.86 7635469.67
5745 687932.57 7635476.84
5746 687931.28 7635484.02
5747 687930.51 7635488.25
5748 687933.42 7635488.21
5749 687240.82 7639304.27
5750 686540.39 7638970.69
5751 686436.70 7639535.64
5752 687145.86 7639827.46
5753 687081.89 7640179.90
5754 686991.61 7640473.51
5755 686948.72 7640612.96
5756 686527.54 7641982.68
5757 686525.19 7642981.92
5758 686525.19 7645131.66
5759 686209.09 7646621.94
5760 685978.50 7646593.50
5761 685401.05 7646521.53
5762 685342.60 7646907.31
5763 685674.68 7646984.51
5764 686087.16 7647066.98
5765 686026.68 7647288.44
5766 685868.75 7647755.70
5767 684726.01 7650116.88
5768 684484.97 7650251.49
5769 683974.98 7650536.07
5770 683767.87 7650797.49
5771 683682.94 7650960.29
5772 684014.59 7651291.78
5773 684270.83 7650996.59
5774 684314.29 7650984.85
5775 684312.94 7650987.34

5776 684146.67 7651349.34
5777 684142.88 7651358.02
5778 684137.64 7651371.82
5779 684023.66 7651700.69
5780 684023.15 7651702.20
5781 684018.65 7651716.90
5782 683665.08 7653015.83
5783 682868.73 7655061.93
5784 682865.29 7655071.33
5785 682702.13 7655545.91
5786 682701.81 7655546.83
5787 682697.07 7655562.49
5788 682695.37 7655569.19
5789 682609.00 7655906.84
5790 682466.94 7656439.83
5791 681728.23 7656055.83
5792 681456.18 7656725.02
5793 681914.69 7656997.06
5794 682372.54 7657077.99
5795 682372.04 7657080.14
5796 682383.86 7657085.16
5797 682328.61 7657332.20
5798 682328.33 7657334.22
5799 682326.78 7657349.75
5800 682208.78 7657806.63
5801 681815.23 7658398.80
5802 681656.02 7658638.23
5803 681812.20 7658767.17
5804 681897.57 7658845.27
5805 681694.72 7659539.52
5806 681631.79 7659757.61
5807 681559.07 7659995.80
5808 681450.67 7659985.82
5809 681447.61 7660179.63
5810 681501.77 7660193.11
5811 681288.32 7660824.19
5812 681014.65 7661356.93
5813 680543.48 7662167.99
5814 680402.89 7662100.01
5815 679662.92 7661063.33
5816 679605.08 7661119.49
5817 679446.66 7661357.06
5818 679276.28 7661508.28
5819 679228.53 7661540.11
5820 679188.14 7661607.75
5821 679088.64 7661774.38
5822 679039.89 7661856.03
5823 679012.10 7662128.49
5824 678971.50 7662446.66
5825 678899.54 7662765.89
5826 678799.25 7663055.40
5827 678511.89 7663073.76
5828 678511.91 7663074.81
5829 678502.27 7663074.74
5830 678476.01 7663074.36
5831 678166.27 7663076.06
5832 678166.27 7663075.70
5833 678156.81 7663075.74
5834 678153.33 7662675.81
5835 678152.07 7662151.73
5836 677299.10 7662157.70
5837 677189.34 7662716.34
5838 677330.66 7662751.74
5839 677677.59 7663330.13
5840 678969.24 7663249.25
5841 679699.39 7663626.81

5842 679419.40 7664110.38
5843 679316.68 7664050.64
5844 679108.07 7664358.51
5845 679229.35 7664434.54
5846 679088.03 7664666.49
5847 678502.22 7665676.28
5848 678277.90 7665511.27
5849 677922.32 7666262.48
5850 678060.26 7666342.92
5851 677019.24 7667709.47
5852 676881.23 7667628.91
5853 676494.78 7668321.85
5854 676371.60 7668888.03
5855 676124.24 7669615.16
5856 676076.67 7669754.50
5857 676820.09 7669957.55
5858 676847.92 7670312.59
5859 676880.13 7670693.79
5860 676912.35 7671085.73
5861 676932.11 7671294.06
5862 676756.72 7671443.03
5863 676135.56 7671970.65
5864 676279.66 7672129.67
5865 676958.28 7671727.16
5866 677012.96 7671809.93
5867 676997.69 7672080.48
5868 676910.90 7672436.89
5869 676754.95 7672802.02
5870 676570.11 7673223.00
5871 676021.57 7673187.47
5872 675510.00 7672979.09
5873 675101.32 7673860.82
5874 675075.74 7673972.88
5875 675419.45 7674049.18
5876 676414.96 7673808.44
5877 676348.94 7674828.98
5878 675896.64 7674856.71
5879 674967.10 7675593.53
5880 674848.00 7675894.17
5881 676268.82 7676162.43
5882 676277.54 7676350.75
5883 676191.47 7676354.52
5884 675957.67 7676336.38
5885 675167.55 7676274.68
5886 675103.43 7676701.51
5887 675599.02 7676863.47
5888 676214.62 7677059.85
5889 675825.52 7678527.96
5890 675569.83 7678431.59
5891 675217.08 7678309.09
5892 675031.21 7679025.20
5893 675361.88 7679123.58
5894 675395.19 7679135.57
5895 675179.98 7679820.20
5896 675388.84 7679878.94
5897 674997.23 7681171.26
5898 674806.74 7681018.31
5899 674586.47 7680840.15
5900 674489.39 7681103.57
5901 674866.39 7681647.68
5902 674501.19 7682274.30
5903 674450.83 7682421.00
5904 674050.84 7683586.19
5905 673988.19 7683799.30
5906 673443.45 7683728.58
5907 673306.51 7684162.92

5908 673893.40 7684184.49
5909 674070.42 7684199.72
5910 673757.13 7685283.17
5911 673554.79 7686340.52
5912 672880.38 7686504.61
5913 672837.38 7686973.40
5914 673215.27 7687096.81
5915 673430.78 7687182.49
5916 673316.65 7687827.42
5917 673228.45 7688246.36
5918 673065.76 7688229.90
5919 672734.51 7688192.48
5920 672689.33 7689055.44
5921 672955.04 7689092.43
5922 673104.44 7689120.96
5923 673070.38 7689305.02
5924 673033.21 7689517.21
5925 673006.88 7689675.20
5926 672961.96 7689950.89
5927 672918.33 7690210.81
5928 672809.38 7690200.01
5929 672619.01 7690205.30
5930 672541.68 7690980.02
5931 672736.48 7691000.15
5932 672739.60 7691000.12
5933 672758.49 7691003.93
5934 672642.90 7691569.44
5935 672579.40 7691894.70
5936 672549.97 7692096.05
5937 672536.03 7692230.80
5938 672529.83 7692334.58
5939 672522.09 7692413.57
5940 672515.89 7692525.08
5941 672510.87 7692673.26
5942 672366.40 7692652.55
5943 671881.52 7692660.86
5944 671954.24 7693155.02
5945 672577.48 7693112.47
5946 672577.62 7693488.28
5947 672594.41 7693727.58
5948 672623.80 7693954.28
5949 672653.18 7694176.78
5950 672724.55 7694428.67
5951 672770.67 7694615.84
5952 672832.89 7695114.61
5953 672861.45 7695343.42
5954 672937.09 7695353.38
5955 673082.55 7696439.55
5956 672920.00 7696426.19
5957 672820.96 7696565.17
5958 672823.25 7696787.75
5959 672858.48 7696974.32
5960 673187.13 7697118.02
5961 673297.21 7697165.99
5962 673396.26 7697858.55
5963 673383.66 7698093.65
5964 673350.08 7698303.55
5965 673308.09 7698526.05
5966 673088.48 7698876.65
5967 672872.32 7699128.64
5968 672737.15 7698987.85
5969 672227.19 7698793.29
5970 672310.71 7698470.94
5971 672858.27 7698670.13
5972 672870.57 7698669.41
5973 672916.15 7698526.28

5974 671515.88 7698005.52
5975 671303.54 7698964.58
5976 671924.34 7699077.78
5977 671810.78 7699725.51
5978 670783.02 7700360.44
5979 669960.63 7700857.39
5980 669652.79 7701050.90
5981 669138.25 7701363.14
5982 668414.56 7701742.61
5983 668088.26 7700767.05
5984 667351.34 7700539.25
5985 667034.21 7701483.14
5986 667034.42 7701504.51
5987 667074.08 7701709.11
5988 667141.98 7702059.44
5989 666426.48 7701938.22
5990 666289.98 7702581.05
5991 666965.54 7702788.14
5992 667555.04 7703364.14
5993 667292.18 7703844.21
5994 666757.16 7704415.14
5995 666199.77 7703779.30
5996 666084.07 7704464.64
5997 666698.05 7704629.63
5998 666895.32 7704884.30
5999 666931.15 7705129.89
6000 665651.06 7704730.26
6001 665413.59 7705564.24
6002 666635.11 7706051.10
6003 666195.56 7707035.77
6004 666113.51 7707027.68
6005 665812.00 7706976.40
6006 665719.66 7707542.06
6007 665908.28 7707552.27
6008 666038.57 7707562.51
6009 665939.85 7708026.07
6010 665906.52 7708171.32
6011 665121.37 7709520.70
6012 664724.00 7710325.02
6013 664481.71 7710905.30
6014 664039.34 7711480.87
6015 665276.72 7711449.98
6016 665370.79 7711449.89
6017 665292.95 7711875.60
6018 665260.04 7712055.64
6019 664794.54 7712002.72
6020 664264.69 7711942.56
6021 664224.63 7712430.19
6022 664658.81 7712507.77
6023 665151.80 7712590.80
6024 665000.12 7713537.56
6025 664999.48 7713537.56
6026 664999.26 7713538.99
6027 664999.24 7713538.99
6028 664973.72 7713698.23
6029 664749.99 7715323.81
6030 664697.55 7715596.49
6031 664328.33 7715632.93
6032 664346.35 7714982.99
6033 664153.80 7714690.02
6034 664232.21 7713960.02
6035 663669.51 7714172.51
6036 663541.56 7714732.83
6037 663869.53 7714705.30
6038 663938.94 7714831.37
6039 663976.91 7715140.46

6040 663947.00 7715818.30
6041 664323.97 7715790.28
6042 664694.05 7715750.31
6043 664530.30 7717335.32
6044 664428.37 7717865.80
6045 664216.84 7717852.75
6046 663764.32 7717832.77
6047 663729.72 7718673.39
6048 664274.47 7718669.51
6049 664163.87 7719262.57
6050 664036.69 7719268.26
6051 663997.77 7720026.63
6052 663615.70 7722014.36
6053 663613.16 7722029.91
6054 663611.55 7722046.19
6055 663611.24 7722051.97
6056 663610.61 7722066.87
6057 663609.97 7722081.63
6058 663609.66 7722088.88
6059 663609.33 7722096.11
6060 663609.00 7722103.30
6061 663608.67 7722110.16
6062 663607.21 7722138.69
6063 663601.95 7722222.13
6064 663595.29 7722304.77
6065 663587.19 7722387.27
6066 663577.65 7722469.62
6067 663566.54 7722552.79
6068 663565.67 7722558.88
6069 663564.64 7722566.00
6070 663563.59 7722573.17
6071 663562.54 7722580.38
6072 663561.47 7722587.60
6073 663558.19 7722609.71
6074 663379.32 7723805.04
6075 663091.32 7723823.09
6076 663034.71 7724442.50
6077 663094.52 7724808.37
6078 663220.12 7724859.84
6079 662884.34 7727144.62
6080 662882.15 7727159.31
6081 662881.07 7727166.54
6082 662879.98 7727173.75
6083 662878.90 7727180.91
6084 662877.81 7727188.02
6085 662876.86 7727194.22
6086 662864.79 7727268.38
6087 662850.10 7727350.08
6088 662834.01 7727431.41
6089 662816.50 7727512.44
6090 662797.58 7727593.15
6091 662777.25 7727673.52
6092 662755.52 7727753.53
6093 662732.41 7727833.14
6094 662707.90 7727912.34
6095 662682.02 7727991.10
6096 662654.76 7728069.39
6097 662626.15 7728147.20
6098 662596.18 7728224.49
6099 662564.87 7728301.25
6100 662532.22 7728377.46
6101 662498.24 7728453.08
6102 662462.96 7728528.09
6103 662426.36 7728602.48
6104 662388.48 7728676.22
6105 662349.31 7728749.29

6106 662308.88 7728821.66
6107 662267.19 7728893.32
6108 662224.25 7728964.23
6109 662179.55 7729035.24
6110 662176.22 7729040.42
6111 662172.32 7729046.46
6112 662168.39 7729052.54
6113 662164.45 7729058.63
6114 662156.41 7729071.02
6115 662002.84 7729304.90
6116 660059.55 7732264.50
6117 658848.26 7733456.97
6118 658607.79 7733177.29
6119 658528.83 7733234.87
6120 657220.52 7735364.43
6121 657186.91 7735419.90
6122 657153.98 7735475.78
6123 657121.73 7735532.05
6124 657090.18 7735588.72
6125 657059.32 7735645.77
6126 657029.16 7735703.19
6127 656999.71 7735760.98
6128 656970.97 7735819.12
6129 656942.94 7735877.61
6130 656915.63 7735936.44
6131 656889.04 7735995.60
6132 656863.17 7736055.08
6133 656838.04 7736114.87
6134 656813.64 7736174.96
6135 656789.97 7736235.35
6136 656767.05 7736296.03
6137 656744.87 7736356.98
6138 656723.44 7736418.19
6139 656702.76 7736479.67
6140 656682.84 7736541.39
6141 656663.67 7736603.35
6142 656645.26 7736665.55
6143 656627.61 7736727.96
6144 656610.73 7736790.58
6145 656594.61 7736853.41
6146 656579.27 7736916.43
6147 656564.70 7736979.63
6148 656550.90 7737043.00
6149 656537.88 7737106.54
6150 656525.63 7737170.24
6151 656514.17 7737234.08
6152 656503.49 7737298.05
6153 656493.60 7737362.15
6154 656484.48 7737426.37
6155 656476.16 7737490.69
6156 656468.62 7737555.11
6157 656461.87 7737619.62
6158 656455.92 7737684.20
6159 656450.75 7737748.86
6160 656419.48 7738172.76
6161 656397.18 7738475.08
6162 656327.86 7739414.71
6163 656329.79 7742030.93 back to datum
1 656836.33 7742030.91

Area :

Type	Dealing No	Start Date	Area
Granted		05/07/2011	24,245.03000 HA
Applied For		01/07/2011	24,245.03000 HA

SHIRE DETAILS

Shire	Shire No	Area
ASHBURTON SHIRE	250	1,625.00000 HA
EAST PILBARA SHIRE	3220	11,481.80000 HA
PORT HEDLAND TOWN	7280	11,138.23000 HA

CURRENT HOLDER DETAILS

Name and Address
ROY HILL INFRASTRUCTURE PTY LTD
PO LOCKED BAG NO2, WEST PERTH, WA, 6872

RELATED TENEMENT DETAILS

Relationship	Tenement ID	Tenement Status

SURVEY DETAILS

Surveyed Area	Surveyed Date	Surveyor`s Name	Field Book	Instruction Date	Project

Standard Plan **Diagram**

UNCONDITIONAL PERFORMANCE BOND DETAILS

Bond	Surety	Amount	Bond date	Bond status	Bond status date

COMBINED REPORTING DETAILS

C Number : **Reporting Date :**
Project : **Affecting Period :**

RENT DETAILS

Year Ended	Receipt Date	Receipt No	MR Lodged	Amount
2012				

EXPENDITURE DETAILS

Expenditure is not required for this Legislation Type

Appendix B: GHD Turner River Flood Study

LandCorp

Boodarie Strategic Industrial Area (BSIA)
Turner River Flood Study

24 March 2013

Table of contents

1. Executive Summary 3
2. Introduction 4
   - 2.1 Background and context 4
   - 2.2 Scope and purpose 4
3. Site Hydrology 6
   - 3.1 Previous studies 6
   - 3.2 Design flood hydrographs 8
4. Hydraulic modelling 9
   - 4.1 Model configuration 9
   - 4.2 Results 12
5. Conclusions and recommendations 17
6. References 19

Table index

Table 1 Flood frequency analysis for the Turner River Bridge crossing (JDA, 1995) 6

Table 2 Greater Port Headland Storm Surge Summary - Design flood estimates (m^3/s) (GEMS, 2000) 7

Table 3 Design storm events for the Turner River boundary condition (5km downstream of the bridge crossing) (Cardon, 2011) 7

Table 4 Design Peak Total Still Water Level (TSWL) for Shellborough for the 2110 climate scenario (Cardno, 2011) 8

Table 5 Catchment properties 8

Table 6 Peak flows (m^3/s) for the Turner River catchment (upstream of Great Northern highway) for various ARIs 9

Table 7 100-year ARI preliminary peak water level at proposed sand mining location 12

Figure index

Figure 1 Locality 5

Figure 2 Mike11 network 11

Figure 3 BJ Young proposed sand mining site 100 year flood levels with 500 mm free board 13

Figure 4 Mike 11 Peak 100-year Flood Levels in Turner River 16

Appendices

Appendix A Port Headland Coastal Vulnerability Study 100-year ARI flood levels (provided by Department of Water, 2012)

Appendix B Mike11 Cross-sections

Appendix C BJ Young Lease Application

Appendix D BSIA Drainage Strategy for AECOM upstream catchments

1. Executive Summary

This report summarises the hydrologic and hydraulic analysis of the Turner River catchment, to the west of the Boodarie Strategic Industrial Area (BSIA), and its implications for the BSIA concept plan. This study conducted hydraulic modelling using Mike Flood of the Turner River using methods recommended by Australian Rainfall and Runoff 1987, to estimate the peak 100-year water levels along the Turner River.

The model was configured using information obtained from previous modelling studies of the Turner River, and modelling results were compared against the results from the Port Headland Coastal Vulnerability Study (PHCVS) (Cardno, 2011). This report presents the modelled peak 100-year water levels at key locations along the Turner River.

The key objectives of this study and the location within the report where these objectives were addressed are given below.

1. Assess the potential impact to the current hydrology of LandCorp's development as a result of Great Northern Hwy overpass of proposed rail corridor. This is addressed within Section 4.2.7: Drainage strategy for AECOM upstream catchments, and Appendix D of this report. This letter report summarises the drainage strategy options to deal with the large catchment (around 8,100 ha) upstream of the BSIA, south-east of the Great Northern Highway (GNH). These options include transferring runoff from this catchment through the BSIA drainage system or diverting drainage along the side of the GNH before crossing it.
2. Assess the flood risk to LandCorp's development as a result of cuttings, embankments or drainage structures along the proposed railway alignment. This is addressed within Section 4.2.6: Proposed rail corridor in AECOM study of this report. The modelling results indicate that the 100-year peak water level in the Turner River in-line with the proposed rail corridor crossing is approximately 21.5 mAHD, and the Turner River east bank is approximately 34.5 mAHD. Information from AECOM in regards to the current plans for excavation within the rail corridor was not available during this study.
3. Recommend the current level of flood protection that the sand ridge along the waterway offers and assess the impact of sand mining on LandCorp's development. This is addressed within Section 4: Hydraulic Modelling. Based on the modelling results, three options have been proposed for future sand mining:
    i. Use of Turner River east bank for flood protection;
    ii. Construct a levee bank to minimise backwater effects; and
    iii. Excavate sand ridge leaving a bund.

2. Introduction

2.1 Background and context

GHD have been engaged by LandCorp to undertake a Waterways Assessment for the Boodarie Strategic Industrial Area (BSIA). This report outlines hydrologic and hydraulic analysis of the Turner River catchment, to the west of the BSIA, and its implications for the BSIA concept plan.

The Boodarie Strategic Industrial Area (BSIA) is located approximately 12 km south of the Port Hedland townsite and 4 km west of the South Hedland townsite. The 3600 ha area is adjacent to the Great Northern Highway and South West Creek on the east. The development will provide strategic and general / noxious industrial land in the form of large un-serviced lots.

The majority of the BSIA is protected from the Turner River floodway by a sand ridge running north to south within the western boundary of the site. The Turner River is a major floodway with a total catchment area of around 500,000 ha. The sand ridge reaches 31.5 mAHD at Great Northern Highway, south of the BSIA, and drops to a minimum of 10.5 mAHD at the north of the study area.

2.1.1 Previous studies

This waterways assessment was based on a number of previous investigations, including:

- Boodarie Drainage and Flood Management (Jim Davies and Associates, 1995);
- Greater Port Headland Storm Surge Study (Global Environmental Modelling Systems, 2000); and
- Port Hedland Coastal Vulnerability Study (Cardno, 2011).

2.2 Scope and purpose

The scope of this study included:

- Identify and map the drainage catchments for the waterways assessment using available topographic maps and existing hydrology data;
- Estimate 100-year Average Recurrence Interval peak flow rates using methods recommended by Australian Rainfall and Runoff 1987.

The purpose of this hydrology study is to:

- Assess potential impact to the current hydrology of LandCorp's development as a result of Great Northern Hwy overpass of proposed rail corridor.
- Assess the flood risk to LandCorp's development as a result of cuttings, embankments or drainage structures along the proposed railway alignment.
- Recommend the current level of flood protection that the sand ridge along the waterway offers and assess the impact of sand mining on LandCorp's development.

650,000 660,000 670,000 680,000

7,750,000

7,740,000

7,730,000

Turner River

Great Northern Hwy

1: 100,000 (at A3)

0 0.5 1 2 3 4 5

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

LEGEND

Roads

Highway

LocalRoad

Hydrology

BSIA DWMS Study Area

GHD

LANDCORP

powered by SLIP ENABLER

Landcorp
Boodarie Strategic Industrial Area
Flood Study

Job Number	61-2617100
Revision	2
Date	22 Mar 2013

Location of Study Area

Figure 1

G:\61\2617100\GIS\Maps\MXD\612617100_FloodStudy_Fig1_Rev2.mxd

©2013. Whilst every care has been taken to prepare this map, GHD, Landgate, BJ Yound Sand Mining, and LandCorp make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Landgate: Hydrology - 20120831, Roads - 20120831, PHTownNov2009 - 20120808; GHD: BSIA DWMS Study Area: 20121206. Created by: cnicol, erice

239 Adelaide Terrace Perth WA 6004 Australia **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com **W** www.ghd.com

3. Site Hydrology

3.1 Previous studies

3.1.1 Boodarie Drainage and Flood Management (Jim Davies and Associates, 1995)

Jim Davies & Associates (JDA) conducted a drainage and flood management study for the proposed Boodarie Resource Processing Estate (referred to in this document as the Boodarie Strategic Industrial Area (BSIA)) in 1995. A component of this study assessed the flooding potential of the Turner River with respect to the BSIA development. The study conducted hydraulic modelling of the Turner River for various ARI events using HEC-2 backwater model. The model was calibrated at the Great Northern Highway Turner River Bridge crossing against the historic flood water levels recorded by Main Roads. JDA (1995) performed a flood frequency analysis on the flood events, and extrapolated the data to estimate the 100-year ARI peak flood level at the crossing (Table 1). The study estimated that the 100-year ARI peak water level at the Great Northern Highway Turner River bridge crossing was within the range of 26.3 to 28.0 mAHD upstream of the crossing, and 25.0 to 6.7 mAHD downstream of the crossing.

Peak flow rate for the Turner River catchment upstream of the Great Northern Highway Turner River bridge crossing was estimated using RORB modelling package. The estimated 100-year ARI peak flow rate is 20,200 m^3/s. However, the study noted that the 100-year ARI peak flow estimate is subject to uncertainty, and the confidence interval could well be in excess of ± 50%.

Table 1 Flood frequency analysis for the Turner River Bridge crossing (JDA, 1995)

Year	Estimated flood frequency (Years)	Turner River – upstream of the bridge	Turner River – downstream of the bridge
1973	4	23.36	23.02
1975	6	24.40	24.03
1980	9	26.02	24.84
1988	25	26.17	24.84
Extrapolated 100-year ARI event	100	26.3 to 28.0	25.0 to 26.7

3.1.2 Greater Port Headland Storm Surge Study (Global Environmental Modelling Systems, 2000)

Global Environmental Modelling Systems (GEMS) conducted a storm surge study for the greater Port Headland region in 2000. As part of this study, hydraulic modelling was conducted for the Turner River catchment (upstream of the Great Northern Highway bridge crossing), and the peak flow rate for various ARI's were estimated using the revised index flood method, summarised below in Table 2.

Table 2 Greater Port Headland Storm Surge Summary - Design flood estimates (m^3/s) (GEMS, 2000)

ARIs	2	5	10	20	50	100
Turner River catchment	630	1329	2146	2289	6160	9732

3.1.3 Port Headland Coastal Vulnerability Study (Cardno, 2011)

Cardno conducted a coastal vulnerability study for Port Headland in 2011, to evaluate the combined effects of coastal inundation (flooding and storm surge). The study area includes the east branch of the Turner River, downstream on the river divergence (approximately 5 km downstream of the bridge crossing) and extends to the Port Headland coast line. The study conducted hydrologic assessment of the extreme rainfall events to determine the design flows for rivers for the nominated return periods, and hydraulic modelling of the combined effects of storm surge inundation from the sea and flooding from the land through a coupled hydrodynamic and coastal model system.

Table 3 Design storm events for the Turner River boundary condition (5km downstream of the bridge crossing) (Cardon, 2011)

ARI storm event	2 year	10 year	100 year
Critical storm duration (hour)	36	36	12
Peak flow (m^3/s)	263	2,793	9,485
Discharge volume (GL)	31.2	314.6	655.9

The study estimated that peak total still water level (TSWL) at Shellborough for various ARI events at the current (2010) levels based on Published Tidal Constituents (AHO, 2009). Peak TSWL exclude additional factors such as non-cyclonic residual water level and shoreline wave setup. The study also estimated the peak water level based on the future 2110 climate scenario, which includes an increase in the mean sea level of +0.9 m.

The study noted that there is no discernible relationship between rainfall and water level joint occurrence, where large ocean storm surge events tended not to be associated with peak catchment responses. However, the study recommends a conservative modelling approach, using a joint occurrence model for the design event simulation where the 20-year ARI ocean water level should be simulated in-conjunction with the 100-year ARI catchment flows (Cardno, 2011).

Table 4 Design Peak Total Still Water Level (TSWL) for Shellborough for the 2110 climate scenario (Cardno, 2011)

ARI (years)	Peak TSWL at 2010 (mAHD)	Peak TSWL at 2110 (mAHD)
2	3.9	4.8
10	4.7	5.6
20	5.1	6.0
50	5.3	6.2
100	5.9	6.8

The 100-year ARI peak flood level contours for the future climate conditions (at 2110) generated in this study were sourced from the Department of Water (2012) and displayed in Appendix A.

3.2 Design flood hydrographs

3.2.1 Catchment

The Department of Water hydrographic sub-catchments was used to define drainage catchment for the Turner River, upstream of the Great Northern Highway. The total catchment area for the Turner River is 3097 km^2, the main stream path length is 116 km, with an average slope of 2.05 m/km.

Table 5 Catchment properties

Catchment description	Area (km^2)	Stream length (km)	Average slope (m/km)
Turner River (upstream of Great Northern Highway)	3097	116	2.05

3.2.2 Design rainfall

The Turner River catchment is located near Port Headland in the Pilbara region of Western Australia. The region experiences an arid to semi-arid climate with hot, humid summers and warm dry winters. Rainfall is low throughout the year and is quite variable; annual totals vary from 250 mm to 450 mm, with the average annual rainfall of 328.1 mm at the Indee gauging station (004016), located within the Turner River catchment, approximately 30 km upstream of the Great Northern Highway (Bureau of Meteorology, 2012). Summer rains are a result of scattered thunderstorms and occasional tropical cyclones. Winter rains may be caused by tropical could bands.

The intensity frequency duration (IFD) rainfall data used to generate rainfall hydrographs for the design storm events was sourced from the Bureau of Meteorology IFD program, in accordance with AR&R (1987), at the Turner River Great Northern Highway bridge crossing (coordinates: 20.525 latitude, 118.475 longitude).

3.2.3 Design flood events

Peak flows for the Turner River catchment were estimated for various average recurrence interval (ARI) design events (10-, 20-, 50- and 100-years) using the rational method and the index flood method for the north-west Pilbara region for loamy soils, as recommended by AR&R

(1987). The estimated peak flows (m^3/s) for various ARIs are summarised in Table 6. AR&R (1987) provides an index flood method relationship up to the 50-year ARI event; therefore the 100-year peak flow rate was not estimated using this method. The peak flow rate for the various return periods are within the typical range estimated in the previous studies (discussed in Section 3.1).

Table 6 Peak flows (m^3/s) for the Turner River catchment (upstream of Great Northern highway) for various ARIs

ARI (years)	2	5	10	20	50	100
Turner River - rational method	525	1269	2479	5164	9899	11907
Turner River - index flood method	591	1244	2454	4763	10408	N/A

4. Hydraulic modelling

4.1 Model configuration

A two-dimensional hydraulic model of the Turner River catchment was configured using the Mike Flood modelling package. The Mike 21 model coupled with a one-dimensional hydraulic model of the Turner River Mike 11 Hydrodynamic (HD) modelling package using Mike Flood. The Mike 21 model simulates the two-dimensional overland flow pathways, while the Mike 11 simulates the one-dimension flow along the river centreline through the use of representative cross-sections.

Cross-sections in the Mike 11 model were generated along the Turner River using the digital elevation model, built from two data sources:

- SRTM 30m grid data – Geoscience Australia (October 2011); and
- 5 m LiDAR grid data – LandCorp.

Cross-sections were spaced to capture the major changes in the channel shape and the hydraulic gradient, and were also located at key points of interest along the Turner River including the BJ Young proposed sand mining location, and the proposed BHP railway line. A uniform channel roughness coefficient of 0.0616 (Mannings 'n') was applied along the channel, which represents a moderately vegetated channel, consistent with the roughness coefficient used in the Port Headland Coastal Vulnerability Study (Cardno, 2011). The Great Northern Highway Turner River bridge crossing was included in the Mike 11 model as a bridge structure.

The Mike 21 model grid was generated for the Turner River catchment using the digital elevation model, with a 20 m model grid.

The model was configured to ensure that suitable boundary conditions could be generated, and extends 5 km upstream of the Great Northern Highway Turner River bridge crossing, and extends to the coast. The Mike11 network is displayed in Figure 2.

The peak flow rate calculated for the Turner River catchment (upstream of the Great Northern Highway) for the various return periods (discussed in Section 3.2.3) was used as the upstream boundary condition.

The downstream boundary is controlled by the peak tide water level. The design water level for the 20-year ARI event from the Port Headland Coastal Vulnerability Study (Cardno, 2011) accounting for climate change (presented as the 2110 peak water level) was used as the downstream boundary condition (6 mAHD). As discussed in Section 3.1.3, the study recommended that the 20-year ARI peak ocean water level be used as the downstream

boundary condition when modelling the 100-year ARI hydraulic catchment, based upon a joint probability approach (Cardno, 2011). The Mike Flood model was simulated in the steady-state.

640,000 650,000 660,000 670,000

7,750,000 7,740,000 7,730,000

SECT 6-5870
SECT 6-4146
SECT 6-2398
SECT 6-1494
SECT 6-571
SECT 5-11742
SECT 5-10200
SECT 5-8389
SECT 5-6400
SECT 5-4572
SECT 5-3380
SECT 5-2008
SECT 5-3
SECT 4-7892
SECT 4-6880
SECT 4-5421
SECT 4-3649
SECT 4-2368
SECT 4-1008
SECT 4-0
SECT 3-5720
SECT 3-4665
SECT 3-2778
SECT 3-1057
SECT 2-8379
SECT 2-7864
SECT 2-7426
SECT 2-7094
SECT 2-6616
SECT 2-4525
SECT 2-3763
SECT 2-2776
SECT 2-2117
SECT 2-786
SECT 1-11451
SECT 1-9189
SECT 1-7592
SECT 1-6502
SECT 1-6065

T6 T5 T4 T3 T2 T1

BSIA DWMS Study Area

Great Northern Hwy

Text

Notes:
(1) The Rail Corridor alignment is an approximation based on georeferencing the alignment presented in Boodarie Structure Plan(2012).

1: 100,000 (at A3)

0 0.5 1 2 3 4 5
Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

LEGEND

Roads
- Highway
- LocalRoad

- Mike 11 Rivers
- Mike 11 Cross-sections
- Rail Corridor
- BSIA DWMS Study Area

LandCorp
Boodarie Strategic Industrial Area
Flood Study

Job Number	61-2617100
Revision	3
Date	22 Mar 2013

Model Configuration

Figure 2

G:\61\2617100\GIS\Maps\MXD\612617100_FloodStudy_Fig2_Rev3.mxd

©2013. Whilst every care has been taken to prepare this map, GHD, Landgate, and LandCorp make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Data source: Landgate: Roads - 20120831, PHTownNov2009 - 20120808; GHD: BSIA DWMS Study Area: 20121206, Mike 11 Rivers - 2012012, Mike 11 Cross-sections - 201201, Rail Corridor - 2013 (based on georeferencing rail corridor in the Boodarie Structure Plan (2012)) Created by: adrummond, erice

239 Adelaide Terrace Perth WA 6004 Australia T 61 8 6222 8222 F 61 8 6222 8555 E permail@ghd.com W www.ghd.com

4.2 Results

4.2.1 Estimated 100 year flood levels

The hydraulic model was used to estimate the peak water levels that can be expected for a 100-year ARI to evaluate the sand-mining profile adjacent to the Boodarie Strategic Industrial Area to maintain or improve the current level of flood protection.

The 100-year peak water level at Turner River was extracted for eight cross-sections (SECT 1 - 11451, SECT 2 - 2117, SECT 2 -2776, SECT 2 -3763, SECT 2 - 4525, SECT 2 - 6616, SECT 2 -7094 and SECT 2 -7426) which are in-line with the potential sand resource (cross-section locations shown in Figure 2 and Figure 4). It is noted that cross-section SECT 2 - 6616 is in-line with the area identified as being a potential area for new B.J Young mining lease. The B.J Young mining lease application letter is provided in Appendix C.

Table 7 summarises the modelling results for the 100-year ARI peak water level along the Turner River at the key cross-sections, as well as the levels estimated along the Turner River and adjacent to the sand ridge from the Port Headland Coastal Vulnerability Study (PHCVS) (Cardno, 2011) which are shown in Appendix A. Key cross-sections are provided in Appendix B, which indicate the 100-year peak water level, and the Turner River banks.

Table 7 100-year ARI preliminary peak water level at proposed sand mining location

Mike 11 Cross Section	Mike 11 – at the Turner River (mAHD)	PHCVS – at the Turner River (mAHD)	PHCVS peak water – adjacent to the sand ridge (mAHD)	Mined Sand ridge elevation (mAHD)
SECT 1 – 11451	21.5	N/A(2)	-	24.0 - 27.3
SECT 2 - 2117	19.9	19.75	-	22.7 – 24.1
SECT 2 - 2776	19.0	19.00	-	19.1 – 23.0
SECT 2 – 3763	17.8	18.0	13.25	15.3 – 20.9
SECT 2 - 4525	16.7	16.75	13.0	15.5 – 18.7
SECT 2 - 6616	13.3	13.5	12.75	13.0 – 16.0
SECT 2 – 7094	12.7	13.0	9.75	12.9 – 16.3
SECT 2 – 7426	12.3	12.5	9.5	11.9 – 15.8

Notes – (1) Flood water is due to back water effects, and is located between the east Turner River flood plain bank and the sand ridge. - No flooding at these locations. (2) Outside the PHCVS study area

Figure 4 presents the 100-year peak flood level within the Turner River estimated from the Mike11 model for key cross-sections, in-line with the BSIA DWMS western boundary. The modelling results indicate that the 100-year peak water levels along the Turner River at all cross sections are contained within the Turner River banks, and are also within the corresponding sand ridge elevation ranges. Figure 4 provides an indication of the Turner River east bank, based on the PHCVS 100-year flood extent (Appendix A). The peak water levels ranged from 21.5 mAHD at the upstream cross-section SECT 1 - 11451, to 12.3 mAHD at downstream cross-section SECT 2 - 7426, and these results are consistent with the PHCVS estimates along the Turner River (Cardno, 2011).

Appendix A shows the extent of predicted flooding simulated by the PHCVS adjacent to the mined sand ridge, provided by to GHD by the Department of Water (2012). A second figure is provided in Appendix A showing the PHCVS flood map overlain with the Mike11 cross-sections,

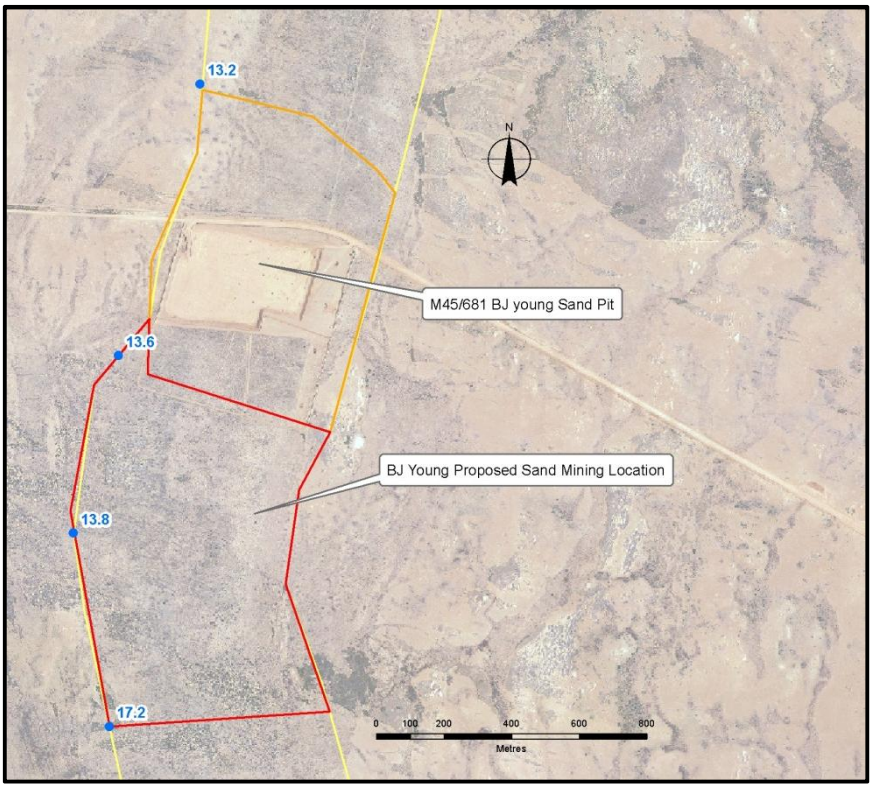
river alignment, rail corridor and proposed sand mining areas to allow for easy visual interpretation of model results between the two studies. The two-dimensionally modelling results from the PHCVS (Cardno, 2011) indicate in the event of a 100-year flood, flood waters will inundate the low-lying valley between the Turner River east bank flood and the mined sand ridge, at locations downstream of cross section SECT 2- 3763. Modelled results of the 100-year peak water levels adjacent to the sand ridge are contained within the sand ridge elevations.

4.2.2 Flood levels at BJ Young proposed sand mining locations

Figure 4 presents the 100-year peak flood level within the Turner River estimated from the Mike11 model for key cross-sections, at the boundary of the 100-year flood plain (marked up from the PHCVS). The modelling results indicated that the 100-year ARI peak water level within the Turner River ranges from 16.7 mAHD (SECT 2 – 4525) on the south corner of the proposed sand mining area to 13.30 mAHD (SECT 2 – 6616) in the middle of the proposed sand mining area . This is consistent with the Port Headland Coastal Vulnerability Study (PHCVS) (Cardno, 2011) estimates of 16.75 mAHD and 13.5 mAHD (respectively) within the Turner River at these locations.

It should be noted that while the east bank of the Turner River contains the 100-year ARI flood waters at these locations, backwater effect results in the downstream flood waters inundating the low-lying valley between the Turner River flood plain east bank and the sand ridge (shown in Figure 4). While the PHCVS indicates that the 100-year peak water level adjacent to the proposed sand mining location area is 12.75 mAHD (Appendix A), it is recommended that the peak water levels within the Turner River of 16.7 mAHD (in the south), 13.3 mAHD (in the middle), and interpolated value of 13.1 mAHD (in the north) are adopted, providing a conservative approach. Therefore, it is advised that the western side of the sand ridge maintain a height of at least the values (100 year flood level and 500 mm free board) shown in Figure 3. It is advised that the eastern side of the sand ridge maintain the same heights as western side at this stage.

Figure 3 BJ Young proposed sand mining site 100 year flood levels with 500 mm free board



4.2.3 Use of Turner River east bank for flood protection

The 100-year flood extent (presented in Figure 4), indicates that there is no flood risk between the Turner River east bank and the sand ridge upstream of cross section SECT 2 – 3763. The existing elevation upstream of the SECT 2 – 3763 of Turner River east bank is above the 100 year flood level. Therefore, there is potential to mine the sand ridge upstream of SECT 2 – 3763 ensuring that the Turner River east bank and elevation between two ridges at SECT 2 – 3763 maintains at least 500 mm freeboard above the peak 100-year flood levels (shown on Figure 4). However, from a drainage point of view it is advisable to use elevation 18.3 mAHD, which is the 100-year flood level and 500 mm freeboard at SECT 2 – 3763, crossing the sand ridge and grade the sand ridge in upstream direction to a reasonable slope.

If Turner River east bank is reduced below the 100-year flood level, it is advisable to leave a bund as discussed in Section 4.2.5.

4.2.4 Construct a levee bank (See Figure 4) to minimise backwater effects

Another option to allow for mining of the sand ridge is to construct a levee, creating a barrier, and eliminating the flood backwaters which would otherwise have inundated the low lying valley between the sand ridge and Turner River east bank (second ridge). Constructing a levee between the two ridges in line with cross section SECT 2 - 7426 could allow for the sand ridge to be mined subjected to internal BSIA drainage hydraulic levels without increasing the potential flood risk to the BSIA from Turner River. The minimum height for the downstream levee barrier is 12.8 mAHD, which based on is the peak water level in the Turner River at the proposed location (12.3 mAHD) and at least a 500mm freeboard). This option would require further study on diverting local drainage, possibly to South West Creek, but will also require access through BHP's lease area which could be problematic.

4.2.5 Excavation of sand ridge leaving a bund

As discussed in Section 3.3.1, despite options for dropping the potential excavation level, it is advised that the mined sand ridge excavation level not exceed the Mike 11 peak flood level and 500 mm freeboard. In order to maintain the current level of flood protection to the BSIA, the sand ridge can be construction into a bund, enabling some excavation and sand mining. It is advised that the sand ridge bund be constructed to a height consistent with previously advised Mike 11 peak flood level and 500mm freeboard. This would vary from 21.9 mAHD at the corresponding upstream cross-section SECT 1 - 11451 to 12.8 mAHD at corresponding cross section SECT 2 - 7426. Given that the lease area is approximately 600 m to 800 m wide (east to west), a notional bund width of between 30 – 50 m should be left on the western side, leaving the eastern portion to be excavated. However, it is advised that a geotechnical assessment be conducted to consider the structural design, including width of bund. A geotechnical assessment will also consider the geotechnical aspects of the bund, including accounting for potential post flood seepage issues.

A bund is not required upstream of section SECT 2 – 3763 if the Turner River east bank maintains at least 500 mm freeboard above the peak 100-year flood levels (indicated on Figure 4).

4.2.6 Proposed rail corridor in AECOM study

Figure 2 and Figure 4 indicate the location of proposed rail corridor in the vicinity of the BSIA study area. It is noted that the exact rail alignment was not provided to GHD during this study. The rail alignment presented in Figure 2 and Figure 4 is an approximation based on spatially referencing the rail corridor presented in the Boodarie Structure Plan (Dec. 2012).

The rail corridor crosses the sand ridge and the Turner River east bank just downstream of the Great Northern Highway, approximately in-line with cross-sections SECT 1 - 11451.. The modelling results indicate that the 100-year ARI peak flood level at this location in the Turner River is approximately 21.5 mAHD, and the Turner River east bank is approximately 34.5 mAHD. Information from AECOM in regards to the current plans for excavation within the rail corridor was not available during this study. At the present time it can only be indicated from the modelling results that if the rail corridor does not excavate the Turner River east bank below 22.0 mAHD (peak flood level and 500 mm freeboard), then the rail crossing should not increase the current risk of flooding to the BSIA at this location.

