Anomalies Panel Recommendations

Date forwarded to Anomalies Panel: 21 August 2006

Anomalies confirmed:

Property based storage volume:

- Certification indicates 472,000 ML.
- Infrastructure assessment volume indicates 462,500ML
- Claim that 7,000 ML held in Cubbie storages on behalf of Kelso.

Panel Recommendations:

- Overland licence relates to a property.
- The certified figure exceeds the infrastructure assessment volume by 2%.
- No known moratorium breaches
- To be consistent with other property comparisons where the infrastructure assessment is consider less accurate than the certified volume, panel recommends total of 472,000 be accepted as property volumetric limit.
- Conjunctive licence between Kelso and Cubbie for OLF could be considered.

Rate of Take:

- Certification indicates a maximum capacity of 20,920 ML/day.
- Infrastructure assessment indicates a maximum of 8500 ML/day.
- Certifier has recorded that the landholder takes 8500 + 270 (nominally taken on behalf of Kelso)

Panel Recommendations:

- Adopt a rate of take of 8500 ML/day less 5%.
- To include 270 ML/day would recognise an additional take above what has been adopted and advised with respect to the infrastructure assessment.
- For the 270 ML/day to be recognised it would be necessary for the landholder to provide evidence that the actual take has historically been at the level of 8770 ML/day.

RTI DO RELEASE - DNRM

References

Please see attached

Attachments

Please see attached

Director, Water Planning (SW) Recommendation/s:

Date forwarded to Director Water Planning: 22/08/06

The Director endorse Anomalies panel recommendations: ( )

or

The Director endorse Anomalies panel recommendations with the following changes: (X)

Clause 29 of the CB WRP requires the chief executive when deciding the

volumetric limit for taking unsupplemented water under an allocation in the Lower Balonne to have regard to the lesser of the following two factors:

- the total capacity for storing water by existing works and
- the volume decided by the chief executive based on information supplied by the authorisation holder for the infrastructure assessment.

To be consistent with the WRP intent and provisions it is recommended that total of 462,500ML be adopted as the property volumetric limit.

Related Issues:

- Cubbie Station overland flow certification report dated 28 June 2006 stated references of take and storage of water in works located on Cubbie on behalf of Kelso which confirmed the Kelso's earlier correspondence dated 28 August 2004.
- It is proposed to write to owners of Cubbie Station seeking further clarification whether the storage volume information supplied by Cubbie Station as part the infrastructure assessment (462,500 ML) includes the volume of 7000 ML referred to storage of water in works located on Cubbie on behalf of Kelso. Similarly, whether the rate of take information supplied by Cubbie Station (8500ML/day) includes that 270 ML /day that has been diverted by Cubbie Station for Kelso. (Copy of draft letter to Cubbie attached)
- It is proposed to write to owners of Kelso informing them of the letter to Cubbie Station seeking clarification. (Copy of the draft letter to Kelso attached)
- As the water taken through the Cubbie Station works is used on both Cubbie Station and Kelso, it may be appropriate to issue a single joint OLF licence (if approved) in the names of Kelso and Cubbie Station. It would be up to Kelso and Cubbie Station to take such contractual arrangements as necessary concerning ownership and supply of water from the storage.

or
The Director endorse an alternative preference ( )

General Manager

GM endorses Director Water Planning (SW) recommendations on further action: ( )

or
Alternative action proposed:

Comment:

Signature:

Date:

RTI DL RELEASE - DNRM

Deputy Director General's Final Decision

DDG Approves GM's recommendations on further action ( )

or
Alternative action required:

Comment:

DDG Signature:

Date:

RTI DL RELEASE - DNRM

Anomalies Panel Recommendations

Date forwarded to Anomalies Panel: 21 August 2006

Anomalies confirmed:
Property based storage volume:

- 7,500 ML as "type A" water claimed in letter to the department in 8-Nov-2002.
- No infrastructure identified on Kelso through certification at this time.
- 7,000 ML storage claimed to be held within Cubbie works

Panel Recommendations:

- Recommend that storage be noted as waiting for information until certification for Kelso works is received.

Rate of Take:

- No rate recognised as part of infrastructure assessment.
- Cubbie certification notes that 270 ML/day is taken on behalf of Kelso.
- No certification has been received.

Panel Recommendations:

- Recommend that rate of take be noted as waiting for information until certification for Kelso works is received.

RTI DL RELEASE - DNRM

References

Please see attached

Attachments

Please see attached

Director, Water Planning (SW) Recommendation/s:

Date forwarded to Director Water Planning: 22/08/06

The Director endorse Anomalies panel recommendations: ( )

or
The Director endorse Anomalies panel recommendations with the following changes: ( )

or
The Director endorse an alternative preference (X)

Rationale:

- Information on OLF works (embankments) supplied by 'Kelso' dates back 8 November 2002.
- Department recognised capture of Type A water on Kelso by these works and determined to include in the IQQM with a storage of up to 7000 ML. This was confirmed to Kelso in a letter dated 4 August 2003.
- Kelso subsequently advised the Department on 28 August 2004 that the storage capacity of 7000 ML Exists on Cubbie Station under a joint amalgamated operation and that diversion to this storage at a rate 270 ML/day occurs on Cubbie Station.
- Cubbie Station overland flow certification report dated 28 June 2006 stated references of take and storage of water in works located on Cubbie on behalf of Kelso which confirmed the Kelso's earlier correspondence dated 28 August 2004.
- It is proposed to write to owners of Cubbie Station seeking further clarification whether the storage volume information supplied by Cubbie Station as part the infrastructure assessment (462,500 ML) includes the volume of 7000 ML referred to storage of water in works located on Cubbie on behalf of Kelso. Similarly, whether the rate of take information supplied by Cubbie Station (8500ML/day) includes that 270 ML /day that has been diverted by Cubbie Station for Kelso. (Copy of draft letter to Cubbie attached)
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General Manager

GM endorses Director Water Planning (SW) recommendations on further action:
( )

or
Alternative action proposed:

Comment:

Signature:

Date:

RTI DL RELEASE - DNRM

Deputy Director General's Final Decision

DDG Approves GM's recommendations on further action ( )

or
Alternative action required:

Comment:

DDG Signature:

Date:

RTI DL RELEASE - DNRM

Pages 7 through 14 redacted for the following reasons:
- -
s.37(3)(d) Deferral of access

From: Moran Peter
Sent: Friday, 18 August 2006 1:23 PM
To: Goudie Steve
Cc: Levings Patrick; Joseph Saji; Vanderheijde Karin; Bartlem Mark; Harding Paul; Wheeler Mark
Subject: RE: Request for other information - Kelso

Attachments: FW: Letter

Steve,
Further to our discussion this morning, I advise that the Department received a Kelso letter in August 2004.
I have spent some time and searched my past emails and have located the following email with the Kelso letter attached. I have spoken about this letter for a while now. I saved a copy of the letter on our computer system in Brisbane and I understand that Pat Levings has located the letter and distributed.
Shortly after receiving the letter I was asked to provide an assessment and comparison with the information in the Property Irrigation Infrastructure and License Information report dated April 2003. I am still searching for my work file, but my memory of the assessment and comparison undertaken at that time is that the letter provided an upper bound of what could be justified in terms of the rate of take (7000 ML storage volume in letter and in model) and could be justified in addition to the April 2003 documented Cubbie storage and rates of take on the basis of a joint operation between Cubbie and Kelso.
I will continue searching for my work file.
Regards,
Peter Moran.
32247227

-----Original Message-----
From: Goudie Steve
Sent: Thursday, 17 August 2006 3:44 PM
To: Levings Patrick; Moran Peter; Joseph Saji; Vanderheijde Karin; Bartlem Mark; Harding Paul; Burgess Gary
Subject: Request for other information - Kelso
Importance: High

Folks

After digesting my previous email.

Do you have any information related to the property Kelso.

Any emails, notes or letters, etc that might be relevant to

- the calculation of a storage volume ;
- the calculation of the rates and flow conditions for taking overland flow; or
- any arrangements, contracts or agreements between Cubbie and Kelso

Can you clarify any dates when this information came to our attention, (if that is not clear on the correspondence).

If possible can you please scan (any original letters) and provide to me before lunch time Friday 18 August.

any questions please call

cheers

Steve Goudie
Senior Natural Resources Officer
Department of Natural Resources, Mines and Water
South West Region
203 Tor St, PO Box 318 Toowoomba, 4350
Phone (07) 46881159 Fax (07)46881478

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Pages 17 through 24 redacted for the following reasons:
- -
s.37(3)(d) Deferral of access

Infrastructure assessment –
Background

How the information was collected

- Between1999 and 2002, the department undertook a number of "Ad hoc" approaches to collect information about storage capacities for irrigation infrastructure in the Lower Balonne for IQQM modelling. The department requested this information through fax – along with any other information that the department had on file at the time - and irrigators returned a fax with an update of their information. This information set is a little bit hit-miss, but was used as the basis for the infrastructure assessment.
- In November 2002 the information that the department held about irrigation infrastructure was assessed by interviewing irrigators. The interviews were held at St George on the 28 and 29 Nov 2002 and conducted by Gary Burgess, Paul Harding and Pat Levings. At this interview very specific questions were asked about volume of infrastructure on the property and the capacity to take overland flow water – irrespective of A and B water. The primary purpose of this process was to update the IQQM for a "moratorium" case.
- Site visit were made to a number of properties where more information was required.
- The department also conducted an assessment of the storages in the St George Irrigation Area through a fax and return process.
- The information was compiled between February and March 2003. Phone calls and faxes were made to landholders to confirm or update the information. In mid-March a final fax was sent to each landholder. Where there was no further communication, this was accepted as the best summary of the information. The property maps alongside, waterharvesting and overland flow information were compiled into the infrastructure assessment report dated April 2004.
- This report has essentially remained the same apart from including a number of outstanding decisions from the Minister regarding variations to the moratorium – most notably Cubbie – and to include a property map for Kia Ora.