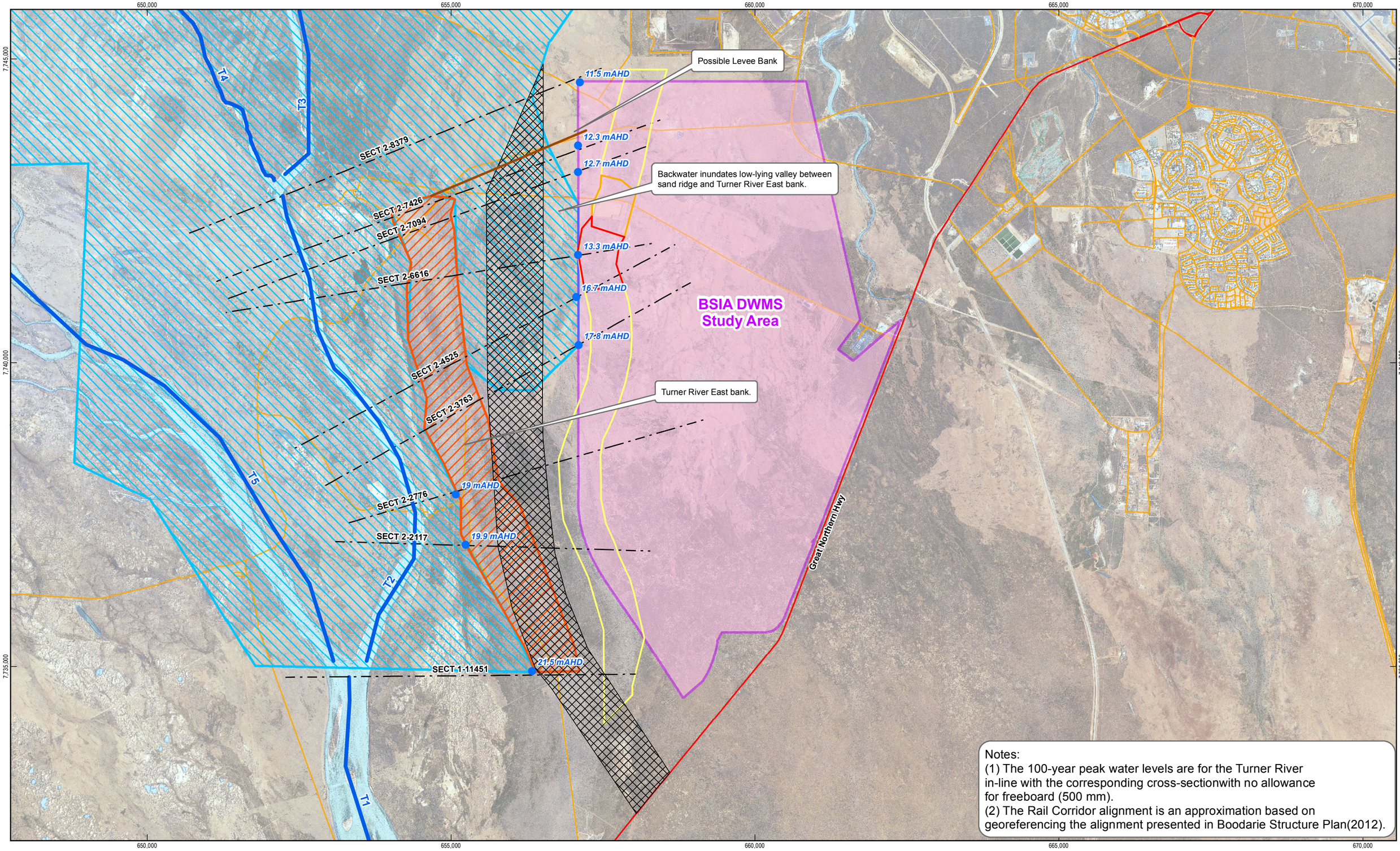
It is noted that the proposed rail corridor is located within the Turner River 100-year flood plain. Therefore, it is anticipated that the construction of the rail corridor will require an embankment, which would provide additional protection the BSIA DWMS area, and could potentially allow for additional sand mining to be conducted.

4.2.7 Drainage strategy for AECOM upstream catchments

Appendix D provides a letter (dated 19th February 2013) assessing the potential impact to the current hydrology of LandCorp's development as a result of Great Northern Highway overpass of the proposed rail corridor. The letter report summarises the drainage strategy options to deal with the large catchment (around 8,100 ha) upstream of the BSIA, south-east of the Great Northern Highway (GNH). Runoff from this catchment can be transferred through the BSIA and accommodated within the BSIA drainage system or it can be cut off before crossing GNH and diverted along the side of the highway. Four options have been proposed:

1. Option 1 – open drain along eastern side of Great Northern Highway (design proposed in the DWMS);
2. Option 2 – Open drain along BSIA services corridor and smaller open drain along Great Northern highway;
3. Option 3 – Open drain along BSIA services corridor only; and
4. Option 4 – Culverts return upstream flows to eastern side of Great Northern Highway

Refer to Appendix D for full details.



1: 50,000 (at A3)

0 0.25 0.5 1 1.5 2 2.5

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 50

N

LEGEND

- Mile 11 Peak 100-year water level
- Mike 11 Rivers
- Mike 11 Cross-sections
- Possible Levee Bank

Roads

- Highway
- Local Road

BJ Young Sand Mining

- Potential Sand Resource
- M45/681 BJ Young Sand Pit
- Potential Area for new mining lease

- BSIA DWMS Study Area
- PHCVS 100-year Flood Extent
- Rail Corridor
- Turner River East Bank

Landcorp
Boodarie Strategic Industrial Area
Flood Study

Job Number	61-2617100
Revision	11
Date	25 Mar 2013

Peak 100-year Flood Levels in Turner River

Figure 4

G:\61\2617100\GIS\Maps\MXD\612617100_FloodStudy_Fig4_Rev11.mxd

239 Adelaide Terrace Perth WA 6004 Australia **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com **W** www.ghd.com

©2013. Whilst every care has been taken to prepare this map, GHD, LandCorp, BJ Yound Sand Mining, and Landgate make no representations or warranties about its accuracy, reliability, completeness or suitability for any particular purpose and cannot accept liability and responsibility of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred by any party as a result of the map being inaccurate, incomplete or unsuitable in any way and for any reason.

Data source: Data source: Landgate: Hydrology - 20120831, Roads - 20120831, PHTownNov2009 - 20120808; BJ Young Sand Mining - 20120220; GHD: BSIA DWMS Study Area: 20121206, Possible Levee Bank - 20130322, Mike 11 Rivers - 201201, Mike 11 Cross-sections - 201201, Rail Corridor - 2013 (based on georeferencing rail corridor in the Boodarie Structure Plan (2012)) Created by: ngamage, erice

5. Conclusions and recommendations

A two-dimensional Mike 21 flood model coupled with a one-dimensional Mike 11 hydrodynamic model was generated for the Turner River catchment to simulate the peak flood levels for the 100-year ARI event. The model was configured using information obtained from previous modelling studies of the Turner River, and modelling results were compared against the results from the Port Headland Coastal Vulnerability Study (PHCVS) (Cardno, 2011).

The modelling results were used in conjunction with results presented in the PHCVS to evaluate the potential for additional sand mining along the sand ridge adjacent to the Boodarie Strategic Industrial Area (BSIA), whilst maintaining the current level of flood protection. The 100-year ARI peak water levels were extracted from the model for eight cross-section locations in-line with the proposed sand ridge mining area.

The modelling results indicated that the 100-year peak water level is contained within the banks of the Turner River upstream of SECT 2 – 3763. It is advised that the mined sand ridge excavation level not exceed the Modelled peak flood level and 500mm freeboard in order to maintain the BSIA study area flood risk. Backwater effect results in the downstream flood waters inundating the low-lying valley between the Turner River flood plain east bank and the sand ridge.

The modelling results indicated that in the event of a 100-year flood, a backwater effect results in the downstream flood waters inundating the low-lying valley between the Turner River flood plain east bank and the sand ridge, downstream of cross section SECT 2 – 3763. Based on the modelling results, three options have been proposed for future sand mining:

1. **Use of Turner River east bank for future flood protection –** There is potential to use the Turner River east bank for flood protection upstream of SECT 2 – 3763. Therefore, the sand ridge can be mined subject to internal BSIA drainage hydraulic levels, as long as the Turner River east bank remains above the 100-year peak flood level (plus 500 mm freeboard).
2. **Construct a levee bank to minimise backwater effects** – Construct a levee between the two ridges in line with cross-section SECT 2 - 7426 eliminating the flood backwaters which would otherwise have inundated the low lying valley between the sand ridges. This would allow for the sand ridge to be mined subject to internal BSIA drainage hydraulic levels, without increasing the potential flood risk to the BSIA from Turner River.
3. **Excavate sand ridge leaving a bund -** In order to maintain the current level of flood protection to the BSIA, the sand ridge can be construction into a bund, enabling some excavation and sand mining. It is advised that the sand ridge bund be constructed to a height consistent with previously advised Mike 11 peak flood level and 500mm freeboard. It is recommended that a geotechnical assessment be conducted to consider the structural design, including width of bund and accounting for potential post flood seepage issues.

The modelling study also investigated the potential flood impact of the proposed rail corridor in the vicinity of the BSIA study area. The modelling results indicate that the 100-year peak water level in the Turner River in-line with the proposed rail corridor crossing is approximately 21.5 mAHD, and the Turner River east bank is approximately 34.5 mAHD. Information from AECOM in regards to the current plans for excavation within the rail corridor was not available during this study. At the present time it can only be indicated from the modelling results that if the rail

corridor does not excavate the Turner River east bank below 22.0 mAHD (peak flood level and 500 mm freeboard), then the rail crossing should not increase the current risk of flooding to the BSIA at this location.

6. References

Cardno (2011) *Port Headland Coastal Vulnerability Study final Report,* Prepared for: LandCorp. Report number: Rep1022p.

Jim Davies & Associates (JDA) (1995) *Boodarie Resource Processing Estate Drinage and Flood Management,* Prepared for: Department of Resource Development and LandCorp. Reference number: J244L.

Global Environmental modelling Systems (GEMS) (2000) *Greater Port Headland Storm-surge Study,* Prepared for: WA ministry for Planning and Port Headland Town Council.

AECOM (2012) *Great Northern Highway Over Haul Road at Boodarie – Preliminary (15%) Road Design Report,* Prepared for: Atlas Iron Ltd. Reference number: 60190692-RD-021B.

The Institute of Engineers, Australia (1987) *Australian Rainfall and runoff – A Guide to Flood Estimation Volume 1.*

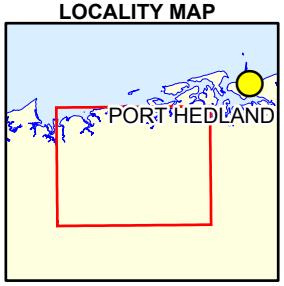
Appendices

Appendix A Port Headland Coastal Vulnerability Study 100-year ARI flood levels (provided by Department of Water, 2012)

Turner River

Port Hedland area

LOCALITY MAP



LEGEND

- Focus area
- Boodarie Industrial Estate
- 100 yr ARI flood levels (m AHD)
- 100 yr ARI floodplain
- Cadastre
- Road Centrelines, DLI

N

0 0.5 1 2 3

Kilometres

Datum and Projection Information

Vertical Datum: Australian Height Datum (AHD71)
Horizontal Datum: GDA94 MGAz50
Projection: Universal Traverse Mercator (UTM)
Spheroid: Geodetic Reference System (GRS80)

Project Information

Client:
Map Author: Toni Smythe
Task ID: B1305
Compilation date: 14/09/2012
Edition: Version 1

SOURCES

The Department of Water acknowledges the following datasets and their custodians in the production of this map:

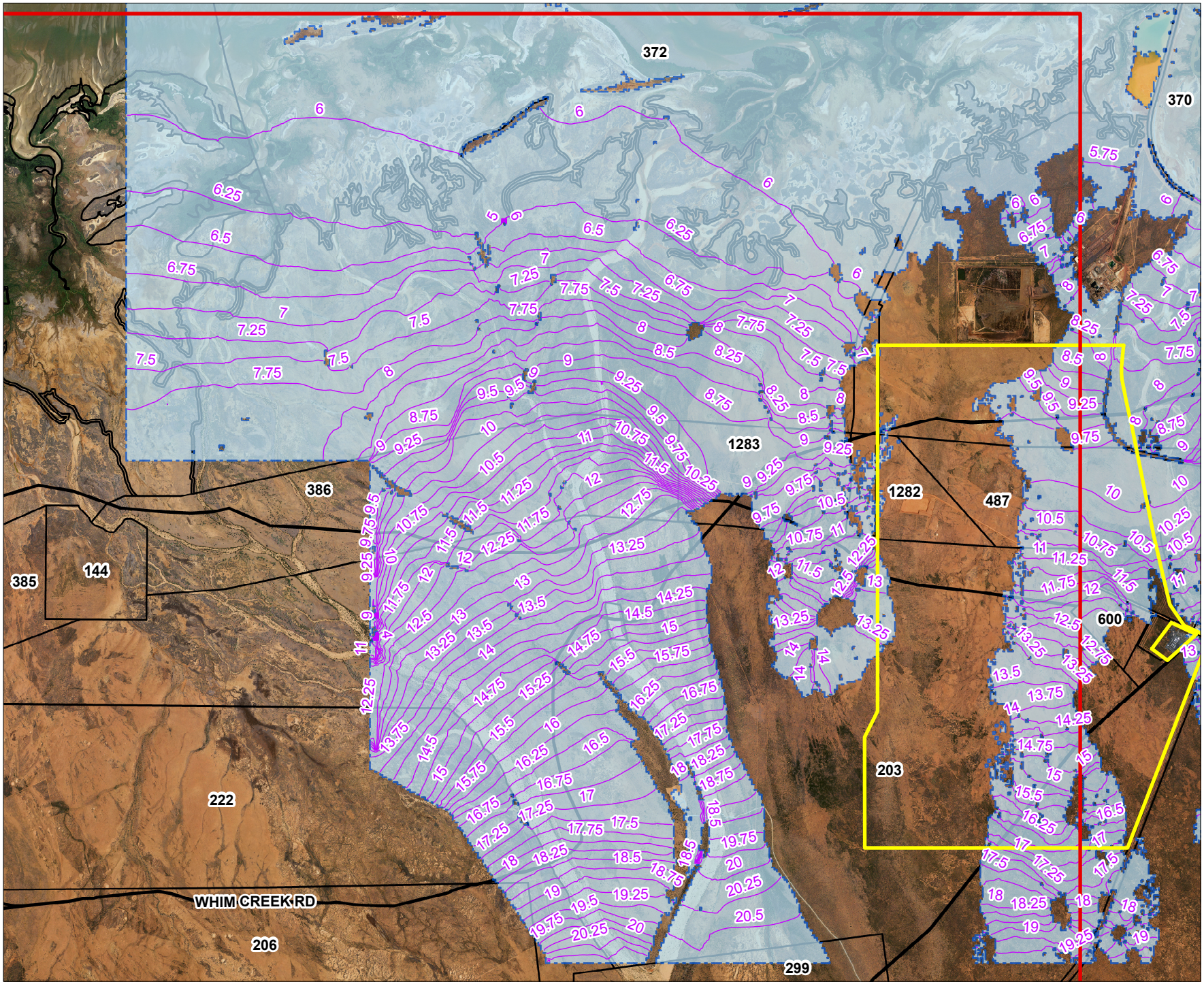
Spatial Cadastral Database - Landgate – 30/04/2012
Road Centrelines, DLI - Landgate - 13/01/2010
Western Australian Towns - Landgate - 12/07/2001

Government of Western Australia
Department of Water

This map is a product of the Department of Water, Assessment & Allocation and was printed on 14/09/2012.

This map was produced with the intent that it be used for display purposes.

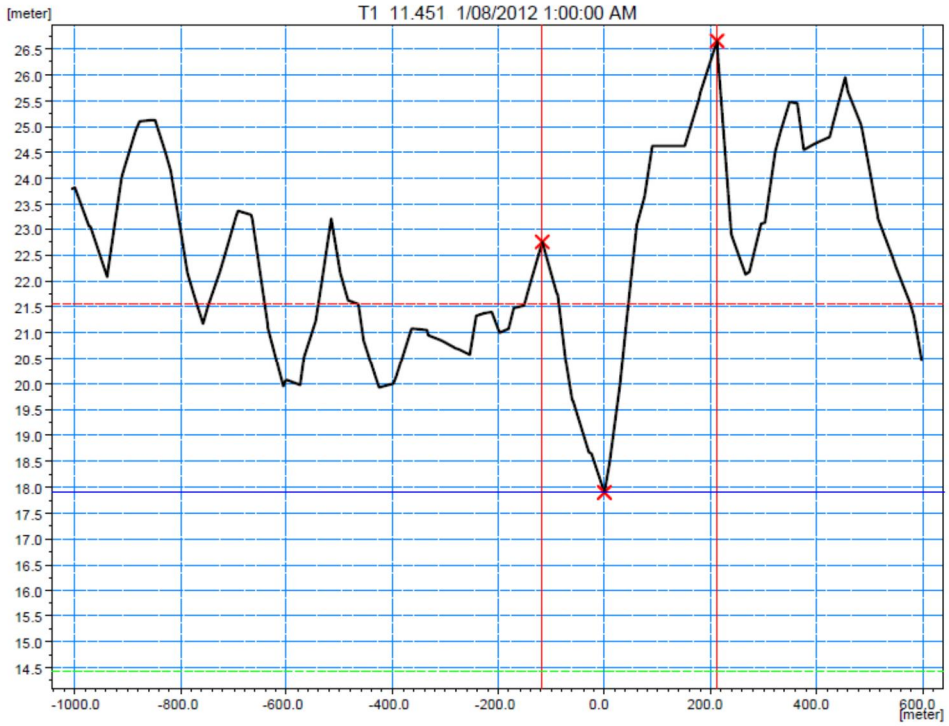
While the Department of Water has made all reasonable efforts to ensure the accuracy of this data, the department accepts no responsibility for any inaccuracies and persons relying on this data do so at their own risk.



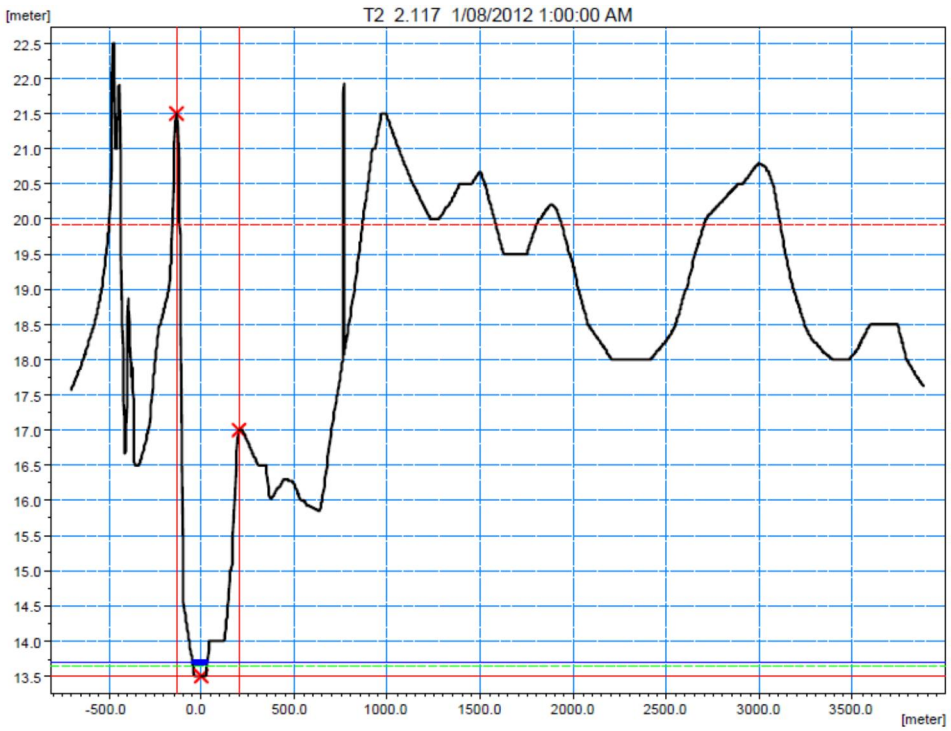
Path: J:\gisprojects\Project\B_Series\B1305\0001_EPM_Enquires\mxd\Port Hedland\EPM Boodarie SIA DWMS South Hedland eng v2.mxd

Appendix B Mike11 Cross-sections

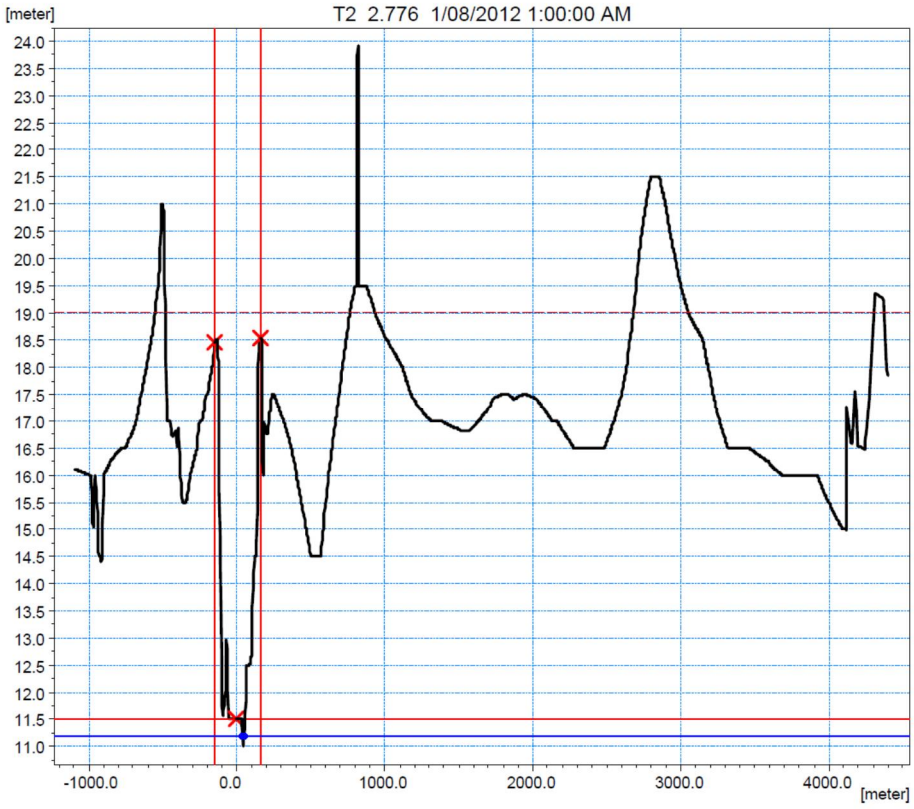
Cross-section SECT1-11451 100-year ARI peak water level 21.5 mAHD



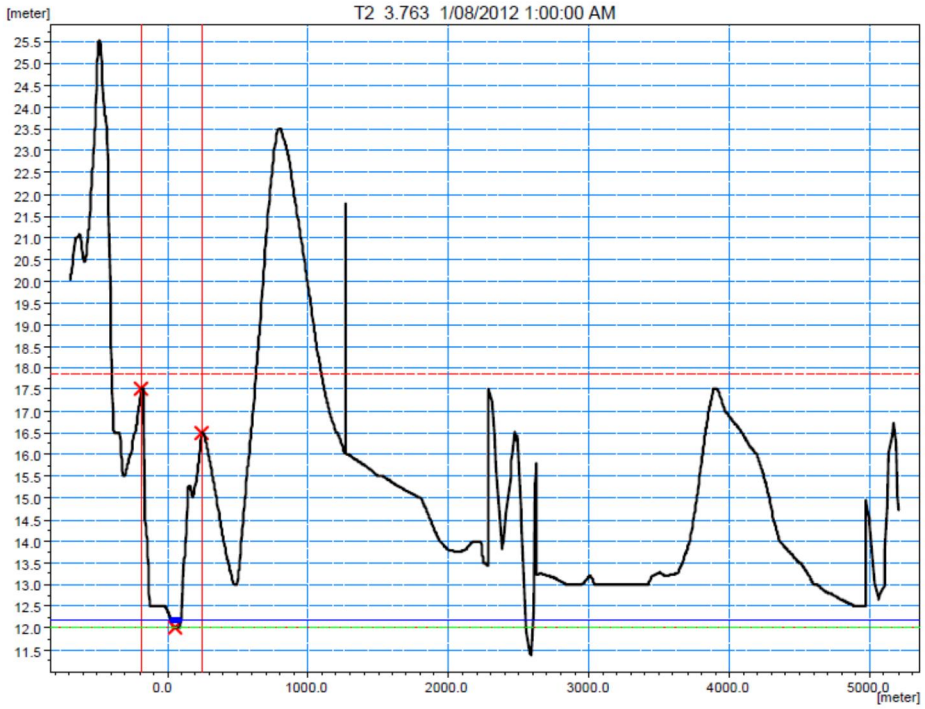
Cross-section SECT2-2117 100-year ARI peak water level 19.9 mAHD



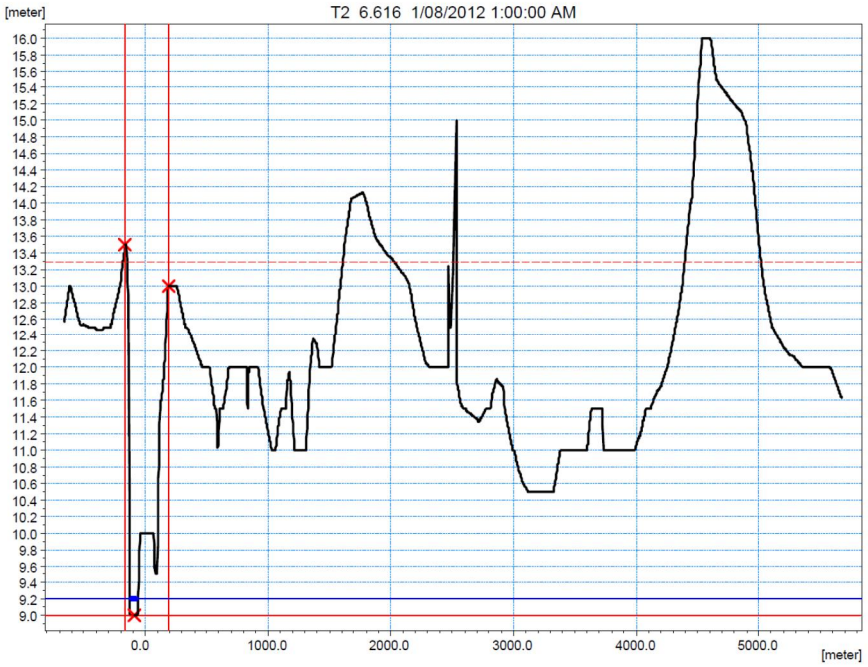
Cross-section SECT2-2776 100-year ARI peak water level 19.0 mAHD



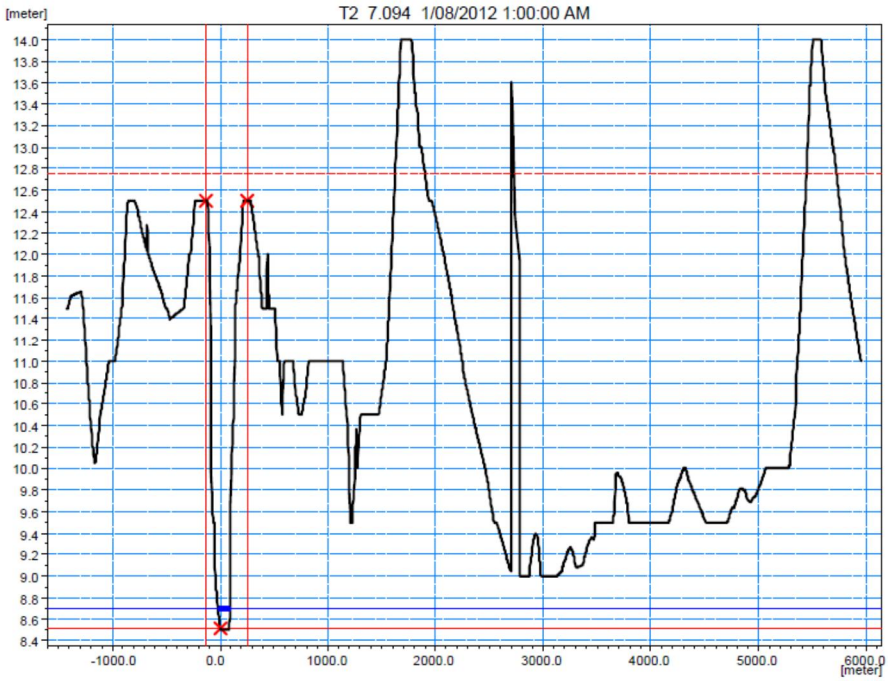
Cross-section SECT2-3763 100-year ARI peak water level 17.8 mAHD



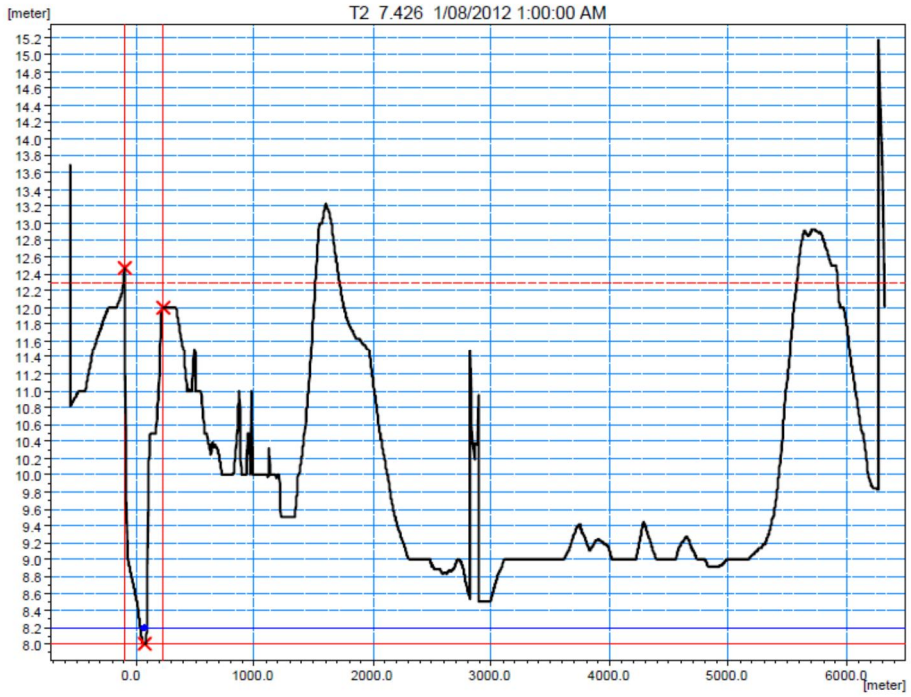
Cross-section SECT2-6616 100-year ARI peak water level 13.3 mAHD



Cross-section SECT2-7094 100-year ARI peak water level 12.8 mAHD



Cross-section SECT2-7426 100-year ARI peak water level 12.3 mAHD



Appendix C BJ Young Lease Application

BJ YOUNG EARTHMOVING

BJ Young Earthmoving Pty Ltd
ACN: 060 550 067
ABN: 37 117 511 891
PO Box 288
Port Hedland WA 6721
Telephone: 0419 847 988
Facsimile: 08 9173 4227
bjy@bjyoung.com.au
www.bjyoung.com.au

08 March 2012

Lucy Dunne
Acting Senior Project Officer
State Initiatives
Department of State Development
Level 6, 1 Adelaide Terrace
East Perth WA 6004

Dear Lucy

APPLICATION FOR A MINING LEASE WITHIN SECTION 19 AREA AT THE BOODARIE INDUSTRIAL ESTATE AT PORT HEDLAND

BJ Young Earthmoving Pty Ltd ('BJY') operates a sand quarry at M45/681 which is located at Boodarie near Port Hedland (Figure 1). The lessee of M45/681 is Brad Young who is also the co-owner, with his wife Julie, of BJY. As surveyed, M45/681 occupies 44.245ha. General views of the sand pit on M45/681 are provided in Plates 1 and 2.

BJY has undertaken two major sand mining contracts in early 2009 and mid 2011 in which approximately 800,000m^3 of material has been mined from M45/681. These mining campaigns were for the BHP Billiton Iron Ore ('BHPBIO') and Roy Hill developments at Finucane Island and have consumed approximately 50% of the available sand resource at M45/681.

BHPBIO and other major resource companies have been in discussions with BJY over the past year in regards to the provision of significant volumes of sand for further developments in the Boodarie area. The volume of sand remaining in M45/681 is totally insufficient to meet the likely demand.

BJY has other sand leases near Pippingarra at South Hedland (M45/531, M45/689 and M45/800) that could be utilised to provide large volumes of material for Boodarie and Finucane developments. The sand from the BJY Pippingarra Pit has been used as foundation pads for most of the residential and commercial developments in South Hedland and Port Hedland over the past 20 years. This material is considered to be of strategic importance for future housing developments. The volumes of material required for the Boodarie and Finucane developments would

deplete the sand resources at the Pippingarra leases. There are no other sand leases in close proximity to Port Hedland or South Hedland.

For larger sand haulage campaigns such as would be required for a major development (possibly in excess of 400,000m^3 of sand) a fleet of >50 double or triple trailer road train combinations would be required over an extended period (possibly up to 6 months or longer). BJY is currently tendering on 4 major sand contracts with another 2 potential contracts. Total sand tenders and enquiries have now reached in excess of 3,000,000m^3. In order to provide the sand requirements to meet the needs of these major developments, BJY is seeking additional sand mining areas at Boodarie. A potential area has been identified south of the current lease M45/681 (Figure 3).

Current and proposed sand haulage routes are displayed in Figure 3. At present, material for Finucane is carted from M45/681 via Boodarie Station Road, Great Northern Highway and Boodarie Drive. This is a convoluted route that adds considerably to the cartage cost (an additional \$10/m^3 for material landed at Finucane). The route also necessitates the use of public roads by a fleet of semi-trailers and triples with associated public safety and road maintenance issues.

If material is carted from the Pippingarra Pit to Finucane (Figure 3), public roads are again utilised with the associated public safety and road maintenance issues. The cartage cost is likely to exceed \$17/m^3 for material landed at Boodarie.

If material is carted directly from M45/681 via the Whim Creek road (Figure 3), then cartage costs could be reduced to possibly \$5/m^3 for material landed at Finucane. For a larger haulage campaign, the costs savings by carting directly through Boodarie could be in the order of tens of millions of dollars. This option is not currently available due to the presence of a Section 19 area::

- S19/323 – Boodarie Strategic Industrial Estate.

Areas of potential sand resource have been identified by BJY to the north and south of M45/681 (Figure 2). This dune material is a significant sand resource, consisting of a linear dune rising approximately 5m above the surrounding plains (the same resource being mined from M45/681). Photos of the sand dune and surrounding plain are provided in Plates 4 to 6. The initial application of BJY to extend north was found by Landcorp as being not acceptable. Hence, this revised application to develop another sand lease south of M45/681.

In order to provide a cost effective sand resource in response to likely demand for the development of major projects at Boodarie and Finucane, BJY requests that DSD and Landcorp considers a request for BJY to apply for an additional mining lease at Boodarie to the south of M45/681 within S19/323.

Plate 1: General view of current pit at M45/681

Plate 2: View of pit edge at M45/681

Plate 3: Typical raise dune south of M45/681

Plate 4: Edge of raised dune south of M45/681 showing dune LHS (east) and flat country RHS (west)

Plate 5: Typical raised dune from Photo 4

Plate 6: Typical flat county west of the raised dune in Photo 4

The following points are raised for your consideration as possible benefits of the proposed additional mining lease at Boodarie:

- **Provision of basic raw materials:** Providing a high quality sand resource in close proximity to the Boodarie Industrial Estate and Finucane port facilities to meet the sand requirements of future mining and industrial developments.
- **Reduced delivery costs:** Significant cost savings for the provision of sand at Boodarie and Finucane though greatly reduced transportation distances. The cost savings by developing access via the Whim Creek Road from the proposed lease would be massive. For example, for a 5,000,000m^3 sand contract, a cost saving from reduced transport costs could be in the order of $25,000,000 as against using the current haulage route from M45/681 or in the order of $60,000,000 as against haulage from the Pippingarra Pit.
- **Facilitating industrial development:** Mining operations would be undertaken to facilitate a final landform suitable for industrial development. The dune is approximately 5m above the surrounding plains. Mining could occur to achieve a specific relative level (as specified by Landcorp or DSD), to facilitate future developments. Currently, the dune would most likely have to be removed of flattened to achieve an industrial foundation.
- **Logistics and efficiency:** Direct access to sand delivery areas through overland routes without public road traffic management issues and much shorter distances will greatly increase operational and logistical efficiencies.
- **Public safety:** Road trains kept off public roads. Larger campaign will require 40 to 50 road trains doubles for maybe 6 to 8 months. The risk to road safety will be greatly reduced by carting directly from the proposed lease overland to delivery area and relieving the congestion currently existing on the Hedland roads and rail crossings. Using the direct route will eliminate the risk of road trains interacting with rail transport.
- **Reduced wear on public roads:** The proposed lease with the overland route will enable the public road system to be bypassed, thus reducing the significant road maintenance costs from heavy haulage on public roads.
- **Diesel and greenhouse gas emissions:** – significant savings in greenhouse gas emission by reducing diesel usage. There will be a massive saving in diesel usage.

BJY is available to meet with Landcorp, DSD, DMP, Town of Port Hedland or any other stakeholder at anytime to discuss land planning issues in relation to this proposal.

If the event that Government decides to allow BJY access to ground at Boodarie, the Minister for Mines would invite BJY to mark out and apply for a mining lease over a specified section of ground. Under the *Mining Act 1978*, a mining proposal is required for lodgment along with the mining lease application.

The mining proposal is a statutory mechanism whereby detailed information is specified; on where mining can occur, excavation depths, final landforms, hand-back of mined-out areas, mining timeframes and other control mechanisms. The mining proposal is then imposed as a condition of lease. If the lessee fails to meet these

specified obligations and commitments then the Minister is at liberty to forfeit the lease for breach of conditions. Additionally, further conditions can also be imposed as tenement conditions at any time. These two mechanisms (mining proposal obligations and tenement conditions) would give DMP and the Minister for Mines the ability to direct and regulate any mining activities occurring on the proposed lease.

BJY would also make a written commitment, contractual or otherwise, to undertake mining activities in designated areas to specific depths and to surrender mine-out land back to Government in accordance with scheduled timeframes.

Using the above described mechanisms, the Government is thus considered to have strong regulatory capacity to ensure that BJY undertakes mining operations and surrenders rehabilitated land to facilitate the orderly development of the Boodarie Industrial Estate.

BJY has been involved with quarrying operations, mining developments, civil engineering earthworks and minesite rehabilitation in the Pilbara for the past 30 years. All endeavors have been undertaken to the highest possible standards of professionalism in all aspects of the BJY operations. BJY is committed to undertaking any development at Boodarie in an orderly and responsible manner in accordance with any conditions or requirements from Government.

Due to the likely timelines of gaining tenement grant and environmental approval, it would be greatly appreciated if a decision in regards to the two options presented herein could be reached as quickly as possible. This is to allow for sufficient lead-in time, in the event of a favorable outcome, to undertake the requisite Native Title negotiations and environmental approvals.

Please contact Charles Newland (0408 099 891 or Charles.newland@iinet.net.au) for any further information on the above.

Yours faithfully

Brad Young
Director
BJ Young Earthmoving Pty Ltd

654000 656000 658000 660000 662000 664000 666000

7750000 7748000 7746000 7744000 7742000 7740000 7738000 7736000 7734000

M45/681
(BJ Young Sand Pit)

Potential area for
new mining lease
(50ha aprox.)

Boodarie Station Road

Turner River Water Reserve

Gas Pipeline

Boodarie Industrial Estate

Potential
Sand
Resource

654000 656000 658000 660000 662000 664000 666000

BJY BJ YOUNG EARTHMOVING

Figure 1: Regional Location of BJ Young Lease and S19/323 at Boodarie

Boodarie Sand Project February 2012

Authoured: B Young	Date: 08 February 2012
Drawn: C Newland	Print Size: A3
Base Map: Google Earth image georeferenced into ArcView	
Map Name: Figure 1 Regional Location S19-323 Boodarie.mxd	

Legend

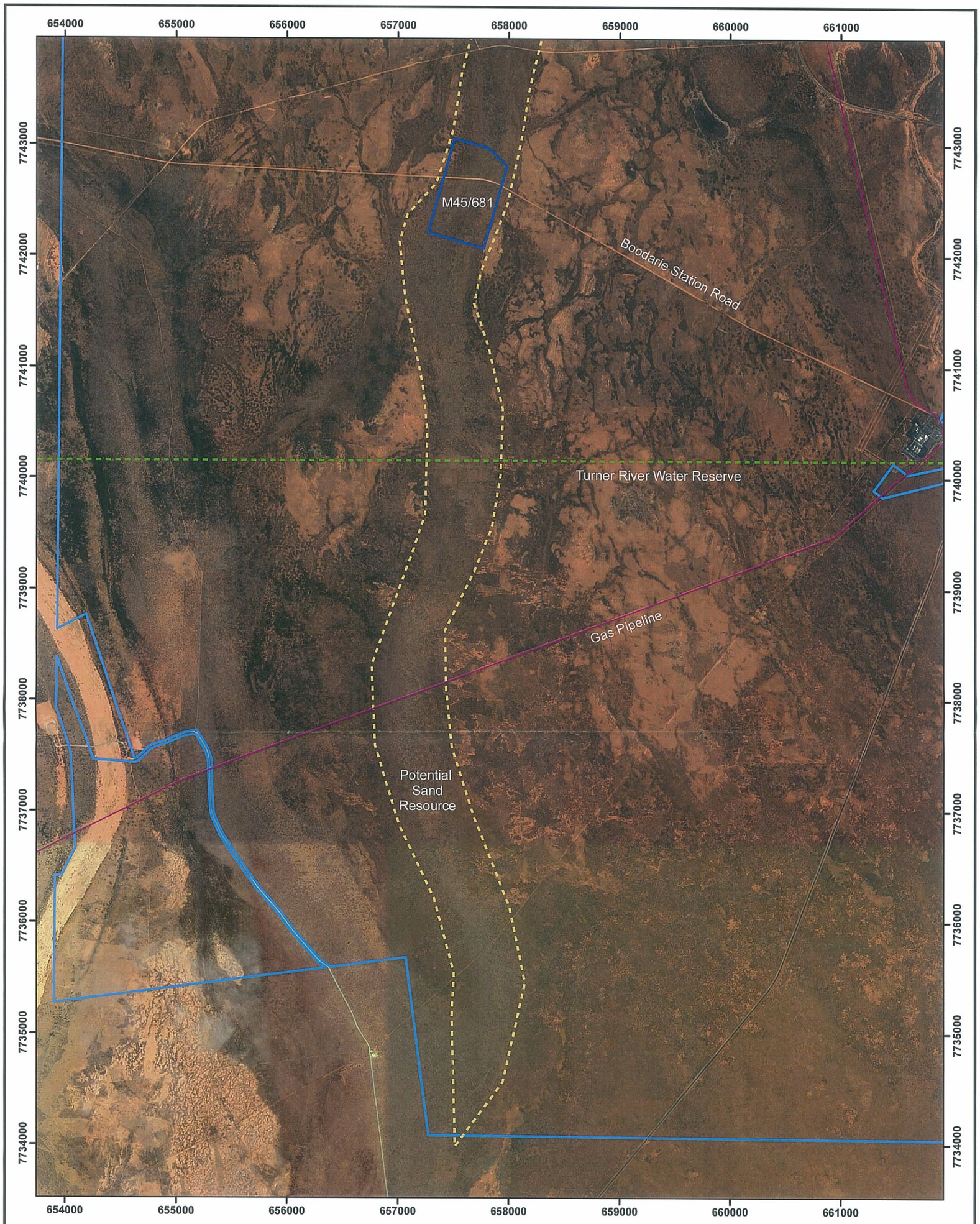
- M45/681
- S19/323
- Potential Sand Resource
- Turner River Water Reserve
- Gas Pipeline

N

0 1,000 2,000 3,000

Metres

GDA 1994 MGA Zone 50



BJY BJ YOUNG EARTHMOVING

Boodarie Sand Project June 2011

Authoured: B Young	Date: 28 June 2011
Drawn: C Newland	Print Size: A3
Base Map: Google Earth image georeferenced into ArcView	
Map Name: Figure 2 Potential Resource Outline Boodarie.mxd	

Figure 2: Potential Sand Resource at Boodarie

Legend

- M45/681
- S19/323
- Potential Dune Resource
- Turner River Water Reserve
- Gas Pipeline

N

0 500 1,000 1,500 2,000

Metres

GDA 1994 MGA Zone 50

Figure 2: Potential Sand Resources at Boodarie

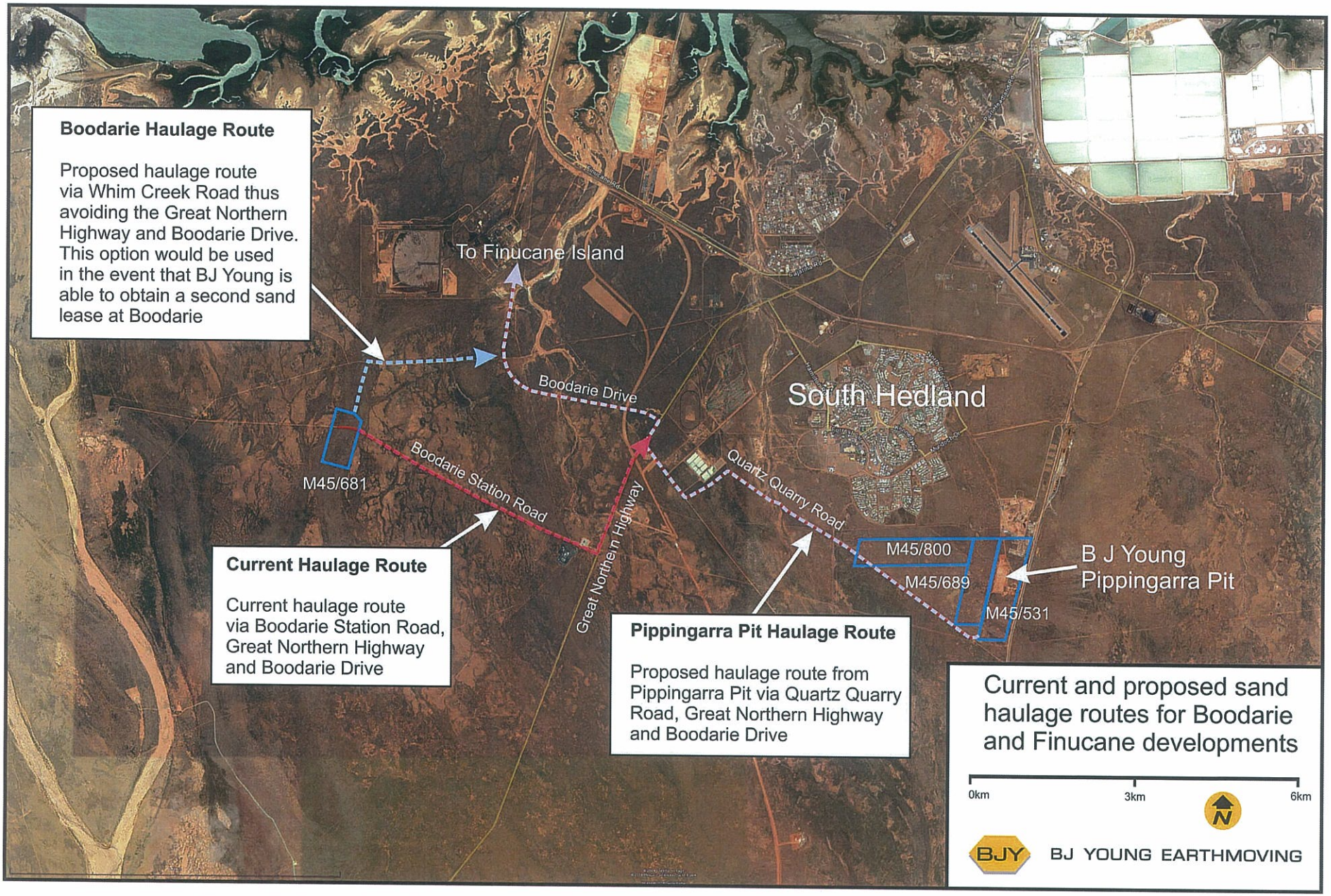


Figure 3: Current and proposed sand cartage routes to Boodarie and Finucane developments

Appendix D BSIA Drainage Strategy for AECOM upstream catchments

19 February 2013

David Cooper
LandCorp
Level 3 Wesfarmers House 40 The Esplanade
PERTH WA 6000

Our ref: 61/26171/00 130164
Your ref:

Dear David

Boodarie Strategic Industrial Area
Drainage Strategy for the AECOM upstream catchments

The following letter sets out drainage options to deal with the large catchment (around 8,100 ha) upstream of the Boodarie Strategic Industrial Area (BSIA) south east of Great Northern Highway (GHN). Runoff from this catchment can be transferred through the BSIA and accommodated within the BSIA drainage system or it can be cut off before crossing GNH and diverted along the side of the highway. This letter provides explanation of the preliminary study details of the various options.