Where is the information –

- The information is in property_infrastructure_master.pdf and currently resides in G:\Water Plan\Water Plan-SW\Program Management\Deliverables\WRP\Condamine Balonne\Maps and GIS\OLF_audit.
- This has recently been updated to property_infrastructure_master V3.pdf.

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Name	Property(ies)	Contact 11/02	Interview 11/02	Information received	Storage info	Storage priority	Pump info	OLF infrastructure	OLF windows	OLF div rates
Andrew Ferguson (E-mail) (E-mail);	Ingie	Message		Fax 12/02	Yes					
Andrew Sevil (E-mail) (E-mail);	Whyenbah	Message		Fax 7/00	Yes	N/A	Yes	N/A	N/A	N/A
Chad Prescott (E-mail) (E-mail);	Kurray	Yes	29/11/2002 11:00	Interview	Yes	Yes	Yes	Yes	Yes	
Colin Stewart (E-mail) (E-mail);	Strathboogie	Message		Visit 6/01	Yes					
Craig Saunders (E-mail);	Ford Park	Yes	28/11/2002 10:15	Interview	Yes	N/A	Yes	N/A	N/A	N/A
David Blaket (E-mail) (E-mail);	SGIA	Yes	No	No	N/A	N/A	N/A	N/A	N/A	N/A
David Carson (E-mail) (E-mail);	Hoolavale	Yes	28/11/2002	Interview	Yes	Yes	Yes	Yes	Yes	Yes
David Hardie (E-mail) (E-mail);	Tooroora	Yes	28/11/2002	Interview	Yes	Yes	Yes	Yes	Yes	Yes
Don Crothers (E-mail) (E-mail);	Booligar	Yes	28/11/2002 0:00	Interview	Yes		Yes	N/A	N/A	N/A
Doug Sue Deshon (E-mail) (E-mail);	Euraba	Yes	28/11/2002 8:45	Interview	Yes	Yes	Yes	Yes	Yes	Yes
Glen Graham (E-mail) (E-mail);	Kia Ora, Bubbymaur, Gulnarbar, Beardie	Yes	29/11/2002 8:00	Interview	Yes		Yes	Yes	Yes	
Graham Armstrong (E-mail) (E-mail);	Doondi	Yes	No	Fax 12/02	Yes					
Hamish McIntyre (E-mail) (E-mail);	Clyde, Cavillon	Yes	28/11/2002	Interview	Yes	Yes	Yes	Yes	Yes	Yes
Henry Crothers (E-mail) (E-mail);	Moorenbah	Yes	28/11/2002	Interview	Yes		Yes	Yes	Yes	Yes
Henry McDonald (E-mail) (E-mail);	Glenbrae	Yes	No	Fax 7/00	Yes					
Ian Cush (E-mail) (E-mail);	Wynella	Yes	29/11/2002 9:30	Interview	Yes		Yes			
Ian Todd (E-mail) (E-mail);	Wagaby	See Paul B.		Interview	Yes					
John Grabbe (E-mail) (E-mail);	Cubbie	yes	29/11/2002 11:00	Interview	Yes		Yes	Yes	Yes	Yes
John Knights (E-mail) (E-mail);	UT, Glendouglas	Yes	28/11/2002 3:30	Interview	Yes		Yes	N/A	N/A	N/A
John Price (E-mail) (E-mail);	Eurobadalla	Yes	No	Fax	Yes		Yes			
Jonathon Burrell (E-mail) (E-mail);	Trafalgar	Yes	Unavailable	Fax 12/02	Yes		Yes	Yes		
Kent Benn (E-mail) (E-mail);	South Katoota	No answer		Visit	Yes					
Mal & Scott Armstrong (E-mail) (E-mail);	Darren	Yes	28/11/2002 11:45	Interview	Yes		Yes	N/A	N/A	N/A
Paul Brimblecombe (E-mail) (E-mail);	Anchorage, Upson Downs	Yes	29/11/2002 10:15	Interview	Yes	Yes				
Richard Lomman (E-mail) (E-mail);	Table Grapes	Yes	28/11/2002	Interview	Yes	Yes	Yes	N/A	N/A	
Robert & Charlie Gracie (E-mail) (E-mail);	Katoota	Message		Fax 7/00	Yes					
Simon Hall (E-mail) (E-mail);	Ballandool	Yes		Interview	Yes	Yes	Yes	Yes	Yes	Yes
Tom Siddins (E-mail) (E-mail);	Lower Plains	Yes	See John Grabbe	Fax 12/02	Yes	Yes	Yes	Yes		Yes
Han Lap (McKosker)	Brookdale	Yes	28/11/2002	Fax 7/00	Yes		Yes			
John Benn	Bundoran	Yes	No	Visit 01	Yes		N/A	N/A	N/A	N/A
Zappia		No answer			?					
Laurie Pola	Kilcummin	Yes	29/11/2002 8:45	Interview	Yes		Yes	Yes	Yes	Yes
Russell Dowling	Mooramanna	Yes	28/11/2002	Interview	Yes		Yes	Yes	Yes	Yes
Mario Brischettio		Message			?					
Peter Redgen	Wynona	No answer			?					
John Dowling	Andermatt	Yes	29/11/2002	Interview	Yes		Yes	N/A	N/A	N/A

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To Contact

Brookglen pty ltd	Bullawarie	No contact		Fax 7/00	Yes					
WD Knights	Tarilla	No contact		Fax 7/00	Yes					
JD Rhea	Moolabah	No contact			?					
Schutt	Ingaby Station	No contact		Fax 7/00	Yes					
Les Boully	Kelso	No contact			No					

	High Priority information
	Low Priority information

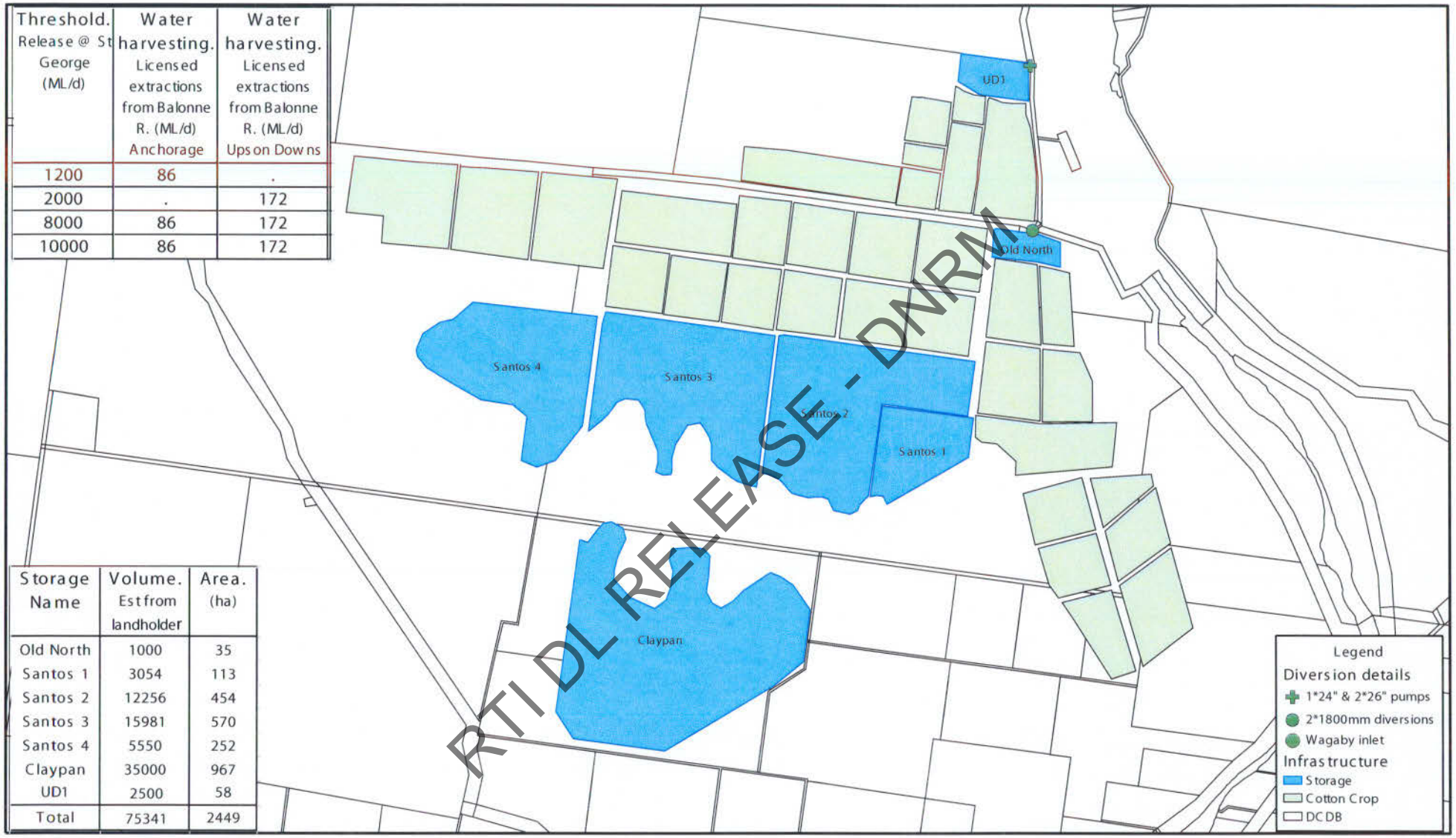
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Property Irrigation Infrastructure and License Information

Property Maps

RTI DL RELEASE - DNRM

Threshold. Release @ St George (ML/d)	Water harvesting. Licensed extractions from Balonne R. (ML/d) Anchorage	Water harvesting. Licensed extractions from Balonne R. (ML/d) Upson Downs
1200	86	.
2000	.	172
8000	86	172
10000	86	172



Storage Name	Volume. Est from landholder	Area. (ha)
Old North	1000	35
Santos 1	3054	113
Santos 2	12256	454
Santos 3	15981	570
Santos 4	5550	252
Claypan	35000	967
UD1	2500	58
Total	75341	2449

Scale

Transverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Anchorage and Upson Downs

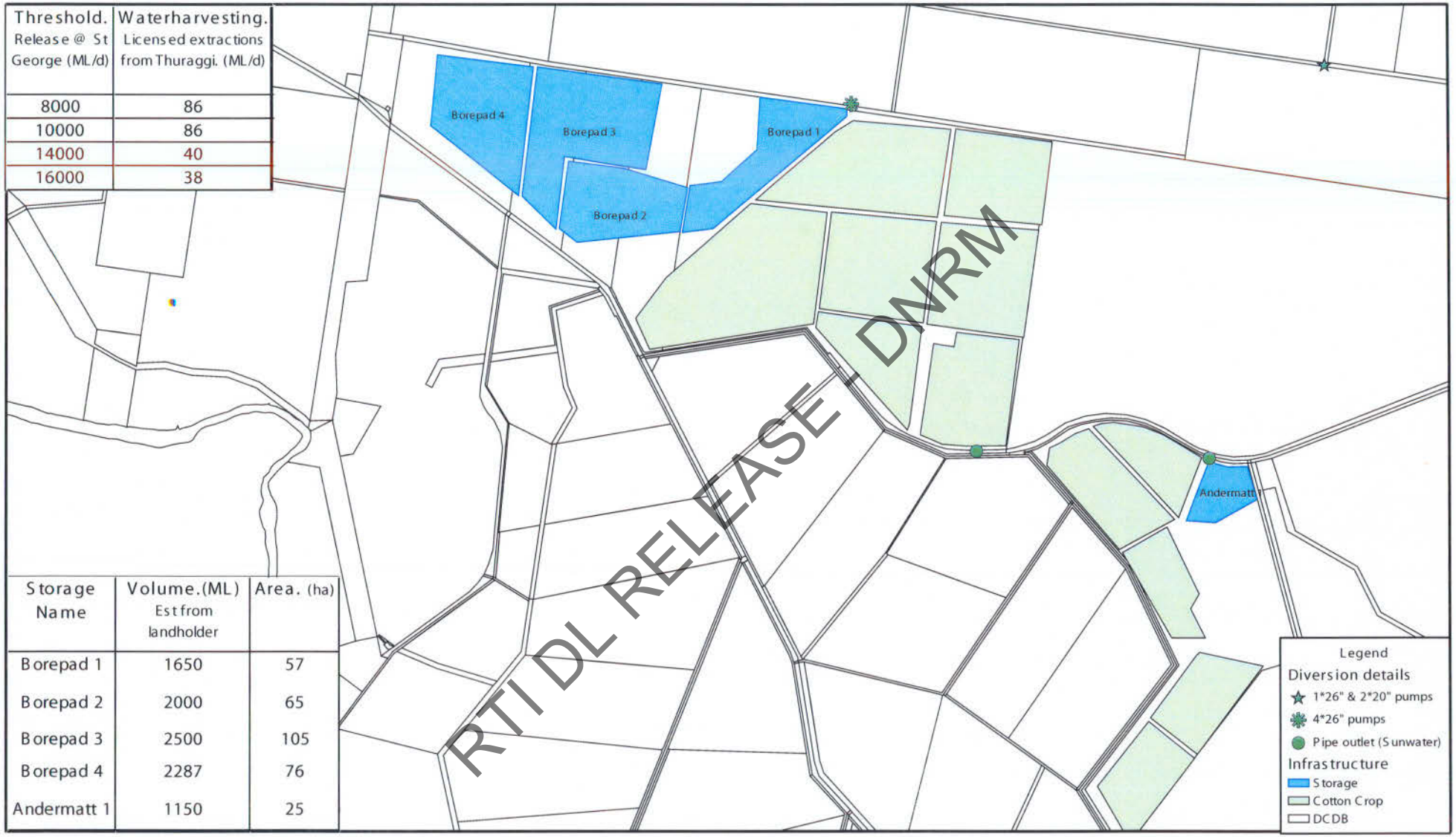
Queensland Government Natural Resources and Mines

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Disclaimer: Details of overland flow and infrastructure represents information provided by the relevant landholder.

RTI DL RELEASE - DNRM

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Thuraggi. (ML/d)
8000	86
10000	86
14000	40
16000	38



Storage Name	Volume.(ML) Est from landholder	Area. (ha)
Borepad 1	1650	57
Borepad 2	2000	65
Borepad 3	2500	105
Borepad 4	2287	76
Andermatt 1	1150	25

RTI DL RELEASE - DNRM

Scale

Transverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Gubberamunda

Queensland Government Natural Resources and Mines

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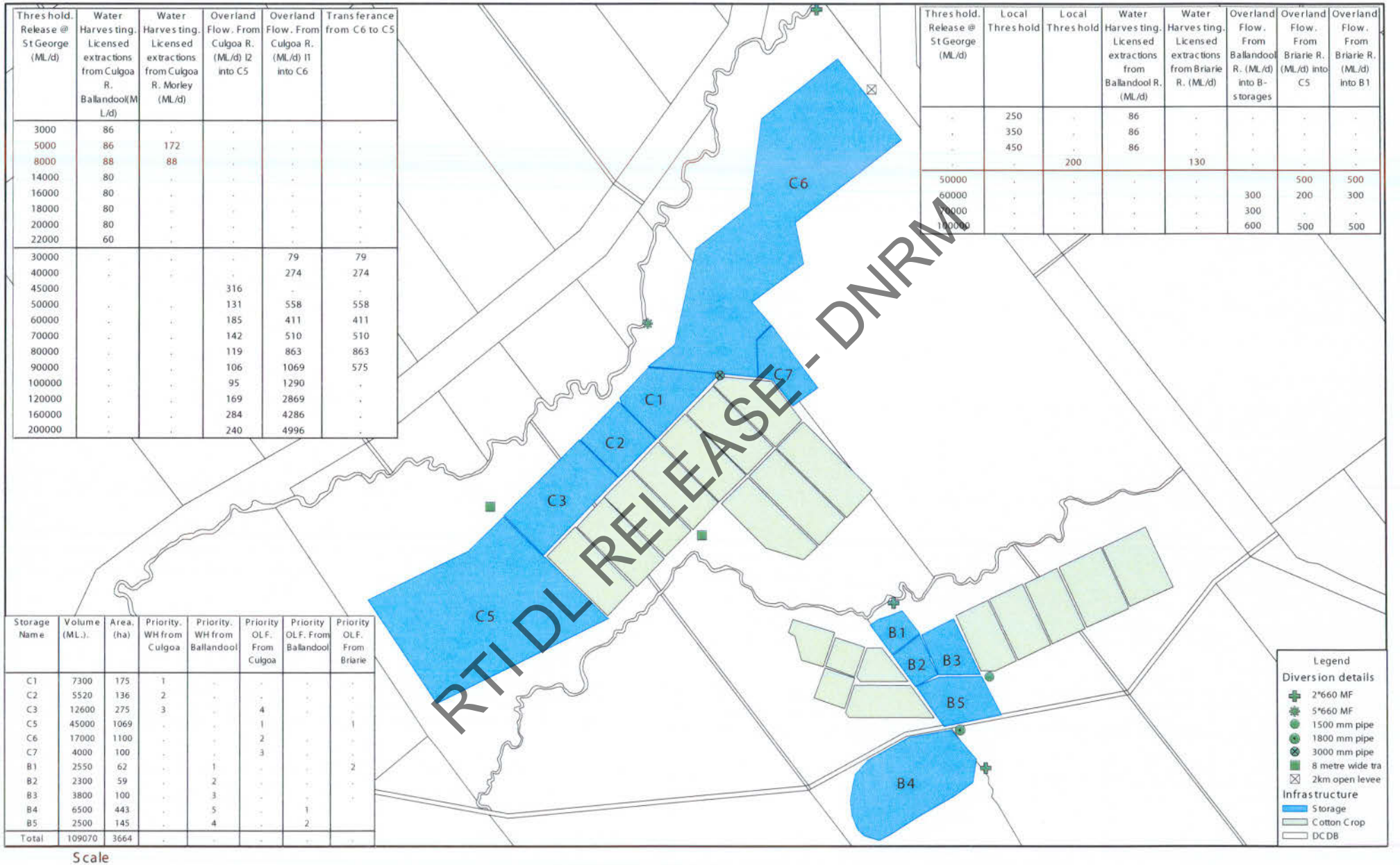
Disclaimer: Details of overland flow and infrastructure represents information provided by the relevant landholder.