1 Option 1 – Open drain along eastern side of Great Northern Highway (Design proposed in DWMS)

Runoff from the 8,100 ha upstream catchment is intercepted by an open drain on the eastern side of GNH. This option diverts the AECOM 15% drainage design flows into the open drain along GNH before crossing GNH (Figure 1).

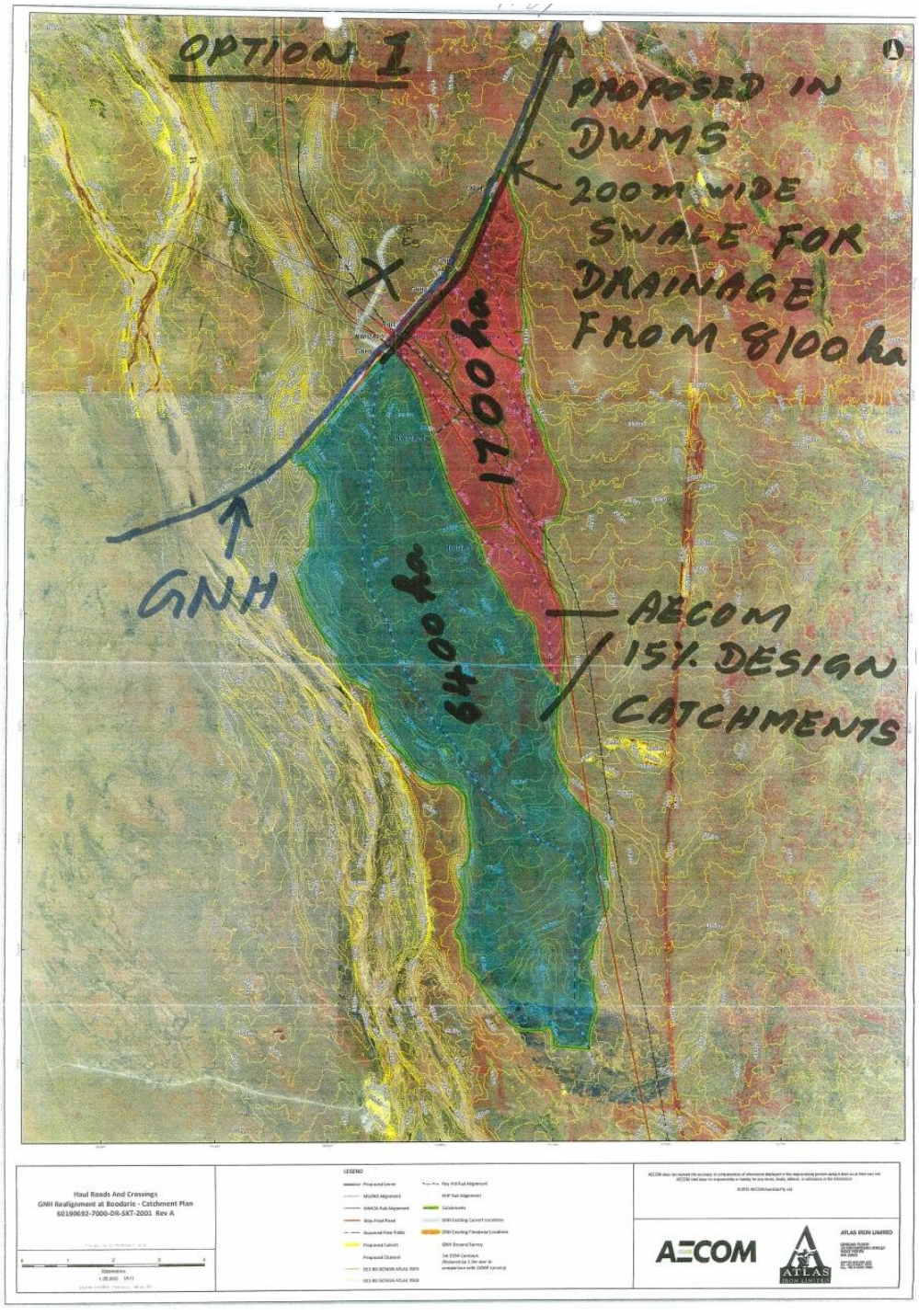
- GNH open drain: 200 m base width, 1.5 m deep, side slopes 1:3, 8 km long;
- No runoff will flow across GNH;
- No runoff from upstream catchment needs to be dealt with within BSIA;
- The drain will need to cross the Telfer gas pipeline just south of South West Creek, the pipeline has around 1 m of cover.

The open drain along GNH could be located on either side of the highway, however locating the open drain on the eastern side of the highway is recommended for the following reasons:

- On the western side of the highway the 200 m wide open drain would encroach on land desired for BSIA and other industries
- On the western side of the highway the 1.5 m deep open drain would have to cross an additional underground service (WaterCorp pipeline, in addition to Telfer gas pipeline)
- If the drain were located on the western side of the highway runoff from the upstream catchment that is not accommodated by the AECOM 15% drainage design would still have to cross the highway either via overland flow (as is currently the case) or culverts

- If the open drain were located on the western side, it would have to cross the three proposed access road roads into the BSIA, requiring large expensive culverts

Figure 1 Option 1- Proposed in DWMS (Base map – AECOM 15% Design report)



2 Alternative options

The following options make use of all or part of the AECOM 15% drainage design for the proposed GNH overpass, which has the following features:

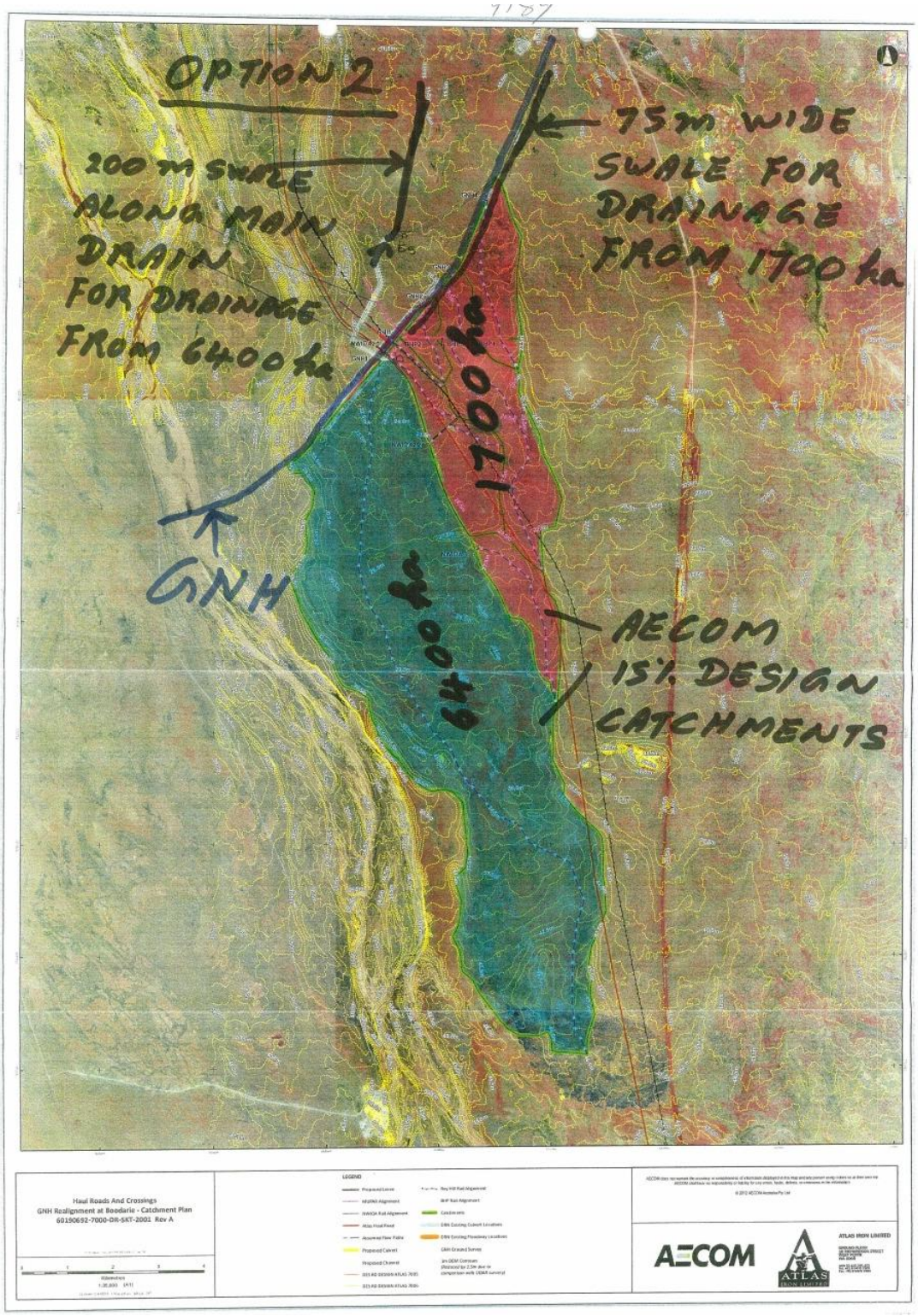
- The drainage design manages a catchment of around 6,400 ha (part of 8100 ha catchment eastern side of GNH);
- Runoff is directed through a floodway under the proposed GNH overpass;
- Runoff is directed into a channel that ultimately dumps the flow around 2.5 km north of the overpass (directly upstream of the BSIA).

2.1 Option 2 – Open drain along BSIA services corridor and smaller open drain along Great Northern Highway

Runoff from part of the upstream catchment flows under proposed GNH overpass as per AECOM 15% drainage design. The proposed channel is extended north and connected to an open drain running along the BSIA services corridor which will transfer flows through the BSIA and discharge into South West Creek north of the BSIA. Remaining upstream catchment flows will still require an open drain on the eastern side of GNH to transfer flows north east and discharge into South West Creek east of the BSIA (Figure 2).

- Services corridor open drain: 200 m base width, 2 m deep, side slopes 1:3
- Services corridor drain will need to cross
    - Water Corporation pipeline once (in southern part of BSIA)
    - Petroleum pipeline twice (in southern part and at north eastern border of BSIA)
    - Five internal roads, requiring expensively large culverts
- GNH open drain: 75 m base width, 1.5 m deep, side slopes 1:3. This open drain is designed to take flows from 1700 ha catchment eastern side of GNH.
- GNH drain will need to cross the Telfer gas pipeline just south of South West Creek, the pipeline has around 1 m of cover.

Figure 2 Option 2- Open drain along BSIA services corridor and smaller open drain along Great Northern Highway (Base map – AECOM 15% Design report)

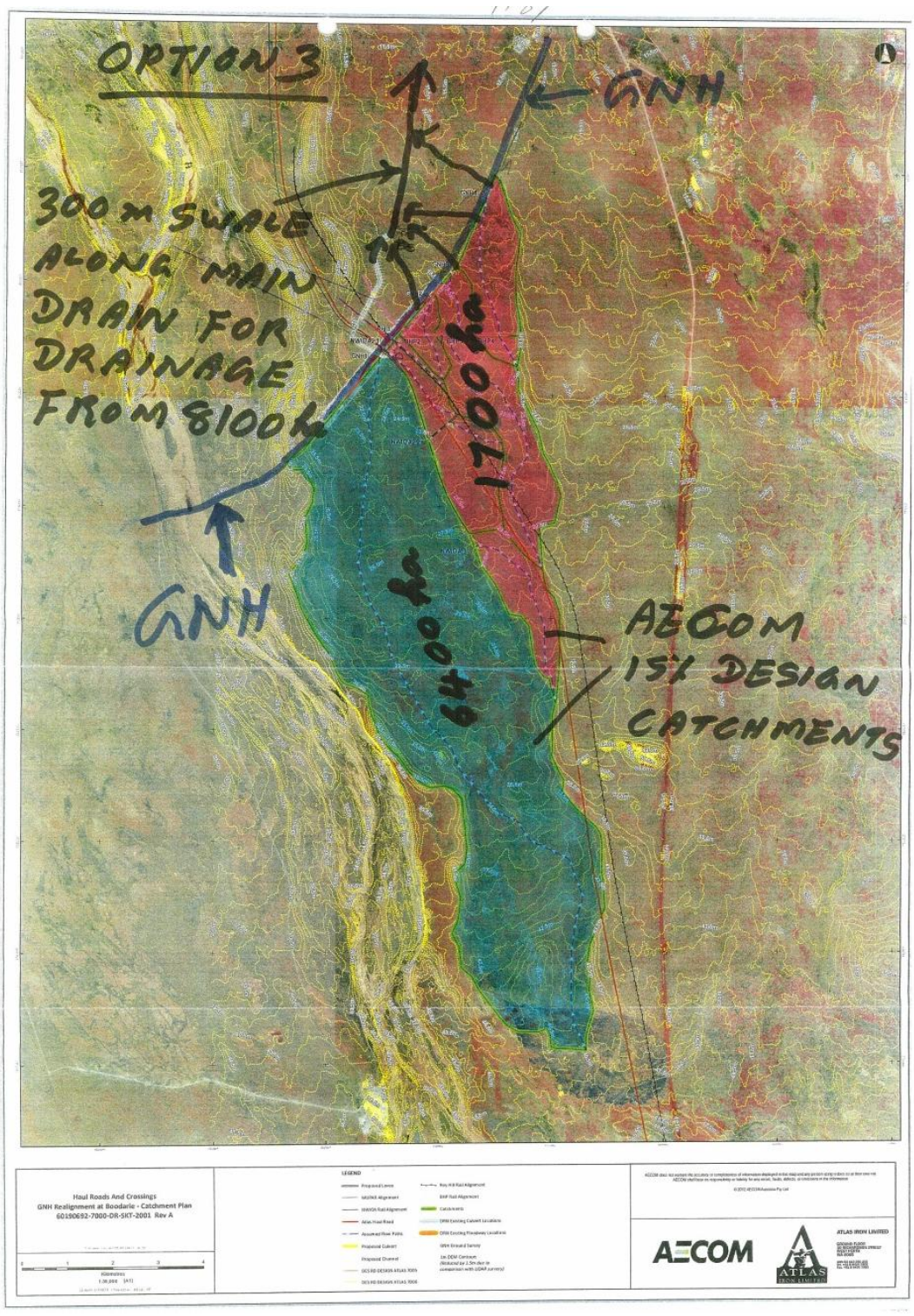


2.2 Option 3 – Open drain along BSIA services corridor only

Runoff from part of the upstream catchment flows under proposed GNH overpass as per AECOM 15% drainage design. The proposed channel is extended north and connected to an open drain running along the BSIA services corridor which will transfer flows through the BSIA and discharge into South West Creek north of the BSIA (as in option 2). Remaining upstream catchment flows will be transferred across GNH (via culverts or overland flow as is the current situation) and directed into the services corridor open drain (Figure 3).

- Services corridor open drain: 300 m base width, 2 m deep, side slopes 1:3
- Services corridor drain will need to cross
    - Water Corporation pipeline once (in southern part of BSIA)
    - Petroleum pipeline twice (in southern part and at north eastern border of BSIA)
    - Five internal roads, requiring expensively large culverts

Figure 3 Option 3- Open drain along BSIA services corridor only (Base map – AECOM 15% Design report)

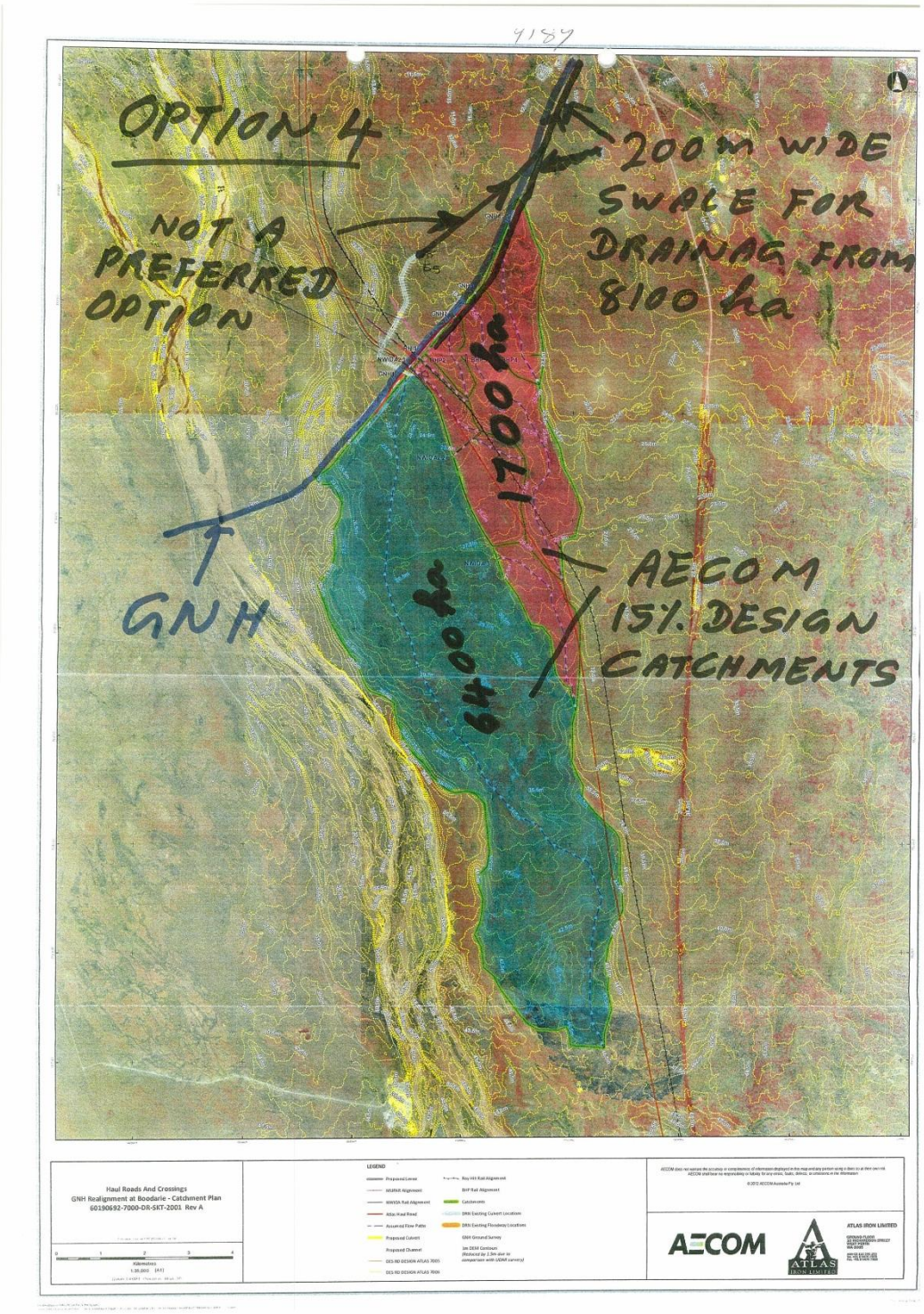


2.3 Option 4 - Culverts return upstream flows to eastern side of Great Northern Highway

Runoff from part of the upstream catchment flows under proposed GNH overpass as per AECOM 15% drainage design. The channel is extended east and directs flows back under GNH via culverts, into an open drain on the eastern side of GNH. Remaining upstream catchment flows will be intercepted by the open drain (Figure 4).

- GNH open drain: 200 m base width, 1.5 m deep, side slopes 1:3;
- The drain will need to cross the Telfer gas pipeline just south of South West Creek, the pipeline has around 1 m of cover.
- There is little grade available for the channel extension back to GNH (less than 0.04%), which will make the drain much deeper and more expensive as it approaches GNH, and then northwards along GNH till it can be graded out to meet existing ground levels;
- The size / number of culverts required to transfer flows back under GNH without causing any build-up of water on the North West side of the highway (and potential flooding) will be prohibitive.
- This diversion drain will still require a large culvert crossing at GNH, before then turning northwards.

Figure 4 Option 4 - Culverts return upstream flows to eastern side of Great Northern Highway (Base map – AECOM 15% Design report)



3 Conclusion

Whilst this is only a very high level description of the options considered and conceptual investigation carried out for the BSIA, based on the analysis as carried out for the DWMS, Option 1 is the recommended option to intercept stormwater from the AECOM 15% Drain Catchment.

This option has therefore been incorporated into the DWMS.

If this is not possible, one of the alternatives, namely Options 2 to 4 would need to be adopted; however there is no clear standout here, in terms of which would be the next best option, without undertaking a more rigorous detailed engineering assessment.

Regards,

John Kotula

Principal Civil Engineer

08 6222 8446

GHD

GHD House, 239 Adelaide Tce. Perth, WA 6004
P.O. Box 3106, Perth WA 6832
T: 61 8 6222 8222 F: 61 8 6222 8555 E: permail@ghd.com.au

© GHD 2013

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

G:\61\2617100\WP\125658_Draft_21032013.docx

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1	N Gamage	Nimal Gamage		John Kotula		22-3-13

www.ghd.com

Appendix C: GHD BSIA Traffic Report

LandCorp

Boodarie Strategic Industrial Area
Traffic Assessment

June 2013

Standard disclaimer

This report: has been prepared by GHD for LandCorp and DSD and *may only be used and relied on by LandCorp* and DSD *for the purpose agreed between GHD and LandCorp* and DSD *as set out in section 1.1 of this report.*

GHD otherwise disclaims responsibility to any person other than LandCorp and DSD *arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.*

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer section 3.1.1 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by LandCorp and DSD and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

GHD has not been involved in the preparation of the Structure Plan Document and has had no contribution to, or review of the Structure Plan Document other than in the Boodarie Industrial Estate Traffic Assessment. GHD shall not be liable to any person for any error in, omission from, or false or misleading statement in, any other part of the Structure Plan Document.

Table of contents

Standard disclaimer i

1. Introduction 1
   - 1.1 General 1
   - 1.2 Proposed Development 1
   - 1.3 Scope of Work 1
2. Existing Site Conditions 5
   - 2.1 Great Northern Highway (GNH) 5
   - 2.2 Great Northern Highway – Cycling Facilities 6
   - 2.3 Great Northern Highway – Pedestrian Facilities 6
   - 2.4 Great Northern Highway – Public Transport Facilities 6
   - 2.5 Boodarie Station Access Road 6
3. Planned Development 7
   - 3.1 Traffic Generation 7
   - 3.2 Internal Roads 10
   - 3.3 Great Northern Highway 11
   - 3.4 Interim Development – Noxious Area 26
   - 3.5 Austroads Warrants for Intersection Treatment 30
   - 3.6 Off and On road parking 31
   - 3.7 High Wide Loads (HWL) and PAM Corridor 32
   - 3.8 Consideration of road train assembly/overnight parking 32
   - 3.9 Consideration of the demand for public transport facilities 32
   - 3.10 Construction Activity and Access 33
   - 3.11 Stakeholder Liaison 33
4. Recommendations 34

Table index

Table 1 Great Northern Highway – Existing Traffic Volumes 5

Figure index

Figure 1 Location Plan Extract from Town of Port Hedland Land Use Masterplan 3

1. Introduction

1.1 General

LandCorp is preparing a Structure Plan for the industrial development of a 4000 hectare greenfield site in Boodarie, located approximately 12 kilometres south-west of the Port Hedland townsite (Figure 1). The site is generally bound by Great Northern Highway (GNH) to the east and unoccupied desert areas to the south and west and disused BHPB briquetted iron plant to the north.

It should be noted that development of the Estate is likely to be over 50 years and only 25% of development may be achieved by 2031.

GHD has been engaged by LandCorp and the Department of State Development (DSD) to prepare this traffic assessment to provide traffic input to the Boodrarie Strategic Industrial Area (BSIA) Structure Plan.

1.2 Proposed Development

It is understood that the industrial development will be primarily focussed on heavy industry and will comprise industrial buildings and plant hardstand areas, internal access roads and the potential upgrading of existing roads.

Primary activities will include downstream processing of raw minerals and energy sources, noxious industries and port related activities.

1.3 Scope of Work

GHD scope of work is to undertake traffic and transport assessment for input to the Structure Plan, tasks have included:

- Review previous traffic input and confirmed gaps and site specific assumptions. Trip rates and trip distribution has been reviewed.
- Discussed requirements with Main Roads and Town of Port Hedland in Port Hedland.
- Broader transport modelling of the surrounding area to 2031 taking into account development in the area as undertaken by SKM for Main Roads. The SKM report has been reviewed for its relevance to this study.
- Preparation of a spreadsheet model of scenarios for Boodarie with the northern Port Access Corridor. Traffic distribution and growth factors for GNH have been agreed with LandCorp.
- Determination of levels of service and capacity constraints and confirmation of access, intersection treatments and carriageway requirements for 2031 assessment. The likely level of development for the design years are as advised by Urban Plan Town Planners for the project.
- Liaison with Main Roads/Shire for input and concurrence in relation to access and intersection treatments.
- Consideration of construction activity. An assessment of potential activity associated with the development of the site was undertaken and recommendations made for access.
- Consideration of the following to be undertaken :

- Vehicle access (for both heavy and light vehicles – and PAMS potentially)
- Road Hierarchy (internal to the site only)
- Typical Road cross sections
- Intersection controls
- Off and on road parking
- Arterial road access control
- HWL
- Traffic impacts

- Consideration of road train assembly/overnight parking
- Consideration of the demand for public transport and cycle facilities in discussion with DoT
- Pedestrian requirements
- Undertaking a parking assessment
- Undertaking a Road safety assessment of the proposed concept plan.
- Liaison with ToPH/Main Roads as required.
- Obtaining latest available traffic data from Main Roads.
- Assisting the Town Planner to incorporate the traffic outcomes into the Structure Plan
- Preparing a report with outcomes and recommendations. Typical cross sections and Sidra output graphics for intersection configurations have been provided.

Figure 1 and 2 indicates the site location.

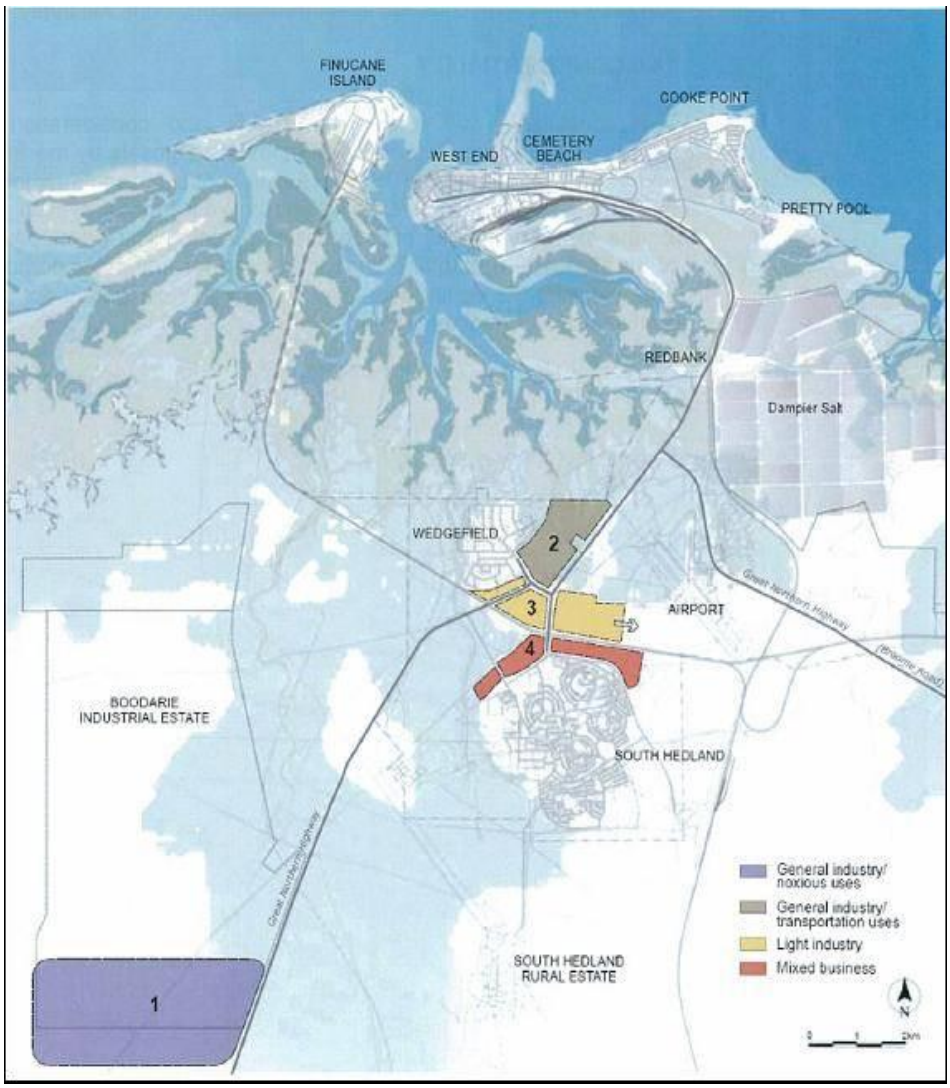


Figure 1 Location Plan Extract from Town of Port Hedland Land Use Masterplan

Figure 2 overleaf indicates the concept plan and forecast traffic volumes on full development.

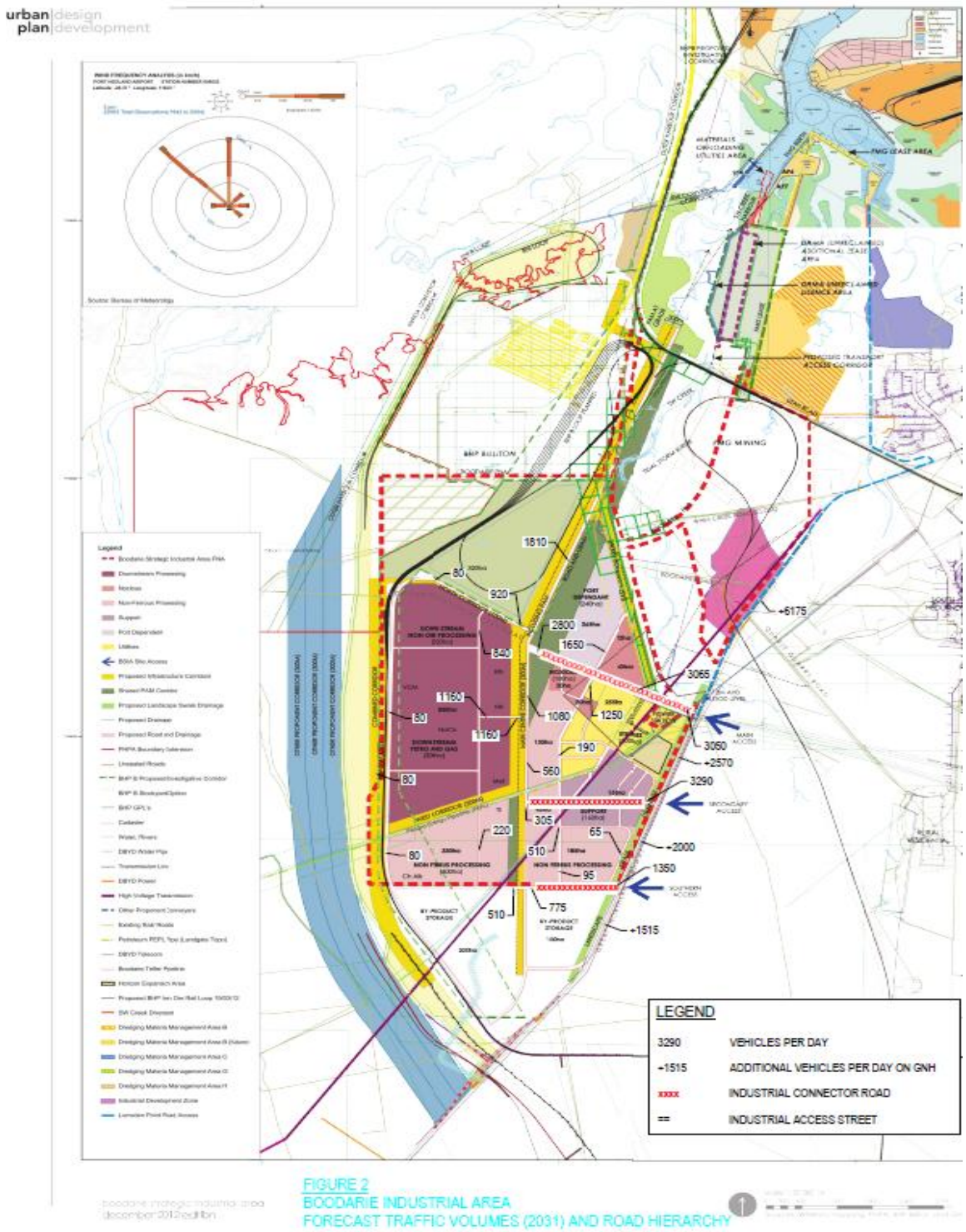


FIGURE 2
BOODARIE INDUSTRIAL AREA
FORECAST TRAFFIC VOLUMES (2031) AND ROAD HIERARCHY

2. Existing Site Conditions

The site is bounded by Great Northern Highway on its east side and access is proposed at three locations, off the GNH.

To the west the site is bounded by the proposed "Western Infrastructure Corridor" which will comprise a number of proponents exporting iron ore through the planned PHPA Outer Harbour. For the purposes of this report, no access is currently assumed to this corridor, however future potential to link to this corridor is acknowledged.

2.1 Great Northern Highway (GNH)

2.1.1 GNH Traffic Volumes - Existing

The Main Roads website indicates the following traffic volumes on Great Northern Highway.

Table 1 Great Northern Highway – Existing Traffic Volumes

Location	Year	Average weekday traffic volume	Heavy Vehicle %	Class 10 and above
Great Northern Highway West of Hamilton Road	2007/2008	2,310vpd	27.5%	N/A
	2011	2,592vpd	43.4%	29.6%

For analysis purposes a value of 2,600vpd on Great Northern Highway adjacent to the site has been adopted with 43% heavy vehicles and 29.6% long vehicles (class 10 and above).

No existing traffic data is available for Boodarie Station Access Road therefore 200vpd has been assumed.

Main Roads data also indicate a heavy vehicle proportion for Wedgefield of 18%.

The GNH Realignment, Port Hedland traffic modelling report indicates the following growth factors for Great Northern Highway.

Table 2 Growth Rate (GNH Realignment Report)

Years	Low	Medium	High
2010-2015	5%	7%	10%
2015-2031	2%	3%	4%

For this study a growth rate for GNH of 6% per annum has been adopted.

2.1.2 GNH Traffic Volumes – 2021 and 2031

Existing traffic on GNH 2,600vpd (43% Heavies)

Forecast traffic on GNH in 2021 at 6% per year is 4,160vpd and 416vph (assuming a 10% peak hour)

Forecast traffic on GNH in 2031 at 6% per year is 5,720vpd and 572vph (assuming a 10% peak hour)

2.1.3 GNH Road Geometry

Great Northern Highway is currently a single carriageway road approximately 7m wide and has a posted speed of 110km/h. Intersections typically exclude specific treatments to accommodate turning and through traffic. The road is straight and relatively flat with good sight distance.

The current road capacity based on the Road Reserves Review Document (1991 Dept of Planning and Urban Development, Dept of Transport, Main Roads WA and Transperth) for a single carriageway is 12,000vpd at a level of service of C. The predicted volumes to 2031 (without development traffic) is 5,720vpd and is therefore well within capacity.

2.2 Great Northern Highway – Cycling Facilities

No cycling facilities are currently provided on GNH adjacent to the site.

2.3 Great Northern Highway – Pedestrian Facilities

No path facilities are currently provided adjacent to the site.

2.4 Great Northern Highway – Public Transport Facilities

No public transport facilities are currently provided to this area.

2.5 Boodarie Station Access Road

The existing road is a single carriageway and serves the Boodarie Station and Power Station. The road intersects with GNH and is anticipated to carry in the order of 200vpd currently. This road will initially provide the main access to the BSIA.

3. Planned Development

3.1 Traffic Generation

The planned development is shown on the Structure Plan in Figure 2 First principles traffic generation has been estimated based on the following information:

The type of land use and heavy industry, outlying location, FIFO workforce, contract workers, access to employer supplied bus transfer and carpooling opportunity will influence the total traffic generation. The current FIFO/contract workforce proportion of the total service population is 15% and short term visitors 9% (AEC Group 2011)

It should be noted the PHPA Outer Harbour Masterplan study which is currently underway, might ultimately impact on the BSIA. There is also an on-going PAM corridor study which may impact on traffic movement and operation.

Following discussion with LandCorp regarding the nature of the planned industrial estate and consideration of the raw materials, input and output determined by the earlier GHD Industrial Ecology study, expected employee numbers and bus transfers, daily trips have been calculated as shown in the following tables.

Table 3 Traffic Generation (Light / bus)

Land Use	Employees	Site Area (Ha)	Site Coverage	Building Area (Ha)	Employees by Bus	Bus Trips per day	Employee Light Vehicle Trips/Day
Power Station Utilities	390	255	30%	76.5	40%	16	468
Port Dependent	800	265	30%	79.5	40%	32	960
Noxious	300	92	30%	27.6	10%	3	420
Downstream Iron Ore Processing	2800	520	30%	156	80%	224	1120
Downstream Petrol and Gas	1250	330	30%	99	80%	100	500
Support	960	155	30%	46.5	10%	10	1344
Non Ferous Processing	2900	690	30%	207	80%	232	1160
Total	9400	2307		692.1		616.2	5972

Table 4 Traffic Generation (All)

Land Use	ktpa (In/Out/Waste)	Trucks per Day 2 way (85t per truck)	Sub Total vpd (bus, light and heavy)	Total Including Maintenance/Service, other movements (+10%) vpd
Power Station Utilities	285	18	502	552
Port Dependent	1082	70	1062	1168
Noxious	1040	67	490	539
Downstream Iron Ore Processing	8711	562	1906	2096
Downstream Petrol and Gas	1192	77	677	744
Support	3275	211	1565	1721
Non Ferous Processing	1771	114	1506	1657
Total	17356	1119	7707	8478

For analysis purposes a figure of **9,500vpd** has been adopted to ensure a robust assessment and allow for fewer bus movements/car pooling than anticipated.

3.1.1 Assumptions:

The following assumptions are used for the trip generation calculations.

- Employees transported to site by bus as indicated in Table 3.
- Triple Road Train Capacity 85t (as per Table4)
- Carpooling assumed for 30% of employees for Noxious and Support Industry Sites and 3 per car
- Volumes of material / goods to be transported (in ktpa) based on the Industrial Ecology Report for the BSIA (spreadsheet dated 26 May 2011 used).
- Peak Hour traffic assumed to be 10% of daily traffic. (Surveys in Pinga Street indicate 7.4 - 8%)
- Rail, pipeline and conveyor options are available (as alternative modes of transport) as indicated in the Industrial Ecology Assessment. The figures / data / volumes used in this report are based on envisaged road traffic only (as per the industrial ecology study), with only limited and minor provision for modal shift. In the event that roads become the primary means of transport within the estate then this assumption and the associated traffic volumes will need to be revisited
- 10% additional traffic assumed to allow for maintenance, servicing etc
- For the transport assessment 9,500vpd will be assumed and 950vph.
- Road Train proportion 13% will be used
- Total heavy vehicle proportion of 20% assumed.

3.1.2 Forecast Traffic Volumes at Intersections with GNH (Full Development 2031)

The plan provides for three access points which will ultimately provide good accessibility to the development. The location of these as been based on separations distances which allow for sufficient merging / weaving and ramps in the future should this be necessary and ever become grade separated interchanges.

It should also be noted the planned Western Infrastructure Corridor (WIC) is likely to require the lifting of the GNH over this corridor and the proximity of these works to the south will also impact the access locations.

If access to the Port is not available via the BSIA then there will also be additional impacts to the intersections with GNH.

The following tables show the forecast traffic volumes at the intersections with GNH on full development in 2031. Analysis has been undertaken and is summarised in Section 3.3

Full Devt NORTH Intersection/GNH (Intersction 1)	AM Peak Hour	PM Peak Hour
Left from Access Road	46	183
Right From Access Road	15	61
Left from GNH	61	15
Right from GNH	183	46
North on GNH	181	582
South on GNH	250	166
Total (Access Road)	305	305

Full Devt Central Intersection/GNH (intersection 2)	AM Peak Hour	PM Peak Hour
Left from Access Road	49	197
Right From Access Road	16	66
Left from GNH	66	16
Right from GNH	197	49
North on GNH	132	385
South on GNH	265	227
Total (Access Road)	329	329

Full Devt South Intersection/GNH (intersection 3)	AM Peak Hour	PM Peak Hour
Left from Access Road	20	81
Right From Access Road	7	27
Left from GNH	27	7
Right from GNH	81	20
North on GNH	112	304
South on GNH	281	293
Total (Access Road)	135	135

3.2 Internal Roads

3.2.1 Intersection controls

Internal intersections with the primary access roads which connect with the Great Northern Highway should be chanelised to include right and left turn lanes on the access roads.

Analysis does not appear to warrant the requirement for traffic signals or grade separation at this stage

Section 3.3 considers the external intersection requirements with Great Northern Highway.

All other internal intersections should be stop sign controlled. The use of roundabouts is not considered desirable for heavy vehicle operations in industrial developments of this nature and are not recommended for BSIA.

In view of the type of traffic using the internal roads, i.e 53m road trains it is recommended that the minimum internal intersection spacing is 250m to accommodate turning requirements.

3.2.2 - Road Hierarchy

The preferred internal road hierarchy is identified on Figure 2 overleaf. Forecast traffic volumes on key roads are also shown. The forecast traffic volumes indicate that all internal roads will operate satisfactorily as a single carriageway with no anticipated capacity issues.

The typical industrial road hierarchy is described as follows:

Industrial Access Street

Industrial Access Streets typically carry less than 5,000vpd. These roads are typically 10m wide within a 20m reserve and provide direct access to adjacent lots.

Industrial Connectors

Industrial Connectors typically carry 5,000-9,000vpd and comprise a 10m carriageway within a 25m reserve. These roads may be constructed as 4 lane divided with or without service roads. Direct lot access is considered acceptable in most cases.

Industrial Arterial

Industrial Arterial Routes are major roads carrying in excess of 9,000vpd. These roads are typically constructed as 4 lane divided carriageways with a 15m median to accommodate truck turning movements.

Commentary

All forecast traffic volumes for full development are shown on Figure 2.

The forecast traffic volumes on the access roads connecting to GNH 1,350-3,050vpd indicate that a single carriageway is likely to accommodate development traffic.

In view of the road train activity accessing the Estate it is considered that the access roads from GNH should accommodate right turn facilities to allow following traffic to pass.

It is considered the cross section should be as follows: 2 x 5.1m verge, 2 x 5m traffic lane, 15m median with turn lanes where required. The overall reserve width is 35.2m. (Servicing requirements will also need to be added to the reserve width or by way of easements)

It is considered that all other roads should be 10m wide within a 25m reserve.(Servicing requirements will also need to be added to the reserve width or by way of easements)

3.2.3 Pedestrian Facilities

It is important to provide pedestrian paths on at least one side of all Estate roads for the ultimate development to accommodate likely requirements. Typically industrial developments include lunch bar facilities and bus stops and paths should therefore be provided to facilitate access. In the short term paths are unlikely to be required until development generates pedestrian demand.