Release

Threshold. Release @ St George (ML/d)	Water Harvesting. Licensed extractions from Culgoa R. Ballandool(ML/d)	Water Harvesting. Licensed extractions from Culgoa R. Morley (ML/d)	Overland Flow. From Culgoa R. (ML/d) I2 into C5	Overland Flow. From Culgoa R. (ML/d) I1 into C6	Transferance from C6 to C5
3000	86	.	.	.	.
5000	86	172	.	.	.
8000	88	88	.	.	.
14000	80	.	.	.	.
16000	80	.	.	.	.
18000	80	.	.	.	.
20000	80	.	.	.	.
22000	60	.	.	.	.
30000	.	.	.	79	79
40000	.	.	.	274	274
45000			316	.	.
50000	.	.	131	558	558
60000	.	.	185	411	411
70000	.	.	142	510	510
80000	.	.	119	863	863
90000	.	.	106	1069	575
100000	.	.	95	1290	.
120000	.	.	169	2869	.
160000	.	.	284	4286	.
200000	.	.	240	4996	.

Threshold. Release @ St George (ML/d)	Local Threshold	Local Threshold	Water Harvesting. Licensed extractions from Ballandool R. (ML/d)	Water Harvesting. Licensed extractions from Briarie R. (ML/d)	Overland Flow. From Ballandool R. (ML/d) into B-storages	Overland Flow. From Briarie R. (ML/d) into C5	Overland Flow. From Briarie R. (ML/d) into B1
.	250	.	86	.	.	.	.
.	350	.	86	.	.	.	.
.	450	.	86	.	.	.	.
.	.	200		130	.	.	.
50000	.	.	.	.		500	500
60000	.	.	.	.	300	200	300
80000	.	.	.	.	300	.	.
100000	.	.	.	.	600	500	500

Storage Name	Volume (ML.).	Area. (ha)	Priority. WH from Culgoa	Priority. WH from Ballandool	Priority OLF. From Culgoa	Priority OLF. From Ballandool	Priority OLF. From Briarie
C1	7300	175	1	.	.	.	.
C2	5520	136	2	.	.	.	.
C3	12600	275	3	.	4	.	.
C5	45000	1069	.	.	1	.	1
C6	17000	1100	.	.	2	.	.
C7	4000	100	.	.	3	.	.
B1	2550	62	.	1	.	.	2
B2	2300	59	.	2	.	.	.
B3	3800	100	.	3	.	.	.
B4	6500	443	.	5	.	1	
B5	2500	145	.	4	.	2	
Total	109070	3664	.	.	.	.	.



RTI DL RELEASE - DNRM

Scale

0 0.5 1 2 3 4 Kilometers

Transverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

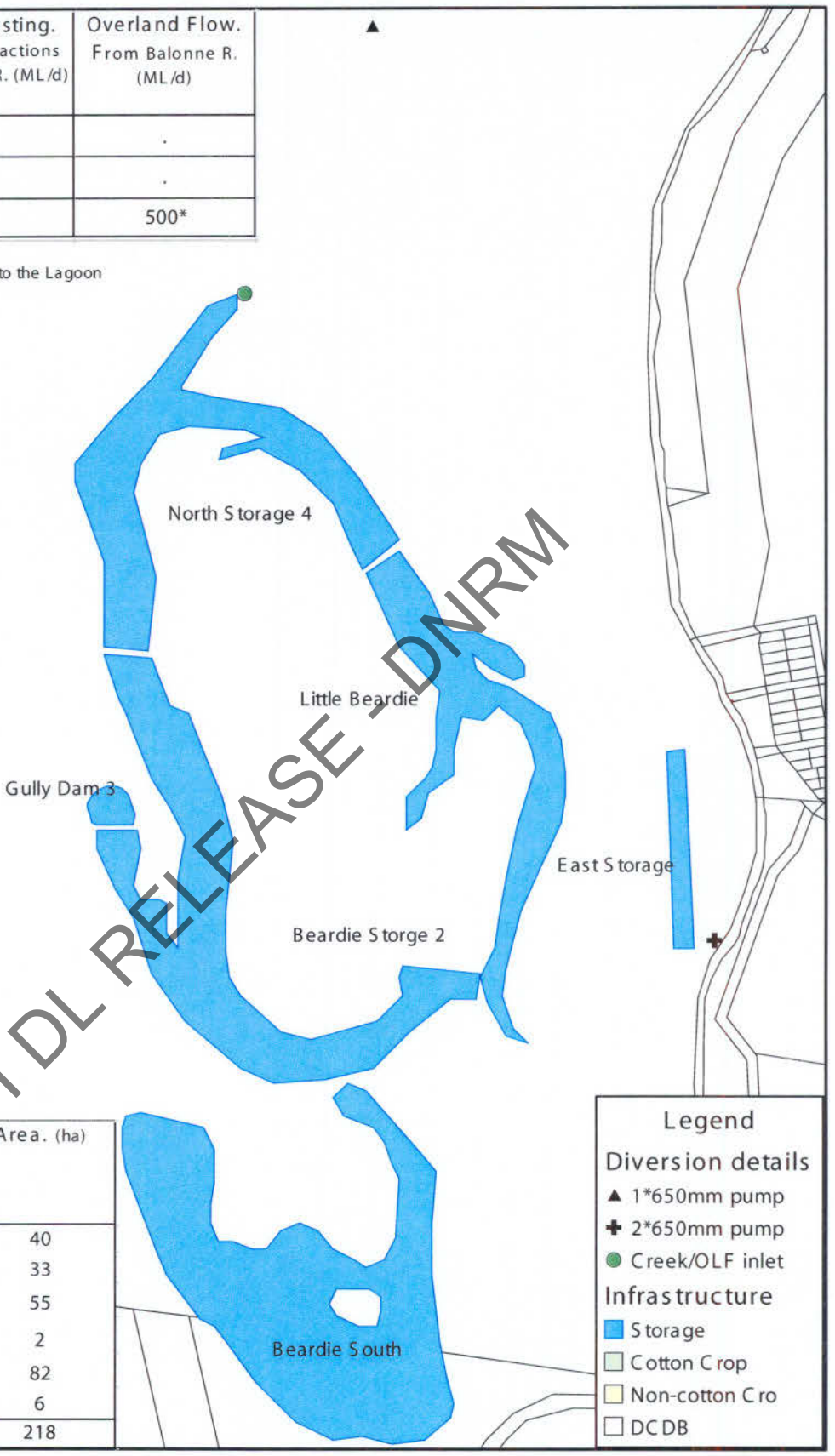
Ballandool and Morley

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Disclaimer: Details of overland flow and infrastructure represents information provided by the relevant landholder.

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne R. (ML/d)	Overland Flow. From Balonne R. (ML/d)
7000	172	.
8000	88	.
80000		500*

*Preliminary estimate of overland flow into the Lagoon



RTI DL RELEASE - DNRM

Storage Name.	Volume (ML). Est from landholder	Area. (ha)
North Storage	540	40
Little Beardie	300	33
Storage 2	1370	55
Gully Dam 3	45	2
Beardie South	2460	82
Beardie East	100	6
Total	4815	218