3.2.4 Cycling Facilities

The road space is generally shared where traffic volumes are below 3,000vpd, however in view of the large vehicles likely to use the development and significant safety issues, a path network to include shared paths with pedestrians should be provided on all roads as part of the ultimate development. In the short term paths are unlikely to be required until development generates significant pedestrian/cycle demand and traffic volumes approach the above levels.

A 50km/h speed limit throughout the estate is assumed.

3.3 Great Northern Highway

In view of the State Road classification, high speed posted speed 110km/h and the traffic mix an intersection spacing of 1.5km has been adopted.

Great Northern Highway is currently a single carriageway road approximately 7m wide and has a posted speed of 110km/h. Intersections typically exclude specific treatments to accommodate turning and through traffic. The road is straight and relatively flat with good sight distance.

The current road capacity based on the Road Reserves Review Document for a single carriageway is 12,000vpd at a level of service of C. The predicted volumes to 2031 (without development traffic) is 5,720vpd and is therefore well within capacity. Adding development traffic of 1500-6170vpd increases the daily volume to 7,220-11,890vpd indicating that volumes will be at the upper level of capacity for a single carriageway. Upgraded intersection requirements are discussed in this section.

In view of the increased activity associated with this development it is considered that the speed limit should be reduced adjacent to the site from 110km/h to 90km/h.

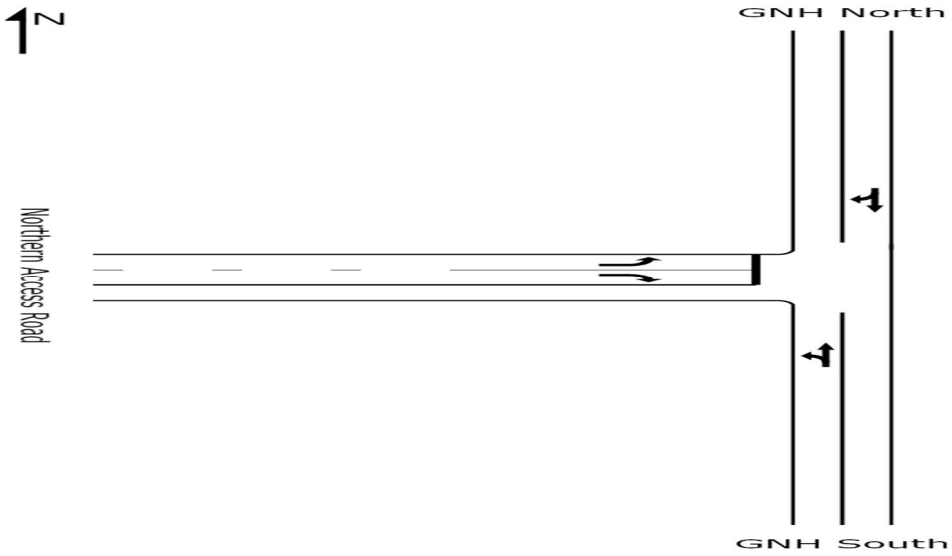
3.3.1 Intersection Modelling

In view of the likely slow development of the BSIA i.e 10% by 2021, 25% by 2031 and full development over 50 years, it is recommended the modelling and traffic volumes generated by the development are reviewed periodically in order that the road and intersection requirements can be reviewed and revised as required.

3.3.2 Northern Intersection Analysis - 2031

The intersection has been analysed assuming minor modification to the existing intersection to allow two exit lanes in the Access Road, a speed limit of 110km/h is maintained on GNH. The following geometry refers.

Northern Intersection – 2031



2031 Great Northern Highway/Northern Intersection AM Peak Hour
Stop (Two-Way)

Movement Performance – Vehicles

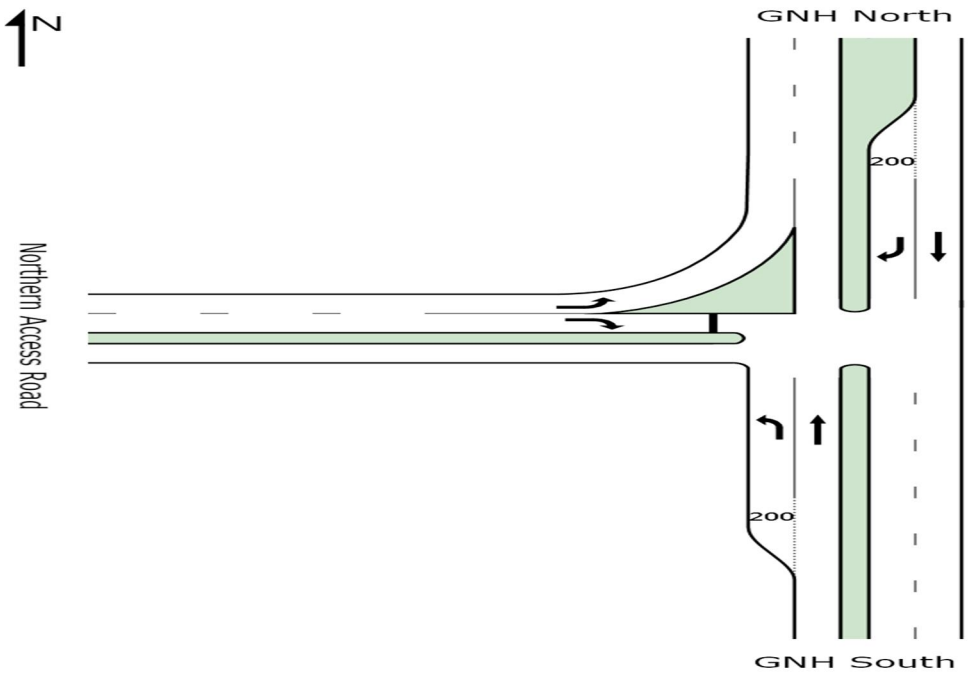
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	61	20.0	0.142	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	181	20.0	0.142	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		242	20.0	0.142	3.8	NA	0.0	0.0	0.00	0.39	97.5
North: GNH North											
8	T	250	20.0	0.384	3.9	LOS A	3.9	33.9	0.63	0.00	72.7
9	R	183	20.0	0.384	19.1	LOS C	3.9	33.9	0.63	1.08	66.9
Approach		433	20.0	0.384	10.3	NA	3.9	33.9	0.63	0.46	70.6
West: Northern Access Road											
10	L	46	20.0	0.070	14.9	LOS B	0.3	2.4	0.40	0.89	54.1
12	R	15	20.0	0.143	46.1	LOS E	0.5	4.3	0.87	1.00	35.2
Approach		61	20.0	0.143	22.6	LOS C	0.5	4.3	0.51	0.92	47.8
All Vehicles		736	20.0	0.384	9.2	NA	3.9	33.9	0.41	0.47	74.3

2031 Great Northern Highway/Northern Intersection PM Peak Hour
Stop (Two-Way)

Movement Performance – Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	15	20.0	0.346	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	582	20.0	0.346	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		597	20.0	0.346	0.4	NA	0.0	0.0	0.00	0.04	108.7
North: GNH North											
8	T	166	20.0	0.225	11.7	LOS B	2.7	22.6	0.87	0.00	64.9
9	R	46	20.0	0.225	26.9	LOS D	2.7	22.6	0.87	1.10	57.7
Approach		212	20.0	0.225	15.0	NA	2.7	22.6	0.87	0.24	63.6
West: Northern Access Road											
10	L	183	20.0	0.672	35.2	LOS E	3.8	36.7	0.88	1.25	40.3
12	R	61	20.0	0.917	193.1	LOS F	5.7	54.7	0.99	1.47	13.0
Approach		244	20.0	0.917	74.6	LOS F	5.7	54.7	0.91	1.30	26.4
All Vehicles		1053	20.0	0.917	20.5	NA	5.7	54.7	0.38	0.37	58.4

The above analysis based on minor upgrade to the access road to include a two lane approach indicates unacceptable queues and delays within the access road at the intersection. Further analysis has been undertaken based on the unsignalised layout below.



2031 Great Northern Highway/Northern Intersection AM Peak Hour Modified Geometry
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	61	20.0	0.038	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	181	20.0	0.105	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		242	20.0	0.105	3.0	NA	0.0	0.0	0.00	0.18	81.4
North: GNH North											
8	T	250	20.0	0.145	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	183	20.0	0.235	14.4	LOS B	1.0	10.0	0.47	0.76	56.7
Approach		433	20.0	0.235	6.1	NA	1.0	10.0	0.20	0.32	73.8
West: Northern Access Road											
10	L	46	20.0	0.028	8.0	X	X	X	X	0.59	49.8
12	R	15	20.0	0.057	24.0	LOS C	0.2	1.9	0.64	0.98	42.5
Approach		61	20.0	0.057	11.9	LOS B	0.2	1.9	0.16	0.69	47.5
All Vehicles		736	20.0	0.235	5.6	NA	1.0	10.0	0.13	0.31	73.0

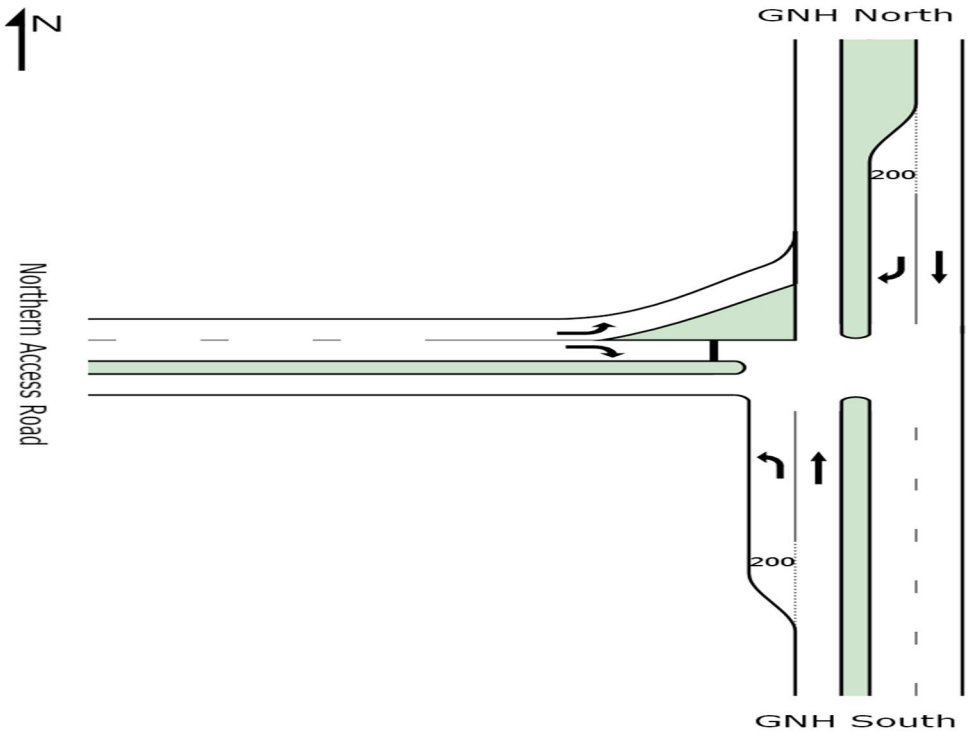
2031 Great Northern Highway/Northern Intersection PM Peak Hour Modified Geometry
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	15	20.0	0.009	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	582	20.0	0.337	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		597	20.0	0.337	0.3	NA	0.0	0.0	0.00	0.02	89.1
North: GNH North											
8	T	166	20.0	0.096	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	46	20.0	0.110	19.2	LOS C	0.4	3.9	0.65	0.90	50.4
Approach		212	20.0	0.110	4.2	NA	0.4	3.9	0.14	0.20	78.6
West: Northern Access Road											
10	L	183	20.0	0.113	8.0	X	X	X	X	0.59	49.8
12	R	61	20.0	0.427	46.3	LOS E	1.8	16.9	0.87	1.09	31.4
Approach		244	20.0	0.427	17.6	LOS C	1.8	16.9	0.22	0.72	42.7
All Vehicles		1053	20.0	0.427	5.1	NA	1.8	16.9	0.08	0.22	71.1

The above analysis is based on an acceleration lane for left and right turning traffic onto GNH and indicates an improved performance. A good intersection level of service (LoS) is forecast, although delay to right turning exiting traffic is expected to be 46 seconds in the pm peak hour should development traffic and surrounding traffic eventuate. A speed limit of 90km/h is adopted on GNH.

Further analysis is undertaken assuming no acceleration lane for the left turn from the access road.



2031 Great Northern Highway/Northern Intersection PM Peak Hour Modified Geometry
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	15	20.0	0.009	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	582	20.0	0.337	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		597	20.0	0.337	0.3	NA	0.0	0.0	0.00	0.02	89.1
North: GNH North											
8	T	166	20.0	0.096	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	46	20.0	0.110	19.2	LOS C	0.4	3.9	0.65	0.90	50.4
Approach		212	20.0	0.110	4.2	NA	0.4	3.9	0.14	0.20	78.6
West: Northern Access Road											
10	L	183	20.0	0.568	29.9	LOS D	3.1	29.8	0.81	1.18	39.2
12	R	61	20.0	0.427	46.3	LOS E	1.8	16.9	0.87	1.09	31.4
Approach		244	20.0	0.568	34.0	LOS D	3.1	29.8	0.83	1.15	36.9
All Vehicles		1053	20.0	0.568	8.9	NA	3.1	29.8	0.22	0.32	65.9

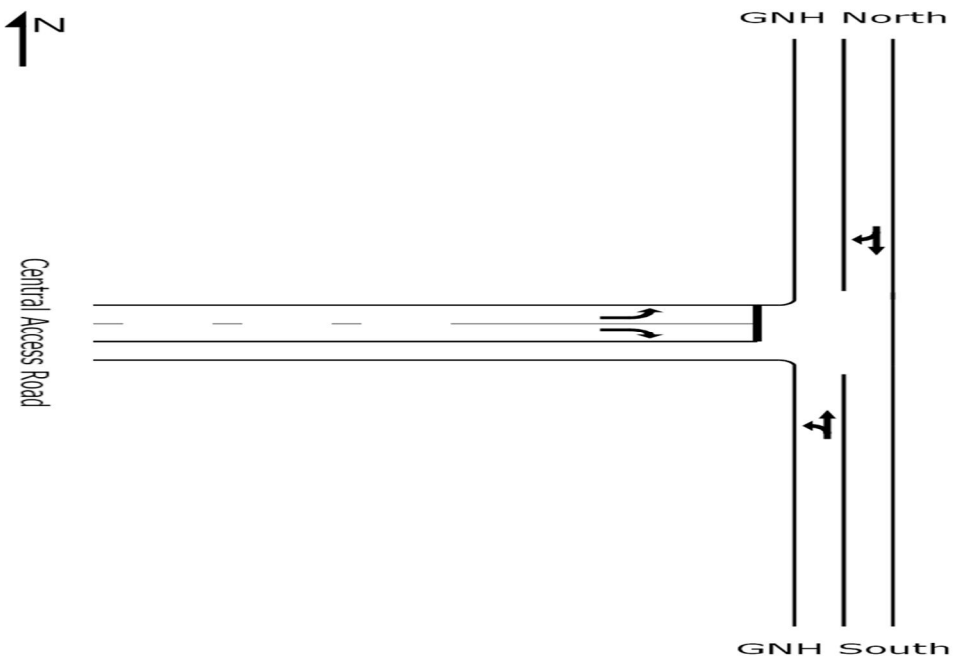
The above analysis indicates that the intersection as shown is likely to accommodate forecast traffic volumes and operate to a good level of service. A speed limit of 90km/h is adopted on GNH.

Conclusion for Northern Intersection

Of the intersection options analysed it is concluded that a right and left turn lane in GNH are required together with a two lane approach in the access road and the left turn under stop sign control. An acceleration lane is required for right turning traffic.

3.3.3 Central Intersection Analysis – 2031

The intersection has been analysed assuming minor modification to the existing intersection to allow two exit lanes in the Access Road, a speed limit of 110km/h is maintained on GNH. The following geometry refers.



2031 Great Northern Highway/Central Intersection AM Peak Hour
Stop (Two-Way)

Movement Performance - Vehicles

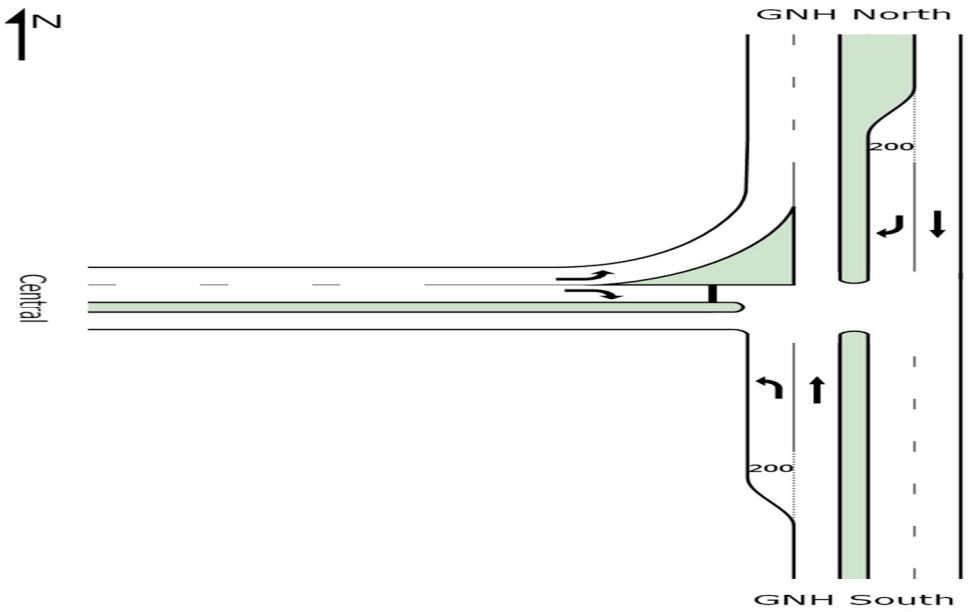
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	66	20.0	0.117	15.1	LOS C	0.0	0.0	0.00	1.53	65.9
2	T	132	20.0	0.117	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		198	20.0	0.117	5.0	NA	0.0	0.0	0.00	0.51	93.7
North: GNH North											
8	T	265	20.0	0.393	3.1	LOS A	3.8	33.3	0.58	0.00	74.5
9	R	197	20.0	0.393	18.2	LOS C	3.8	33.3	0.58	1.06	67.9
Approach		462	20.0	0.393	9.5	NA	3.8	33.3	0.58	0.45	72.1
West: Central Access Road											
10	L	49	20.0	0.069	14.3	LOS B	0.2	2.4	0.35	0.88	54.6
12	R	16	20.0	0.146	44.6	LOS E	0.5	4.4	0.86	1.00	35.8
Approach		65	20.0	0.146	21.8	LOS C	0.5	4.4	0.47	0.91	48.3
All Vehicles		725	20.0	0.393	9.4	NA	3.8	33.3	0.41	0.51	73.2

2031 Great Northern Highway/Central Intersection PM Peak Hour
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	16	20.0	0.233	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	385	20.0	0.233	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		401	20.0	0.233	0.6	NA	0.0	0.0	0.00	0.06	107.9
North: GNH North											
8	T	227	20.0	0.218	5.6	LOS A	2.2	18.5	0.68	0.00	73.4
9	R	49	20.0	0.218	20.8	LOS C	2.2	18.5	0.68	1.18	65.9
Approach		276	20.0	0.218	8.3	NA	2.2	18.5	0.68	0.21	72.3
West: Central Access Road											
10	L	197	20.0	0.437	21.1	LOS C	2.3	22.0	0.65	1.10	49.1
12	R	66	20.0	0.639	72.7	LOS F	2.8	27.3	0.94	1.17	26.9
Approach		263	20.0	0.639	34.1	LOS D	2.8	27.3	0.72	1.12	40.7
All Vehicles		940	20.0	0.639	12.2	NA	2.8	27.3	0.40	0.40	67.1

The above analysis based on minor upgrade to the access road to include a two lane approach indicates unacceptable queues and delays within the access road at the intersection. Further analysis has been undertaken based on the unsignalised layout below.



2031 Great Northern Highway/Central Intersection AM Peak Hour Modified Geometry
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	66	20.0	0.041	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	132	20.0	0.076	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		198	20.0	0.076	4.0	NA	0.0	0.0	0.00	0.24	78.9
North: GNH North											
8	T	265	20.0	0.154	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	197	20.0	0.236	13.9	LOS B	1.1	10.3	0.43	0.73	57.4
Approach		462	20.0	0.236	5.9	NA	1.1	10.3	0.18	0.31	74.2
West: Central Access Road											
10	L	49	20.0	0.030	8.0	X	X	X	X	0.59	49.8
12	R	16	20.0	0.057	22.8	LOS C	0.2	1.9	0.61	0.97	43.3
Approach		65	20.0	0.057	11.6	LOS B	0.2	1.9	0.15	0.68	47.8
All Vehicles		725	20.0	0.236	5.9	NA	1.1	10.3	0.13	0.33	72.0

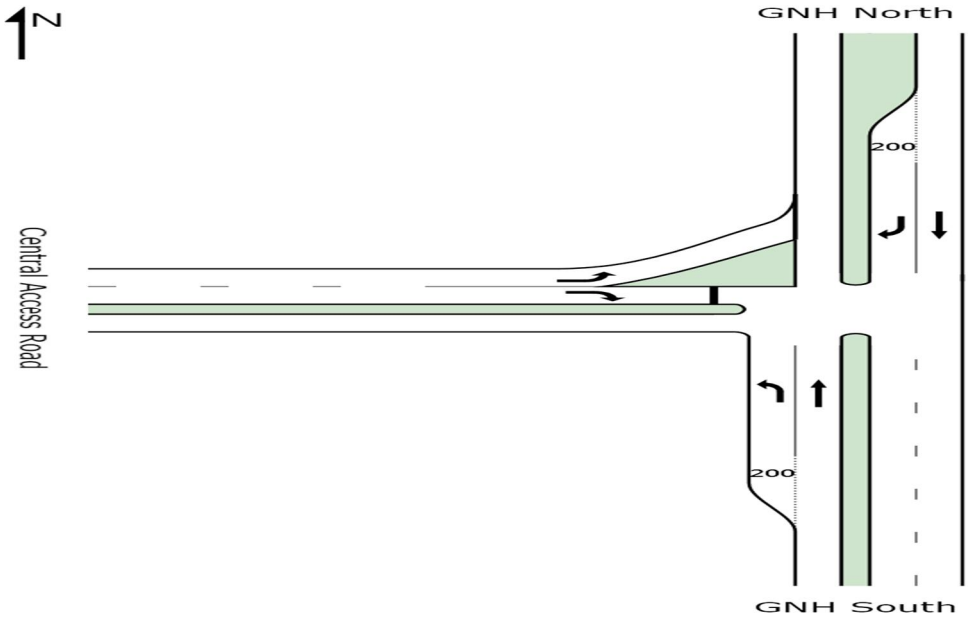
2031 Great Northern Highway/Central Intersection PM Peak Hour Modified Geometry
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	16	20.0	0.010	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	385	20.0	0.223	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		401	20.0	0.223	0.5	NA	0.0	0.0	0.00	0.03	88.6
North: GNH North											
8	T	227	20.0	0.132	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	49	20.0	0.082	15.9	LOS C	0.3	3.0	0.53	0.80	54.6
Approach		276	20.0	0.132	2.8	NA	0.3	3.0	0.09	0.14	82.1
West: Central Access Road											
10	L	197	20.0	0.121	8.0	X	X	X	X	0.59	49.8
12	R	66	20.0	0.273	28.0	LOS D	1.1	10.7	0.72	1.03	40.0
Approach		263	20.0	0.273	13.0	LOS B	1.1	10.7	0.18	0.70	46.5
All Vehicles		940	20.0	0.273	4.7	NA	1.1	10.7	0.08	0.25	70.7

The above analysis is based on an acceleration lane for left and right turning traffic onto GNH and indicates an improved performance. A good intersection level of service (LoS) is forecast. A speed limit of 90km/h is adopted on GNH.

Further analysis is undertaken assuming no acceleration lane for the left turn from the access road.



2031 Great Northern Highway/Central Intersection PM Peak Hour Modified Geometry. No acceleration lane from access road
Stop (Two-Way)

Movement Performance - Vehicles											
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	16	20.0	0.010	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	385	20.0	0.223	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		401	20.0	0.223	0.5	NA	0.0	0.0	0.00	0.03	88.6
North: GNH North											
8	T	227	20.0	0.132	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	49	20.0	0.082	15.9	LOS C	0.3	3.0	0.53	0.80	54.6
Approach		276	20.0	0.132	2.8	NA	0.3	3.0	0.09	0.14	82.1
West: Central Access Road											
10	L	197	20.0	0.411	21.3	LOS C	2.2	20.7	0.63	1.08	44.6
12	R	66	20.0	0.273	28.0	LOS D	1.1	10.7	0.72	1.03	40.0
Approach		263	20.0	0.411	23.0	LOS C	2.2	20.7	0.65	1.07	43.4
All Vehicles		940	20.0	0.411	7.5	NA	2.2	20.7	0.21	0.35	67.5

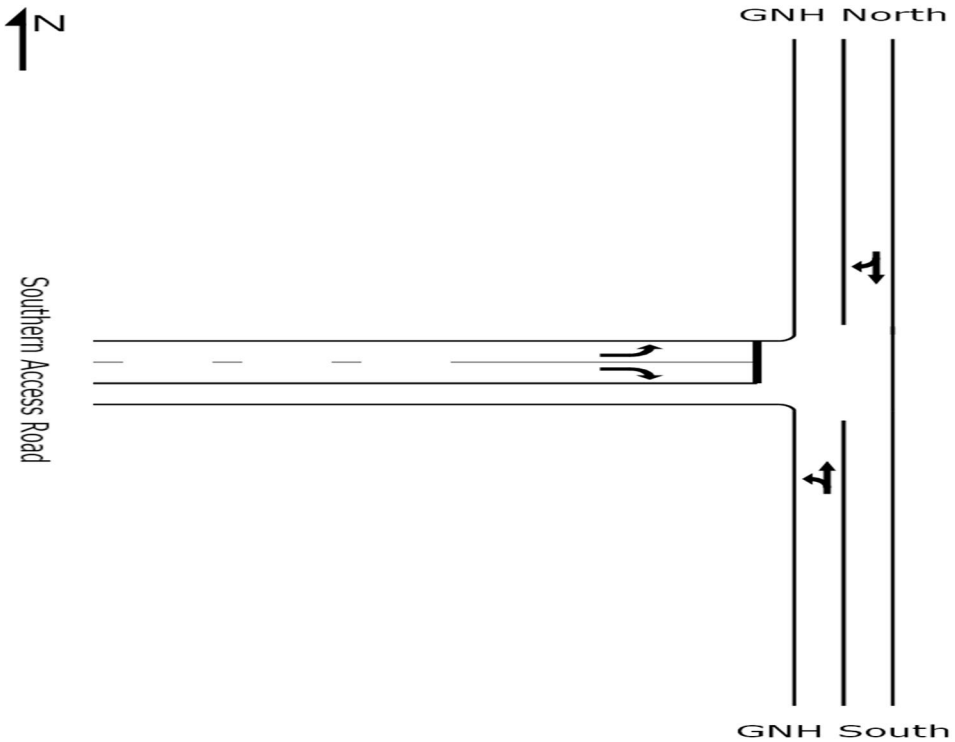
The above analysis indicates that the intersection as shown is likely to accommodate forecast traffic volumes and operate to a good level of service. A speed limit of 90km/h is adopted on GNH.

Conclusion for Central Access

Of the intersection options analysed it is concluded that a right and left turn lane in GNH are required together with a two lane approach in the access road and the left turn under stop sign control. An acceleration lane is required for right turning traffic.

3.3.4 Southern Intersection Analysis – 2031

The intersection has been analysed assuming minor modification to the existing intersection to allow two exit lanes in the Access Road, a speed limit of 110km/h is maintained on GNH. The following geometry refers.



2031 Great Northern Highway/Southern Intersection AM Peak Hour
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	27	20.0	0.082	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	112	20.0	0.082	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		139	20.0	0.082	2.9	NA	0.0	0.0	0.00	0.30	100.2
North: GNH North											
8	T	281	20.0	0.252	1.5	LOS A	2.0	17.1	0.42	0.00	83.7
9	R	81	20.0	0.252	16.7	LOS C	2.0	17.1	0.42	1.20	70.1
Approach		362	20.0	0.252	4.9	NA	2.0	17.1	0.42	0.27	81.0
West: Southern Access Road											
10	L	20	20.0	0.026	13.8	LOS B	0.1	0.9	0.29	0.87	55.0
12	R	7	20.0	0.039	30.1	LOS D	0.1	1.3	0.75	1.00	43.1
Approach		27	20.0	0.039	18.0	LOS C	0.1	1.3	0.41	0.90	51.3
All Vehicles		528	20.0	0.252	5.0	NA	2.0	17.1	0.31	0.31	82.7

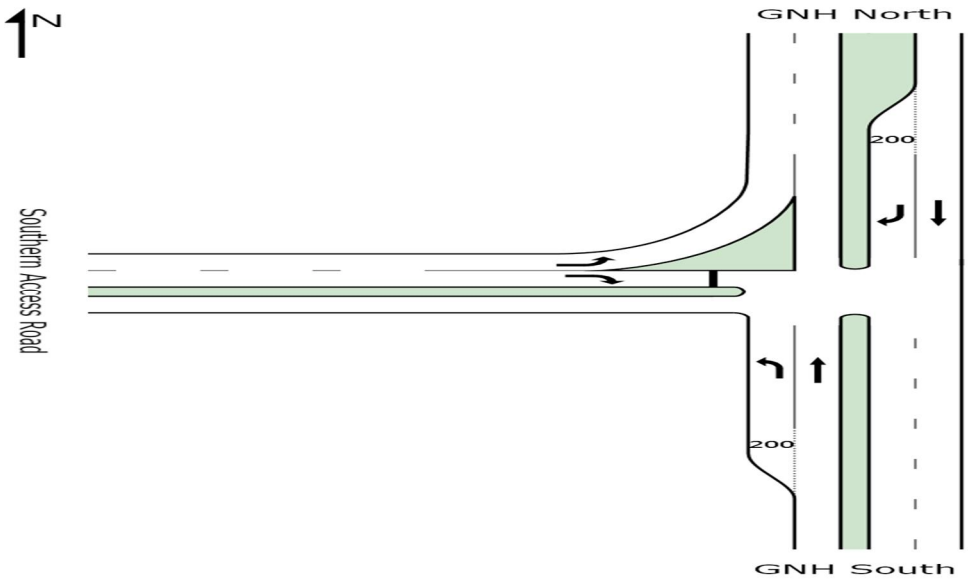
2031 Great Northern Highway/Southern Intersection PM Peak Hour
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	7	20.0	0.180	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	304	20.0	0.180	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		311	20.0	0.180	0.3	NA	0.0	0.0	0.00	0.03	108.8
North: GNH North											
8	T	293	20.0	0.199	3.7	LOS A	2.1	17.2	0.64	0.00	76.6
9	R	20	20.0	0.199	18.9	LOS C	2.1	17.2	0.64	1.14	69.1
Approach		313	20.0	0.199	4.7	NA	2.1	17.2	0.64	0.07	76.2
West: Southern Access Road											
10	L	81	20.0	0.149	16.6	LOS C	0.5	5.3	0.50	0.96	52.7
12	R	27	20.0	0.226	44.4	LOS E	0.8	7.4	0.86	1.02	35.9
Approach		108	20.0	0.226	23.6	LOS C	0.8	7.4	0.59	0.97	47.2
All Vehicles		732	20.0	0.226	5.6	NA	2.1	17.2	0.36	0.19	79.2

The above analysis based on minor upgrade to the access road to include a two lane approach indicates a reasonable operating performance although significant impacts are forecast for southbound through traffic delay on GNH.

Further analysis has been undertaken for the geometry shown below.



2031 Great Northern Highway/Southern Intersection AM Peak Hour Modified Geometry
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	27	20.0	0.017	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	112	20.0	0.065	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		139	20.0	0.065	2.3	NA	0.0	0.0	0.00	0.14	83.3
North: GNH North											
8	T	281	20.0	0.163	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	81	20.0	0.089	13.1	LOS B	0.4	3.5	0.31	0.68	58.3
Approach		362	20.0	0.163	2.9	NA	0.4	3.5	0.07	0.15	81.6
West: Southern Access Road											
10	L	20	20.0	0.012	8.0	X	X	X	X	0.59	49.8
12	R	7	20.0	0.016	17.2	LOS C	0.1	0.6	0.46	0.86	47.5
Approach		27	20.0	0.016	10.4	LOS B	0.1	0.6	0.12	0.66	49.1
All Vehicles		528	20.0	0.163	3.2	NA	0.4	3.5	0.05	0.18	79.6

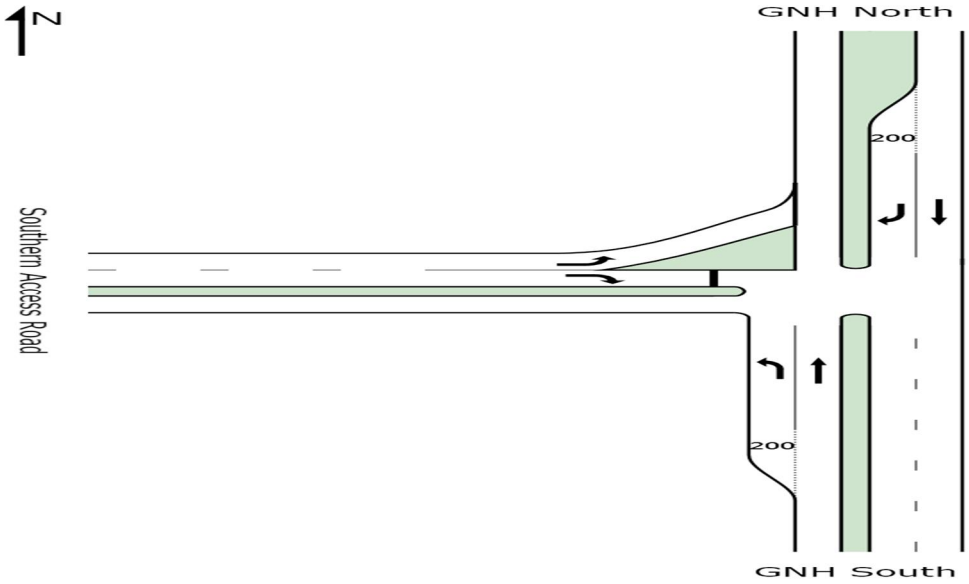
2031 Great Northern Highway/Southern Intersection PM Peak Hour Modified Geometry
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	7	20.0	0.004	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	304	20.0	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		311	20.0	0.176	0.3	NA	0.0	0.0	0.00	0.02	89.2
North: GNH North											
8	T	293	20.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	20	20.0	0.029	14.6	LOS B	0.1	1.0	0.46	0.72	56.4
Approach		313	20.0	0.170	0.9	NA	0.1	1.0	0.03	0.05	87.3
West: Southern Access Road											
10	L	81	20.0	0.050	8.0	X	X	X	X	0.59	49.8
12	R	27	20.0	0.083	20.9	LOS C	0.3	2.9	0.57	0.96	44.6
Approach		108	20.0	0.083	11.2	LOS B	0.3	2.9	0.14	0.68	48.2
All Vehicles		732	20.0	0.176	2.2	NA	0.3	2.9	0.03	0.13	79.6

The above analysis is based on an acceleration lane for left and right turning traffic onto GNH and indicates an improved performance. A good intersection level of service (LoS) is forecast. A speed limit of 90km/h is adopted on GNH.

Further analysis has been undertaken for the geometry shown below.



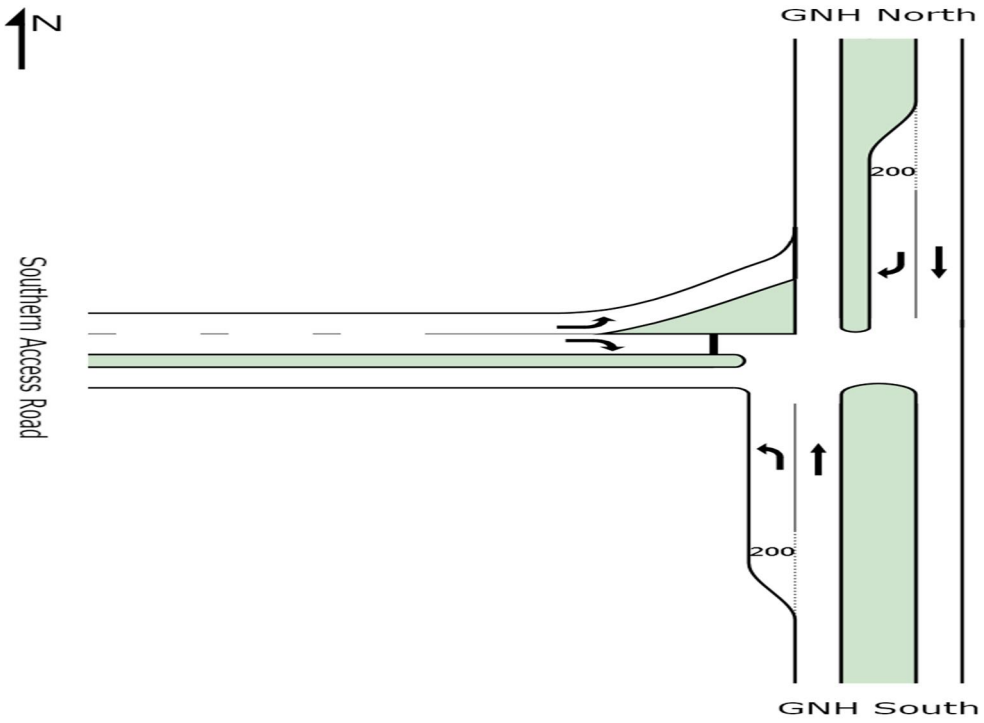
2031 Great Northern Highway/Southern Intersection PM Peak Hour Modified Geometry. No lt acc lane from access rd.
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	7	20.0	0.004	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	304	20.0	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		311	20.0	0.176	0.3	NA	0.0	0.0	0.00	0.02	89.2
North: GNH North											
8	T	293	20.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	20	20.0	0.029	14.6	LOS B	0.1	1.0	0.46	0.72	56.4
Approach		313	20.0	0.170	0.9	NA	0.1	1.0	0.03	0.05	87.3
West: Southern Access Road											
10	L	81	20.0	0.144	17.5	LOS C	0.5	5.2	0.49	0.94	47.4
12	R	27	20.0	0.083	20.9	LOS C	0.3	2.9	0.57	0.96	44.6
Approach		108	20.0	0.144	18.4	LOS C	0.5	5.2	0.51	0.95	46.7
All Vehicles		732	20.0	0.176	3.2	NA	0.5	5.2	0.09	0.17	78.1

The above analysis indicates that the intersection as shown is likely to accommodate forecast traffic volumes and operate to a good level of service. A speed limit of 90km/h is adopted on GNH.

Further analysis has been undertaken to test whether a T intersection with right and left turn lanes only will accommodate the forecast traffic volumes.



2031 Great Northern Highway/Southern Intersection AM Peak Hour Right and Left Turn Lane only
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	27	20.0	0.017	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	112	20.0	0.065	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		139	20.0	0.065	2.3	NA	0.0	0.0	0.00	0.14	83.3
North: GNH North											
8	T	281	20.0	0.163	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	81	20.0	0.089	13.1	LOS B	0.4	3.5	0.31	0.68	58.3
Approach		362	20.0	0.163	2.9	NA	0.4	3.5	0.07	0.15	81.6
West: Southern Access Road											
10	L	20	20.0	0.026	14.9	LOS B	0.1	0.9	0.28	0.87	49.2
12	R	7	20.0	0.033	27.4	LOS D	0.1	1.1	0.70	0.98	40.4
Approach		27	20.0	0.033	18.2	LOS C	0.1	1.1	0.39	0.90	46.6
All Vehicles		528	20.0	0.163	3.6	NA	0.4	3.5	0.07	0.19	79.0

2031 Great Northern Highway/Southern Intersection PM Peak Hour Modified Geometry. Rt and LT Only Stop (Two-Way)

Movement Performance - Vehicles

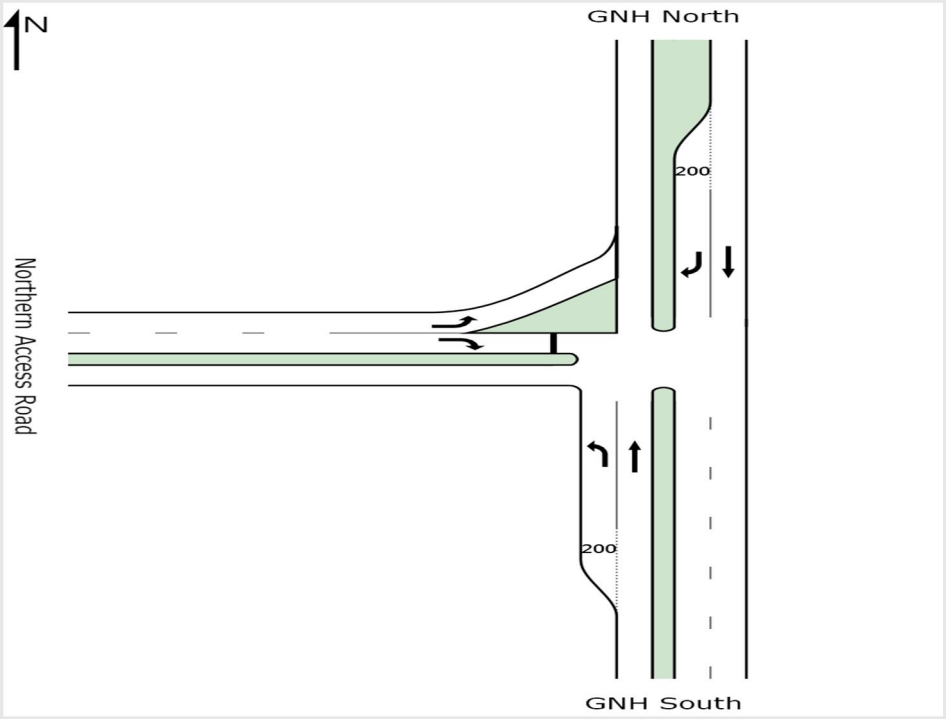
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue Vehicles	95% Back of Queue Distance	Prop. Queued	Effective Stop Rate	Average Speed
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	7	20.0	0.004	12.1	LOS B	0.0	0.0	0.00	0.73	60.4
2	T	304	20.0	0.176	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
Approach		311	20.0	0.176	0.3	NA	0.0	0.0	0.00	0.02	89.2
North: GNH North											
8	T	293	20.0	0.170	0.0	LOS A	0.0	0.0	0.00	0.00	90.0
9	R	20	20.0	0.029	14.7	LOS B	0.1	1.0	0.46	0.72	56.3
Approach		313	20.0	0.170	0.9	NA	0.1	1.0	0.03	0.05	87.3
West: Southern Access Road											
10	L	81	20.0	0.144	17.5	LOS C	0.5	5.2	0.49	0.94	47.4
12	R	27	20.0	0.180	36.7	LOS E	0.6	5.8	0.81	1.00	35.4
Approach		108	20.0	0.180	22.3	LOS C	0.6	5.8	0.57	0.96	43.7
All Vehicles		732	20.0	0.180	3.8	NA	0.6	5.8	0.10	0.17	76.8

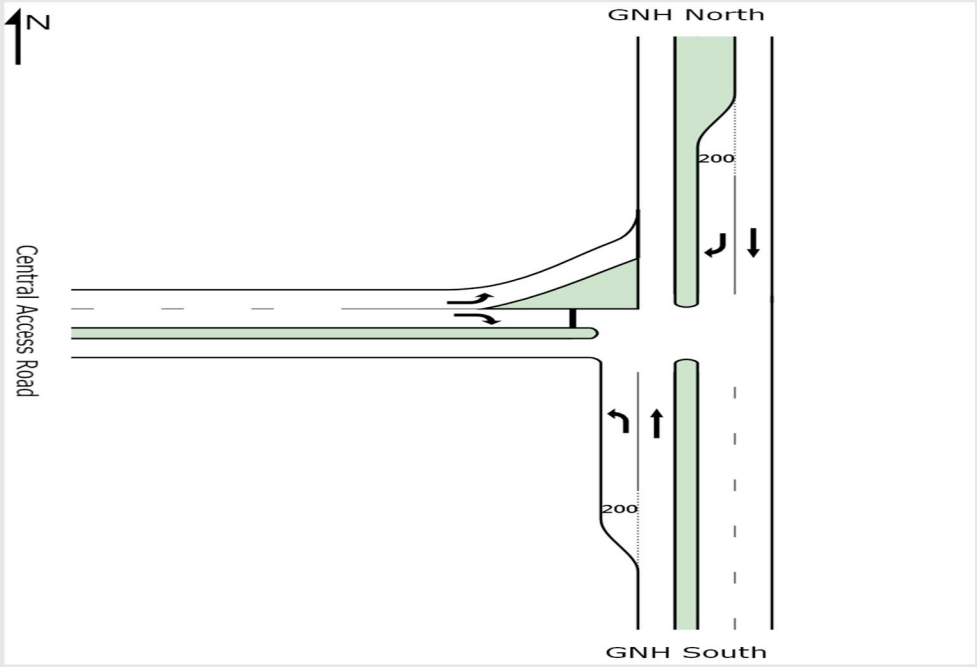
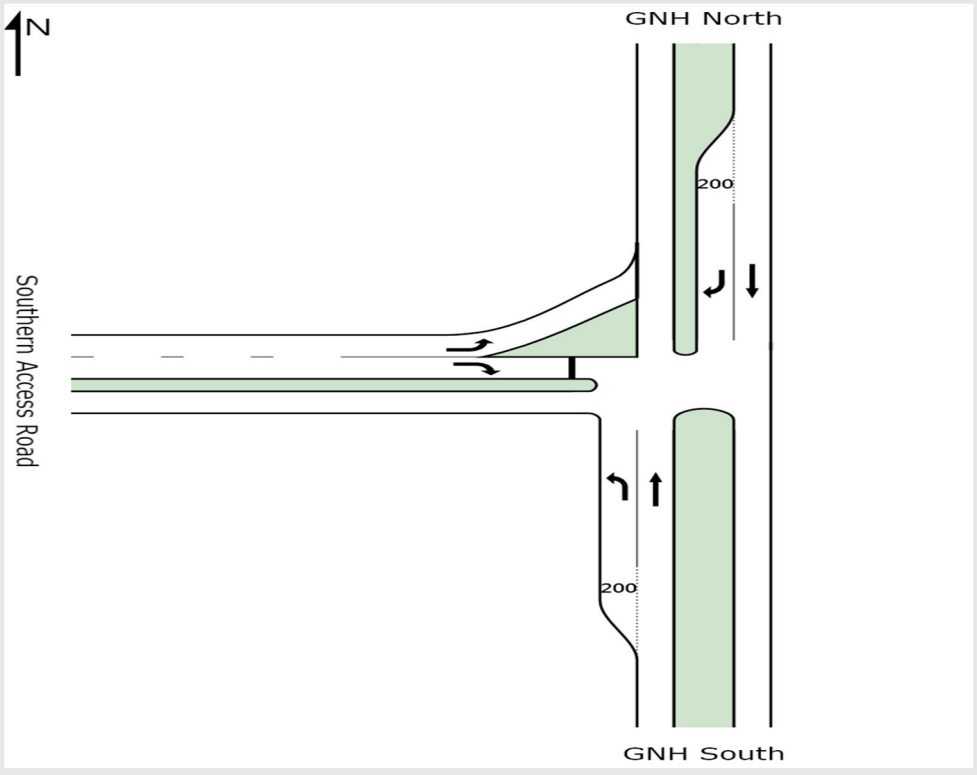
The above analysis indicates that the intersection as shown is likely to accommodate forecast traffic volumes and operate to a good level of service, although a LoS of E is forecast for the right turn movement during the pm peak hour. A speed limit of 90km/h is adopted on GNH.

Conclusion for Southern Access

Of the intersection options analysed it is concluded that a right and left turn lane in GNH are required together with a two lane approach in the access road and the left turn under stop sign control. An acceleration lane is not essential for right turning traffic, however is desirable in view of the heavy vehicle movement i.e. road trains.

3.3.5 Summary showing recommended treatment (Full Development)

Access Location	Recommended Intersection Layout
Northern access to GNH	

Access Location	Recommended Intersection Layout
Central Access to GNH	
Southern Access to GNH	

It is understood that only 25% of development is likely to occur by 2031, the above analysis assumes full development by 2031, the intersection construction should therefore be staged to include T Intersections with left and right turn lanes in the first stage.

As development increases the intersections will need to be upgraded as discussed to include acceleration lanes for the right turn movement at the northern and central access. The traffic generated by the development should be carefully monitored over time and intersection upgrade introduced when required.

3.4 Interim Development – Noxious Area

This section considers the access requirements for the Noxious area in isolation.

A plan showing the Noxious Area under consideration is shown below.

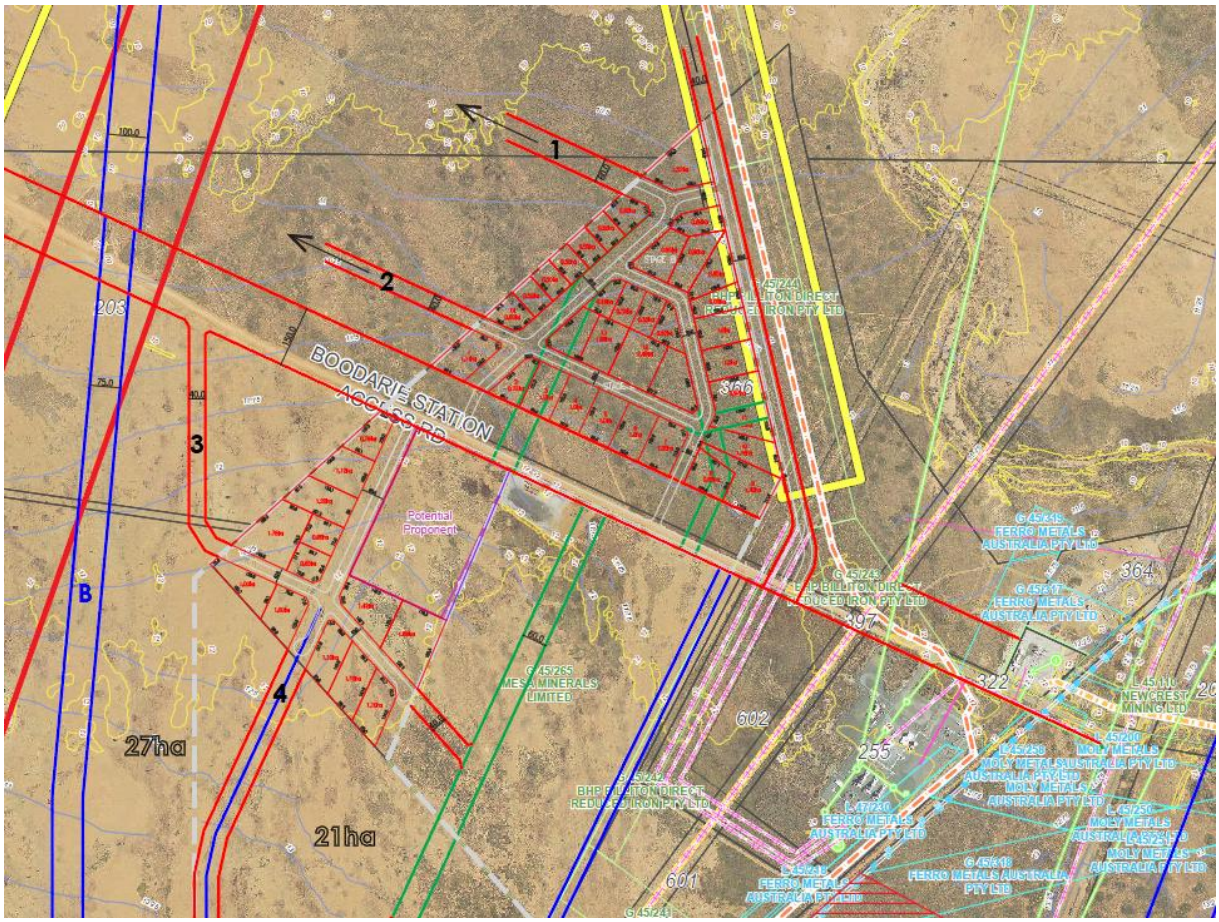


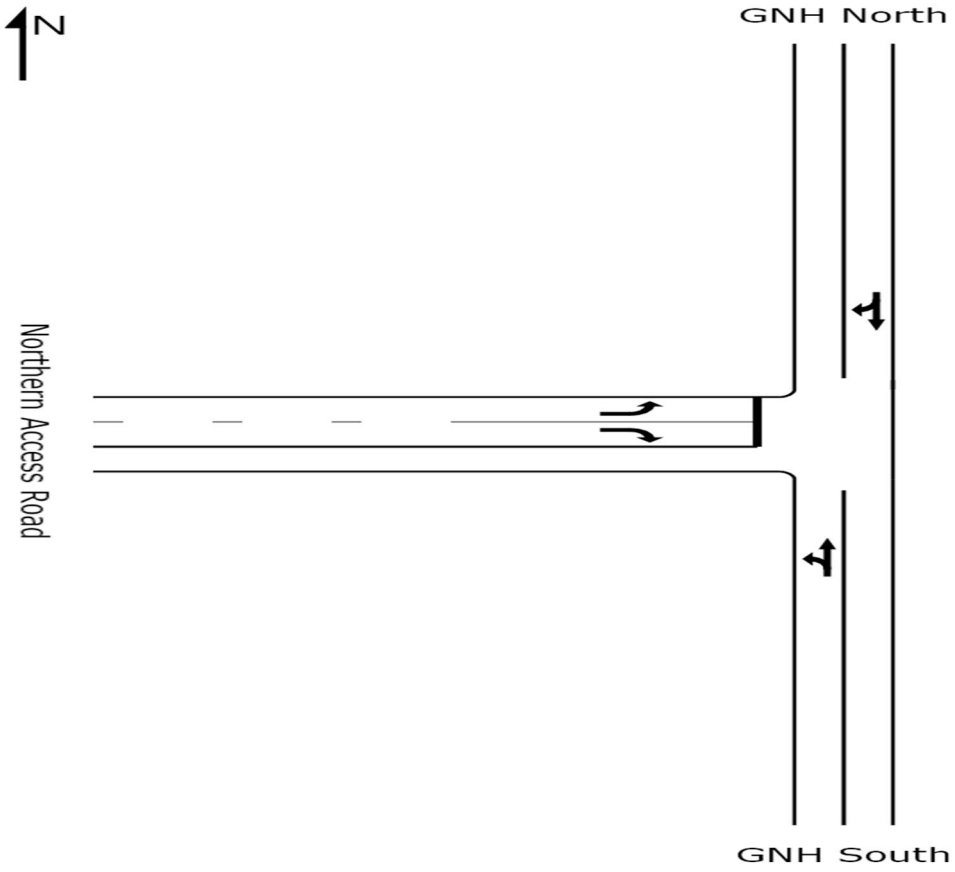
Figure 3 Location of Noxious Area

Interim access will be via the existing Boodarie Station Access Road and analysis has been undertaken assuming development of the Noxious area initially. This is discussed as follows:

Based on the trip generation in Table 4, the Noxious area is likely to generate around 539 trips per day and Power Station 552vpd. Turning volumes have been derived for 2031 as follows:

Full Devt North Intersection/GNH	AM Peak Hour	PM Peak Hour
Left from Access Road	18	73
Right From Access Road	6	24
Left from GNH	24	6
Right from GNH	73	18
North on GNH	154	343
South on GNH	417	228

The existing geometry upgraded with two exit lanes in Boodarie Station Access Road, as shown below, has been analysed with the forecast volumes assuming full development to 2031.



2031 Great Northern Highway/Northern Intersection AM Peak Hour Noxious Only Full Devt
Stop (Two-Way)

Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	24	20.0	0.104	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	154	20.0	0.104	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		178	20.0	0.104	2.0	NA	0.0	0.0	0.00	0.21	103.2
North: GNH North											
8	T	417	20.0	0.327	2.2	LOS A	3.1	26.5	0.54	0.00	79.2
9	R	73	20.0	0.327	17.4	LOS C	3.1	26.5	0.54	1.14	70.6
Approach		490	20.0	0.327	4.5	NA	3.1	26.5	0.54	0.17	78.2
West: Northern Access Road											
10	L	18	20.0	0.025	14.3	LOS B	0.1	0.9	0.34	0.87	54.6
12	R	6	20.0	0.061	47.3	LOS E	0.2	1.8	0.87	1.00	34.7
Approach		24	20.0	0.061	22.5	LOS C	0.2	1.8	0.47	0.90	47.8
All Vehicles		692	20.0	0.327	4.5	NA	3.1	26.5	0.40	0.20	81.4

2031 Great Northern Highway/Northern Intersection PM Peak Hour Noxious Only full Devt
Stop (Two-Way)

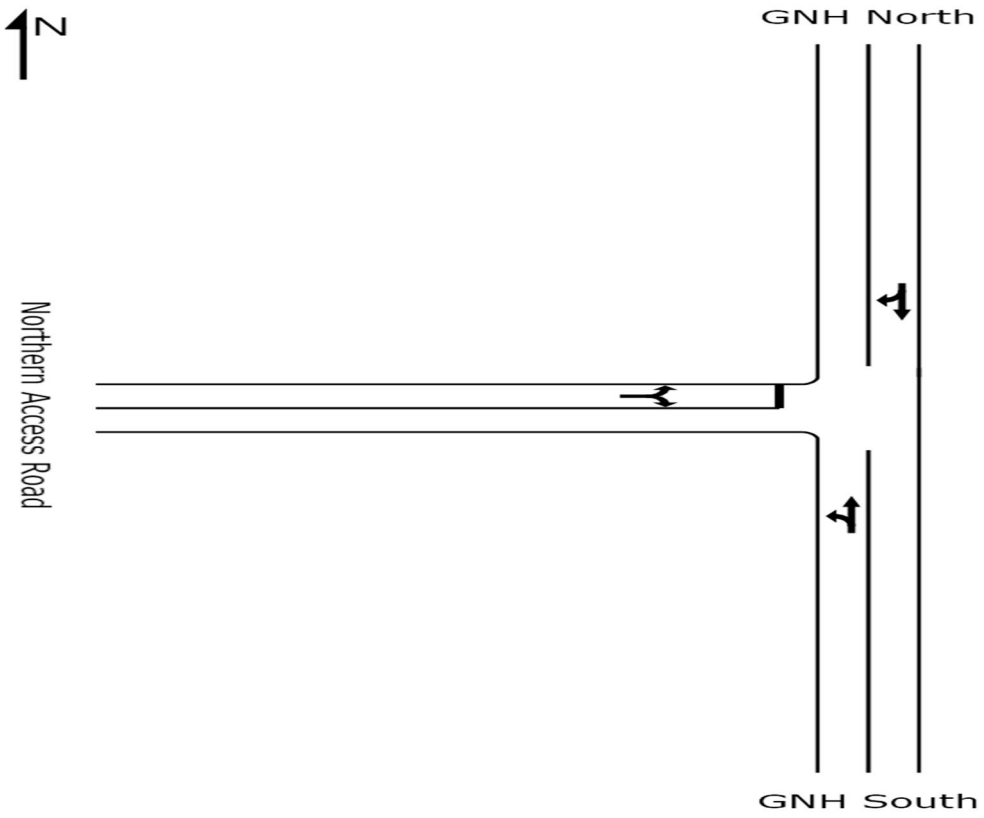
Movement Performance - Vehicles

Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	6	20.0	0.202	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	343	20.0	0.202	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		349	20.0	0.202	0.3	NA	0.0	0.0	0.00	0.03	109.1
North: GNH North											
8	T	228	20.0	0.161	4.1	LOS A	1.7	13.8	0.64	0.00	76.3
9	R	18	20.0	0.161	19.3	LOS C	1.7	13.8	0.64	1.15	68.2
Approach		246	20.0	0.161	5.3	NA	1.7	13.8	0.64	0.08	75.8
West: Northern Access Road											
10	L	73	20.0	0.146	17.3	LOS C	0.5	5.1	0.53	0.97	52.1
12	R	24	20.0	0.178	38.8	LOS E	0.6	5.7	0.83	1.00	38.4
Approach		97	20.0	0.178	22.7	LOS C	0.6	5.7	0.60	0.98	47.9
All Vehicles		692	20.0	0.202	5.2	NA	1.7	13.8	0.31	0.18	81.8

The analysis for the Noxious Development (full development) only, indicates that the intersection with Great Northern Highway is forecast to operate to a good level of service assuming the Noxious industry is fully developed by 2031.

It is noted that southbound through traffic speed on Great Northern Highway is likely to be impacted upon at peak times and localised widening should be considered to reduce the risk of rear end collision caused by traffic being unable to pass right turning traffic.

A check of the current geometry has also been undertaken with a single lane approach in the access road and is discussed as follows:



2031 Great Northern Highway/Northern Intersection PM Peak Hour . Noxious Only full Devt. Stop (Two-Way)

Movement Performance - Vehicles

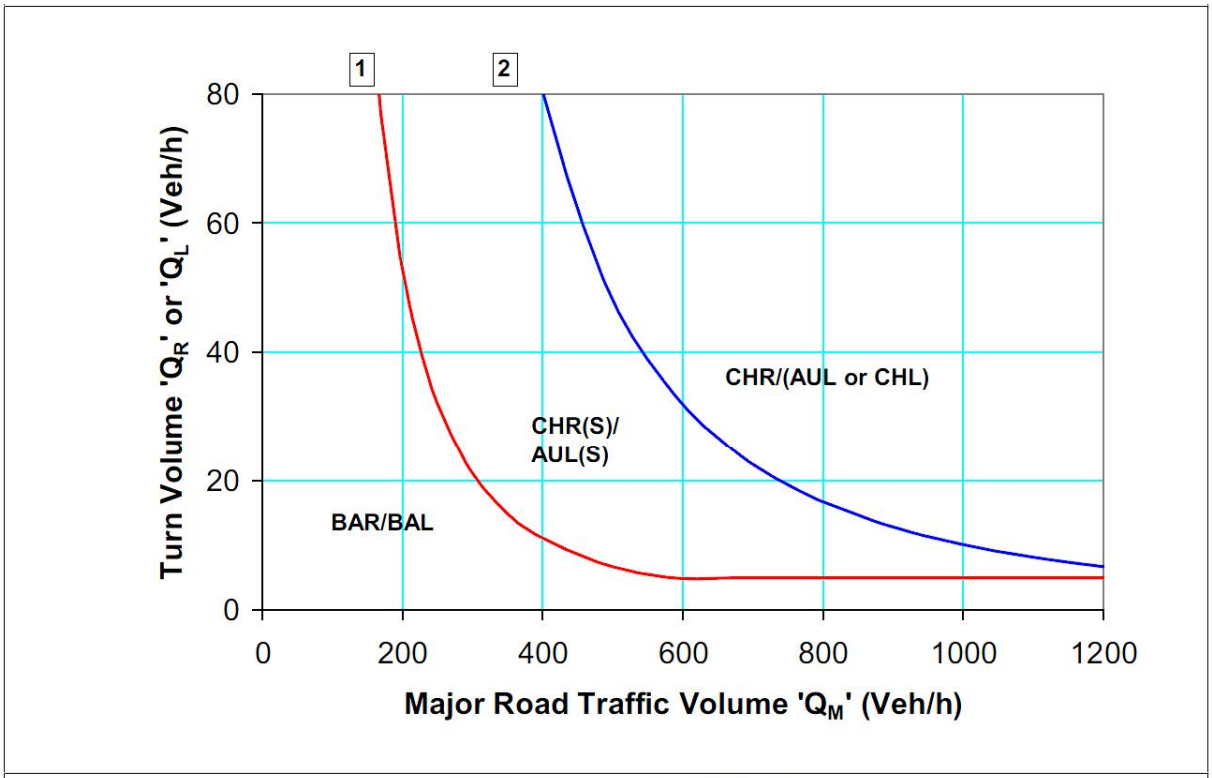
Mov ID	Turn	Demand Flow	HV	Deg. Satn	Average Delay	Level of Service	95% Back of Queue		Prop. Queued	Effective Stop Rate	Average Speed
							Vehicles	Distance			
		veh/h	%	v/c	sec		veh	m		per veh	km/h
South: GNH South											
1	L	6	20.0	0.202	15.1	LOS C	0.0	0.0	0.00	1.54	65.9
2	T	343	20.0	0.202	0.0	LOS A	0.0	0.0	0.00	0.00	110.0
Approach		349	20.0	0.202	0.3	NA	0.0	0.0	0.00	0.03	109.1
North: GNH North											
8	T	228	20.0	0.161	4.1	LOS A	1.7	13.8	0.64	0.00	76.2
9	R	18	20.0	0.161	19.4	LOS C	1.7	13.8	0.64	1.18	68.6
Approach		246	20.0	0.161	5.3	NA	1.7	13.8	0.64	0.09	75.8
West: Northern Access Road											
10	L	73	20.0	0.324	25.2	LOS D	1.4	13.1	0.67	1.06	46.1
12	R	24	20.0	0.324	24.7	LOS C	1.4	13.1	0.67	1.06	46.6
Approach		97	20.0	0.324	25.1	LOS D	1.4	13.1	0.67	1.06	46.2
All Vehicles		692	20.0	0.324	5.5	NA	1.7	13.8	0.32	0.19	81.1

The analysis indicates that a single approach lane in the access road is likely to operate satisfactorily.

It is noted that southbound through traffic speed on Great Northern Highway is likely to be impacted upon at peak times and localised widening should be considered to reduce the risk of rear end collision caused by traffic being unable to pass right turning traffic. Analysis indicates that traffic speed on GNH is likely to be impacted on even by very low turning traffic.

3.5 Austroads Warrants for Intersection Treatment

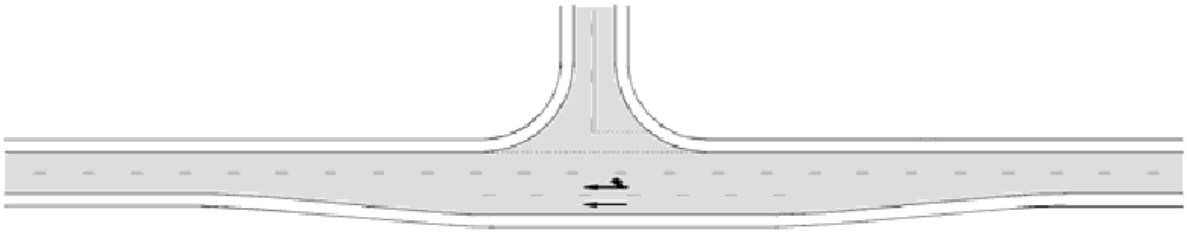
The following chart indicates the warrants for intersection treatment based on turning traffic volumes and design speed.



(b) Design speed < 100 km/h

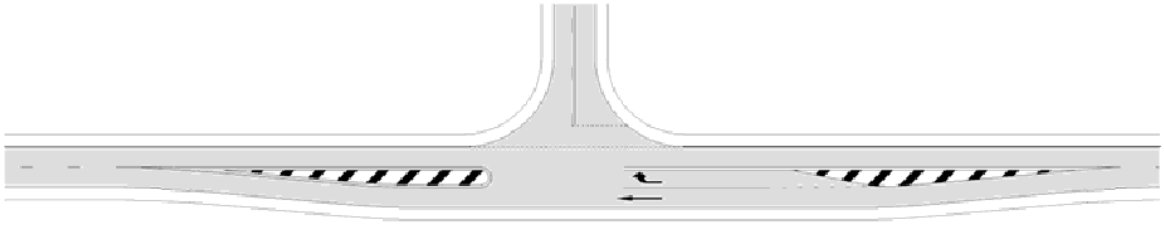
Source: Arndt and Troutbeck (2006).

Figure 4.9: Warrants for turn treatments on the major road at unsignalised intersections



Auxiliary Right Turn (AUR)
on the Major Road (Two-Lane, Two-Way Road)

This turn type not as safe as a channelised treatment at unsignalised intersections



Channelised Right Turn (CHR)
on the Major Road

Current traffic volumes on GNH assuming a peak hour of 10% is around 260vph, plotting 260vph indicates approximately 30 right turning vehicles from GNH can be accommodated before consideration should be given to a chanelisation treatment as shown above. If current traffic on GNH continues to grow at 6% per annum for 5 years this would represent 338vph on GNH and would then accommodate around only 16 right turning vehicles from GNH. The current right turn into Boodarie Station access road during the am peak hour is likely to be around this value, Austroads therefore confirms the need to consider the requirements for intersection upgrade as traffic volumes on the GNH and from the site increase. The need for ongoing monitoring is therefore important to ensure consideration is given to the future intersection(s) requirements.

3.6 Off and On road parking

The following table indicates the car parking requirements based on the Town of Port Hedland Town Planning Scheme No 5.

Table 5 Town of Port Hedland Town Planning Scheme No 5 – Car Parking Requirements

23	Industry - General	1 bay for every 100m^2 of unenclosed space used for such purposes, and 1 bay for every 50m^2 enclosed space or 1 space for each employee, whichever is the greater (total minimum 3 bays per tenancy or unit)
24	Industry - Light	1 bay for every 100m^2 of unenclosed space used for such purposes, and 1 bay for every 50m^2 enclosed space or 1 space for each employee, whichever is the greater (total minimum 3 bays per tenancy or unit)
25	Industry - Noxious	1 bay for every 100m^2 of unenclosed space used for such purposes, and 1 bay for every 50m^2 enclosed space or 1 space for each employee, whichever is the greater (total minimum 3 bays per tenancy or unit)
26	Industry - Rural	1 bay for every employee not living on the site, and 1 visitor bay per 10 employees (minimum 1 bay total)
27	Industry - Service	1 bay for every 50m^2 of enclosed or unenclosed space used for such purposes, and 1 space for each employee (total minimum 3 bays per tenancy or unit)
28	Industry - Resource Processing	1 bay for every employee not living on the site, and 1 visitor bay per 10 employees (total minimum 1 bay)

The total car parking demand will be influenced by the number of employee bus trips and carpooling opportunity. The car parking demand for each land use should be justified by proponents as part of their development applications.

It is considered that car parking restrictions are imposed to prohibit parking on verges to avoid conflicting movements, restricting sight distance at access points and creating a maintenance issue.

3.7 High Wide Loads (HWL) and PAM Corridor

Adequate access should be provided as part of the Estate planning for High Wide Load activity. A preferred route through the development from Great Northern Highway is via the central access road. A 10m x 10m envelope should be available and the detailed design should include the tracking requirements for the HWL vehicles. It would also be desirable to provide a secondary route via the southern access road to improve accessibility for oversize loads to the Estate.

Main Roads have produced guidelines for the assessment of High Wide Load routes and these should be referred to as part of the detailed design process. The Guidelines are located at: http://standards.mainroads.wa.gov.au/Internet/Standards/RTems/austroads_supplement/high_wide_loads/default.asp

A transport plan document is also available from Main Roads, Moving Oversize Loads from Port Hedland, Main Roads WA Pilbara Region, September 15th 2010.

A recommended HWL route through the development is via the southern access from GNH and along the central spine road.

PAM corridor access is provided along the central north-south spine consistent with earlier planning by the PHPA.

3.8 Consideration of road train assembly/overnight parking

Subject to further discussion with Main Roads.

3.9 Consideration of the demand for public transport facilities

Current bus services are as follows:

Table 6.1 Existing Bus Services

Route	Route Description	Frequency (services per hour)	
		Weekdays	Saturdays
301	South Hedland (clockwise)	every 2 to 3 hours (between 8.15am and 5.00pm)	every 3 to 4 hours (between 8.15am and 4.05pm)
401	South Hedland (anti-clockwise)	every 2 to 3 hours (between 9.10am and 5.55pm)	2 services (10.05am and 2.05pm)
501	South Hedland, Pretty Pool, Cooke Point, Port Hedland	every 1 to 3 hours (between 8.40am and 4.30pm)	every 2 hours (between 8.40am and 2.30pm)
501	Port Hedland, Cooke Point, Pretty Pool, South Hedland	every 1 to 3 hours (between 8.30am and 5.15pm)	every 2 hours (between 9.20am and 3.20pm)

Source: Town of Port Hedland

There are currently bus services servicing Port Hedland and South Hedland, however these are of limited frequency. As development increase in the Boodarie and Wedgefield areas consideration should be given to improving current services and proving a peak hour service to the Boodarie Strategic Industrial Area from Port Hedland and South Hedland. It is recommended that the regional services area of PTA incorporate long term planning for this area to accommodate work force requirements and encourage mode shift.

3.10 Construction Activity and Access

Construction access is available via the existing Boodarie Station Access Road. It is recommended that the intersection is checked to ensure geometry is adequate to accommodate turning construction traffic.

3.11 Stakeholder Liaison

3.11.1 Stakeholder Workshop 9 November 2010

The following includes comments made by Main Roads at a Stakeholder Workshop held in November 2010.

- MRWA require GNH to have a reserve wide enough for dual carriageway. Reserve has a number of services already.
- Out of town, reserve is 100m, but more width may be required because of existing services. Dual carriageway may require service relocations.
- Depending on development time frame (if < 20years), then bridges for new Wedgefield Bypass may have to be dual carriageway. Much cheaper to build now rather than later.
- If 30,000 + vpd generated from Boodarie, then will require three dual carriageway access road intersections.
- Those numbers will warrant some form of public transport system.
- Parking will be an issue as well.
- Concerns as to where employees will come from. Likely a new more direct access road will be needed from South Hedland. Either Quartz Quarry Road possibly or the road past South Hedland WWTP.
- In the future, may be desirable for GNH to peel away to the east away from Boodarie, and possibly use Wallwork Rd, along east side of SH WWTP and then connect into the South Hedland main North South access road, where a new bridge is proposed to be constructed at the existing railway crossing. Existing GNH would then be downgraded to a service road for the industrial estate, taking truck traffic away from the main road.
- GNH is an unencumbered HWL route, limited by bridge loading capacity of 340 t.
- Issue of HWL/PAMS corridor, road requires unencumbered clearance vertically. Requires 20 m high, 15 m wide access. This causes issues when it comes to rail, as MRWA will not permit rail over road, to avoid height encumbrances on HWL/PAMS.
- PAMS crossings at rail lines, have to generally be at grade, even after a road over rail crossing is constructed, because of the steeper approach grades which are usually needed for the new approach roads to a bridge.
- 1.5km spacing preferable between new intersections along GNH into Boodarie.

The report was sent to Main Roads and a formal response to the concept and findings of the transport assessment is awaited.

3.11.2 Town of Port Hedland

The report was sent to the Town of Port Hedland and a formal response to the concept and findings of the transport assessment is awaited.

4. Recommendations

Further to the transport assessment the following recommendations are made:

1 -It is recommended that the intersection construction should be staged:

Construction Traffic

Pre Construction – It is recommended that the existing Boodarie Station access road is used for construction traffic. A swept path analysis should be undertaken to check the geometry for design vehicles turning at the intersection with GNH.

Noxious Area Development

The analysis for the Noxious Development only indicates that the intersection with Great Northern Highway with a single lane approach in the access road is forecast to operate to a good level of service assuming the Noxious industry is fully developed by 2031. However, it is noted that southbound through traffic speed on Great Northern Highway is likely to be impacted upon at peak times and therefore localised widening should be considered to reduce the risk of rear end collision caused by traffic being unable to pass right turning traffic.

Boodarie Station Access Road – It is recommended that localised widening of Great Northern Highway opposite the intersection is considered to allow through traffic to pass right turning traffic. This is based on safety issues rather than capacity requirements.

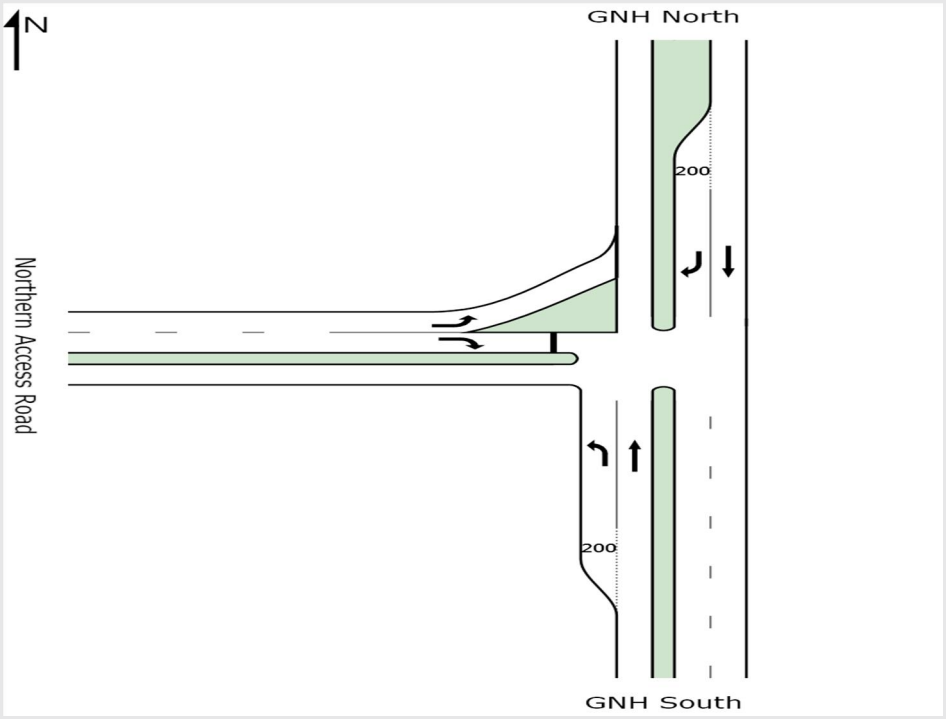
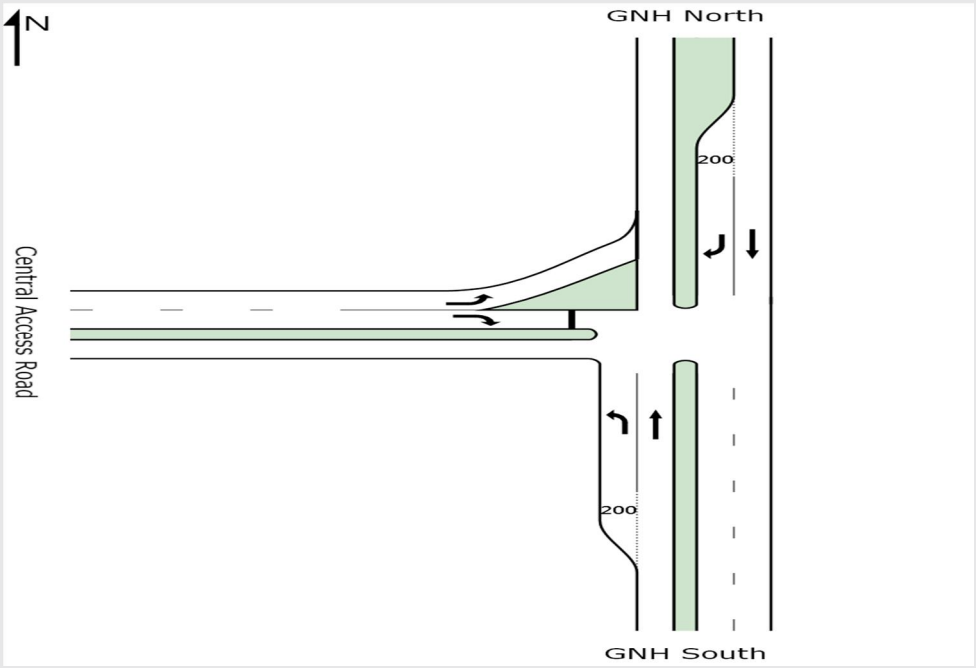
Early Development of BSIA

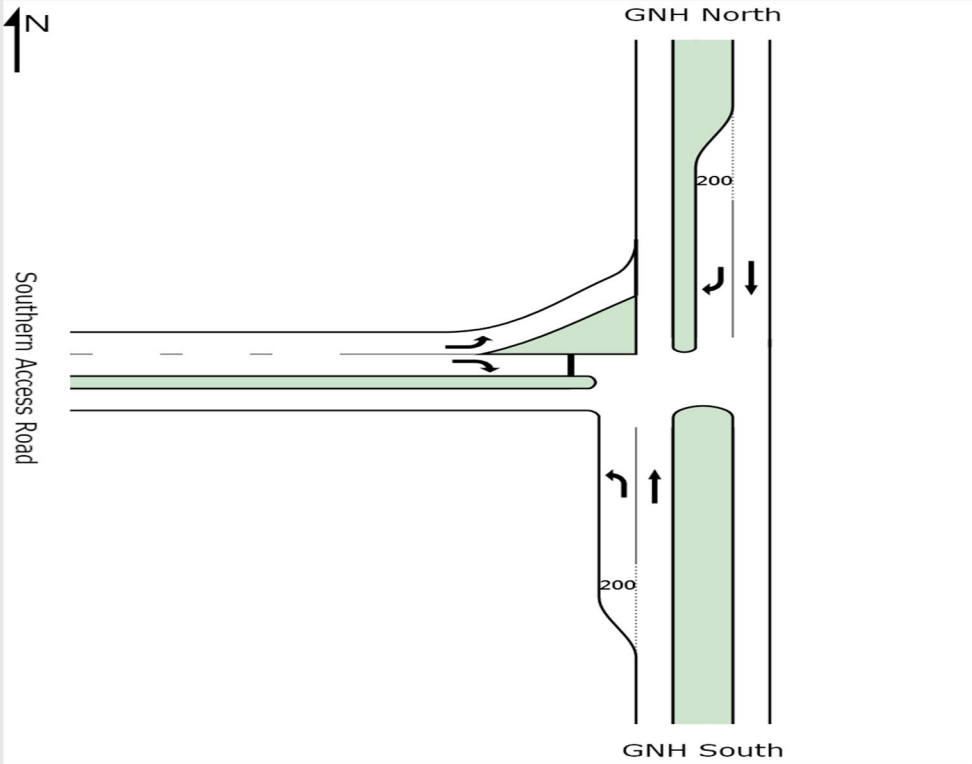
As the BSIA develops the Central Access should be constructed based on continual monitoring of traffic volumes. The need for this Central access road is likely to be triggered more by accessibility and emergency access than capacity issues in the early years.

It is recommended that consideration is given to left and right turn lanes within the access roads connecting to Great Northern Highway and on Great Northern Highway.

Full Development of BSIA

As development progresses and based on continual monitoring of traffic volumes, provide intersections with GNH to accommodate ultimate development as follows: (It should be noted this development is likely to occur over 50 years and periodic monitoring will be necessary to confirm trigger points)

Access Location	Recommended Intersection Layout
Northern access to GNH	
Central Access to GNH	

Access Location	Recommended Intersection Layout
Southern Access to GNH	

It is recommended that traffic volumes are monitored as development progresses to confirm intersection staging requirements.

2 - It is recommended that the speed limit on GNH is reduced from 110km/h to 90km/h adjacent to the site.

3 - It is recommended that pedestrian paths are constructed on at least one side of all Estate roads when justified by development needs. Paths are unlikely to be needed for several years based on the likely development scenario.

4 - It is recommended that in view of the large vehicles likely to use the development a path network to include shared paths with pedestrians should be provided to accommodate cyclists for the ultimate development. Paths are unlikely to be needed for several years based on the likely development scenario.

5 - It is recommended the car parking demand for each land use should be justified by proponents as part of their development applications.

6 - It is recommended that car parking restrictions are imposed to prohibit parking on verges to avoid conflicting movements, restricting sight distance at access points and creating a maintenance issue.

7 - It is recommended the HWL route through the development is via the central access from GNH and along the central spine road.

9 - In view of the road train activity accessing the Estate it is recommended that the access roads from GNH should accommodate right turn facilities to allow following traffic to pass.

10 - It is recommended the cross section of the access roads from GNH on full development should be as follows: 2 x 5.1m verge, 2 x 5m traffic lane, 15m median with turn lanes where

required. The overall reserve width is 35.2m minimum. In addition any extra width for main drains, process industry services, conveyors, trunk power lines as may be needed by industry.

11 - It is recommended that all other roads should be 10m wide within a minimum 25m reserve. In addition any extra width for main drains, process industry services, conveyors, trunk power lines as may be needed by industry.

GHD

GHD House, 239 Adelaide Tce. Perth, WA 6004
P.O. Box 3106, Perth WA 6832
T: 61 8 6222 8222 F: 61 8 6222 8555 E: permail@ghd.com.au

© GHD 2013

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

G:\61\26171\WP\127885-BISA-Rev following JK and JDV Review.docx

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	S McDermott	J De Villiers	J De Villiers	J De Villiers	J De Villiers	11/6/2013

www.ghd.com

Appendix D: GHD BSIA Flora and Fauna Assessment

CLIENTS | PEOPLE | PERFORMANCE

LandCorp

Report for Proposed Boodarie Industrial Area

Flora and Fauna Assessment

June 2010

INFRASTRUCTURE | MINING & INDUSTRY | DEFENCE | PROPERTY & BUILDINGS | ENVIRONMENT

Contents

Executive Summary i

1. Introduction 1
   - 1.1 Background 1
   - 1.2 Study Area 1
   - 1.3 Scope of Works 1

2. Existing Environment 3
   - 2.1 Climate 3
   - 2.2 Land Systems 3
   - 2.3 Geology 3
   - 2.4 Wetlands and Watercourses 4
   - 2.5 Land Use 4
   - 2.6 Reserves and Conservation Areas 4
   - 2.7 Environmentally Sensitive Areas 4
   - 2.8 Public Drinking Water Source Area (PDWSA) 4
   - 2.9 Vegetation 5
   - 2.10 Significant Flora 7
   - 2.11 Fauna 9

3. Methodology 11
   - 3.1 Vegetation and Flora Assessment 11
   - 3.2 Fauna 11
   - 3.3 Nomenclature 11
   - 3.4 Limitations 12

4. Field Results 13
   - 4.1 Vegetation and Flora 13
   - 4.2 Fauna 18

5. Assessment against the Ten Clearing Principles 24

6. Potential Impacts and Management 28
   - 6.1 Potential Impacts 28
   - 6.2 Management of Potential Impacts 29

7. References 31

Table Index

Table 1	Major Vegetation System Associations within the Study Area (Shepherd, 2002).	6
Table 2	Significant flora species previously recorded within 25 km of the study area (DEC, WAHERB and WA Museum)	8
Table 3	Boodarie Study Area Vegetation Communities and Description	14
Table 4	Vegetation condition rating scale (after Keighery, 1994).	16
Table 5	Assessment against the Ten Clearing Principles	25
Table 7	Conservation Codes and Descriptions for DEC Declared Rare and Priority Flora Species	34
Table 8	Flora Species Recorded within the Study Area	35
Table 9	*Western Australian Wildlife Conservation Act 1950* Conservation Codes	63
Table 10	DEC Priority Fauna Codes	63
Table 11	Listing of Potentially Occurring Significant, Rare and Priority Fauna Species within 20 km of the Study Area, with Information Source	64
Table 12	WA Museum “NatureMap” Fauna Records within approx. 20 km of the Study Area	66
Table 13	Fauna Species Observed During the Field Survey	70

Figure Index

Figure 1	Locality – Aerial Overview	32
Figure 2	Environmental Constraints	32
Figure 3	Vegetation Type	32
Figure 4	Vegetation Condition	32

Appendices

A Figures

B Flora

C Fauna

Executive Summary

LandCorp commissioned GHD Pty Ltd (GHD) to conduct a Level 2 Flora and Level 1 Fauna survey of the proposed Industrial Estate in Boodarie. The proposed Boodarie site (study area) is approximately 3770 hectares and is located approximately 5 km to the west of South Hedland townsite. The site is bordered by the Great Northern Highway to the east and the BHP Billiton's hot briquetted iron (HBI) plant and Finucane Island access road to the north. The flora and fauna assessment is required to provide the necessary information to support a Native Vegetation Clearing Permit Application and other environmental approvals which may be required for the proposed activities.

The flora and fauna assessment included a field survey that was conducted between the 8th and 12th of June 2009. The results of the assessment are summarised below:

- There are no permanent natural freshwater watercourses or wetlands within the study area. A minor ephemeral watercourse/tidal creekline is situated within the proposed powerline corridor;
- The Department of Water (DoW) Geographic Data Atlas indicates that the study area is within both the RIWI Act proclaimed Pilbara groundwater area and surface water area;
- The DoW Geographic Data Atlas indicates that the southern part of the study area is located on northern boundary of a Public Drinking Water Source Area (PDWSA), the Turner River Water Reserve. This PDWSA has not been assigned a priority classification, however advice from DoW is that the Turner River PDWSA is likely to be assigned a Priority 1 classification.
- No reserves or conservation areas occur within the vicinity of the study area;
- There are no Environmentally Sensitive Areas (ESAs) within the study area or in the surrounding area;
- The study area is situated predominantly on the Uaroo Land System, which is described as 'broad sandy plains supporting shrubby hard and soft spinifex grasslands'. A small section in the proposed powerline corridor, associated with the creekline, is within the Littoral land system. The Littoral land system is described as bare coastal mudflats with mangroves on seaward fringes, samphire flats, sandy islands, coastal dunes and beaches.
- Based on the mapping by Beard (1979) and analysis of vegetation extent by Shepherd et al. (2002) and Shepherd (2005), the vegetation type present within the majority of the study area is Vegetation Association 589: short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft Spinifex The northern and southern parts of the study area are within vegetation association 647 described as Hummock grasslands, dwarf-shrub steppe; *Acacia translucens* over soft Spinifex. The extent of the vegetation in the study area is considered of Least Concern, with more than 50% of the pre-European extent of these vegetation types considered to be remaining;

- The vegetation within the survey area was classified into nine vegetation types, described as following:
  - Bare areas/tidal creekline with low scattered shrubs of Chenopod spp
  - *Eucalyptus victrix* Dampland
  - *Triodia epactia* tussock grassland with groves of *Acacia* spp.
  - *Acacia stellaticeps* low open heath over *T. epactia* tussock grassland
  - *A. stellaticeps* low closed heath over tussock grassland of *Triodia schinzii* and *T. epactia*
  - Open shrubland of *Acacia* spp. and *Hakea lorea* subsp. *lorea* over tussock grassland of mixed *Triodia* spp.
  - Scattered *Owenia reticulata* over shrubland of *Acacia* spp. over tussock grassland
  - Cleared/Disturbed
- The native vegetation within the study area was assessed to be predominantly in *Excellent* condition. The vegetation structure within much of the study area however, has been severly impacted by fire. Fire scarring occurs across most of the study area. Other disturbances across the study area include tracks/roads, powerlines, cattle grazing, and the existing Alinta power station;
- No Threatened Ecological Communities (TECs) or Priority Ecological Communities (PECs) were recorded within the study area;
- Plant species diversity within the study area is considered to represent a moderate degree of diversity. A total of 144 taxa from 48 families were recorded from the study area;
- No Declared Rare Flora or Priority Flora species were recorded within the study area;
- A significant range extension of approximately 500 km was recorded for *Stemodia lathraia* which has previously only been collected from the Kimberley region.
- Three weed species were recorded within the survey area; **Cenchrus ciliaris* (Buffel Grass), **Aerva javanica* (Kapok Bush), and **Chloris barbata* (Purpletop Chloris). These species were generally concentrated in previously disturbed areas such as along tracks and roads;
- A total of thirty-four bird, five mammal and seven reptile species were recorded during the reconnaissance survey within the study area;
- Mulgara (*Dasycercus cristicauda*) is a conservation significant species that is known to occur within the Port Hedland area. Mulgara have recently been recorded in the Wedgefield area in Port Hedland. Evidence of Mulgara (scats and burrows) was observed within the study area during the field survey. A detailed fauna survey would be required to verify the presence of this species within the study area;
- The project has been assessed against the Department of Environment and Conservation's "Ten Clearing Principles" as likely to be at variance with Principle

(b) and Principle (f). The project is unlikely to be at variance with all other principles;

- Short term soil erosion may occur within the project area following any potential clearing. Soil erosion can be mitigated by use of appropriate water management and rehabilitation regimes; and
- The proposed clearing has the potential to introduce and/or spread weeds within and surrounding the study area. Management measures should be implemented to minimise the introduction and spread of weeds.