Legend

Diversion details

- ▲ 1*650mm pump
- ✚ 2*650mm pump
- Creek/OLF inlet

Infrastructure

- Storage
- Cotton Crop
- Non-cotton Cro
- DCDB

Scale

N W E S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

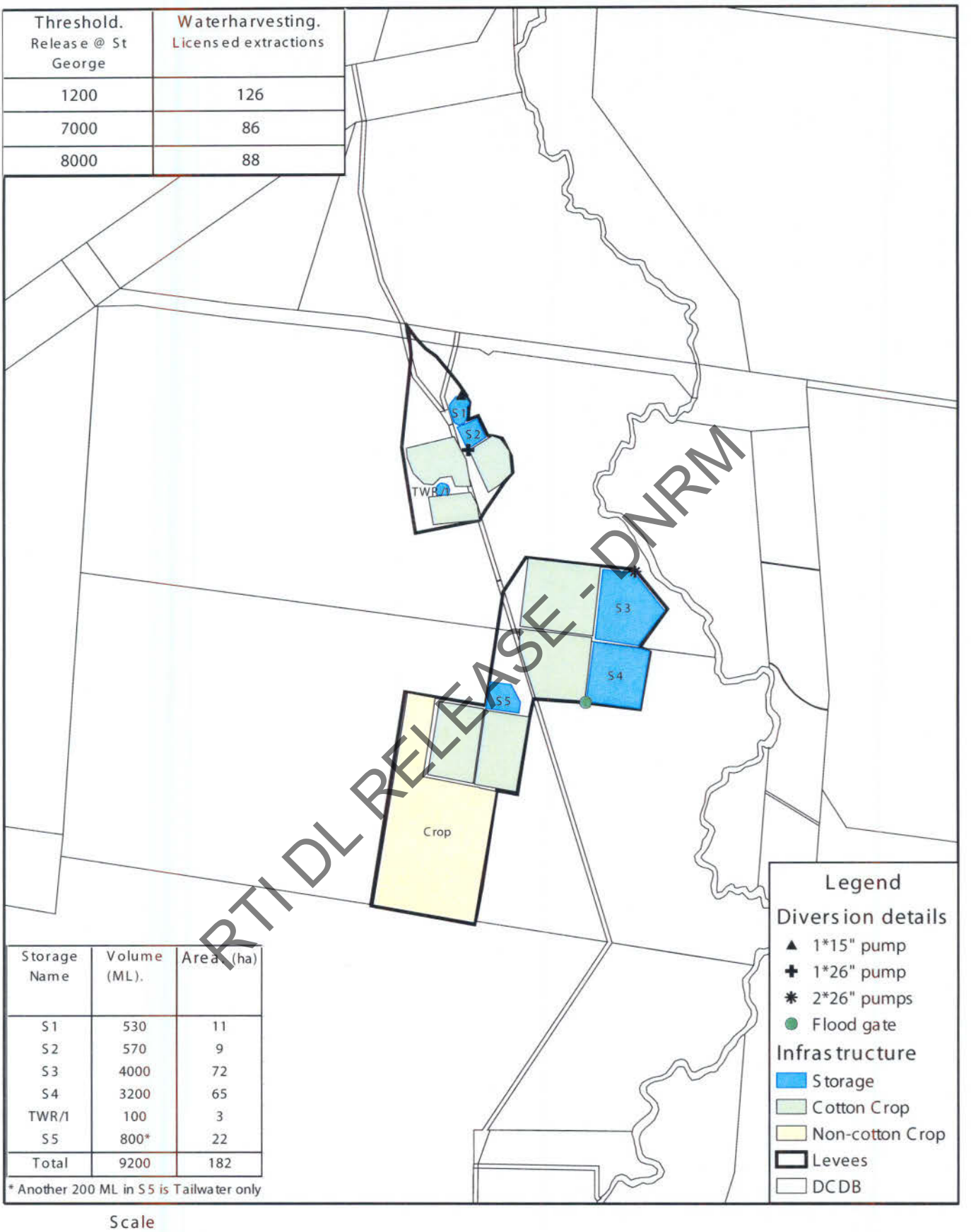
Beardie and Strathmere

Queensland Government Natural Resources and Mines

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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping

Threshold. Release @ St George	Waterharvesting. Licensed extractions
1200	126
7000	86
8000	88



RTI DL RELEASE - DNRM

Storage Name	Volume (ML).	Area (ha)
S1	530	11
S2	570	9
S3	4000	72
S4	3200	65
TWR/1	100	3
S5	800*	22
Total	9200	182

* Another 200 ML in S5 is Tailwater only

Legend

Diversion details
- ▲ 1*15" pump
- ✚ 1*26" pump
- ✱ 2*26" pumps
- ● Flood gate

Infrastructure
- Storage
- Cotton Crop
- Non-cotton Crop
- Levees
- DCDB

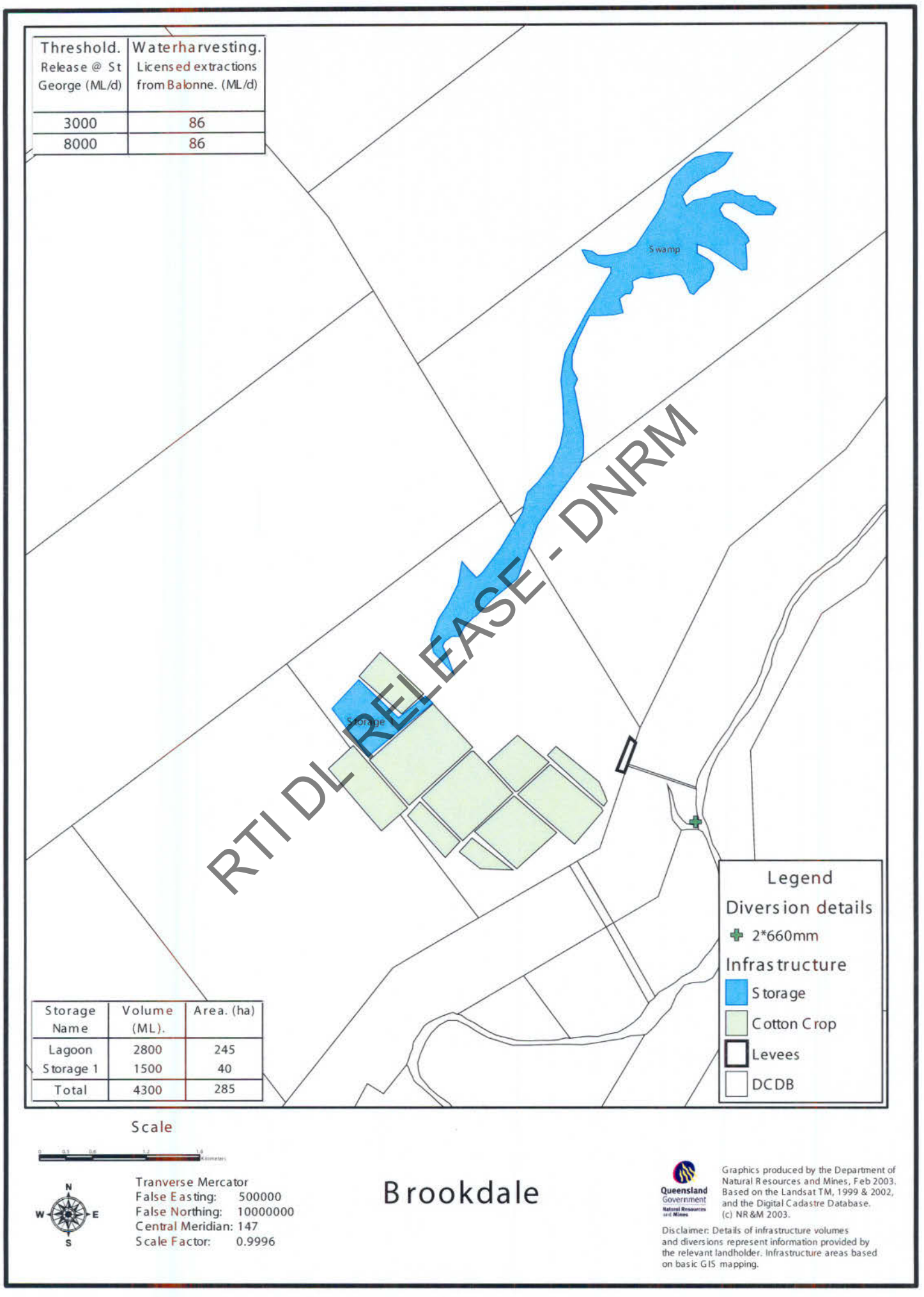
Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Booligar

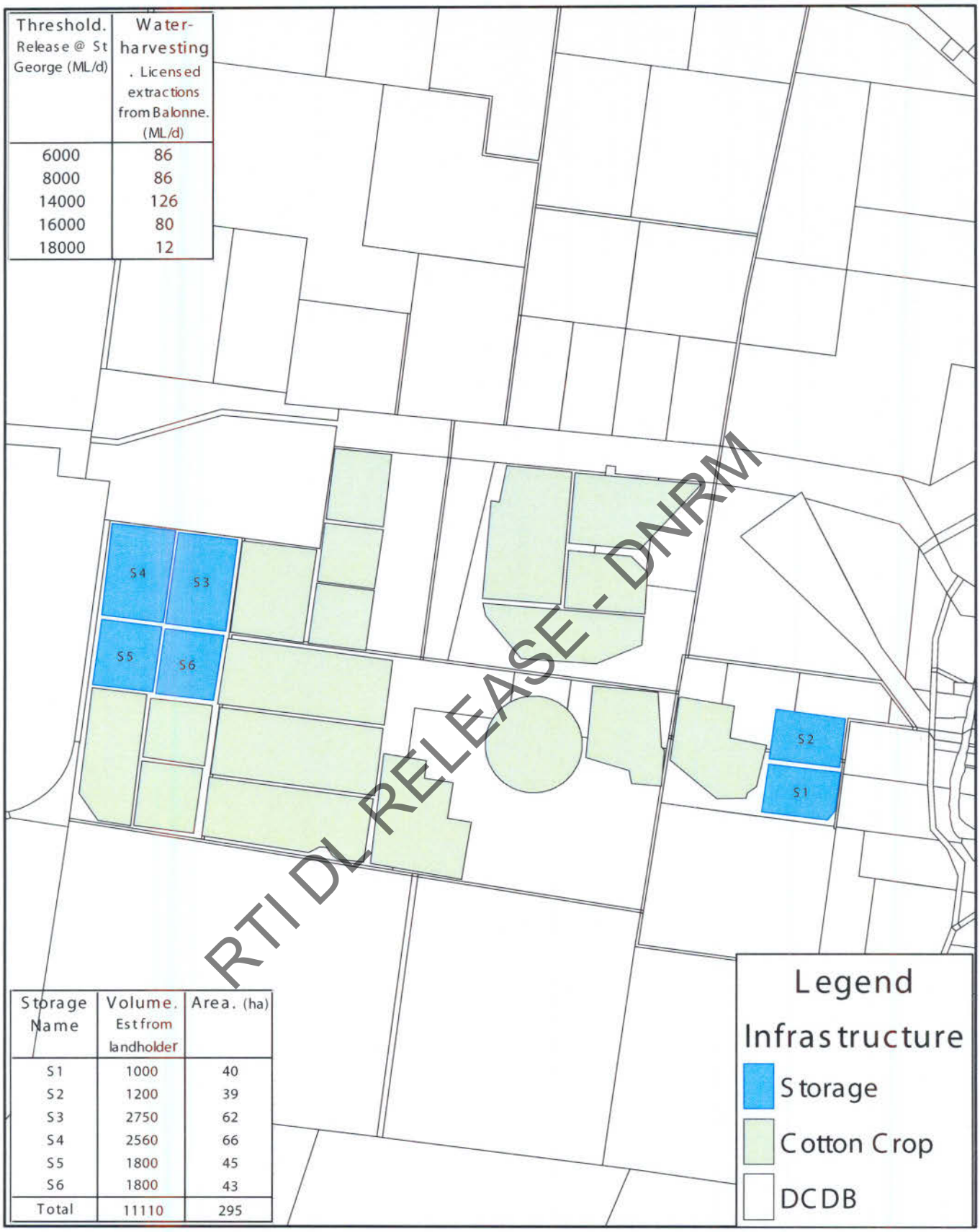
Produced by the Department of Natural Resources and Mines, Feb 2003. Based on the Landsat TM, 1999 & 2002, and the Digital Cadastre Database. (c) NR&M 2003.

Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.


Threshold. Release @ St George (ML/d)
Waterharvesting. Licensed extractions from Balonne. (ML/d)
3000
86
8000
86
Swamp
Storage 1
RTI DL RELEASE - DNRM
Storage Name
Volume (ML).
Area. (ha)
Lagoon
2800
245
Storage 1
1500
40
Total
4300
285
Legend
Diversion details
2*660mm
Infrastructure
Storage
Cotton Crop
Levees
DCDB
Scale
N
W
E
S
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996
Brookdale
Queensland Government
Natural Resources and Mines
Graphics produced by the Department of Natural Resources and Mines, Feb 2003. Based on the Landsat TM, 1999 & 2002, and the Digital Cadastre Database. (c) NR&M 2003.
Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Release

Threshold. Release @ St George (ML/d)	Water-harvesting . Licensed extractions from Balonne. (ML/d)
6000	86
8000	86
14000	126
16000	80
18000	12



RTI DL RELEASE - DNRM

Storage Name	Volume. Est from landholder	Area. (ha)
S1	1000	40
S2	1200	39
S3	2750	62
S4	2560	66
S5	1800	45
S6	1800	43
Total	11110	295

Legend

Infrastructure

Storage

Cotton Crop

DCDB

Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

"North Kia-Ora" Bubbymaur

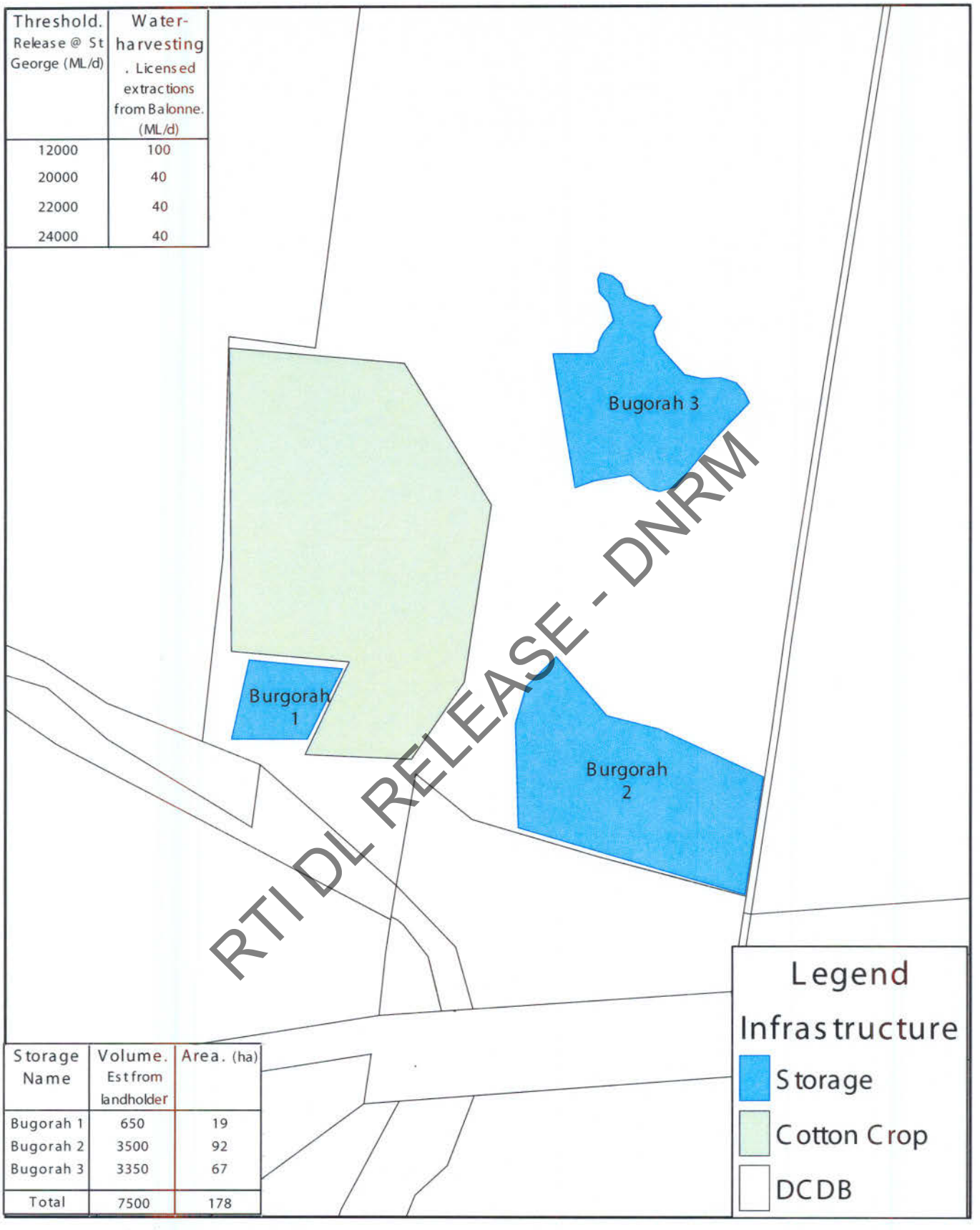
Queensland Government Natural Resources and Mines

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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Release

Threshold. Release @ St George (ML/d)	Water-harvesting . Licensed extractions from Balonne. (ML/d)
12000	100
20000	40
22000	40
24000	40



RTI DL RELEASE - DNRM

Storage Name	Volume. Est from landholder	Area. (ha)
Bugorah 1	650	19
Bugorah 2	3500	92
Bugorah 3	3350	67
Total	7500	178

Scale

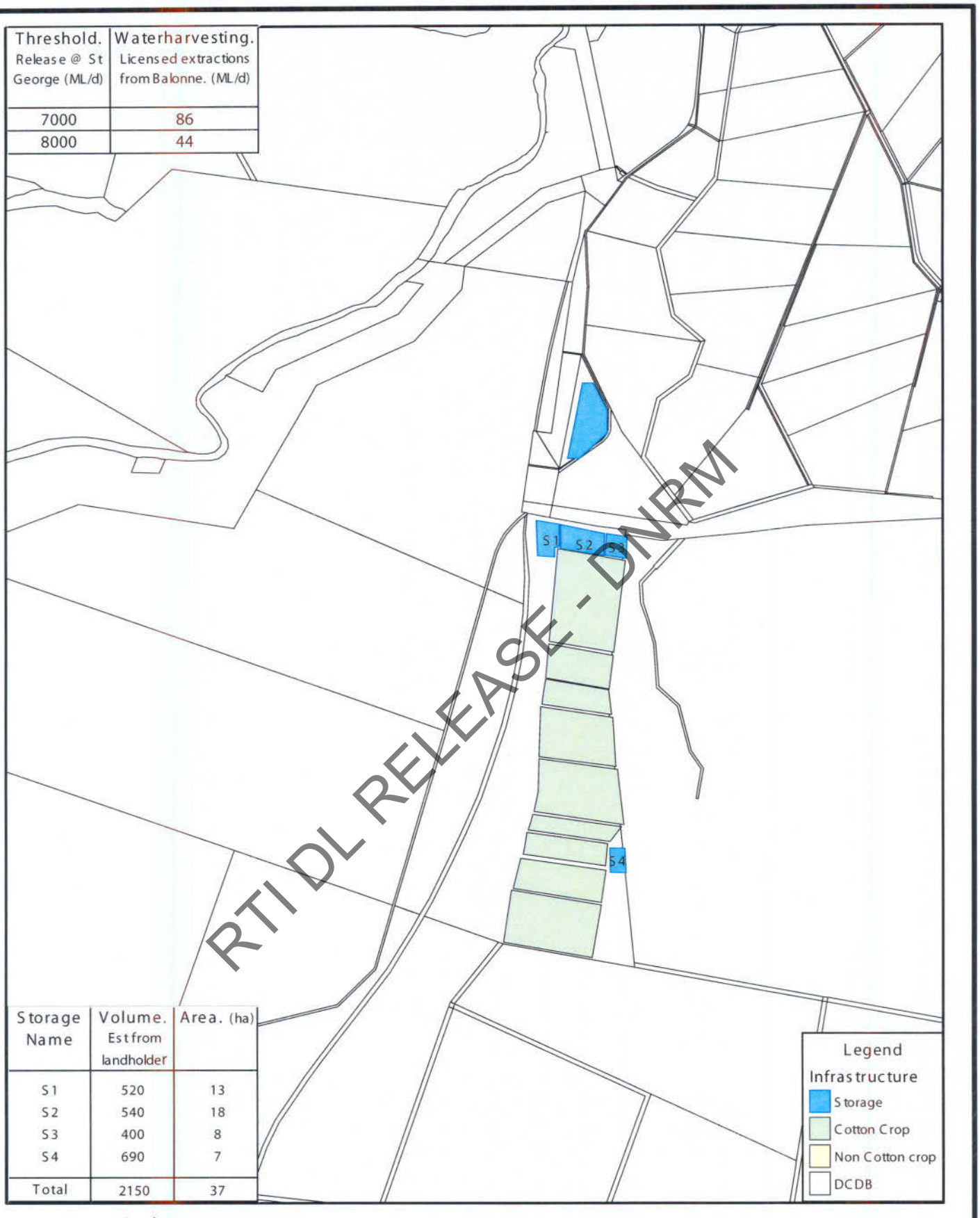
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Bullawarrie