1. Introduction

1.1 Background

LandCorp has commissioned GHD Pty Ltd (GHD) to conduct a Flora and Fauna Survey within the proposed Boodarie Industrial Estate. The flora and fauna assessment is required to provide the necessary information to support a Native Vegetation Clearing Permit Application and other environmental approvals which may be required for the proposed activities.

1.2 Study Area

The proposed Boodarie site (study area) lies within the Shire of Port Hedland in the Pilbara Region of Western Australia. The site is located approximately 5 km to the west of South Hedland townsite. The site is bordered by the Great Northern Highway to the east and the BHP Billiton's hot briquetted iron (HBI) plant and Finucane Island access road to the north. The study area covers an area of approximately 5000 hectares.

The location of study area is shown in Figure 1, Appendix A.

1.3 Scope of Works

This flora and fauna assessment included both desktop and field assessments. The desktop assessment included:

- A review of the Department of Environment and Conservation's (DEC) Rare and Threatened Flora database;
- A review of the DEC's Threatened Fauna database;
- A review of local and regional significance of plant communities;
- A review of the Western Australian Museum database for threatened and endangered fauna;
- A review of the DEC's Environmentally Sensitive Areas (ESAs); and
- A review of the Department of the Environment, Water, Heritage and Arts (DEWHA) database for areas listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The field survey verified the desktop study and provided a detailed assessment of the existing environment in the survey area and its relationship to adjoining areas. The field survey included the following actions and details:

- An inventory of the vascular plant species in the study area, undertaken through transect survey methods;
- A review of, and search for, significant flora species;
- An inventory of dominant exotic plants, including declared noxious plants and environmental weed species;

- Advice on whether weeds are likely to spread to and result in environmental harm to adjacent areas of native vegetation that are in good or better condition;
- A description and location, including mapping, of plant communities;
- A rating of condition of the vegetation communities or areas;
- A review of the local and regional significance of the plant communities in terms of their intrinsic value, extent, rarity and condition;
- Assessment of potential clearing against the Environmental Protection Act's 10 Clearing Principles (Schedule 5). Each principle has been assessed in accordance with the DEC's Guideline to Assessment – Clearing of Native Vegetation.
- An inventory of the vertebrate fauna species in the study area through targeted searches and opportunistic recording of species;
- Review of the fauna species considered to be rare or in need of special protection;
- Review of the presence and abundance of pest, declared or feral animals; and
- Identification of any habitats of significance.

2. Existing Environment

2.1 Climate

The Pilbara region of Western Australia has an arid to semi-arid climate with distinct seasons, a hot dry summer, autumn, winter and spring. Rainfall is low throughout the Pilbara and quite variable. Annual totals vary from 250mm to 450 mm and many years without significant rainfall occur. The lower totals are typical of the south where tropical cyclone effects are less frequent. Most of the summer rain comes from scattered thunderstorms and the occasional tropical cyclone. A secondary peak in the monthly rainfall occurs in May as a result of rainfall caused by tropical cloud bands which intermittently affect the area mostly in May and June. These events can also produce low maximum temperatures particularly away from the coast. Thunderstorms average 20-30 per annum over most of the area but 15-20 is more common near the coast. Almost all storms occur in the summer.

The Bureau of Meteorology weather station located nearest to the study areas is at Port Hedland Post Office. Recorded climatic data is summarised below:

- Mean Daily Maximum Temperature: 27.2°C (July) – 36.8°C (March)
- Mean Daily Minimum Temperature: 25.5°C (Jan/Feb) – 12.2°C (July)
- Mean Annual Rainfall: 313.9mm
- Mean Annual Rain Days: 20.6 days

(Source: BoM, 2009)

2.2 Land Systems

Land systems are described in terms of geology, landscape, soil and vegetation types. Van Vreeswyk *et al.* (2004) completed an inventory of the land systems occurring in the Pilbara Region. Within the Pilbara 102 land systems have been identified. The land systems have been derived from aerial photography, and descriptions were built up using field data collected during traversing and at inventory sites.

The study area is predominantly within the Uaroo land system which is described as broad sandy plains supporting shrubby hard and soft spinifex grasslands. A small section of the proposed powerline corridor, associated with the creekline, is within the Littoral land system. The Littoral land system is described as bare coastal mudflats with mangroves on seaward fringes, samphire flats, sandy islands, coastal dunes and beaches.

2.3 Geology

The study area is located within the Abydos Plain. The geology of this area is described as Quarternary alluvium near the coast, further inland Archean granite; other Archean rocks outcropping in small hills, ranges and dykes.

The geology of the Uaroo land system is described as Quaternary colluvium and alluvium. The geology of the Littoral land system consists of quaternary mudflat deposits, clay, salt and sand; eolian sand.

2.4 Wetlands and Watercourses

Waterways and wetland areas within the Pilbara region are ephemeral, and typically flow or fill during seasonal rainfall events. A search of the Western Australian *EPBC Act* Protected Matters Search Tool indicates no wetlands or watercourses of significance in or adjacent to the study area.

Southwest creek is a minor ephemeral watercourse/tidal creekline and is intersected by the powerlines corridor to the north-east of the study area.

2.5 Land Use

The dominant land use of the area is pastoral and the majority of the study area is currently used for cattle grazing. There is an Alinta power station on the corner of the Great Northern Highway and Boodarie Road.

2.6 Reserves and Conservation Areas

No reserves or conservation areas are within, or adjacent to, the study area.

2.7 Environmentally Sensitive Areas

The DEC's online Native Vegetation Viewer was searched to determine the location of any Environmentally Sensitive Areas (ESAs) within the vicinity of the project area, as declared by a Notice under Section 51B of the *Environmental Protection Act 1986*.

The search confirmed that there are no ESAs within or adjacent to the study area.

2.8 Public Drinking Water Source Area (PDWSA)

Public Drinking Water Source Areas (PDWSAs) is a collective term used for the description of Water Reserves, Catchment Areas and Underground Pollution Control Areas declared (gazetted) under the provisions of the *Metropolitan Water Supply, Sewage and Drainage* (MWSSD) *Act* 1909 or the *Country Area Water Supply* (CAWS) *Act 1947.* The protection of PDWSAs relies on statutory measures available in water resource management and land use planning legislation. The DoW policy for the protection of PDWSAs includes three risk management based priority classification areas and two types of protection zones.

The DoW Geographic Data Atlas indicates that the study area south of Boodarie Road is located on northern boundary of a PDWSA, the Turner River Water Reserve. This PDWSA has not been assigned a priority classification. The classification has not been assigned as the Department of Water is yet to prepare a drinking water source protection plan for this area. Advice from the DoW is that the Turner River PDWSA is likely to be assigned a Priority 1 classifcation.

Priority 1 classified areas are managed to ensure there is no degradation of the drinking water source. This is achieved by preventing the the development of potentially harmful activites. The development of an industrial estate is considered to be an incompatible landuse in a Priority 1 area.

2.9 Vegetation

2.9.1 Vegetation Descriptions

The study area falls within the Roebourne subregion of the Pilbara Biogeographic region of Western Australia. The environment of this subregion has been described as coastal and sub-coastal plains with a grass savannah of mixed bunch and hummock grasses and dwarf shrub steppe of *Acacia stellaticeps* or *A. pyrifolia* and *A. inaequilatera* (Kendrick and Stanley, 2001). The uplands of the region support *Triodia* hummock grasslands and the ephemeral drainage lines support *Eucalyptus victrix* or *Corymbia hamersleyana* (Kendrick and Stanley, 2001).

Broadscale mapping (Beard, 1979) indicates two vegetation associations are present within the Study Area. The majority of the study area is within vegetation association 589, described as Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft Spinifex. The northern and southern parts of the study area are within vegetation association 647 described as Hummock grasslands, dwarf-shrub steppe; *Acacia translucens* over soft Spinifex.

2.9.2 Vegetation Extent, Type and Status

A vegetation type is considered underrepresented if there is less than 30 percent of its original distribution remaining. From a purely biodiversity perspective and not taking into account any other land degradation issues, there are several key criteria now being applied to vegetation (EPA, 2000):

- The “threshold level” below which species loss appears to accelerate exponentially at an ecosystem level is regarded as being at a level of 30% of the pre-European (pre-1750) extent of the vegetation type;
- A level of 10% of the original extent is regarded as being a level representing *Endangered*; and
- Clearing which would put the threat level into the class below should be avoided.

Such status can be delineated into five (5) classes, where:

- *Presumed Extinct*: Probably no longer present in the bioregion
- *Endangered**: <10% of pre-European extent remains
- *Vulnerable**: 10-30% of pre-European extent exists
- *Depleted**: >30% and up to 50% of pre-European extent exists
- *Least Concern*: >50% pre-European extent exists and subject to little or no degradation over a majority of this area.

* or a combination of depletion, loss of quality, current threats and rarity gives a comparable status

The extent of remnant native vegetation has been assessed by Shepherd (2002), based on vegetation association mapping undertaken by Beard (1979). The remaining extent of the vegetation associations present within the study area, for the Roebourne subregion, is detailed in Table 1.

The extent of the vegetation in the survey areas is considered of *Least Concern*, i.e. intact, with close to 100% of the pre-European extents of the vegetation types considered to be remaining.

Table 1 Major Vegetation System Associations within the Study Area (Shepherd, 2002).

Vegetation Association Number	Association Description	Pre-European Extent (ha) in Roeburne IBRA subregion	Current Extent (ha) in Roeburne IBRA subregion	% Remaining	% Pre-European Extent in Conservation Reserves
589	Mosaic: Short bunch grassland - savanna / grass plain (Pilbara) / Hummock grasslands, grass steppe; soft spinifex	730724.4	730689.6	100	1.8
647	Hummock grasslands, dwarf-shrub steppe; Acacia translucens over soft spinifex	189414.087	189414.087	100	0

2.9.3 Threatened Ecological Communities (TEC)

Ecological communities are defined as 'naturally occurring biological assemblages that occur in a particular type of habitat' (English and Blythe, 1997). Threatened Ecological Communities (TECs) are ecological communities that have been assessed and assigned to one of four categories related to the status of the threat to the community, i.e. Presumed Totally Destroyed, Critically Endangered, Endangered, and Vulnerable.

Some TECs are protected under the *EPBC Act*. Although TECs are not formally protected under the State *Wildlife Conservation Act 1950,* the loss of, or disturbance to, some TECs triggers the *EPBC Act*. The Environmental Protection Authority's (EPA's) position on TECs states that proposals that result in the direct loss of TECs are likely to require formal assessment.

Possible TECs that do not meet survey criteria are added to the Department of Environment and Conservation's (DEC) Priority Ecological Community (PEC) Lists under Priorities 1, 2 and 3. These are ecological communities that are adequately known; are rare but not threatened, or meet criteria for Near Threatened. PECs that have been recently removed from the threatened list are placed in Priority 4. These

ecological communities require regular monitoring. Conservation Dependent ecological communities are placed in Priority 5.

The Department of Environment and Conservation's (DEC's) Threatened Ecological Community (TEC) database was queried for known occurrences of TECs and PECs near the study area.

No TECs or PECs have been recorded within or in close proximity to the study area.

2.10 Significant Flora

Commonwealth

Species of significant flora are protected under both State and Commonwealth Acts. Any activities that are deemed to have a significant impact on species that are recognised by the *EPBC Act*, and the *Wildlife Conservation Act 1950* can trigger referral to the DEWHA and/or the EPA.

A description of Conservation Categories delineated under the *EPBC Act* is detailed in Table 6, Appendix B. These are applicable to threatened flora and fauna species.

A search of the *EPBC Act* Protected Matters Search Tool did not identify any Commonwealth protected flora species within 10 km of the survey area.

State

In addition to the *EPBC Act,* significant flora in Western Australia is protected by the *Wildlife Conservation Act 1950*. This *Act*, which is administered by the DEC, protects Declared Rare Flora (DRF) species. The DEC also maintains a list of Priority Listed Flora (PLF) species. Conservation codes for flora species are assigned by the DEC to define the level of conservation significance. PLF are not currently protected under the *Wildlife Conservation Act 1950*. PLF may be rare or threatened, but cannot be considered for declaration as rare flora until adequate surveys have been undertaken of known sites and the degree of threat to these populations clarified. Special consideration is often given to sites that contain PLF, despite them not having formal legislatory protection. A description of the DEC's Conservation Codes that relate to flora species is provided in Table 7, Appendix B.

A search of the DEC's Rare Flora Databases, Western Australian Herbarium (WAHERB) and Western Australian Museum (*NatureMap*) records was undertaken. Records identified no Declared Rare flora species occur within 25 km of the study area. There are however, eight Priority Flora species that have been recorded within the search area. These species are outlined in Table 2.

Table 2 Significant flora species previously recorded within 25 km of the study area (DEC, WAHERB and WA Museum)

Family	Genus	Species	Details and Habitat	DEC Conservation code
Asteraceae	*Pterocaulon*	sp. A Kimberley Flora (B.J. Carter 599)	Compact shrub, to 0.5 m high. Flowers blue, purple, Apr–Aug. Preferred habitat is sand in coastal areas, saline sandy flats, and pindan sandplain.	P2
Amaranthaceae	*Gomphrena*	*pusilla*	Slender branching annual, herb, to 0.2 m high. Flowers white, March-June. Preferred habitat is fine beach sand behind foredune on limestone.	P2
Amaranthaceae	*Ptilotus*	*appendiculatus* var. *minor*	Prostrate or ascending perennial, herb or shrub.	P1
Asclepiadaceae	*Gymnanthera*	*cunninghamii*	Erect shrub, 1–2 m high. Flowers cream, yellow, green, Jan–Dec. Preferred habitat is sandy soils.	P3
Boraginaceae	*Heliotropium*	*muticum*	Ascending to spreading perennial, herb, to 0.3 m high.	P1
Cyperaceae	*Bulbostylis*	*burbidgeae*	Tufted, erect to spreading annual, grass-like or herb (sedge), 0.03–0.25 m high, spikelets in a simple umbel or rarely solitary; stamens 3; involucral bracts long, hairy. Flowers brown, Mar/Jun–Aug. Preferred habitat is granitic soils on granite outcrops and cliff bases.	P3
Euphorbiaceae	*Euphorbia*	*clementii*	Erect herb, to 0.6 m high. Preferred habitat gravelly hillsides and stony grounds.	P2
Mimosaceae	*Acacia*	*glaucocaesia*	Dense, glabrous shrub or tree, 1.8–6 m high. Flowers yellow, Jul–Sep. Preferred habitat red loam, sandy loam, clay on floodplains.	P3
Papilionaceae	*Crotalaria*	*spectabilis* subsp. *spectabilis*	Annual herb, ca 2 m high. Flowers yellow.	P1
Papilionaceae	*Tephrosia*	*andrewii*	Ascending, multistemmed shrub, to	P1

Family	Genus	Species	Details and Habitat	DEC Conservation code
			0.8 m high. Flowers orange, Apr/Oct. Preferred habitat sand in pindan country.	
Papilionaceae	*Tephrosia*	*rosea* var. *venulosa*	Erect shrub, to 1.7 m high. Flowers re, purple, Aug-Sep. Preferred habitat in red sand near creeks.	P1

2.11 Fauna

2.11.1 Fauna within the general area

The Western Australian Museum *NatureMap* online search was conducted for a 20 km buffer of the study area. The search identifies terrestrial vertebrate species recorded in the collections of the Western Australian Museum. The search identified the potential presence of twenty-four bird, fifty-eight reptile, seven amphibians and sixteen mammal species.

A full list of species recorded from the WA Museum database is presented in Table 12, Appendix C.

It should be noted that some of the records of the Museum are historical and some of the recorded species may now be locally extinct. Additionally these records may include species (particularly bird species) that are vagrants or present in the general area but not present within the study area due to lack of suitable habitat.

2.11.2 Significant Fauna Species

The conservation of fauna species and their significance status is currently assessed under both State and Commonwealth Acts. The acts include the *Western Australian Wildlife Conservation Act* 1950; *Wildlife Conservation (Specially Protected Fauna) Notice 2003,* and the *EPBC Act*.

The significance levels for fauna used in the EPBC Act are those recommended by the International Union for the Conservation of Nature and Natural Resources (IUCN). A description of Conservation Categories delineated under the EPBC Act is detailed in, Table 6, Appendix B and the circumstances under which a project will trigger referral to the DEWHA are described in Appendix C. The *WA Wildlife Conservation Act 1950* uses a set of Schedules but also classifies species using some of the IUCN categories. These Schedules are described in Table 9, Appendix C. The EPBC Act also protects migratory species that are listed under the following International Agreements:

- Appendices to the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals) for which Australia is a Range State under the Convention;

- The Agreement between the Government of Australia and the Government of the Peoples Republic of China for the Protection of Migratory Birds and their Environment (CAMBA);
- The Agreement between the Government of Japan and the Government of Australia for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA); and
- The Agreement between the Government of Australia and the Government of the Republic of Korea on the Protection of Migratory Birds (ROKAMBA).

Listed migratory species also include species identified in other international agreements approved by the Commonwealth Environment Minister.

The Act also protects marine species on Commonwealth lands and waters.

In Western Australia, the DEC also produces a supplementary list of Priority Fauna, these being species that are not considered Threatened under the Western Australian *Wildlife Conservation Act 1950* but for which the Department feels there is a cause for concern. These species have no special legislatory protection, but their presence would normally be considered. Such taxa need further survey and evaluation of conservation status before consideration can be given to declaration as threatened fauna. Levels of Priority are described in Table 10, Appendix C.

The DEWHA maintains a database of matters of national environmental significance that are protected under the *EPBC Act.* An *EPBC Act* Protected Matters Report was generated (from the website of the DEWHA), for the matters of significance that may occur in, or may relate to, the survey area. A search of the DEC's Threatened Fauna database for any rare and priority species that may occur in the survey area was also undertaken.

From the DEC and DEWHA databases, a number of protected fauna species were identified as potentially occurring within the survey area, which are listed in Table 11, Appendix C.

Marine species have been excluded from this table as the survey area does not include marine habitat. It should be noted that some species that appear in the *EPBC Act* Protected Matters Search Tool are often not likely to occur within the specified area, as the search provides an approximate guidance to matters of national significance that require further investigation. The records from the DEC searches of threatened fauna provide more accurate information for the general area; however some records of sightings or trappings can be dated and often misrepresent the current range of threatened species.

3. Methodology

3.1 Vegetation and Flora Assessment

The vegetation and flora field survey were undertaken with regards to the EPA's Guidance Statements No. 51, where possible. GHD's qualified ecologists conducted the field flora survey between the 8th and 12th June 2009.

The flora and vegetation survey was conducted using quadrats and relévés (unbounded search areas) across the project area. The relévés included recording a list of flora species visible at the time and mapping of vegetation types and conditions (including weed status). Aerial photography was used to assist in the delineation of vegetation types present in the study area. Detailed information was collected in fourteen 50 x 50 metre quadrats in the delineated vegetation types.

A list of flora species collated from the quadrats and relévés was generated for the study area. Where identification of flora species was uncertain, confirmation was made at the Western Australian State Herbarium.

The presence of Declared Rare or Priority Flora was assessed. Suitable habitat for DRF and Priority Flora species was searched. Vegetation was also assessed to determine the presence of TECs within the study area.

3.2 Fauna

GHD's qualified ecologists conducted the fauna investigation in conjunction with the flora investigation. The fauna survey included desktop investigations and field surveys, conducted with regard to the EPA's Guidance Statement No. 56, where possible.

The fauna survey was an opportunistic survey and did not involve any fauna trapping. The survey involved visual and aural surveys for any fauna species utilising the study area. The study area was also searched for any fauna signs, such as tracks, scats, bones, diggings and feeding signs.

Surveys also included systematic searching across all habitat types, which is an effective method of surveying for many reptile species. This involved searching through microhabitats where reptiles are known to frequent, including turning over logs or rocks, turning over leaf litter and examining hollow logs. Reptiles were also sighted as they basked during the day.

Species – specific search strategies were used to identify any protected species in the area or evidence that they utilise the study area.

3.3 Nomenclature

Nomenclature used in this report follows that used by the DEC's *FloraBase* program and Western Australian Museum *NatureMap* program as they are deemed to contain the most up-to-date species information for Western Australia.

3.4 Limitations

Complete flora and vegetation assessments can require multiple surveys, at different times of year, and over a period of a number of years, to enable observation of all species present.

Some flora species, such as annuals, are only available for collection at certain times of the year, and others are only identifiable at certain times (such as when they are flowering). Additionally, climatic and stochastic events (such as fire) may affect the presence of plant species. Species that have a very low abundance in the area are more difficult to locate, due to above factors. Therefore, while this flora survey was relatively exhaustive, it is possible that some species with low abundance, or with a very restricted range in the project area may have been overlooked.

The flora surveys were also restricted to predominantly flowering plants, with consideration of some other vascular plants such as cycads. Non-vascular plants were not systematically searched for, as the information available on these plants is generally limited.

The fauna survey undertaken was a reconnaissance survey only and thus only sampled those species that can be easily seen, heard or have distinctive signs, such as tracks, scats, diggings etc. Many cryptic and nocturnal species would not have been identified during a reconnaissance survey. Extensive detailed fauna surveys, involving trapping surveys, are required to obtain a more comprehensive list of fauna species that may utilise the site.

This survey was aimed at identifying the terrestrial vertebrate fauna of the study area; no sampling for invertebrates or aquatic species occurred.

4. Field Results

4.1 Vegetation and Flora

4.1.1 Vegetation Description

The vegetation in the survey area was classified into nine vegetation types, including cleared/disturbed vegetation, where clearing or other activities have fundamentally altered the composition of the native vegetation. There is considerable overlap between vegetation communities due to the similarity of underlying geology and landform.

The vegetation within the study area is dominated by low open heath over tussock grasslands, with changes due to differing dominance of individual grass/*Triodia* species, fire and other disturbances. Tussock grasslands are present with emergent tree overstorey species (Eucalypt and Acacia) on the sandplains.

Of note there are three vegetation communities that have not been sampled from quadrats. These included areas with very few species present, such as open tidal flats/creekline and cleared/degraded areas. The tidal flats vegetation is too open to incorporate traditional plot based or relevé surveys. In the cleared/degraded areas vegetation is absent, or with flora species known to respond to disturbances. A relevé was undertaken to record species within the dampland.

These vegetation types have been mapped at Figure 3, Appendix A and are described in Table 3.

Table 3 Boodarie Study Area Vegetation Communities and Description

Vegetation Community Number	Landscape	Broad Vegetation Type	Vegetation Community Description	Representative Quadrats
1	Tidal Creekline and associated flats	Bare areas/tidal creekline with low scattered shrubs of Chenopod spp.	This area consists of tidal soils with predominantly open ground with occasional patches of very scattered low shrublands of Chenopod spp., Trianthema spp. with scattered grasses and herbs including *Eragrostis falcata*, *Triodia epactia*, **Cenchrus ciliaris*, **Aerva javanica, Streptoglossa liatroides and Goodenia forrestii.*	
2	Floodplain	*Eucalyptus victrix* Dampland	Low woodland of *Eucalyptus victrix* over open grassland of *Eragrostis speciosa*, *Elytrophorus spicatus*, **Chloris barbata*, *Eriachne glauca* var. *glauca* with scattered *Marsilea drummondii* and *Goodenia lamprosperma*.	
3	Sandplain	*Triodia epactia* tussock grassland with groves of *Acacia* spp.	Tussock grassland of *Triodia epactia*, *Aristida* spp., *Eriachne aristidea* and scattered *T. schinzii* with scattered herbs and low shrubs of *Acacia stellaticeps*, *Corchorus walcottii* and *Indigofera monophylla* with scattered groves of *Acacia colei, Acacia inaequilatera* and *A. sericophylla* shrublands.	1, 6
4	Sandplain	*Acacia stellaticeps* low open heath over *T. epactia* tussock grassland	Low open heath of *Acacia stellaticeps* over tussock grassland of *Triodia epactia* with emergent *A. colei*, *A. coriacea* and *Hakea lorea* subsp. *lorea* over low scattered shrubs and herbs of *Corchorus walcottii*, *Indigofera monophylla* and *Bonamia rosea*.	2, 11
5	Sandplain	*A. stellaticeps* low closed heath over tussock grassland of *Triodia schinzii* and *T. epactia*	Low closed heath of *Acacia stellaticeps* over tussock grassland of *Triodia schinzii*, *T. epactia* and *Eragrostis cumingii* with scattered herbs and cyperus species	8, 9, 10

Vegetation Community Number	Landscape	Broad Vegetation Type	Vegetation Community Description	Representative Quadrats
			including *Senna notablis*, *Fibristylis oxystachya*, *Hibiscus leptocladus* and *Corchorus walcottii*.	
6	Sandplain	Open shrubland of *Acacia* spp. and *Hakea lorea* subsp. *lorea* over tussock grassland of mixed *Triodia* spp.	Open shrubland of *Acacia colei*, *A. sericophylla* and *Hakea lorea* subsp. *lorea* over low shrubland of *A. stellaticeps* and *Corchorus walcottii* over tussock grassland of *Triodia epactia*, *Triodia schinzii*, *T. basedowii*, *Eragrostis falcata* and *Eriachne* spp. over scattered herbs of *Senna notablis*, *Hybanthus aurantiacus* and *Sida* sp. Pilbara.	4, 5, 7
7	Sandplain / Floodplain	Scattered *Corymbia aspera* and *Eucalyptus victrix* over low open heath of *A. stellaticeps* over tussock grassland	Scattered low trees of *Corymbia aspera* and *Eucalyptus victrix* over low open heath of *Acacia stellaticeps* and *Corchorus walcottii* and emergent *A. colei* over tussock grassland of *Triodia epactia*, *Paspalidium constrictum*, *Eriachne aristidea* and *Eragrostis cumingii* with scattered herbs of *Hybanthus aurantiacus*, *Hibiscus leptocladus* and *Mollugo molluginea*.	12, 13, 14
8	Low Rises	Scattered *Owenia reticulata* over shrubland of *Acacia* spp. over tussock grassland	Scattered low trees of *Owenia reticulata* over shrubland of *Acacia colei*, Acacia stellaticeps and *Corchorus walcottii* over Tussock grassland of *Triodia epactia*, *Eragrostis falcata* and *Eriachne obtusa* with scattered herbs of *Hybanthus aurantiacus*, *Solanum dioicum* and *Indigofera linifolia*.	3
9	Cleared/disturbed vegetation	Cleared/Disturbed	Mostly confined to roads/tracks, powerlines, sand mine, and the power station. Vegetation dominated by mixed low shrubs, herbs, and grass species (weed species).	

4.1.2 Vegetation Condition

The vegetation condition of the site was rated using the vegetation condition rating scale developed by Keighery (1994) that recognises the intactness of vegetation, which is defined by the following:

- Completeness of structural levels;
- Extent of weed invasion;
- Historical disturbance from tracks and other clearing or dumping; and
- The potential for natural or assisted regeneration.

The scale therefore consists of six rating levels as outlined below in Table 4.

Table 4 Vegetation condition rating scale (after Keighery, 1994).

Vegetation Condition Rating	Vegetation Condition	Description
1	*Pristine or Nearly So*.	No obvious signs of disturbance.
2	*Excellent*	Vegetation structure intact, disturbance affecting individual species, and weeds are non-aggressive species.
3	*Very Good*	Vegetation structure altered, obvious signs of disturbance.
4	*Good*	Vegetation structure significantly altered by very obvious signs of multiple disturbances retains basic vegetation structure or ability to regenerate it.
5	*Degraded*	Basic vegetation structure severely impacted by disturbance. Scope for regeneration but not in a state approaching good condition without intensive management.
6	*Completely Degraded*	The structure of the vegetation is no longer intact and the area is completely or almost without native species.

The native vegetation within the study area was assessed to be predominantly in *Excellent* condition. The vegetation structure within much of the study area however, has been severly impacted by fire. Fire scarring occurs across most of the study area. Other disturbances across the study area include tracks/roads, powerlines, cattle grazing, and the existing Alinta power station.

There are weed species present within the study area, with the most common, Buffel grass, occurring primarily along the edges of tracks and roads and in other previously disturbed areas. Kapok Bush was also widespread along the creekline within the proposed powerline route.

Vegetation condition has been mapped in Figure 4, Appendix A.

4.1.3 Threatened Ecological Communities

No TECs or PECs were identified as occurring within the study area during the flora survey.

4.1.4 Flora Species

Vegetation within the study area is considered to represent a moderate degree of species diversity. A total of 144 taxa from 48 families were recorded from the study area. This list includes subspecies (subsp.), variations (var.), and hybrids (x). Two collections could only be identified to genera level or could not be positively identified to species level due to lack of flowering parts or fruiting bodies.

Dominant families recorded included:

- Poaceae (grasses): 27 species;
- Papilionaceae (peas): 11 species;
- Mimosaceae (wattles): 9 species;
- Amaranthaceae (mulla-mullas): 9 species;
- Malvaceae (hibiscus): 8 species.

Dominant genera recorded from the study area included:

- Acacia: 8 species;
- Triodia: 6 species;
- Eragrostis: 5 species.

A full list of flora species present in the study area is provided in Table 8, Appendix B.

4.1.5 Significant Flora Species

No Declared Rare or Priority Flora species were recorded during the field survey.

One of the species collected from sthe site *Stemodia lathraia* (identification confirmed by Robert Davis WA Herbarium) represents a significant (500km) range extension for this species. This species has only previously been collected from the Kimberley region.

A previously undescribed species of Phyllanthus (*Phyllanthus simplex sen.lat* currently being described by Ian Telford at Australian National Herbarium) was collected. This species is not recognised as being of conservation significance.

4.1.6 Introduced Flora

Three weed species were recorded within the survey area; **Cenchrus ciliaris* (Buffel Grass), **Aerva javanica* (Kapok Bush), and **Chloris barbata* (Purpletop Chloris). These species were generally concentrated in previously disturbed areas such as along tracks and roads.

4.2 Fauna

4.2.1 Fauna Species

A total of thirty-four bird, five mammal and seven reptile species were recorded during the reconnaissance survey within the study area. These species are listed in Table 13, Appendix C.

This survey only provides a brief snapshot of those species present at the time of sampling (daytime), in one season, in one year. Not all potentially occurring species would be recorded during a single survey due to spatial and temporal variations in fauna population numbers.

4.2.2 Significant Fauna Species

The desktop surveys indicated that a number of protected fauna may occur within the study area. The habitat requirements of these species and the likelihood of their occurrence in the site (with information from the field survey) are considered below.

Southern Giant Petrel (*Macronectes giganteus*) Schedule 1, Endangered

The Southern Giant Petrel is a marine bird and occurs over open seas and inshore waters in Antarctic and subtropical waters. In summer they occur predominantly in sub-Antarctic to Antarctic waters, usually below 60ºS in the South Pacific and southeast Indian Oceans. During winter most adults disperse widely and are rare in the southern waters of the Indian Ocean. The Southern Giant Petrel breeds on the Antarctic Continent, Peninsula and islands, and on sub-Antarctic islands and South America.

Habitat Assessment: The Southern Giant Petrel is an occasional vagrant within the area. The study area is considered not to contain significant habitat for this species.

Northern Quoll (*Dasyurus hallucatus*) Schedule 1, Endangered

This species of quoll once occurred across the majority of northern Australia but its range has contracted seriously. It still occurs in the Pilbara region but in disjunct populations, predominantly in the larger conservation reserves. The Northern Quoll inhabits a range of vegetation types but is especially abundant on dissected rocky escarpment and eucalypt woodland within 200 km of the coast. They are predominantly nocturnal but occasionally active during the day, particularly during the mating season or in overcast weather (Van Dyck and Strahan, 2008).

Habitat Assessment: The study area is not considered to contain significant habitat for this species.

Bilby (*Macrotis lagotis*) Schedule 1, Vulnerable

The Bilby distribution in Western Australia is restricted to the north, including the Pilbara and the Sandy and Gibson deserts. The Bilby usually spends the daytime in burrows, often built against termite mounds spinifex hummock or shrub. After dark they leave their burrows to feed and populations are known to move long distances when current habitat ranges become unsuitable. Bilbies are largely solitary, widely dispersed and found in low numbers. Bilbies have now disappeared from many areas where they were common 10 to 15 years ago, such as between Broome and Port Hedland and the Tanami Desert. Grazing by rabbits and livestock, changes in

fire regime, and predation by foxes and feral cats are thought to be the main factors influencing the Bilby's decline.

Habitat Assessment: No evidence (burrows or diggings characteristic of this species) for the presence of Bilbies was observed during the field survey. The study area does not contain significant habitat for this species and is unlikely to occur here.

Banded Hare-wallaby (*Lagostrophus fasciatus* subsp. *fasciatus*) Schedule 1, Vulnerable

This small macropod is herbivorous, and dependent upon dense thickets of shrubs and heath for shelter. The Banded Hare-wallaby is currently restricted to Bernier and Dorre Islands in Shark Bay. It is presumed that the mainland populations of this species are now extinct. The last specimen from mainland Australia was collected in 1906 (Richards, 2003). An attempted reintroduction to Peron Peninsula showed that the species is highly vulnerable to predation from cats as well as foxes.

Habitat Assessment: The study area is outside the current range of the Banded Hare-wallaby. This species is unlikely to occur within study area.

Pilbara Leaf-nosed Bat (*Rhinonicteris aurantius*) Priority 1, Vulnerable

The Pilbara Leaf-nosed Bat roosts in deep caves or mines in the wet season and forages nearby. This species occurs in the Pilbara region of WA where its populations are scattered and localised. There are a few known populations of this species in the western Pilbara, roosting in caves formed in gorges that dissect massive siliceous sedimentary geology. It is most often observed in flight over waterholes in gorges, but appears to be rare even in the Hamersley Range where this habitat is common (Van Dyck and Strahan, 2008). Optimal roosts are thought to occur in caves that form between ascending rock layers, where humidity is maintained from seeping groundwater (Van Dyck and Strahan, 2008).

Habitat Assessment: There are no suitable roosting areas for this species within the study area making it unlikely to occur within the study area, except possibly as a forager.

Woma (*Aspidites ramsayi*) Schedule 4

The Woma Python is a nocturnal snake that feeds on lizards, snakes, birds and small mammals. This species occurs in the arid zones of Western Australia, favouring open myrtaceous heath on sandplains, and dunefields dominated by spinifex. They often inhabit animal burrows but may also use their head and neck to excavate shelters under hummock grasses or dense bushes. Land clearance and introduced predators have results in significant declines of this species. Populations are known from the Pilbara coast, north to the Eighty-mile Beach area, and south-west Western Australia, from Cape Peron south and east to the eastern Goldfields.

Habitat Assessment: Suitable habitat for the Woma Python occurs within the study area. This species potentially occurs within the study area.

Little North-western Mastiff Bat (*Mormopterus loriae* subsp. *cobourgiana*) Priority 1

The Little North-western Mastiff bat occurs along the Western Australia coast from Lake McLeod to Point Torment, occurring sparsely across its range. The Western Australian population have only been recorded from mangrove stands, particularly those that include mature Grey Mangroves (Van Dyck and Strahan, 2008).

Habitat Assessment: There are no suitable roosting areas for this species within the study area. The study area is considered not to contain significant habitat for this species however it may utilise the area for foraging. This species has previously been recorded in Boodarie in 2001 (DEC, 2009).

Australian Bustard (*Ardeotis australis*) Priority 4

The Australian Bustard occurs across much of Australia, including across most of Western Australian, excepting heavily wooded areas in the south. The Australian Bustard occurs mainly in open country, such as low heath or lightly wooded grassland.

Habitat Assessment: Evidence of the Australian Bustard (tracks) was observed throughout the study area during the field survey. This species is widespread and the study area is not considered to contain significant habitat for this species. Impacts associated with the proposed activities are unlikely to have a significant impact on this species.

Eastern Curlew (*Numenius madagascariensis*) Priority 4

The Eastern Curlew is a large, migratory wader. It is widespread in coastal regions in the northeast and south of Australia and is rarely seen inland. This species is found on intertidal mudflats and sandflats, often with seagrass, on sheltered coasts, especially estuaries, mangrove swamps, bays, harbours and lagoons (Australian Museum, 2008)

Habitat Assessment: The study area does not contain significant habitat for this species and is unlikely to occur here.

Star Finch (Western) (*Neochima ruficauda* subsp. *subclarescens*) Priority 4

This species is endemic to Australia where it is found from the Pilbara to south-eastern Australia. Its population has not been estimated but the species is typically patchy and highly variable in abundance. The Star Finch is a nomadic species which inhabits reedbeds, grasslands and eucalypt woodlands along permanent waterways. It typically nests in March and April and its nest is usually built in reeds up to several metres above ground. The main threat to this species is considered to be overgrazing by stock along waterways, which destroys the riparian vegetation on which they depend (Garnett and Crowley, 2000). Records from the DEC database have shown one confirmed sighting of this species recorded in South Hedland in 2005.

Habitat Assessment: The Star Finch was not recorded during the field survey. There are no permanent watercourses or significant habitat for this species within the study area therefore this species is unlikely to be a permanent resident in the area. This species however, may utilise the study area while moving through areas and for foraging.

Brush-tailed Mulgara (*Dasycercus blythi*) Priority 4

Dasycercus blythi has been lumped with the *D. cristicauda* (Crest-tailed Mulgara) for the last 40 years or so. Both species of Mulgara have been found, at least in the past, throughout much of the arid zone, but until specimens in museum collections are correctly identified the distribution of each species is uncertain (Van Dyck and Strahan, 2008). *Dasycercus cresticauda* is listed as Schedule 1 under the Wildlife Conservation Act 1950 and Vulnerable under the EPBC Act whereas *D. blythi* is only listed as a Priority 4 species.

The Brush-tailed Mulgara is primarily nocturnal, shelters in burrows and feeds on insects, other arthropods and small vertebrates. This species inhabits spinifex grasslands and, in central Australia, lives in burrows that it digs on the flats between low sand dunes (Van Dyck and Strahan, 2008).

Habitat Assessment: Mulgara are known to occur within the Port Hedland area. *Dasycercus cristicauda* has recently been recorded in Wedgefield in Port Hedland. Evidence of Mulgara (scats and burrows) was observed within the study area during the field survey. A detailed fauna survey would be required to verify the presence of this species within the study area.

Migratory Bird Species

Five migratory species were observed over the study area these being Wedge-tailed Eagle, Black-shouldered Kite, Black Kite, Australian Hobby and Black Falcon. Two marine species were observed over the study area these being Black-faced Cuckoo-Shrike and Nankeen Kestrel and two species recognised as Marine and Migratory were Whistling Kite and Rainbow Beet-eater. All species were observed flying over the study area except one Australian Hobby which appeared to be a permanent resident in shrubs adjacent to the power station. The study area is not deemed critical habitat to these species for survival.

In addition to those species recorded during the field survey, a number of species included in the list of significant fauna species that could potentially occur in the study area were migratory terrestrial, marine and wetland species. There is the potential for these bird species, such as the White-bellied Sea-Eagle, to occur occasionally within the study area. However, the study area cannot be considered as significant habitat for migratory species.

Other Species

In addition to the above species, the *EPBC Act* Protected Matters Search also recorded a number of marine mammals, shark species, ray-finned fishes and marine reptiles, listed under the EPBC Act, to occur within the search area. The study area is located in close proximity to the coastline and therefore the marine environment was included in the 10 km buffer search of the study area. Given that this is a terrestrial ecological survey and the proposed projects will not impact on the marine environment, these species have not been considered in this report.

4.2.3 Introduced Fauna Species

Three introduced fauna species were observed within the study area, including European Cattle (*Bos Taurus*), Goat (*Capra hircus*), and Feral Cat (*Felis catus*).

4.2.4 Fauna Habitat

Habitat Types

Four primary habitats were identified in the Boodarie study area. These were based on the predominant landforms and vegetation structure in the region, with habitats being as follows:

- Low open heath over tussock grasslands on sand plains;
- Ephemeral wetland;
- Samphire flats; and
- Scattered trees over open shrubland on low rises.

The study area is dominated by low open heath over tussock grassland on sand plains. This habitat type is considered to provide ideal fauna habitat, particularly for reptiles and small mammals.

Habitat Value

The majority of the study area was found to contain native vegetation in excellent condition, offering suitable habitat for native fauna. Some areas of the study area have been subject to inappropriate fire regimes which have reduced the habitat value in those areas. Clearing for tracks, roads, powerlines, and other infrastructure (including the power station) have also reduced the habitat value within some sections of the study area.

The vegetation type described as *Acacia stellaticeps* low closed heath over tussock grassland of *Triodia schinzii* and *T. epactia* was found to contain prime habitat for Mulgara as evidence of the Mulgara species (tracks, scats and burrows) were found throughout this vegetation type. These areas contained particularly high habitat value.

There is one wetland and associated drainage areas which would become inundated with water during high rainfall events. This areas support a number of larger trees (*Eucalyptus victrix).* Although no hollows were observed in these trees, they provide important habitat for some fauna species, particularly birds.

Habitat Linkages

Habitat linkages are important to allow animals to move between areas of resource availability. Habitat linkage is important for ground and aerial fauna, providing cover, resources, and linking areas suitable for rest and reproduction.

Fragmentation of habitat limits the resources available to species, particularly sedentary species, which means they may be more vulnerable to natural disasters or habitat changes over time. Fragmentation of habitat can also lead to edge effects, leading to degradation of the habitat. Where the distance between habitat fragments is small, species may still be able to move between these habitat areas, but may be more exposed to predation pressures in the cleared areas.

Clearing within the study area could potentially cause significant breaks to habitat linkages for fauna species, in particular Mulgara. Fragmentation of this habitat may restrict the species from accessing temporary refugia and other members of the population, which may in turn lead to a local decline of these species. The majority

of the study area is however, surrounded by native vegetation of similar type and condition to that present within the study area.

Clearing of the wetland associated vegetation will result in the loss of the larger tree species *Eucalyptus victrix* which can also cause fragmentation of habitat linkages for some fauna and bird species.

5. Assessment against the Ten Clearing Principles

Any clearing of native vegetation will require a permit under Part V Division 2 of the *Environmental Protection Act 1986* (EP Act), except where an exemption applies under Schedule 6 of the Act or is prescribed by regulation in the *Environmental Protection (Clearing of Native Vegetation) Regulations 2004*, and it is not in an Environmentally Sensitive Area (ESA).

Table 5 provides an assessment of the proposed project against the "10 Clearing Principles" as outlined in Schedule 5 of the *Environmental Protection Amendment Act 2003* to determine whether it is at variance to the Principles. These Principles aim to ensure that all potential impacts resulting from removal of native vegetation can be assessed in an integrated way.

The project has been assessed as likely to be at variance with Principle (b) and Principle (f). The project is unlikely to be at variance with all other principles.

Table 5 Assessment against the Ten Clearing Principles

Principle Number	Principle	Assessment	Outcome
(a)	Native vegetation should not be cleared if it comprises a high level of biological diversity.	The study area is not considered to be of higher biodiversity than the surrounding areas, and the proposed clearing is unlikely to have any significant impact on the biodiversity of the region.	The proposal is unlikely to be at variance with the Principle.
(b)	Native vegetation should not be cleared if it comprises the whole or part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous Western Australia.	One Priority 4 species, Australian Bustard, was recorded in the study area. This species is widespread and the study area is not considered to contain significant habitat for this species. Impacts associated with the proposed activities are unlikely to have a significant impact on this species. The study area potentially supports a population of conservation significant Mulgara. Removal of their prime habitat could potentially have a significant impact on this mammal species. A detailed fauna survey would be required to verify the presence of this species within the study area. No specific habitat was noted within the study area that was not present in the local area.	The proposal is likely to be at variance with the Principle.
(c)	Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.	No DRF or priority species were observed within the study area during the field survey.	The proposal is unlikely to be at variance with the Principle.
(d)	Native vegetation should not be cleared if it comprises the whole or	No communities listed as Threatened or Priority Ecological Communities have been identified in or adjacent to the study area.	The proposal is unlikely to be at

Principle Number	Principle	Assessment	Outcome
	a part of, or is necessary for the maintenance of, a threatened ecological community.		variance with the Principle.
(e)	Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.	Two vegetation associations exist within the project area (589 and 647). Both vegetation associations have approximately 100% of the pre-european extent remaining. There were no vegetation types or landscape units identified during the flora and vegetation survey that were considered as being rare, restricted or unique. The vegetation types within project area are widespread within the Pilbara region and would not be significant as remnant of native vegetation.	The proposal is unlikely to be at variance with the Principle.
(f)	Native vegetation should not be cleared if it is growing in or in association with a watercourse or wetland.	There are no permanent watercourses or wetlands within the project area. An ephemeral creekline is intersected by the powerline corridors to the north-east of the study area. Samphire shrublands occur in association with this creekline. An ephemeral wetland/dampland exists just south of Old Whim Creek Road near the BHP access Road. A patch of *Eucalyptus victrix* grows in association with this wetland. When inundated with water this area is likely to provide important fauna habitat. Clearing should be avoided in this area.	The proposal is likely to be at variance with the Principle.
(g)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.	The majority of the study area is situated on a flat sparsely vegetated sandy plain that appears to be subject to frequent fire natural events. The site is unlikely to be subject to land degradation caused by wind or water erosion.	The proposal is unlikely to be at variance with the Principle.

Principle Number	Principle	Assessment	Outcome
(h)	Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.	There are no conservation areas within or in close proximity to the study areas.	The proposal is unlikely to be at variance with the Principle
(i)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.	The site is generally a flat sandy plain and there are no permanent water courses associated with the site. Clearing of native vegetation is unlikely to have any impact on surface water due to the permeability of the soil. The southern part of the site is situated on the northern boundary of a PDWSA. This PDWSA has not been assigned a priority classification but is likely to become Priority 1. The clearing of native vegetation in this area is unlikely to have any impact on the quality of the groundwater.	The proposal is unlikely to be at variance with the Principle
(j)	Native vegetation should not be cleared if the clearing of the vegetation is likely to cause, or exacerbate, the intensity of flooding.	The site is not situated in a flood zone. Clearing of native vegetation is unlikely to cause or exacerbate the intensity of flooding in the area.	The proposal is unlikely to be at variance with the Principle.

6. Potential Impacts and Management

A range of environmental impacts are possible during the clearing and construction within the Boodarie study area. The potential impacts and recommendations are detailed below.

6.1 Potential Impacts

The proposed land use for the site will be heavy industry sites where relatively small facility footprints will need to be cleared. The balance of the site will remain as a buffer zone to mitigate safety issues, noise and air quality. It is envisaged the on-site buffer areas will predominantly remain undisturbed apart from access and services/ infrastructure corridors.

- *Vegetation Clearing:* This project will require the clearing of native vegetation that is considered to be predominantly in excellent condition. The survey area occupies approximately 5000 ha. It is envisaged that due to the nature of the industry that will be located within the estate that only a small proportion of the site will actually be cleared The vegetation of the study area is however, well represented in the Pilbara region, with close to 100% of the pre-European extents of the vegetation types considered to be remaining.
- *Weed Introduction and Invasion*: The vegetation within the study area is generally in excellent condition with very little weed invasion evident. Disturbance from the proposed activities has the potential to introduce and/or spread weeds to the area directly impacted by, and adjacent to, the clearing.
- *Soil Degradation and Erosion*: Native vegetation serves an important role in the stabilisation of soil within the landscape. Removal of vegetation can cause land degradation, including erosion.
- *Hydrological Changes:* Changes to natural drainage from clearing or other activities may impact on both vegetation structure and fauna habitat in adjoining areas. Clearing of vegetation and the development of building and hard stands, can result in a reduction in infiltration to the ground and an increase in runoff from the site. However, given the envisaged nature of the industry proposed for the site and the large scale of the buffers required increased run off is not considered to be a significant impact.
- *Habitat Loss and Damage*: Clearing of vegetation which is used by fauna species for food, shelter and linkages between areas of habitat. Clearing within the potential Mulgara habitat could cause significant breaks to habitat linkages for the Mulgara population within and outside the study area. Removal of *Eucalyptus victrix* within the wetland/dampland would also cause fragmentation of habitat for some fauna and bird species.
- *Death or Harm to Fauna Species:* Any construction works have the potential to cause death or harm to fauna species. Vegetation clearing and vehicle movements are likely to result in an increased incidence of animal death or injury. Slower

moving land animals (including mammals, reptiles and amphibians) are most at risk, as they are often unable to vacate disturbed areas of vegetation quickly enough to avoid harm. Animals may become disorientated following destruction of their current habitat ranges. In addition clearing of vegetation may increase their susceptibility to predation.

- *Impacts to Conservation Significant Fauna:* Although none was observed during the survey, evidence of the Mulgara species (tracks, scats and burrows) was recorded within the study area. A detailed fauna survey would be required to verify the presence of this species within the study area and to assess the potential impacts.
- *Post-Development Impacts on Adjacent Bushland*: The operation of new industrial area will have potential impacts on bushland remaining in the area. The impacts will primarily be on fauna and issues could include:
  - Light overspill;
  - Litter;
  - Noise and vibration disturbance;
  - Dust production;
  - Increased predators; and
  - Increased traffic.

  These issues have the potential to disturb or harm fauna remaining in the adjacent areas.

6.2 Management of Potential Impacts

Impacts on flora and fauna can be minimised and managed by a number of measures which are outlined below:

- Clearing should be kept to a minimum necessary for proposed development;
- For any clearing occurring on site the clearing line should be clearly defined in order to prevent impact on native vegetation that is not to be cleared;
- Management measures should be implemented to ensure clearing does not cause appreciable land degradation, including preventing erosion from the cleared areas;
- Management measures should be implemented to minimise the introduction and spread of weeds, such as avoiding movement of soils containing weedy species;
- Management measures should be implemented to prevent impacts on adjacent flora and fauna from pollution, such as litter and oil spills;
- Implement measures to reduce the risk of fire starting from activities at site;
- Minimise or restrict movement and use of plant and vehicles at dusk and dawn and during night-time hours to reduce impacts to native fauna;
- Destruction of fauna habitat should be minimised during clearing. Dead, standing or fallen timber should be retained as habitat, wherever possible. Where micro-habitats, such as logs and other debris, must be disturbed for construction, these

should be retained and used in rehabilitation. Mature trees should be retained where possible;

- Avoid prime Mulgara habitat where possible (Low Open heath of *Acacia stellaticeps* over tussock grassland of *Triodia schinzii* and *T. epactia*); and
- Avoid clearing vegetation associated with the wetland/dampland area.

7. References

Bureau of Meteorology (BOM) (2008) Climate Statistics for Australian Locations: Port Hedland Post Office [Internet] Available at http://www.bom.gov.au/climate/averages/tables/cw_004032.shtml

Beard, J.S. (1979) The Vegetation of the Pilbara Region. Vegetation Survey of WA.

English, V and Blythe, J. (1997) *Identifying and Conserving Threatened Ecological Communities in the South West Botanical Province*. Unpublished report for the Department of Conservation and Land Management to Environment Australia.

Environmental Protection Authority (EPA) (2000) *Environmental Protection of Native Vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2*. Dec., 2000. EPA, Perth.

Government of Western Australia (2000) *Bush Forever Volume 1*. Policies, Principles, Processes. Department of Environmental Protection, Perth, WA.

Kendrick, P. and Stanley, F. (2001) *A Biodiversity Audit of WA: Pilbara 4 (PIL4 – Roebourne synopsis)* Report prepared for the Department of Environment and Conservation, October 2001.

Richards, J.D. (2003) *Report on Threatened Shark bay Marsupials, Western Barred Bandicoot (Perameles bougainville bougainville), Burrowing Bettong (Bettongia lesueur lesueur), Banded Hare-Wallaby (Lagostrophus fasciatus fasciatus), and Rufous Hare-Wallabies (Lagorchestes hirsutus bernieri and Lagorchestes hirsutus dorreae)*. Report prepared for the Department of Environment and Heritage (now DEWHA), Canberra.

Shepherd, D.P., Beeston, G.R., and A.J.M. Hopkins (2002). *Native Vegetation in Western Australia – Extent, Type and Status.* Resource Management Technical Report 249, Department of Agriculture, Western Australia.

Van Kranendonk, M. J., and Smithies, R. H. (2006) Port Hedland - Bedout Island, W.A. Sheet SF 50-4 and part of Sheet SE 50-16; Western Australia Geological Survey, 1:250,000 Geological Series.

Van Vreeswyk, A. M. E, Payne, A. L, Leighton, K. A. and Hennig, P. (2004) *Technical* Bulletin, No 92, An Inventory and Condition Survey of the Pilbara Region, Western Australia. Department of Agriculture, Western Australia.

Appendix A

Figures

Figure 1 **Locality – Aerial Overview**

Figure 2 **Environmental Constraints**

Figure 3 **Vegetation Type**

Figure 4 **Vegetation Condition**

655,000 660,000 665,000

7,750,000 7,745,000 7,740,000 7,735,000

Locality Map

INDIAN OCEAN

PORT HEDLAND

SOUTH HEDLAND

FINUCANE ISLAND ACCESS

MOORAMBINE ST

TRIG ST

RIDLEY ST

PINGA ST

CAJARINA RD

BHP ACCESS RD

HAMILTON RD

SHOATA RD

QUARTZ QUARRY RD

OLD WHIM CREEK RD

BOODARIE RD

YARRIE RD

GREENFIELD ST

NORTH WEST COASTAL HWY

UNNAMED RD

655,000 660,000 665,000

LEGEND

Survey Area

1:50,000 (at A3)

0 500 1,000 1,500 2,000

Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 50

N

GHD

CLIENTS | PEOPLE | PERFORMANCE

LANDCORP

LandCorp
Port Hedland Boodarie Ecological Study

Locality Map
Aerial Overview

Job Number	61-24148
Revision	0
Date	01 SEP 2009

Figure 1

G:\61\24148\GIS\mxds\6124148-G007.mxd

GHD House, 239 Adelaide Terrace Perth WA 6004 **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com.au **W** www.ghd.com.au

© 2009. While GHD has taken care to ensure the accuracy of this product, GHD and LANDGATE (SLIP) make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. GHD and LANDGATE (SLIP) cannot accept liability of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred as a result of the product being inaccurate, incomplete or unsuitable in any way and for any reason.

Data Source: Landgate: Thoin Mosaic, Port Hedland Mosaic - 2004; GHD: Survey Area - 20090827. Created by: xntan

655,000 662,500 670,000

7,755,000 7,747,500 7,740,000 7,732,500

Locality Map

INDIAN OCEAN

PORT HEDLAND

SOUTH HEDLAND

South West Creek Area

Coastal Margin Cape Preston to Cape Keraudren

LEGEND

Survey Area

Declared Rare & Priority Species

(R) Declared Rare Flora - Extant Taxa

Priority 1 - Poorly Known Taxa

Priority 2 - Poorly Known Taxa

Priority 3 - Poorly Known Taxa

Priority 4 - Rare Taxa

Register of National Estate

STATUS

Registered

Indicative Place

Public Drinking Water Source Areas (Priority Not Assigned)

Clearing Regulations - Schedule One Areas

1:75,000 (at A3)

0 750 1,500 2,250 3,000

Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 50

N

CLIENTS | PEOPLE | PERFORMANCE

LandCorp

Port Hedland Boodarie Ecological Study

Job Number 61-24148
Revision 0
Date 01 SEP 2009

Environmental Constraints

Figure 2

G:\61\24148\GIS\mxds\6124148-G008.mxd

GHD House, 239 Adelaide Terrace Perth WA 6004 **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com.au **W** www.ghd.com.au

© 2009. While GHD has taken care to ensure the accuracy of this product, GHD and LANDGATE (SLIP), DEC, DOW make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. GHD and LANDGATE (SLIP), DEC, DOW cannot accept liability of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred as a result of the product being inaccurate, incomplete or unsuitable in any way and for any reason.

Data Source: Landgate: Thoin Mosaic, Port Hedland Mosaic - 2004; GHD: Survey Area - 20090827; DEC: Declared Rare & Priority Species - 20090708 REF No. 14-0709, Schedule One Areas - 20090310; DEH: Register of National Estate - 2006; DOW: Public Drinking Water Source Areas - 20090525. Created by: xntan

658,000 660,000 662,000

7,748,000 7,746,000 7,744,000 7,742,000

Locality Map

INDIAN OCEAN

PORT HEDLAND

SOUTH HEDLAND

1

2

FINUCANE ISLAND ACCESS

BHP ACCESS RD

OLD WHIM CREEK RD

BOODARIE RD

Type	Description
1	Bare areas/tidal creekline with low scattered shrubs of Chenopod spp.
2	*Eucalyptus victrix* dampland
3	*Triodia epactia* tussock grassland with groves of *Acacia* spp.
4	*Acacia stellaticeps* low open heath over *T.epactia* tussock grassland
5	*A.stellaticeps* low closed heath over tussock grassland of *Triodia schinzii* and *T.epactia*
6	Open shrubland of *Acacia* spp. and *Hakea lorea* subsp. *lorea* over tussock grassland of mixed *Triodia* spp.
7	Scattered *Corymbia aspera* and *Eucalyptus victrix* over low open heath of *A.stellaticeps* over tussock grassland
8	Scattered *Owenia reticulata* over shrubland of *Acacia* spp. over tussock grassland
9	Cleared/disturbed

LEGEND

Survey Area

1:20,000 (at A3)

0 100 200 400 600 800 1,000

Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 50

N

CLIENTS | PEOPLE | PERFORMANCE

LandCorp
Port Hedland Boodarie Ecological Study

Vegetation Types Map Sheet 1

Job Number 61-24148
Revision 0
Date 01 SEP 2009

Figure 3

G:\61\24148\GIS\mxds\6124148-G005.mxd

GHD House, 239 Adelaide Terrace Perth WA 6004 **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com.au **W** www.ghd.com.au

© 2009. While GHD has taken care to ensure the accuracy of this product, GHD and LANDGATE (SLIP) make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. GHD and LANDGATE (SLIP) cannot accept liability of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred as a result of the product being inaccurate, incomplete or unsuitable in any way and for any reason.

Data Source: Landgate: Port Hedland Mosaic - 2004; GHD: Survey Area - 20090827, Vegetation Types - 20090824. Created by: xntan

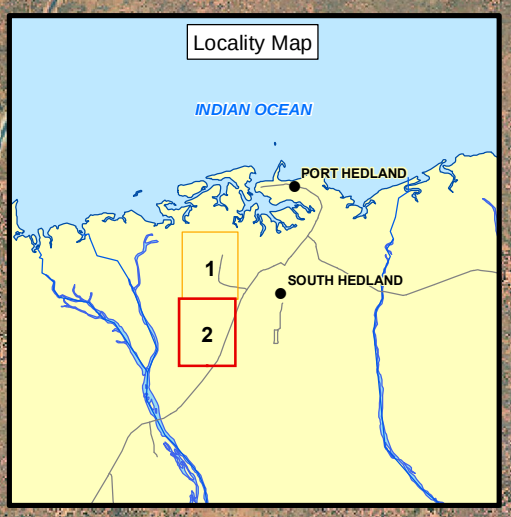
658,000 660,000 662,000

7,742,000 7,740,000 7,738,000 7,736,000

BOODARIE RD

GREAT NORTHERN HWY

Type	Description
1	Bare areas/tidal creekline with low scattered shrubs of Chenopod spp.
2	*Eucalyptus victrix* dampland
3	*Triodia epactia* tussock grassland with groves of *Acacia* spp.
4	*Acacia stellaticeps* low open heath over *T.epactia* tussock grassland
5	*A.stellaticeps* low closed heath over tussock grassland of *Triodia schinzii* and *T.epactia*
6	Open shrubland of *Acacia* spp. and *Hakea lorea* subsp. *lorea* over tussock grassland of mixed *Triodia* spp.
7	Scattered *Corymbia aspera* and *Eucalyptus victrix* over low open heath of *A.stellaticeps* over tussock grassland
8	Scattered *Owenia reticulata* over shrubland of *Acacia* spp. over tussock grassland
9	Cleared/disturbed



LEGEND

Survey Area

1:20,000 (at A3)

0 100 200 400 600 800 1,000

Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 50

N

CLIENTS | PEOPLE | PERFORMANCE

LandCorp
Port Hedland Boodarie Ecological Study

Vegetation Types Map Sheet 2

Job Number	61-24148
Revision	0
Date	01 SEP 2009

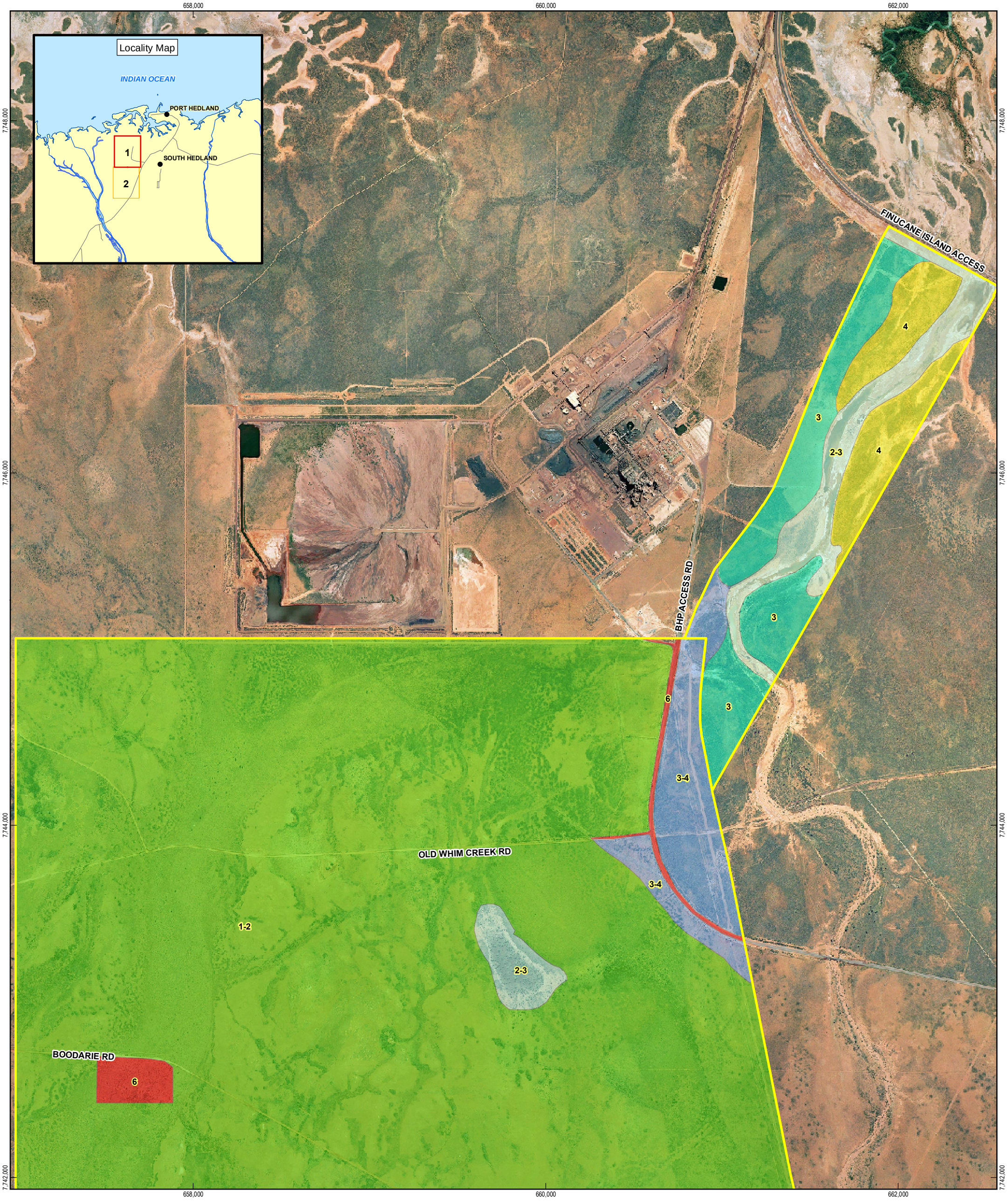
Figure 3

G:\61\24148\GIS\mxds\6124148-G005.mxd

GHD House, 239 Adelaide Terrace Perth WA 6004 **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com.au **W** www.ghd.com.au

© 2009. While GHD has taken care to ensure the accuracy of this product, GHD and LANDGATE (SLIP) make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. GHD and LANDGATE (SLIP) cannot accept liability of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred as a result of the product being inaccurate, incomplete or unsuitable in any way and for any reason.

Data Source: Landgate: Port Hedland Mosaic - 2004; GHD: Survey Area - 20090827, Vegetation Types - 20090824. Created by: xntan



LEGEND

Survey Area

Vegetation Condition

1. Pristine or nearly so
2. Excellent
3. Very Good
4. Good
5. Degraded
6. Completely degraded

1:20,000 (at A3)

0 100 200 400 600 800 1,000

Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 50

N

CLIENTS | PEOPLE | PERFORMANCE

LandCorp
Port Hedland Boodarie Ecological Study

Vegetation Condition Map Sheet 1

Job Number	61-24148
Revision	0
Date	01 SEP 2009

Figure 4

G:\61\24148\GIS\mxds\6124148-G006.mxd

GHD House, 239 Adelaide Terrace Perth WA 6004 **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com.au **W** www.ghd.com.au

© 2009. While GHD has taken care to ensure the accuracy of this product, GHD and LANDGATE (SLIP) make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. GHD and LANDGATE (SLIP) cannot accept liability of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred as a result of the product being inaccurate, incomplete or unsuitable in any way and for any reason.

Data Source: Landgate: Port Hedland Mosaic - 2004; GHD: Survey Area - 20090827, Vegetation Condition - 20090824. Created by: xntan

658,000 660,000 662,000

7,742,000 7,740,000 7,738,000 7,736,000

BOODARIE RD

GREAT NORTHERN HWY

3

5-6

1-2

Locality Map

INDIAN OCEAN

PORT HEDLAND

SOUTH HEDLAND

1

2

LEGEND

Survey Area

Vegetation Condition

1. Pristine or nearly so
2. Excellent
3. Very Good
4. Good
5. Degraded
6. Completely degraded

1:20,000 (at A3)

0 100 200 400 600 800 1,000

Metres

Map Projection: Transverse Mercator
Horizontal Datum: Geocentric Datum of Australia (GDA)
Grid: Map Grid of Australia 1994, Zone 50

N

CLIENTS | PEOPLE | PERFORMANCE

LandCorp
Port Hedland Boodarie Ecological Study

Vegetation Condition Map Sheet 2

Job Number	61-24148
Revision	0
Date	01 SEP 2009

Figure 4

G:\61\24148\GIS\mxds\6124148-G006.mxd

GHD House, 239 Adelaide Terrace Perth WA 6004 **T** 61 8 6222 8222 **F** 61 8 6222 8555 **E** permail@ghd.com.au **W** www.ghd.com.au

© 2009. While GHD has taken care to ensure the accuracy of this product, GHD and LANDGATE (SLIP) make no representations or warranties about its accuracy, completeness or suitability for any particular purpose. GHD and LANDGATE (SLIP) cannot accept liability of any kind (whether in contract, tort or otherwise) for any expenses, losses, damages and/or costs (including indirect or consequential damage) which are or may be incurred as a result of the product being inaccurate, incomplete or unsuitable in any way and for any reason.

Data Source: Landgate: Port Hedland Mosaic - 2004; GHD: Survey Area - 20090827, Vegetation Condition - 20090824. Created by: xntan

Appendix B

Flora

Conservation Categories and Definitions for EPBC Act Listed Flora and Fauna Species

Conservation Codes and Descriptions for DEC Declared Rare and Priority Flora Species

Flora Species Recorded within the Study Area

Quadrat Data

Table 6 Conservation Categories and Definitions for EPBC Act Listed Flora and Fauna Species

Conservation Category	Definition
Extinct	Taxa not definitely located in the wild during the past 50 years
Extinct in the Wild	Taxa known to survive only in captivity
Critically Endangered	Taxa facing an extremely high risk of extinction in the wild in the immediate future
Endangered	Taxa facing a very high risk of extinction in the wild in the near future
Vulnerable	Taxa facing a high risk of extinction in the wild in the medium-term
Near Threatened	Taxa that risk becoming Vulnerable in the wild
Conservation Dependent	Taxa whose survival depends upon ongoing conservation measures. Without these measures, a conservation dependent taxon would be classified as Vulnerable or more severely threatened.
Data Deficient (Insufficiently Known)	Taxa suspected of being Rare, Vulnerable or Endangered, but whose true status cannot be determined without more information.
Least Concern	Taxa that are not considered Threatened

Table 7 Conservation Codes and Descriptions for DEC Declared Rare and Priority Flora Species

Conservation Code	Description
R: Declared Rare Flora – Extant Taxa	Taxa which have been adequately searched for and are deemed to be in the wild either rare, in danger of extinction, or otherwise in need of special protection, and have been gazetted as such.
P1: Priority One – Poorly Known Taxa	Taxa which are known from one or a few (generally <5) populations which are under threat, either due to small population size, or being on lands under immediate threat, e.g. road verges, urban areas, farmland, active mineral leases, etc., or the plants are under threat, e.g. from disease, grazing by feral animals etc. May include taxa with threatened populations on protected lands. Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P2: Priority Two – Poorly Known Taxa	Taxa which are known from one or a few (generally<5) populations, at least some of which are not believed to be under immediate threat (i.e. not currently endangered). Such taxa are under consideration for declaration as 'rare flora', but are in urgent need of further survey.
P3: Priority Three – Poorly Known Taxa	Taxa which are known from several populations, and the taxa are not believed to be under immediate threat (i.e. not currently endangered), either due to the number of known populations (generally >5), or known populations being large, and either widespread or protected. Such taxa are under consideration for declaration as 'rare flora' but are in need of further survey.
P4: Priority Four – Taxa in need of monitoring	Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5 – 10 years.

Table 8 Flora Species Recorded within the Study Area

Family	Genus	Species	Common Name	Status
Aizoaceae	*Trianthema*	*pilosa*		
Aizoaceae	*Trianthema*	*turgidifolia*		
Amaranthaceae	*Achyranthes*	*aspera*	Chaff Flower	
Amaranthaceae	*Aerva*	*javanica*	Kapok Bush	*
Amaranthaceae	*Amaranthus*	*mitchellii*	Boggabri Weed	
Amaranthaceae	*Gomprena*	*sordida*		
Amaranthaceae	*Hemichroa*	*diandra*		
Amaranthaceae	*Ptilotus*	*arthrolasius*		
Amaranthaceae	*Ptilotus*	*fusiformis*		
Amaranthaceae	*Ptilotus*	*obovatus*	Cotton Bush	
Amaranthaceae	*Ptilotus*	*polystachyus*	Prince of Wales Feather	
Apocynaceae	*Carissa*	*lanceolata*	Conkerberry	
Asteraceae	*Pluchea*	*ferdinandi-muelleri*		
Asteraceae	*Pluchea*	*rubelliflora*		
Asteraceae	*Pterocaulon*	*sphaeranthoides*		
Asteraceae	*Streptoglossa*	*liatroides*		
Bignoniaceae	*Dolichandrone*	*heterophylla*	Lemonwood	
Boraginaceae	*Ehretia*	*saligna*	False Cedar	
Boraginaceae	*Heliotropium*	*diversifolium*		
Boraginaceae	*Heliotropium*	*foliatum*		
Boraginaceae	*Heliotropium*	*pachyphyllum*		
Boraginaceae	*Heliotropium*	*vestitum*		
Caesalpiniaceae	*Senna*	*notabilis*		
Capparaceae	*Cleome*	*uncifera* subsp. *uncifera*		
Caryophyllaceae	*Polycarpea*	*corymbosa*		
Chenopodaceae	*Neobassia*	*astrocarpa*		
Chenopodaceae	*Salsola*	*tragus*		
Chenopodaceae	*Tecticornia*	*pergranulata*		
Chenopodaceae	*Tecticornia*	*pterogosperma*		
Commelinaceae	*Commelina*	*ensifolia*	Wandering Jew	

Family	Genus	Species	Common Name	Status
Convolvulaceae	*Bonamia*	*linearis*		
Convolvulaceae	*Bonamia*	*pannosa*		
Convolvulaceae	*Merremia*	*davenportii*		
Convolvulaceae	*Polymeria*	*ambigua*	Morning Glory	
Convulvulaceae	*Bonamia*	*rosea*	Felty Bellflower	
Convulvulaceae	*Evolvulus*	*alsinoides* var. *villosicalyx*		
Convulvulaceae	*Ipomoea*	*muelleri*	Poison Morning Glory	
Cucurbitaceae	*Cucumis*	*maderaspatanus*		
Cyperaceae	*Bulbostylis*	*barbata*		
Cyperaceae	*Cyperus*	*hesperius*		
Cyperaceae	*Fimbristylis*	*dichotoma*		
Cyperaceae	*Fimbristylis*	*oxystachya*		
Droseraceae	*Drosera*	*indica*	Indian Sundew	
Elatinaceae	*Bergia*	*perennis* subsp. *perennis*		
Euporbiaceae	*Euphorbia*	*australis*	Namana	
Euporbiaceae	*Euphorbia*	*coghlanii*	Namana	
Goodeniaceae	*Goodenia*	*forrestii*		
Goodeniaceae	*Goodenia*	*lamprosperma*		
Goodeniaceae	*Goodenia*	*microptera*		
Gyrostemonaceae	*Codonocarpus*	*cotinifolius*	Native Poplar	
Hemerocallidaceae	*Corynotheca*	*pungens*		
Lauraceae	*Cassytha*	*filiformis*	Love Vine	
Loganiaceae	*Mitrasacme*	*connata*		
Malvaceae	*Abutilon*	*otocarpum*		
Malvaceae	*Hibiscus*	*sturtii*	Sturt's Hibiscus	
Malvaceae	*Hibiscus*	*brachychlaenus*		
Malvaceae	*Hibiscus*	*leptocladus*		
Malvaceae	*Sida*	sp. (insufficient material)		
Malvaceae	*Sida*	*arenicola*		
Malvaceae	*Sida*	*rohlenae* subsp. *rohlenae*		
Malvaceae	*Sida*	sp. Pilbara		
Marsileaceae	*Marsilea*	*drummondii*	Common Nardoo	

Family	Genus	Species	Common Name	Status
Meliaceae	*Owenia*	*reticulata*		
Menispermaceae	*Tinospora*	*smilacina*	Snakevine	
Mimosaceae	*Acacia*	*colei*		
Mimosaceae	*Acacia*	*coriacea*	Wirewood	
Mimosaceae	*Acacia*	*inaequilatera*	Baderi	
Mimosaceae	*Acacia*	*sericophylla*		
Mimosaceae	*Acacia*	*stellaticeps*		
Mimosaceae	*Acacia*	*synchronicia*		
Mimosaceae	*Acacia*	*trachycarpa*	Minni Ritchi	
Mimosaceae	*Acacia*	*bivenosa*		
Mimosaceae	*Neptunia*	*dimorphantha*		
Molluginaceae	*Mollugo*	*molluginea*		
Myrtaceae	*Corymbia*	*aspera*		
Myrtaceae	*Corymbia*	*hamerslyana*		
Myrtaceae	*Eucalyptus*	*victrix*		
Myrtaceae	*Melaleuca*	*lasiandra*		
Nyctaginaceae	*Boerhavia*	*coccinea*	Tar Vine	
Papilionaceae	*Crotularia*	*ramosissima*		
Papilionaceae	*Cullen*	*martinii*		
Papilionaceae	*Desmodium*	*filiforme*		
Papilionaceae	*Indigofera*	*linifolia*		
Papilionaceae	*Indigofera*	*linnaei*		
Papilionaceae	*Indigofera*	*monophylla*		
Papilionaceae	*Leptosema*	*anomalum*		
Papilionaceae	*Rhynchosia*	*minima*	Rhynchosia	
Papilionaceae	*Tephrosia*	*leptoclada*		
Papilionaceae	*Vigna*	*lanceolata* var. *lanceolata*		
Papilionaceae	*Zornia*	*muelleriana*		
Plumbaginaceae	*Muellerolimon*	*salcorniaceum*		
Poaceae	*Aristida*	*holathera* var. *holathera*		
Poaceae	*Aristida*	*latifolia*	Feathertop Wiregrass	
Poaceae	*Cenchrus*	*ciliaris*	Buffel Grass	*
Poaceae	*Chloris*	*barbata*	Purpletop Chloris	*

Family	Genus	Species	Common Name	Status
Poaceae	*Dactyloctenium*	*radulans*	Button Grass	
Poaceae	*Digitaria*	*brownii*	Cotton Panic Grass	
Poaceae	*Elytrophorus*	*spicatus*	Spikegrass	
Poaceae	*Eragrostis*	*cumingii*	Cuming's Love Grass	
Poaceae	*Eragrostis*	*dielsii*	Mallee Lovegrass	
Poaceae	*Eragrostis*	*falcata*	Sickle Lovegrass	
Poaceae	*Eragrostis*	*speciosa*	Handsome Lovegrass	
Poaceae	*Eragrostis*	*tenelluta*	Delicate Lovegrass	
Poaceae	*Eriachne*	*aristidea*		
Poaceae	*Eriachne*	*glauca* var. *glauca*		
Poaceae	*Eriachne*	*helmsii*	Buck Wanderrie Grass	
Poaceae	*Eriachne*	*obtusa*	Northern Wandarrie Grass	
Poaceae	*Paraneurachne*	*muelleri*	Northern Mulga Grass	
Poaceae	*Paspalidium*	*constrictum*	Knottybutt Grass	
Poaceae	*Paspalidium*	*rarum*	Rare Paspalidium	
Poaceae	*Sorghum*	*timorense*		
Poaceae	*Triodia*	*basedowii*	Lobed Spinifex	
Poaceae	*Triodia*	*epactia*		
Poaceae	*Triodia*	*longiceps*	Giant Grey Spinifex	
Poaceae	*Triodia*	*pungens*	Soft Spinifex	
Poaceae	*Triodia*	*schinzii*		
Poaceae	*Triodia*	*secunda*		
Poaceae	*Yakirra*	*australiensis*		
Polygalaceae	*Polygale*	*tepperi*		
Portulacaceae	*Calandrinia*	*quadrivalvis*		
Portulacaceae	*Calandrinia*	sp. Pinga		
Portulacaceae	*Calandrinia*	*stagnensis*		
Proteaceae	*Grevillea*	*pyramidalis*	Caustic Bush	
Proteaceae	*Grevillea*	*wickhamii*	Wickham's Grevillea	
Proteaceae	*Hakea*	*lorea* subsp. *lorea*		
Rubiaceae	*Dentella*	*asperata*		
Rubiaceae	*Synaptantha*	*tillaeacea* var. *tillaeacea*		
Santalaceae	*Santalum*	*lanceolatum*	Northern Sandalwood	

Family	Genus	Species	Common Name	Status
Sapindaceae	*Dodonaea*	*coriacea*		
Scrophulariaceae	*Mimulus*	*uvedaliae* subsp. *uvedaliae*		
Scrophulariaceae	*Stemodia*	*lathraia*		
Solanaceae	*Nicotiana*	sp. (insufficient material)		
Solanaceae	*Solanum*	*dioicum*	Gilu	
Solanaceae	*Solanum*	*phlomoides*		
Stackhousiaceae	*Stackhousia*	*intermedia*		
Sterculiaceae	*Waltheria*	*indica*		
Stylidiaceae	*Stylidium*	*desertorum*		
Thymelaeaceae	*Pimelea*	*ammocharis*		
Tiliacea	*Triumfetta*	*ramosa*		
Tiliaceae	*Corchorus*	*walcottii*	Woolly Corchorus	
Tiliaceae	*Triumfetta*	*ramosa*		
Violaceae	*Hybanthus*	*aurantiacus*		
Zygophyllaceae	*Tribulopis*	*angustifolia*		
Zygophyllaceae	*Tribulus*	*occidentalis*		

QUADRAT DATA – Field Survey June 2009

Quadrat 1

Field Vegetation Description: *Triodia epactia* grassland

Landform/soil: Flat, red sand

Open ground: 30%

Condition: 2

Fire: <5 years

Disturbance: Powerlines, cattle grazing

Quadrat 1 Species List

Family	Genus	Species	Status	% Cover
Poaceae	*Triodia*	*epactia*		70
Cyperaceae	*Bulbostylis*	*barbata*		1

Quadrat 2

Field Vegetation Description: *Acacia stellaticeps* over *T. epactia* grassland

Landform/soil: Flat, red sand

Open ground: 20%

Condition: 1/2

Fire: >5 years

Disturbance: Cattle grazing

Quadrat 2 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*stellaticeps*		50
Poaceae	*Triodia*	*epactia*		20
Mimosaceae	*Acacia*	*colei*		5
Proteaceae	*Hakea*	*lorea* subsp. *lorea*		1
Poaceae	*Eriachne*	*obtusa*		1
Poaceae	*Eragrostis*	*speciosa*		1
Poaceae	*Eragrostis*	*falcata*		1
Poaceae	*Aristida*	*latifolia*		1
Papilionaceae	*Leptosema*	*anomalum*		1
Tiliaceae	*Corchorus*	*walcottii*		1
Malvaceae	*Sida*	sp. Pilbara		1

Quadrat 3

Field Vegetation Description: Scattered *Owenia reticulata* over *A. stellaticeps* over tussock grassland of *T. epactia* and *Eragrostis falcata.*

Landform/soil: Hill sloping west, red sand

Open ground: 10-20%

Condition: 2

Fire: >5 years

Disturbance: Weeds present under *Owenia reticulata*

Quadrat 3 Species List

Family	Genus	Species	Status	% Cover
Poaceae	*Triodia*	*epactia*		30
Poaceae	*Eragrostis*	*falcata*		30
Mimosaceae	*Acacia*	*stellaticeps*		10
Mimosaceae	*Acacia*	*colei*		2
Meliaceae	*Owenia*	*reticulata*		1
Papilionaceae	*Indigofera*	*linifolia*		1
Caryophyllaceae	*Polycarpea*	*corymbosa*		1
Convolvulaceae	*Polymeria*	*ambigua*		1
Aizoaceae	*Trianthema*	*pilosa*		1
Tiliaceae	*Corchorus*	*walcottii*		1
Violaceae	*Hybanthus*	*aurantiacus*		1
Euporbiaceae	*Euphorbia*	*australis*		1

Family	Genus	Species	Status	% Cover
Solanaceae	*Solanum*	*dioicum*		1
Malvaceae	*Sida*	*rohlenae* subsp. *rohlenae*		1
Sterculiaceae	*Waltheria*	*indica*		1
Poaceae	*Eriachne*	*obtusa*		1
Convulvulaceae	*Evolvulus*	*alsinoides* var. *villosicalyx*		1
Papilionaceae	*Indigofera*	*monophylla*		1
Tiliaceae	*Triumfetta*	*ramosa*		1
Papilionaceae	*Crotularia*	*ramosissima*		1
Amaranthaceae	*Aerva*	*javanica*	*	1
Cucurbitaceae	*Cucumis*	*maderaspatanus*		1
Caesalpiniaceae	*Senna*	*notabilis*		1
Molluginaceae	*Mollugo*	*molluginea*		1
Amaranthaceae	*Amaranthus*	*mitchellii*		1
Convolvulaceae	*Merremia*	*davenportii*		1
Amaranthaceae	*Achyranthes*	*aspera*		1

Quadrat 4

Field Vegetation Description: *A. stellaticeps* over *T. epactia* grassland with emergent *E. colei*

Landform/soil: Flat, slightly sloping west. Red sand

Open ground: 20%

Condition: 2

Fire: >5 years

Disturbance: No signs of obvious disturbance

Quadrat 4 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*stellaticeps*		60
Poaceae	*Triodia*	*epactia*		20
Mimosaceae	*Acacia*	*colei*		1
Mimosaceae	*Acacia*	*sericophylla*		1
Poaceae	*Eriachne*	*obtusa*		1
Malvaceae	*Sida*	sp. Pilbara		1
Amaranthaceae	*Ptilotus*	*obovatus*		1

Quadrat 5

Field Vegetation Description: *A. stellaticeps* shrubland over *T. epactia* grassland

Landform/soil: Flat, red sand

Open ground: 60%

Condition: 1/2

Fire: 1-2 years, patchy burn

Disturbance: Potentially inappropriate fire regime

Quadrat 5 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*stellaticeps*		5
Poaceae	*Paraneurachne*	*muelleri*		5
Poaceae	*Triodia*	*epactia*		5
Poaceae	*Eriachne*	*helmsii*		1
Caesalpiniaceae	*Senna*	*notabilis*		1
Myrtaceae	*Corymbia*	*aspera*		1
Malvaceae	*Sida*	sp. Pilbara		1
Cyperaceae	*Bulbostylis*	*barbata*		1
Poaceae	*Eriachne*	*aristidea*		1
Poaceae	*Eragrostis*	*falcata*		1
Tiliaceae	*Corchorus*	*walcottii*		1

Family	Genus	Species	Status	% Cover
Malvaceae	*Sida*	*rohlenae* subsp. *rohlenae*		1
Poaceae	*Aristida*	*holathera* var. *holathera*		1
Aizoaceae	*Trianthema*	*pilosa*		1
Proteaceae	*Hakea*	*lorea* subsp. *lorea*		1
Amaranthaceae	*Waltheria*	*indica*		1
Papilionaceae	*Indigofera*	*monophylla*		1
Mimosaceae	*Acacia*	*colei*		1
Malvaceae	*Hibiscus*	*leptocladus*		1
Euporbiaceae	*Euphorbia*	*australis*		1

Quadrat 6

Field Vegetation Description: *A. stellticeps* shrubland over *T. epactia* grassland

Landform/soil: Flat, red sand

Open ground: 30%

Condition: 1/2

Fire: Patchy, <5 years

Disturbance: Fire

Quadrat 6 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*stellaticeps*		50
Poaceae	*Triodia*	*epactia*		5
Tiliaceae	*Corchorus*	*walcottii*		1
Poaceae	*Aristida*	*holathera* var. *holathera*		1
Caesalpiniaceae	*Senna*	*notabilis*		1
Cyperaceae	*Bulbostylis*	*barbata*		1
Poaceae	*Aristida*	*latifolia*		1
Papilionaceae	*Indigofera*	*monophylla*		1
Mimosaceae	*Acacia*	*inaequilatera*		1
Mimosaceae	*Acacia*	*colei*		1
Amaranthaceae	*Ptilotus*	*obovatus*		1
Poaceae	*Dactyloctenium*	*radulans*		1
Papilionaceae	*Indigofera*	*linifolia*		1
Malvaceae	*Hibiscus*	*leptocladus*		1
Aizoaceae	*Trianthema*	*pilosa*		1
Euporbiaceae	*Euphorbia*	*coghlanii*		1
Poaceae	*Eriachne*	*aristidea*		1
Poaceae	*Triodia*	*schinzii*		1
Caryophyllaceae	*Polycarpea*	*corymbosa*		1
Nyctaginaceae	*Boerhavia*	*coccinea*		1
Convolvulaceae	*Bonamia*	*linearis*		1

Quadrat 7

Field Vegetation Description: *Acacia* shrubland over tussock grassland

Landform/soil: Flat, red sand

Open ground: 20%

Condition: 1/2

Fire: >5 years, adjacent to burnt vegetation

Disturbance: No obvious disturbances

Quadrat 7 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*colei*		20
Mimosaceae	*Acacia*	*stellaticeps*		10
Poaceae	*Triodia*	*epactia*		10
Poaceae	*Eragrostis*	*falcata*		10
Papilionaceae	*Indigofera*	*monophylla*		1
Proteaceae	*Hakea*	*lorea* subsp. *lorea*		1
Convolvulaceae	*Bonamia*	*linearis*		1
Mimosaceae	*Acacia*	*sericophylla*		1
Violaceae	*Hybanthus*	*aurantiacus*		1
Poaceae	*Dactyloctenium*	*radulans*		1
Tiliaceae	*Corchorus*	*walcottii*		1
Papilionaceae	*Indigofera*	*linearis*		1

Quadrat 8

Field Vegetation Description: Mixed tussock grassland and herbland (recovery from fire)

Landform/soil: Flat, red sand

Open ground: 80%

Condition: 2

Fire: Burnt 1-2 years

Disturbance: Fire

Quadrat 8 Species List

Family	Genus	Species	Status	% Cover
Caesalpiniaceae	*Senna*	*notabilis*		5
Cyperaceae	*Fimbristylis*	*oxystachya*		5
Poaceae	*Triodia*	*epactia*		5
Malvaceae	*Hibiscus*	*leptocladus*		1
Portulacaceae	*Calandrinia*	sp. Pinga		1
Poaceae	*Yakirra*	*australiensis*		1
Cyperaceae	*Bulbostylis*	*barbata*		1
Molluginaceae	*Mollugo*	*molluginea*		1
Mimosaceae	*Acacia*	*stellaticeps*		1
Poaceae	*Eragrostis*	*cumingii*		1
Tiliaceae	*Corchorus*	*walcottii*		1

Family	Genus	Species	Status	% Cover
Amaranthaceae	*Ptilotus*	*fusiformis*		1
Scrophulariaceae	*Stemodia*	*lathraia*		1
Gyrostemonaceae	*Codonocarpus*	*cotinifolius*		1
Violaceae	*Hybanthus*	*aurantiacus*		1
Caryophyllaceae	*Polycarpea*	*corymbosa*		1
Poaceae	*Aristida*	*holathera var. holathera*		1
Papilionaceae	*Desmodium*	*filiforme*		1
Convulvulaceae	*Evolvulus*	*alsinoides var. villosicalyx*		1
Malvaceae	*Hibiscus*	*leptocladus*		1

Quadrat 9

Field Vegetation Description: *A. stellaticeps* shrubland over *T. schinzii* grassland

Landform/soil: Flat, red sand

Open ground: 10%

Condition: 1/2

Fire: >5 years

Disturbance: No obvious disturbances

Quadrat 9 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*stellaticeps*		80
Poaceae	*Triodia*	*schinzii*		20
Proteaceae	*Hakea*	*lorea* subsp. *lorea*		1
Mimosaceae	*Acacia*	*colei*		1
Asteraceae	*Pluchea*	*ferdinandi-muelleri*		1