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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne. (ML/d)
7000	86
8000	44



RTI DL RELEASE - DNRM

Storage Name	Volume. Est from landholder	Area. (ha)
S1	520	13
S2	540	18
S3	400	8
S4	690	7
Total	2150	37

Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Bundoran

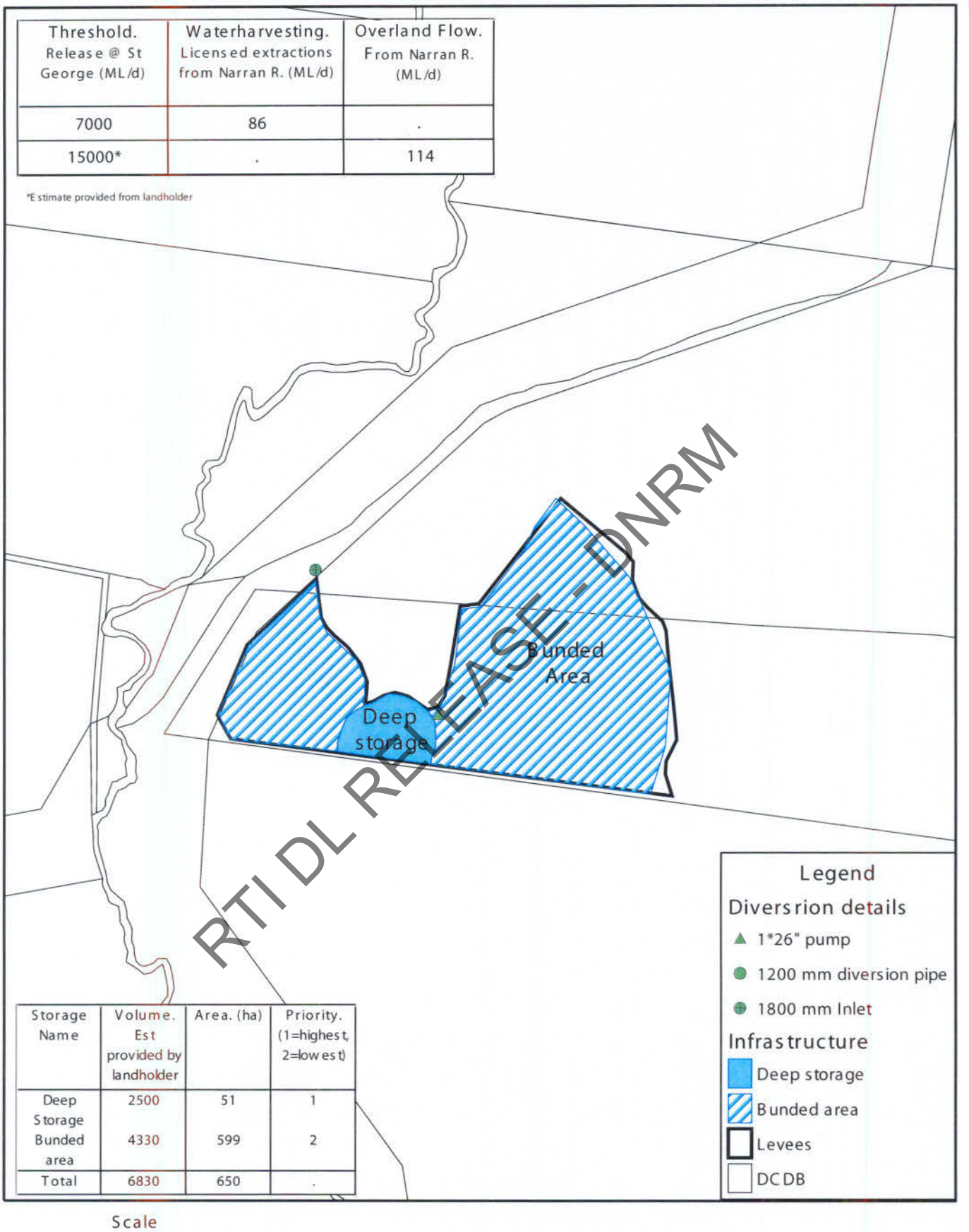
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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Narran R. (ML/d)	Overland Flow. From Narran R. (ML/d)
7000	86	.
15000*	.	114

*Estimate provided from landholder



RTI DL RELEASE - DNRM

Storage Name	Volume. Est provided by landholder	Area. (ha)	Priority. (1=highest, 2=lowest)
Deep Storage	2500	51	1
Bunded area	4330	599	2
Total	6830	650	.

Legend

Diversrion details

- 1*26" pump
- 1200 mm diversion pipe
- 1800 mm Inlet

Infrastructure

- Deep storage
- Bunded area
- Levees
- DCDB

Scale

0 0.45 0.9 1.8 2.7 Kilometers

N W E S

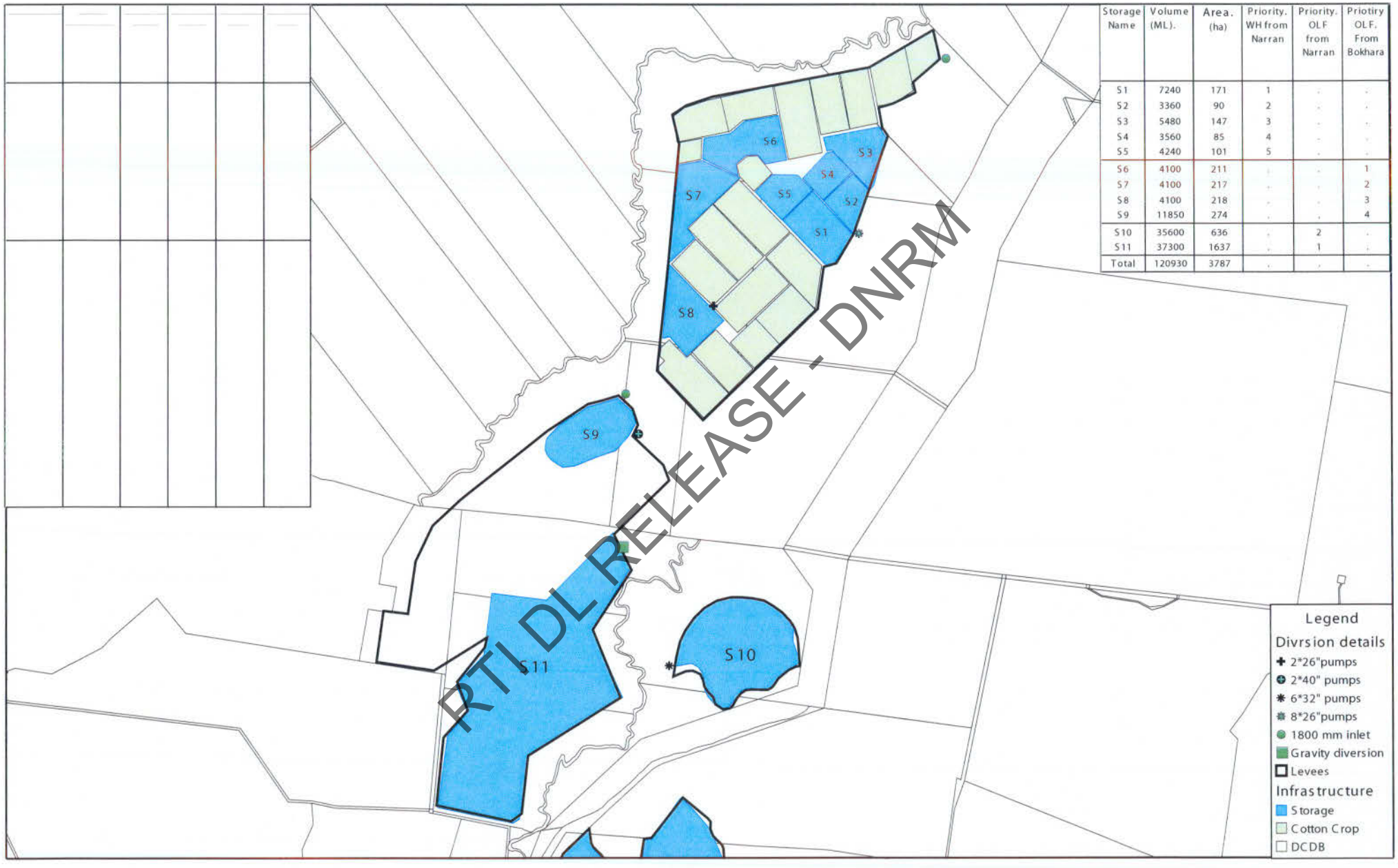
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Cavillon

Queensland Government Natural Resources and Mines

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Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder.



Storage Name	Volume (ML).	Area. (ha)	Priority. WH from Narran	Priority. OLF from Narran	Priotiry OLF. From Bokhara
S1	7240	171	1	.	.
S2	3360	90	2	.	.
S3	5480	147	3	.	.
S4	3560	85	4	.	.
S5	4240	101	5	.	.
S6	4100	211	.	.	1
S7	4100	217	.	.	2
S8	4100	218	.	.	3
S9	11850	274	.	.	4
S10	35600	636	.	2	.
S11	37300	1637	.	1	.
Total	120930	3787	.	.	.