Quadrat 10

Field Vegetation Description: *A. stellaticeps* over mixed *T. epactia* and *T. schinzii* grassland

Landform/soil: Flat, red sand

Open ground: 10%

Condition: 1/2

Fire: >5 years

Disturbance: No obvious disturbances

Quadrat 10 Species List

Family	Genus	Species	Status	% Cover
Poaceae	*Triodia*	*schinzii*		30
Mimosaceae	*Acacia*	*stellaticeps*		40
Poaceae	*Triodia*	*epactia*		20

Tiliaceae	*Corchorus*	*walcottii*		1
Myrtaceae	*Corymbia*	*aspera*		1
Poaceae	*Cenchrus*	*ciliaris*	*	1
Amaranthaceae	*Amaranthus*	*mitchellii*		1
Amaranthaceae	*Aerva*	*javanica*	*	1
Amaranthaceae	*Achyranthes*	*aspera*		1
Nyctaginaceae	*Boerhavia*	*coccinea*		1
Mimosaceae	*Acacia*	*colei*		1
Papilionaceae	*Indigofera*	*monophylla*		1
Tiliaceae	*Triumfetta*	*ramosa*		1

Quadrat 11

Field Vegetation Description: *A. stellaticeps* shrubland over *T. epactia* grassland

Landform/soil: Flat, red sand

Open ground: 10%

Condition: 1/2

Fire: >5 years

Disturbance: No obvious disturbances

Quadrat 11 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*stellaticeps*		60
Poaceae	*Triodia*	*epactia*		50
Amaranthaceae	*Ptilotus*	*obovatus*		1
Papilionaceae	*Indigofera*	*monophylla*		1
Mimosaceae	*Acacia*	*coriacea*		1
Convulvulaceae	*Bonamia*	*rosea*		1
Solanaceae	*Solanum*	*dioicum*		1

Quadrat 12

Field Vegetation Description: Very open tussock grassland with open herbs (recovery from fire)

Landform/soil: Flat, red sand

Open ground: 60%

Condition: 2

Fire: <2 years

Disturbance: Fire

Quadrat 12 Species List

Family	Genus	Species	Status	% Cover
Poaceae	*Triodia*	*epactia*		25
Poaceae	*Eragrostis*	*cumingii*		15
Caesalpiniaceae	*Senna*	*notabilis*		5
Myrtaceae	*Eucalyptus*	*victrix*		1
Apocynaceae	*Carissa*	*lanceolata*		1
Mimosaceae	*Acacia*	*stellaticeps*		1
Poaceae	*Paspalidium*	*constrictum*		1
Poaceae	*Yakirra*	*australiensis*		1
Convulvulaceae	*Evolvulus*	*alsinoides* var. *villosicalyx*		1

Family	Genus	Species	Status	% Cover
Goodeniaceae	*Goodenia*	*microptera*		1
Tiliaceae	*Corchorus*	*walcottii*		1
Cyperaceae	*Fimbristylis*	*dichotoma*		1
Cyperaceae	*Bulbostylis*	*barbata*		1
Papilionaceae	*Rhynchosia*	*minima*		1
Violaceae	*Hybanthus*	*aurantiacus*		1
Malvaceae	*Hibiscus*	*leptocladus*		1
Portulacaceae	*Calandrinia*	sp. Pinga		1
Convulvulaceae	*Ipomoea*	*muelleri*		1
Poaceae	*Eriachne*	*aristidea*		1
Scrophulariaceae	*Stemodia*	*lathraia*	RE	1
Stackhousiaceae	*Stackhousia*	*intermedia*		1
Euporbiaceae	*Euphorbia*	*australis*		1
Asteraceae	*Pterocaulon*	*sphaeranthoides*		1
Rubiaceae	*Synaptantha*	*tillaeacea* var. *tillaeacea*		1
Papilionaceae	*Desmodium*	*filiforme*		1
Asteraceae	*Streptoglossa*	*liatroides*		1
Poaceae	*Eriachne*	*obtusa*		1
Amaranthaceae	*Ptilotus*	*fusiformis*		1
Droseraceae	*Drosera*	*indica*		1
Polygalaceae	*Polygale*	*tepperi*		1
Aizoaceae	*Trianthema*	*turgidifolia*		1
Loganiaceae	*Mitrasacme*	*connata*		1
Mimosaceae	*Acacia*	*colei*		1

Quadrat 13

Field Vegetation Description: Scattered *Corymbia aspera* over low shrubland and tussock grassland

Landform/soil: Flat, red sand

Open ground: 60%

Condition: 1/2

Fire: <1 year

Disturbance: Fire

Quadrat 13 Species List

Family	Genus	Species	Status	% Cover
Myrtaceae	*Corymbia*	*aspera*		25
Poaceae	*Triodia*	*epactia*		10
Poaceae	*Paspalidium*	*constrictum*		10
Convulvulaceae	*Ipomoea*	*muelleri*		1
Poaceae	*Eriachne*	*aristidea*		1
Portulacaceae	*Calandrinia*	*stagnensis*		1
Cyperaceae	*Bulbostylis*	*barbata*		1
Violaceae	*Hybanthus*	*aurantiacus*		1
Portulacaceae	*Calandrinia*	sp. Pinga		1
Poaceae	*Eragrostis*	*cumingii*		1
Papilionaceae	*Indigofera*	*monophylla*		1
Mimosaceae	*Acacia*	*stellaticeps*		1

Family	Genus	Species	Status	% Cover
Malvaceae	*Sida*	*arenicola*		1
Mimosaceae	*Acacia*	*colei*		1
Caesalpiniaceae	*Senna*	*notabilis*		1
Amaranthaceae	*Ptilotus*	*fusiformis*		1
Cucurbitaceae	*Cucumis*	*maderaspatanus*		1
Poaceae	*Chloris*	*barbata*	*	1
Malvaceae	*Hibiscus*	*leptocladus*		1
Molluginaceae	*Mollugo*	*molluginea*		1
Polygalaceae	*Polygale*	*tepperi*		1
Tiliaceae	*Corchorus*	*walcottii*		1
Malvaceae	*Sida*	sp. Pilbara		1

Quadrat 14

Field Vegetation Description: Scattered *Corymbia aspera* over *A. stellaticeps* over *T. epactia* grassland

Landform/soil: Flat, red sand

Open ground: 60%

Condition: 2

Fire: <1 year

Disturbance: Fire

Quadrat 14 Species List

Family	Genus	Species	Status	% Cover
Mimosaceae	*Acacia*	*stellaticeps*		50
Poaceae	*Triodia*	*epactia*		5
Myrtaceae	*Corymbia*	*aspera*		2
Poaceae	*Paspalidium*	*constrictum*		2
Violaceae	*Hybanthus*	*aurantiacus*		1
Poaceae	*Yakirra*	*australiensis*		1
Convulvulaceae	*Evolvulus*	*alsinoides* var. *villosicalyx*		1
Poaceae	*Eriachne*	*aristidea*		1
Poaceae	*Eragrostis*	*cumingii*		1
Poaceae	*Aristida*	*holathera* var. *holathera*		1
Amaranthaceae	*Ptilotus*	*fusiformis*		1
Cyperaceae	*Bulbostylis*	*barbata*		1
Malvaceae	*Sida*	*rohlenae* subsp. *rohlenae*		1
Tiliaceae	*Corchorus*	*walcottii*		1
Papilionaceae	*Indigofera*	*monophylla*		1
Menispermaceae	*Tinospora*	*smilacina*		1
Cyperaceae	*Fimbristylis*	*oxystachya*		1
Convulvulaceae	*Ipomoea*	*muelleri*		1
Euporbiaceae	*Euphorbia*	*australis*		1
Convolvulaceae	*Merremia*	*davenportii*		1
Mimosaceae	*Acacia*	*sericophylla*		1
Apocynaceae	*Carissa*	*lanceolata*		1
Portulacaceae	*Calandrinia*	*sp. Pinga*		1
Zygophyllaceae	*Tribulopis*	*angustifolia*		1
Cyperaceae	*Fimbristylis*	*dichotoma*		1
Malvaceae	*Hibiscus*	*leptocladus*		1
Molluginaceae	*Mollugo*	*molluginea*		1
Mimosaceae	*Acacia*	*colei*		1

Appendix C

Fauna

EPBC Act Fauna Conservation Categories

Western Australian Wildlife Conservation Act 1950 Conservation Codes

DEC Priority Fauna Codes

Listing of Potentially Occurring Significant, Rare and Priority Fauna Species within 20 km of the Study Area, with Information Source

WA Museum “NatureMap” Fauna Records within approx. 20 km of the Study Area

Fauna Species Observed During the Field Survey

EPBC Act Fauna Conservation Categories

Listed threatened species and ecological communities

An action will require approval from the Environment Minister if the action has, will have, or is likely to have a significant impact on a species listed in any of the following categories:

- extinct in the wild,
- critically endangered,
- endangered, or
- vulnerable.

(see Table 6)

Critically endangered and endangered species

An action has, will have, or is likely to have a significant impact on a critically endangered or endangered species if it does, will, or is likely to:

- lead to a long-term decrease in the size of a population, or
- reduce the area of occupancy of the species, or
- fragment an existing population into two or more populations, or
- adversely affect habitat critical to the survival of a species, or
- disrupt the breeding cycle of a population, or
- modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
- result in invasive species that are harmful to a critically endangered or endangered species becoming established in the endangered or critically endangered species' habitat*, or
- interfere with the recovery of the species.

**Introducing an invasive species into the habitat may result in that species becoming established. An invasive species may harm a critically endangered or endangered species by direct competition, modification of habitat, or predation.*

Vulnerable species

An action has, will have, or is likely to have a significant impact on a vulnerable species if it does, will, or is likely to:

- lead to a long-term decrease in the size of an important population of a species, or
- reduce the area of occupancy of an important population, or
- fragment an existing important population into two or more populations, or
- adversely affect habitat critical to the survival of a species, or
- disrupt the breeding cycle of an important population, or

- modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline, or
- result in invasive species that are harmful a vulnerable species becoming established in the vulnerable species' habitat*, or
- interferes substantially with the recovery of the species.

An important population is one that is necessary for a species' long-term survival and recovery. This may include populations that are:

- key source populations either for breeding or dispersal,
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species range.

*Introducing an invasive species into the habitat may result in that species becoming established. An invasive species may harm a vulnerable species by direct competition, modification of habitat, or predation.

Listed migratory species

An action will require approval from the Environment Minister if the action has, will have, or is likely to have a significant impact on a listed migratory species. Note that some migratory species are also listed as threatened species. The criteria below are relevant to migratory species that are not threatened.

An action has, will have, or is likely to have a significant impact on a migratory species if it does, will, or is likely to:

- substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat of the migratory species, or
- result in invasive species that is harmful to the migratory species becoming established* in an area of important habitat of the migratory species, or
- seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of the species.

An area of important habitat is:

1. habitat utilized by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species, or
2. habitat utilized by a migratory species which is at the limit of the species range, or
3. habitat within an area where the species is declining.

Listed migratory species cover a broad range of species with different life cycles and population sizes. Therefore, what is an ecologically significant proportion of the population varies with the species (each circumstance will need to be evaluated).

*Introducing an invasive species into the habitat may result in that species becoming established. An invasive species may harm a migratory species by direct competition, modification of habitat, or predation.

The Commonwealth marine environment

An action will require approval from the Environment Minister if:

- the action is taken in a Commonwealth marine area and the action has, will have, or is likely to have a significant effect on the environment, or
- the action is taken outside a Commonwealth marine area and the action has, will have, or is likely to have a significant effect on the environment in a Commonwealth marine area.

An action has, will have or is likely to have a significant impact on the environment in a Commonwealth marine area if it does, will, or is likely to:

- result in a known or potential pest species becoming established in the Commonwealth marine area*, or
- modify, destroy, fragment, isolate or disturb an important or substantial area of habitat such that an adverse impact on marine ecosystem functioning or integrity in a Commonwealth marine area results, or
- have a substantial adverse effect on a population of a marine species or cetacean including its life cycle (eg breeding, feeding, migration behaviour, and life expectancy) and spatial distribution, or
- result in a substantial change in air quality** or water quality (including temperature) which may adversely impact on biodiversity, ecological integrity, social amenity or human health, or
- result in persistent organic chemicals, heavy metals, or other potentially harmful chemicals accumulating in the marine environment such that biodiversity, ecological integrity, social amenity or human health may be adversely affected.

*Translocating or introducing a pest species may result in that species becoming established.

**The Commonwealth marine area includes any airspace over Commonwealth waters.

Table 9 *Western Australian Wildlife Conservation Act 1950* Conservation Codes

Conservation Code	Description
Schedule 1	"…fauna that is rare or likely to become extinct, are declared to be fauna that is in need of special protection."
Schedule 2	"…fauna that is presumed to be extinct, are declared to be fauna that is in need of special protection."
Schedule 3	"…birds that are subject to an agreement between the governments of Australia and Japan relating to the protection of migratory birds and birds in danger of extinction, are declared to be fauna that is in need of special protection."
Schedule 4	"…fauna that is in need of special protection, otherwise than for the reasons mentioned [in Schedule 1 – 3]"

Table 10 DEC Priority Fauna Codes

(Species not listed under the *Wildlife Conservation Act 1950*, but for which there is some concern).

Conservation Code	Description
Priority 1	Taxa with few, poorly known populations on threatened lands.
Priority 2	Taxa with few, poorly known populations on conservation lands. Taxa which are known from few specimens or sight records from one or a few localities on lands not under immediate threat of habitat destruction or degradation, e.g. national parks, conservation parks, nature reserves, State forest, vacant Crown Land, water reserves, etc.
Priority 3	Taxa which are known from few specimens or sight records, some of which are on lands not under immediate threat of habitat destruction or degradation.
Priority 4	Rare taxa. Taxa which are considered to have been adequately surveyed and which, whilst being rare (in Australia), are not currently threatened by any identifiable factors. These taxa require monitoring every 5 – 10 years.
Priority 5	Taxa in need of monitoring. Taxa which are not considered threatened but are subject to a specific conservation program, the cessation of which would result in the species becoming threatened within five years.

Table 11 Listing of Potentially Occurring Significant, Rare and Priority Fauna Species within 20 km of the Study Area, with Information Source

Genus	Species	Common Name	Listing under Wildlife Conservation Act 1950 or DEC Priority List	Listing under EPBC Act	Source of Information		
					DEC Database	EPBC Protected Matters Search Tool	NatureMap
Birds							
Macronectes	*giganteus*	Southern Giant-Petrel	S1	Endangered,		X	
Haliaeetus	*leucogaster*	White-bellied Sea-Eagle		Migratory, Listed, overfly marine areas		X	
Hirundo	*rustica*	Barn Swallow		Migratory, Listed, overfly marine areas		X	
Merops	*ornatus*	Rainbow Bee-eater		Migratory, Listed, overfly marine areas			
Ardea	*alba*	Great Egret, White Egret		Migratory, Listed, overfly marine areas		X	
Ardea	*ibis*	Cattle Egret		Migratory, Listed, overfly marine areas		X	
Charadrius	*veredus*	Oriental Plover, Oriental Dotterel		Migratory, Listed overfly marine areas		X	
Glareola	*maldivarum*	Oriental Pratincole		Migratory, Listed, overfly marine areas		X	

Genus	Species	Common Name	Listing under Wildlife Conservation Act 1950 or DEC Priority List	Listing under EPBC Act	Source of Information		
					DEC Database	EPBC Protected Matters Search Tool	NatureMap
Numenius	*minutus*	Little Curlew, Little Whimbrel		Migratory, Listed, overfly marine areas		X	
Ardeotis	*australis*	Australian Bustard	Priority 4		X		X
Numenius	*madagascariensis*	Eastern Curlew	Priority 4				X
Neochima	*ruficauda* subsp. *subclarescens*	Star Finch (western)	Priority 4		X		X
Apus	*pacificus*	Fork-tailed Swift		Migratory, Listed, overfly marine areas		X	
Mammals							
Mormopterus	*loriae* subsp. *cobourgiana*	Little North-western Mastiff Bat	Priority 1		X		X
Macrotis	*lagotis*	Bilby, Dalgyte	Schedule 1	Vulnerable			X
Dasycercus	*blythi*	Brush-tailed Mulgara, Ampurta	Priority 4				X
Dasyurus	*hallucatus*	Northern Quoll	Schedule 1	Endangered	X	X	X
Lagostrophus	*fasciatus* subsp. *fasciatus*	Banded Hare-wallaby	Schedule 1	Vulnerable	X		X
Rhinonicteris	*aurantius* (Pilbara form)	Pilbara Leaf-nosed Bat		Vulnerable		X	*
Reptiles							
Aspidites	*ramsayi*	Woma	Schedule 4				X

Table 12 WA Museum "NatureMap" Fauna Records within approx. 20 km of the Study Area

Species	Common Name	Status
Amphibian		
Cyclorana australis	Giant Frog	
Cyclorana maini	Sheep Frog	
Litoria rubella	Little Red Tree Frog	
Neobatrachus aquilonius	Northern Burrowing Frog	
Notaden nichollsi	Desert Spadefoot	
Opisthodon spenceri	Centralian Burrowing Frog	
Uperoleia russelli	Northwest Toadlet	
Bird		
Ardeotis australis	Australian Bustard	P4
Arenaria interpres subsp. *interpres*		
Artamus cinereus subsp. *melanops*		
Artamus leucorynchus	White-breasted Woodswallow	
Calidris ruficollis	Red-necked Stint	
Corvus orru subsp. cecilae	Western Crow	
Eopsaltria pulverulenta	Mangrove Robin	
Gallinago stenura	Pin-tailed Snipe	
Gallirallus philippensis subsp. *mellori*		
Gerygone tenebrosa	Dusky Gerygone	
Limnodromus semipalmatus	Asian Dowitcher	
Motacilla flava subsp. *simillima*		
Neochima ruficauda subsp. *subclarescens*	Star Finch (western)	P4
Numenius madagascariensis	Eastern Curlew	P4
Nycticorax caledonicus subsp. *hilli*		
Oceanites oceanicus	Wilson's Storm Petrel	
Pachycephala lanioides	White-breasted Whistler	
Passer montanus	Eurasian Tree Sparrow	
Ptilonorhynchus maculatus subsp. *guttatus*	Western Bowerbird	
Sterna caspia	Caspian Tern	
Sterna leucoptera	White-winged Black Tern	
Tringa brevipes	Grey-tailed Tattler	

Species	Common Name	Status
Tringa cinerea	Terek Sandpiper	
Turnix velox	Little Button-quail	
Mammal		
Antechinomys laniger	Kultarr	
Chaerephon jobensis	Northern Freetail-bat	
Dasycercus blythi	Brush-tailed Mulgara, Ampurta	P4
Dasykaluta rosamondae	Little Red Kaluta	
Dasyurus hallucatus	Northern Quoll	Endangered
Dugong dugon	Dugong	Schedule 1
Lagostrophus fasciatus subsp. *fasciatus* Bernier Is.	Banded Hare-wallaby (name not current)	Vulnerable
Macropus robustus subsp. *erubescens*	Euro, Biggada	
Macrotis lagotis	Bilby, Dalgyte	Vulnerable
Mormopterus loriae subsp. *cobourgiana*	Little North-western Mastiff Bat	P1
Nyctophilus arnhemensis	Arnhem Land Long-eared Bat	
Nyctophilus geoffroyi	Lesser Long-eared Bat	
Pseudomys hermannsburgensis	Sandy Inland Mouse	
Sminthopsis youngsoni	Lesser Hairy-footed Dunnart	
Sousa chinensis	Indo-Pacific Humpback Dolphin	P4
Vespadelus finlaysoni	Finlayson's Cave Bat	
Reptile		
Acanthophis pyrrhus	Desert Death Adder	
Amphibolurus longirostris		
Antaresia perthensis	Pygmy Python	
Antaresia stimsoni subsp. *stimsoni*		
Aspidites melanocephalus	Black-headed Python	
Aspidites ramsayi	Woma	Schedule 1
Chelonia mydas	Green Turtle	Vulnerable
Cryptoblepharus buchananii		
Ctenophorus caudicinctus subsp. caudicinctus		
Ctenophorus isolepis subsp. isolepis		
Ctenotus duricola		
Ctenotus hanloni		
Ctenotus helenae		

Species	Common Name	Status
Ctenotus pantherinus subsp. ocellifer		
Ctenotus rufescens		
Ctenotus saxatilis	Rock Ctenotus	
Ctenotus serventyi		
Delma haroldi		
Delma pax		
Demansia rufescens	Rufous Whipsnake	
Diplodactylus conspicillatus	Fat-tailed Gecko	
Diporiphora winneckei	Blue-lined Dragon	
Disteira stokesii		
Eremiascincus fasciolatus	Narrow-banded Sand Swimmer	
Eretmochelys imbricata subsp. *bissa*	Hawksbill Turtle (name not current)	
Fordonia leucobalia	White-bellied Mangrove Snake	
Furina ornata	Moon Snake	
Gehyra pilbara		
Gehyra punctata		
Gehyra purpurascens		
Gehyra variegata		
Hemidactylus frenatus	Asian House Gecko	
Hydrelaps darwiniensis		
Hydrophis elegans		
Lerista bipes		
Lerista clara		
Lialis burtonis		
Lucasium stenodactylum		
Menetia greyii		
Nephrurus levis subsp. *pilbarensis*		
Pogona minor subsp. *mitchelli*		
Pseudechis australis	Mulga Snake	
Pseudonaja modesta	Ringed Brown Snake	
Pseudonaja nuchalis	Gwardar	
Pygopus nigriceps		
Ramphotyphlops ammodytes		
Ramphotyphlops braminus		

Species	Common Name	Status
Ramphotyphlops grypus		
Ramphotyphlops pilbarensis		
Rhynchoedura ornata	Beaked Gecko	
Simoselaps anomalus	Desert Banded Snake	
Strophurus ciliaris subsp. *aberrans*		
Strophurus jeanae		
Suta punctata	Spotted Snake	
Tiliqua multifasciata	Central Blue-tongue	
Varanus acanthurus	Spiny-tailed Monitor	
Varanus eremius	Pygmy Desert Monitor	
Varanus gouldii	Bungarra or Sand Monitor	

Table 13 Fauna Species Observed During the Field Survey

Family	Genus	Species	Common Name	Status
Birds				
Accipitridae	*Accipiter*	*fasciatus*	Brown Goshawk	
Accipitridae	*Aquila*	*audax*	Wedge-tailed Eagle	Mi
Accipitridae	*Elanus*	*caeruleus*	Black-shouldered Kite	Mi
Accipitridae	*Haliastur*	*sphenurus*	Whistling Kite	Mi, Ma
Accipitridae	*Milvus*	*migrans*	Black Kite	Mi
Alaudidae	*Mirafra*	*javanica*	Singing Bushlark	
Alcedinidae	*Geopelia*	*cuneata*	Diamond Dove	
Alcedinidae	*Geopelia*	*humeralis*	Bar-shouldered Dove	
Alcedinidae	*Phaps*	*chalcoptera*	Common Bronzewing	
Artamidae	*Artamus*	*cinereus*	Black-faced Woodswallow	
Artamidae	*Cracticus*	*nigrogularis*	Pied Butcherbird	
Campephagidae	*Coracina*	*novaehollandiae melanops*	Black-faced Cuckoo-Shrike	Ma
Columbidae	*Ocyphaps*	*lophotes*	Crested Pigeon	
Corvidae	*Corvus*	*orru*	Torresian Crow	
Dicruridae	*Rhipidura*	*leucophrys*	Willie Wagtail	
Dricruridae	*Grallina*	*cyanoleuca*	Magpie-Lark	
Falconidae	*Falco*	*cenchroides*	Nankeen Kestrel	Ma
Falconidae	*Falco*	*longipennis*	Australian Hobby	Mi
Falconidae	*Falco*	*subniger*	Black Falcon	Mi
Halcyonidae	*Todiramphus*	*pyrrhopygia*	Red-backed Kingfisher	
Maluridae	*Malurus*	*leucopterus*	White-winged Fairy Wren	
Meliphagidae	*Lichenostomus*	*keartlandi*	Grey-headed Honeyeater	
Meliphagidae	*Lichenostomus*	*virescens*	Singing Honeyeater	
Meliphagidae	*Manorina*	*flavigula*	Yellow-throated Miner	
Meropidae	*Merops*	*ornatus*	Rainbow Bee-eater	Mi, Ma
Motacillidae	*Anthus*	*australis*	Australian Pipit	
Otididae	*Ardeotis*	*australis*	Australian Bustard	P4
Passeridae	*Taeniopygia*	*guttata*	Zebra Finch	
Phalacrocoracidae	*Phalacrocorax*	*sulcirostris*	Little Black Cormorant	
Phasianidae	*Coturnix*	*ypsilophora*	Brown Quail	
Psittacidae	*Cacatua*	*sanguinea*	Little Corella	

Family	Genus	Species	Common Name	Status
Psittacidae	*Eolophus*	*roseicapilla*	Galah	
Psittacidae	*Melopsittacus*	*undulatus*	Budgerigar	
Psittacidae	*Nymphicus*	*hollandicus*	Cockatiel	
Mammals				
Bovidae	*Bos*	*taurus*	European Cattle	*
Bovidae	*Capra*	*hircus*	Goat	*
Dasyuridae	*Dasycercus*	*cristicauda*	Mulgara	V, S1
Felidae	*Felis*	*catus*	Feral Cat	*
Macropodidae	*Macropus*	*rufus*	Red Kangaroo	
Reptiles				
Agamidae	*Ctenophorus*	*isolepis isolepis*	Central Military Dragon	
Scincidae	*Ctenotus*	*pantherinus ocellifer*	Leopard Ctenotus	
Scincidae	*Ctenotus*	*piankai*	Piankai Ctenotus	
Scincidae	*Ctenotus*	*saxatilis*	Rock Ctenotus	
Scincidae	*Ctenotus*	*serventyi*	Serventy's Skink	
Varanidae	*Varanus*	*acanthurus acanthurus*	Spiny-tailed Monitor	
Varanidae	*Varanus*	*brevicauda*	Short-tailed Pygmy Monitor	

* Introduced

GHD

GHD House, 239 Adelaide Tce. Perth, WA 6004
P.O. Box Y3106, Perth WA 6832
T: 61 8 6222 8222 F: 61 8 6222 8555 E: permail@ghd.com.au

© GHD 2009

This document is and shall remain the property of GHD. The document may only be used for the purpose for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

Document Status

Rev No.	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	E D'Raine	G Nielssen	G. Nielssen	A. Napier	A. C. Napier	21/6/10

Appendix E Department of Environment Regulation Approval

Government of **Western Australia**
Department of **Environment Regulation**

Your ref:
Our ref: CPS 5262/2
Enquiries: Derek Jenkins
Phone: 6467 5031
Fax: 6467 5532
Email: nvp@der.wa.gov.au

Mr David Cooper
Project Manager
Western Australian Land Authority T/A LandCorp
Locked Bag 5
Perth Business Centre
PERTH WA 6849

Dear Mr Cooper

NOTICE OF PROPOSED AMENDMENT TO CLEARING PERMIT CPS 5262/1

Please find enclosed a copy of proposed Clearing Permit CPS 5262/2. This amendment is a result of your request to amend condition 9 covered by Clearing Permit CPS 5262/1.

Thank you for the revised plan for the Management of Mulgara in the Boodarie Industrial Estate at Port Hedland and supporting information.

Please note, additional changes have been made to the permit to bring it in line with current practices.

Before making this amendment, I invite you to make any comments within 28 days regarding this matter in writing to:

Native Vegetation Conservation Branch
Department of Environment Regulation
Locked Bag 33
CLOISTERS SQUARE WA 6850

Under s51M(5)(a) of the *Environmental Protection Act 1986* you may waive the 28 day notice period in writing.

If you have any queries regarding this matter, please contact Mr Derek Jenkins at the Department's Native Vegetation Conservation Branch on 6467 5031.

Yours sincerely

Jane Clarkson
ACTING MANAGER
NATIVE VEGETATION CONSERVATION BRANCH

Officer delegated under Section 20
of the Environmental Protection Act 1986

30 January 2014

GOVERNMENT OF
WESTERN AUSTRALIA

CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

Purpose Permit number:	CPS 5262/2
Permit Holder:	Western Australian Land Authority T/A LandCorp
Duration of Permit:	23 November 2012 – 23 November 2017

The Permit Holder is authorised to clear native vegetation subject to the following conditions of this Permit.

PART I –CLEARING AUTHORISED

1. **Purpose for which clearing may be done**
   Clearing for the purpose of industrial development.

2. **Land on which clearing is to be done**
   Lot 600 on Deposited Plan 70566 (Boodarie)
   Lot 366 on Deposited Plan 42164 (Boodarie)
   Lot 409 on Deposited Plan 28588 (Boodarie)

3. **Area of Clearing**
   The Permit Holder must not clear more than 81.35 hectares of native vegetation within the area hatched yellow on attached Plan 5262/2.

4. **Application**
   This Permit allows the Permit Holder to authorise persons, including employees, contractors and agents of the Permit Holder, to clear native vegetation for the purposes of this Permit subject to compliance with the conditions of this Permit and approval from the Permit Holder.

5. **Type of clearing authorised**
   This Permit authorises the Permit Holder to clear native vegetation for activities to the extent that the Permit Holder has the right to access land under the *Land Administration Act 1997* or any other written law.

PART II – ASSESSMENT SEQUENCE AND MANAGEMENT PROCEDURES

6. **Avoid, minimise etc clearing**
   In determining the amount of native vegetation to be cleared authorised under this Permit, the Permit Holder must have regard to the following principles, set out in order of preference:
   (a) avoid the clearing of native vegetation;
   (b) minimise the amount of native vegetation to be cleared; and
   (c) reduce the impact of clearing on any environmental value.

7. **Weed control**
   When undertaking any clearing or other activity authorised under this Permit, the Permit Holder must take the following steps to minimise the risk of the introduction and spread of *weeds*:
   (a) clean earth-moving machinery of soil and vegetation prior to entering and leaving the area to be cleared;
   (b) ensure that no *weed*-affected soil, *mulch*, *fill* or other material is brought into the area to be cleared; and
   (c) restrict the movement of machines and other vehicles to the limits of the areas to be cleared.

8. Fauna management

The Permit Holder must implement and adhere to the document *Management of Mulgara in the Boodarie Industrial Estate at Port Headland – revised*, Ref: 2013-0057-002-gt, attached as Appendix A to this permit.

PART III - RECORD KEEPING AND REPORTING

9. Records must be kept

In relation to fauna management pursuant to condition 8 of this Permit:

(a) the location of each Mulgara recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees; and

(b) the location and date where relocated fauna were released, recorded using a Global Positioning System (GPS) unit set to Geocentric Datum Australia 1994 (GDA94), expressing the geographical coordinates in Eastings and Northings or decimal degrees.

10. Reporting

(a) The Permit Holder must provide to the CEO on or before 30 June of each year, a written report:
  (i) of records required under condition 9 of this Permit; and
  (ii) concerning activities done by the Permit Holder under this Permit between 1 July and 30 June of the preceding year.

(b) If no clearing authorised under this Permit was undertaken between 1 July to 30 June of the preceding calendar year, a written report confirming that no clearing under this permit has been carried out, must be provided to the CEO on or before 30 June of each year.

(c) Prior to 23 August 2017, the Permit Holder must provide to the CEO a written report of records required under condition 9 of this Permit where these records have not already been provided under condition 10(a) of this Permit.

DEFINITIONS

The following meanings are given to terms used in this Permit:

fill means material used to increase the ground level, or fill a hollow;

mulch means the use of organic matter, wood chips or rocks to slow the movement of water across the soil surface and to reduce evaporation; and

weed/s means any plant -

(a) that is a declared pest under section 22 of the *Biosecurity and Agriculture Management Act 2007*; or

(b) published in a Department of Parks and Wildlife Regional Weed Summary, regardless of ranking; or

(c) not indigenous to the area concerned.

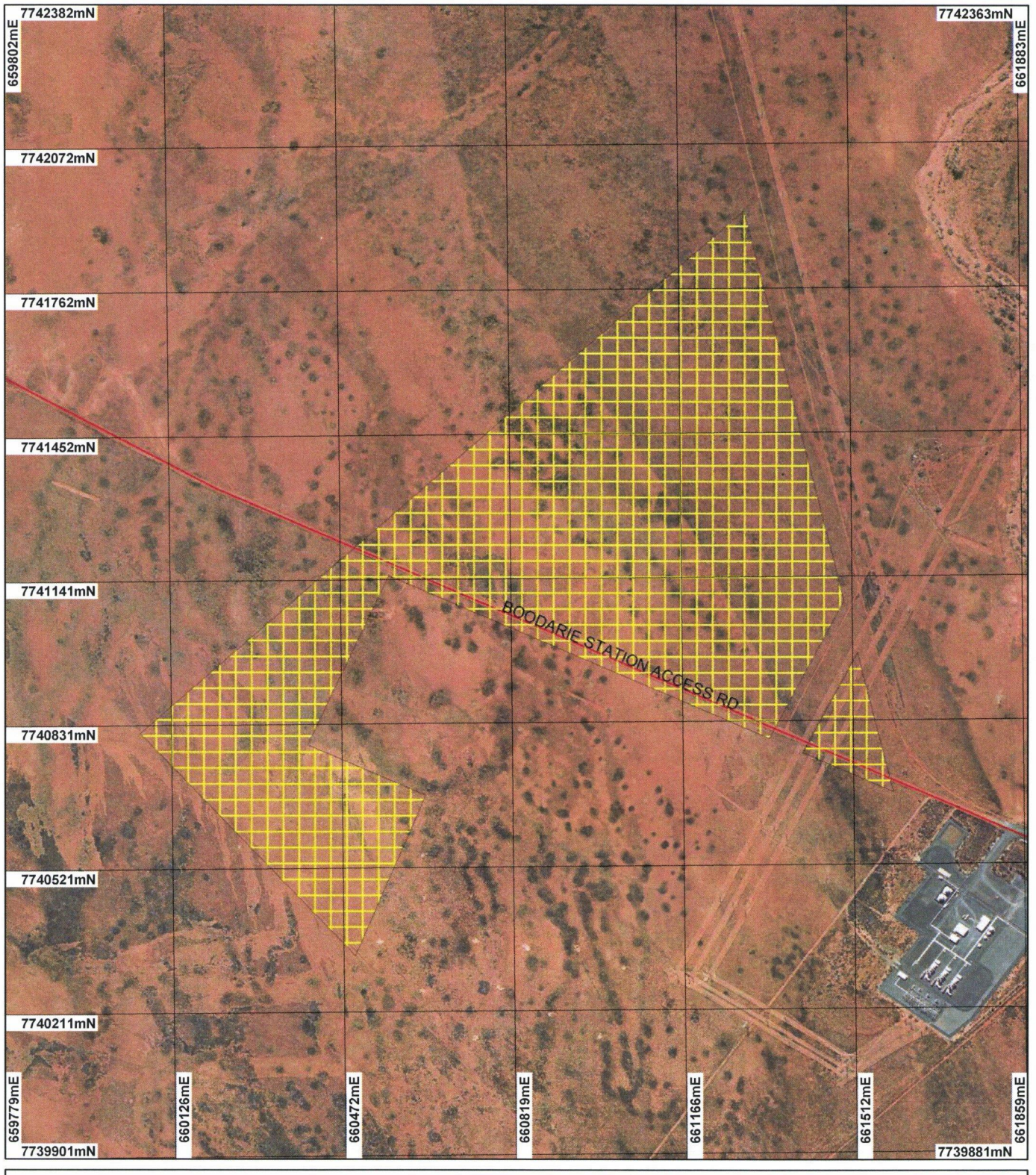
DRAFT

xxxxxxxxxxx

Officer delegated under Section 20
of the Environmental Protection Act 1986

xxxxxxxxxxx

Draft Plan 5262/2



LEGEND

- Road Centrelines
- Clearing Instruments
- Areas Approved to Clear

Port Hedland 50cm Orthomosaic - Landgate 2004

N

0 ~300 m

Scale 1:11445
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

..... Date .....
xxxxxxxxx

Information derived from this map should be confirmed with the data custodian acknowleged by the agency acronym in the legend.

Department of Environment and Conservation

Our environment, our future

WA Crown Copyright 2002

* Project Data is denoted by asterisk. This data has not been quality assured. Please contact map author for details.

Appendix A

Management of Mulgara in the Boodarie Industrial Estate at Port Hedland - revised

TERRESTRIAL ECOSYSTEMS
The Trustee for Thompson Family Trust
ABN: 40921131346

Ref: 2013-0057-002-gt

Management of Mulgara in the Boodarie Industrial Estate at Port Hedland - revised

1.1 Background

LandCorp applied for a Native Vegetation Clearing Permit to clear Lot 600 on Deposited Plan 70566 (Boodarie), Lot 366 on Deposited Plan 42164 (Boodarie) and Lot 409 on Deposited Plan 28588 (Boodarie). It is likely that this area supports Mulgara (*Dasycercus cristicauda* or *D. blythi*) as they have been caught in similar habitat nearby.

The Vegetation Clearing Permit included a condition relating to fauna management that read as follows:

9(a) Prior to undertaking any clearing authorised under this Permit, the area(s) shall be inspected by a *fauna specialist* who shall identify burrow/s suitable to be utilised by Crested-tail Mulgara (*Dasycercus cristicauda*);

(b) Prior to clearing, any burrow identified in condition 9(a) shall be inspected by a *fauna specialist* for the presence of fauna listed in condition 9(a);

(c) Where fauna are identified in relation to condition 9(b) of this permit, the Permit Holder shall ensure that:

i. No clearing of the identified burrow/s occurs, unless approved by the CEO;

ii. No clearing occurs within 50 metres of the identified burrow/s unless approved by the CEO;

iii. No taking of identified fauna occurs unless approved by the CEO.

LandCorp considered these conditions unworkable because of the continual referral to the CEO of the Department of Parks and Wildlife, should burrows be found.

In response to these conditions LandCorp engaged GHD to prepare an Environmental Management Plan to further detail the management strategies. The Department of Environment and Conservation (DEC; now Department of Parks and Wildlife; DPaW) indicated that it was not reasonable to rely on Mulgara relocating out of an area on their own accord (i.e. they are known to have high site fidelity) and a trapping and translocation program was required. They also indicated that Mulgara should not be trapped during the breeding season (i.e. May to September, inclusive). Furthermore, they indicated that measures such as barriers should be erected to ensure related individuals do not return to the disturbed area and that follow-up monitoring is undertaken to determine the success of the translocations.

Below is a proposed alternative management protocol that will protect Mulgara in the project area.

1.2 Conservation status of Mulgara

The Crest-tailed Mulgara (*Dasycercus cristicauda*) is currently listed as Vulnerable under the *EPBC Act 1999* and Schedule 1 under the *WA Wildlife Conservation Act 1950* and the Brush-tailed Mulgara (*Dasycercus blythi*) is listed as a Priority 4 species with the DPaW. In 2010, the Commonwealth Government indicated that for the purposes of the *EPBC Act* all Mulgara in the Pilbara would be considered to be *D. cristicauda* until the taxonomic issue has been resolved by the Australian Government Threatened Species Scientific Committee. In May 2012, Department of Sustainability, Environment, Water, Population and Communities (2012) released a discussion paper on the possibility of delisting *Dasycercus hillier* and listing *D. blythi* under the *EPBC Act*, presumably as a vulnerable species.

1.3 Conservation expectation for Mulgara

Based on recent Native Vegetation Clearing Permits and EPBC Controlled Action approvals, both the DPaW and the Commonwealth Department of the Environment (DoE) expect that no Mulgara are killed or injured

during the vegetation clearing program or subsequent land development. Mulgara in potential impact areas should be trapped and translocated to avoid these impacts. Special provisions are required during the breeding season to ensure that translocated lactating females do not leave their young in the burrow, as they would quickly perish.

1.4 Ecology

Mulgara are generally sedentary in contrast with some other small dasyurids and have high site fidelity and a low propensity for dispersal once a home range has been established (Masters 1998, Dickman et al. 2001, Masters 2003). Masters (2003) indicated home ranges vary in size from 1.0 to 14.4ha (mean 6.5ha), with some overlap, however, Kortner et al. (2007) reported home ranges for males to average 25.5ha and for females to average 10.8ha. Burrows are mostly used by a single individual, but males and females have been found together in a single burrow during the breeding season (Masters 2003, Thompson and Thompson 2007). Kortner et al. (2007) reported that 10 of 68 burrows they monitored were used by multiple Mulgara and one individual returned to the same burrow on 32 of 52 days monitored. Masters (2003) reported an individual's burrows in her study area were concentrated in a relatively small area, as the average maximum distance across a home range was about 440m. In the Pilbara, Thompson and Thompson (2007, 2008) reported catching nine Mulgara in an area of 22ha and 50 in 210ha, and about 200 trap-nights were required to catch each Mulgara in areas with a relatively high density; Mulgara are therefore not 'trap-friendly'.

1.5 Conservation actions

As clearing of the vegetation will most likely result in the demise of Mulgara, it is necessary that all individuals within areas to be cleared be relocated prior to the disturbance and vegetation clearing. The following sequence of actions is to be implemented:

Action 1 The project area is investigated by a fauna specialist with a good knowledge of Mulgara habitat, burrows and ecology and based on this site investigation, areas potentially supporting Mulgara shall be mapped. The investigation will also include areas immediately adjacent to the project area to determine the potential for Mulgara to move in from adjacent areas.

Action 2 Areas mapped as potentially supporting Mulgara are to be trapped within eight weeks of vegetation clearing. The trapping program will use baited aluminium box traps placed at 25m centres (i.e. 16 traps per ha) for a minimum period of 7 consecutive nights. Should a Mulgara be caught, then the trapping will continue until three consecutive nights are achieved without a capture. As approved by the Department of Parks and Wildlife (TF006261), traps will be cleared within 4 hours of sunrise, rebaited every third day or earlier if required and remain open during the day. All trapped vertebrates will be translocated (see action 5). Traps will be monitored for the impact of ants, and if ants are at a level where they could cause harm to trapped animals they will be closed and removed or moved. All-terrain vehicles are recommended for laying out and checking the traps to ensure that a large enough number of traps are used and that they are cleared sufficiently early each morning.

Action 3 Upon the completion of trapping the project area will be again inspected for recent signs of Mulgara, and trapping will continue if recent signs are observed.

Action 4 Any lactating female caught without young attached during the trapping program will have a radio-transmitter attached by a collar and released at the capture site. This female will then be located the following morning hopefully in a burrow with her young. The female and her young will be dug from the burrow and relocated as a family group. The collar will be removed from the lactating female prior to release as the behavioural impacts from radio-transmitters are unknown and could put the lactating mothers or dependant young at risk.

Action 5 All Mulgara will be relocated into suitable habitat. Mulgara are relatively sedentary animals, however, previous radio-tracking experience indicates that Mulgara are capable of moving 450m or more each night when placed in an unfamiliar area. The relocation site will be chosen so that it has a large area of intact suitable habitat and is far enough away so that Mulgara are

unlikely to return to the project area. Ideally the relocation site will have no evidence of other Mulgara.

Action 6 All burrows recorded in the project area will be dug out and closed during the trapping program.

Action 7 Follow up monitoring using radio-transmitters of all released non-lactating females and male Mulgara will be conducted weekly for up to 6 weeks to determine whether relocations were successful. Juvenile Mulgara and lactating females will not be radio-collared.

1.6 Licensing

A Regulation 15 Licence has been issued to Terrestrial Ecosystems (TF006261) by the DPaW under the *Wildlife Conservation Act (1950)* to conduct the Mulgara trapping and relocation within the Boodarie Industrial Estate.

1.7 Reporting

A map of the entire area showing those areas that contain suitable habitat for Mulgara should be prepared prior to any trapping and translocation program.

A brief written report outlining the methodology, results and outcomes is necessary at the conclusion of Action 1.

It is a requirement of the Regulation 15 licence that all animals caught and translocated are reported to DPaW, which will be done near the expiration of the license.

A brief written report on the trapping and monitoring program, its outcome and the relocation program is required at the conclusion of each trapping, translocation and monitoring program. Maps showing the location of all traps, location of fauna captured, release sites and burrows should be produced. Supporting photos of the habitat, burrows and captures should be included in the report.

References

Department of Sustainability Environment Water Population and Communities. 2012. Invitation to comment on the proposed delisting of *Dasycercus hillieri* and listing *Dasycercus blythi* under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). Canberra.

Dickman, C. R., A. S. Haythornthwaite, G. H. McNaught, P. S. Mahon, B. Tamayo, and M. Letnic. 2001. Population dynamics of three species of dasyurid marsupials in arid central Australia: a 10 year study. Wildlife Research **28**:493-506.

Kortner, G., C. R. Pavey, and F. Geiser. 2007. Spatial ecology of the mulgara in arid Australia: impact of fire history on home range size and burrow use. Journal of Zoology **273**:350-357.

Masters, P. 1998. The Mulgara *Dasycercus cristicauda* (Marsupialia: Dasyuridae) at Uluru National Park, Northern Territory. Australian Mammalogy **20**:403-404.

Masters, P. 2003. Movement patterns and spatial organisation of the mulgara, *Dasycercus cristicauda* (Marsupialia: Dasyuridae), in central Australia. Wildlife Research **30**:339-344.

Thompson, G. G. and S. A. Thompson. 2007. Shape and spatial distribution of Mulgara (*Dasycercus cristicauda*) burrows, with comments on their presence in a burnt habitat and a translocation protocol. Journal of the Royal Society of Western Australia **90**:195-202.

Thompson, G. G. and S. A. Thompson. 2008. Abundance and spatial distribution of five small mammals at a local scale. Australian Mammalogy **30**:65-70.