RTI DL RELEASE - DNRM

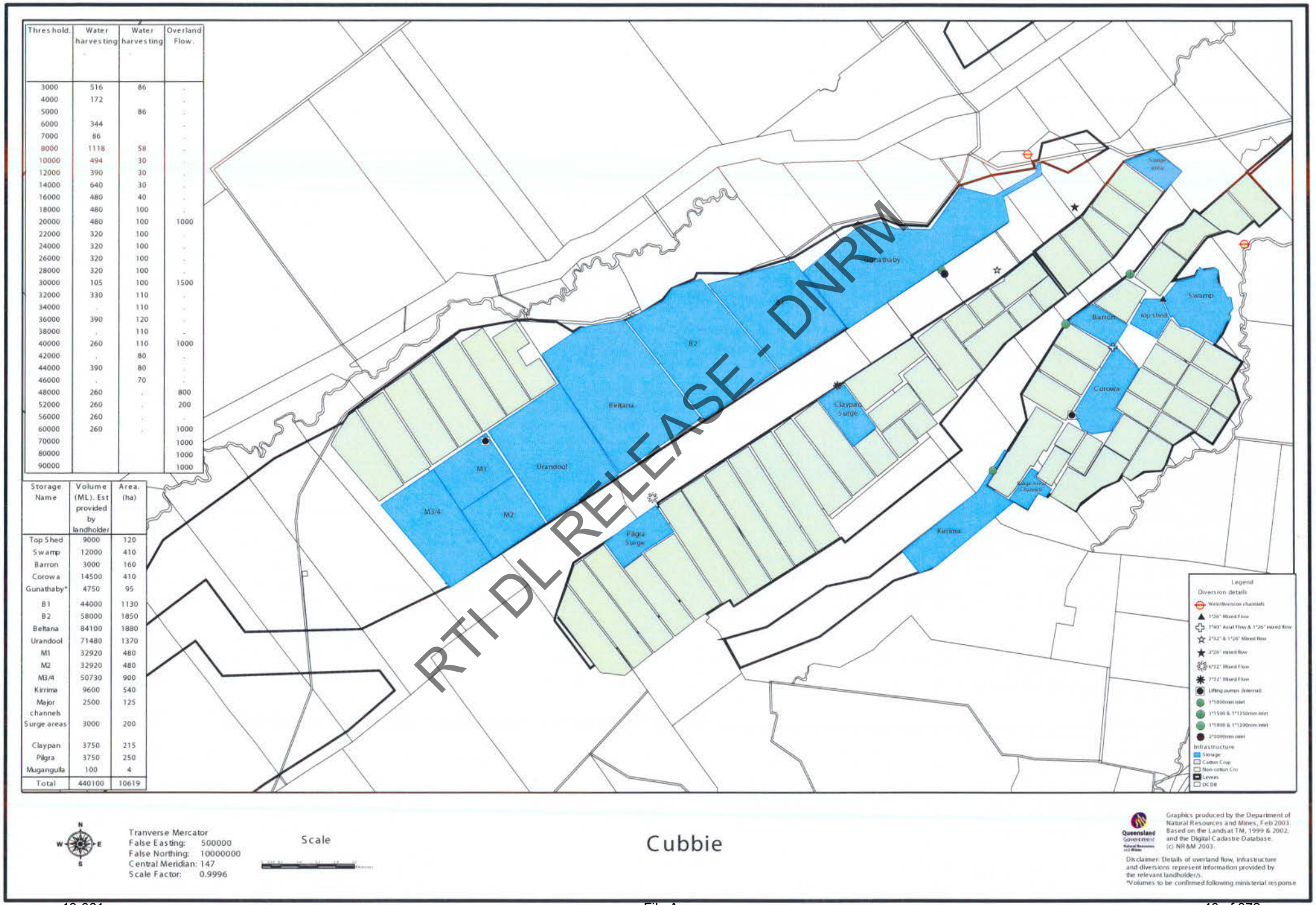
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Scale

Clyde

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Disclaimer: Details of infrastructure and diversions represent information provided by the relevant landholder. Overland flow is based on basic modelling and requires further verification.



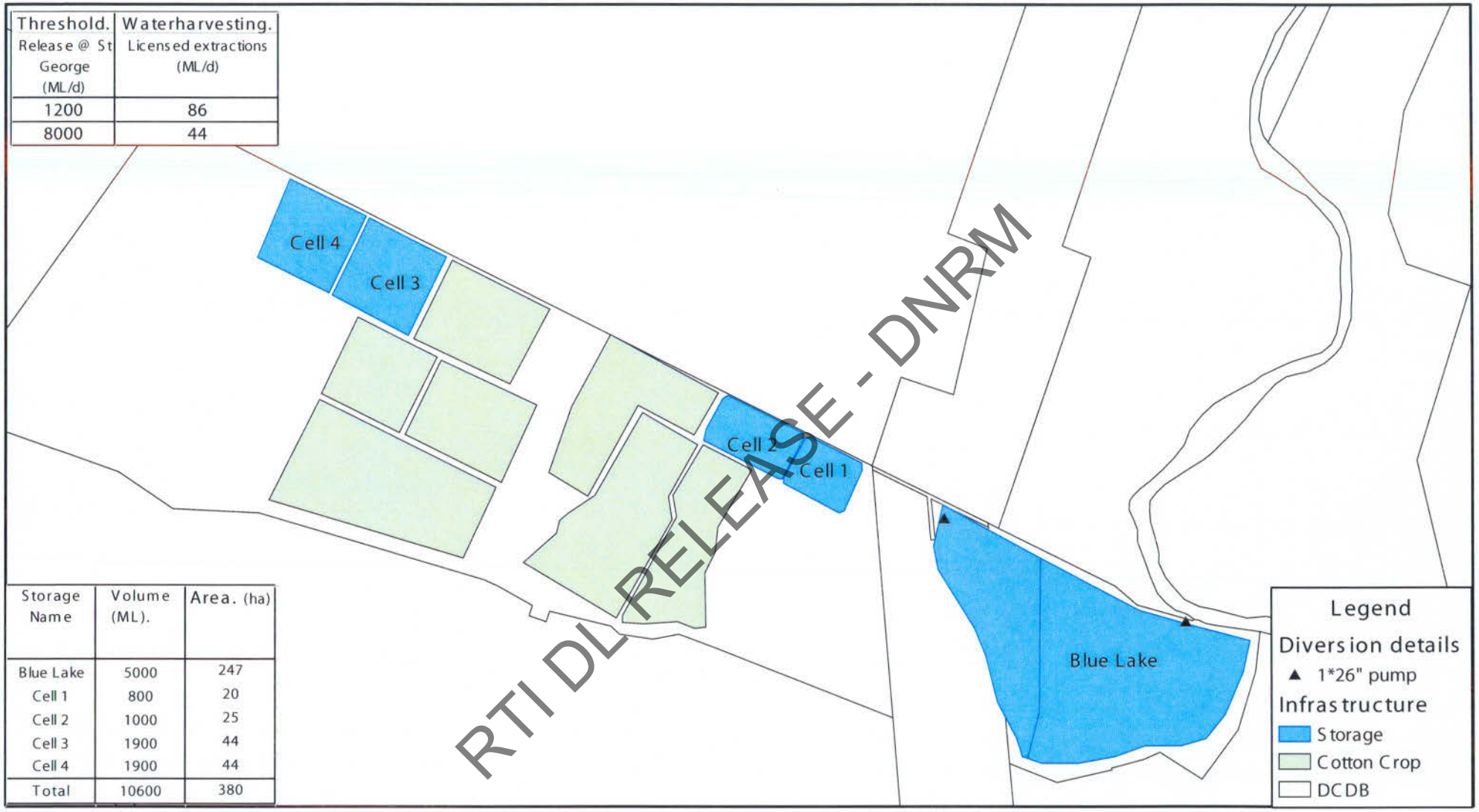
Threshold.	Water harvesting	Water harvesting	Overland Flow.
3000	516	86	.
4000	172	.	.
5000	.	86	.
6000	344	.	.
7000	86	.	.
8000	1118	58	.
10000	494	30	.
12000	390	30	.
14000	640	30	.
16000	480	40	.
18000	480	100	.
20000	480	100	1000
22000	320	100	.
24000	320	100	.
26000	320	100	.
28000	320	100	.
30000	105	100	1500
32000	330	110	.
34000	.	110	.
36000	390	120	.
38000	.	110	.
40000	260	110	1000
42000	.	80	.
44000	390	80	.
46000	.	70	.
48000	260	.	800
52000	260	.	200
56000	260	.	.
60000	260	.	1000
70000			1000
80000			1000
90000			1000

Storage Name	Volume (ML). Est provided by landholder	Area. (ha)
Top Shed	9000	120
Swamp	12000	410
Barron	3000	160
Corowa	14500	410
Gunathaby*	4750	95
B1	44000	1130
B2	58000	1850
Beltana	84100	1880
Urandool	71480	1370
M1	32920	480
M2	32920	480
M3/4	50730	900
Kirrima	9600	540
Major channels	2500	125
Surge areas	3000	200
Claypan	3750	215
Pilgra	3750	250
Mugangulla	100	4
Total	440100	10619

RTI DL RELEASE - DNRM

Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions (ML/d)
1200	86
8000	44



RTI DLRELEASE - DNRM

Storage Name	Volume (ML).	Area. (ha)
Blue Lake	5000	247
Cell 1	800	20
Cell 2	1000	25
Cell 3	1900	44
Cell 4	1900	44
Total	10600	380

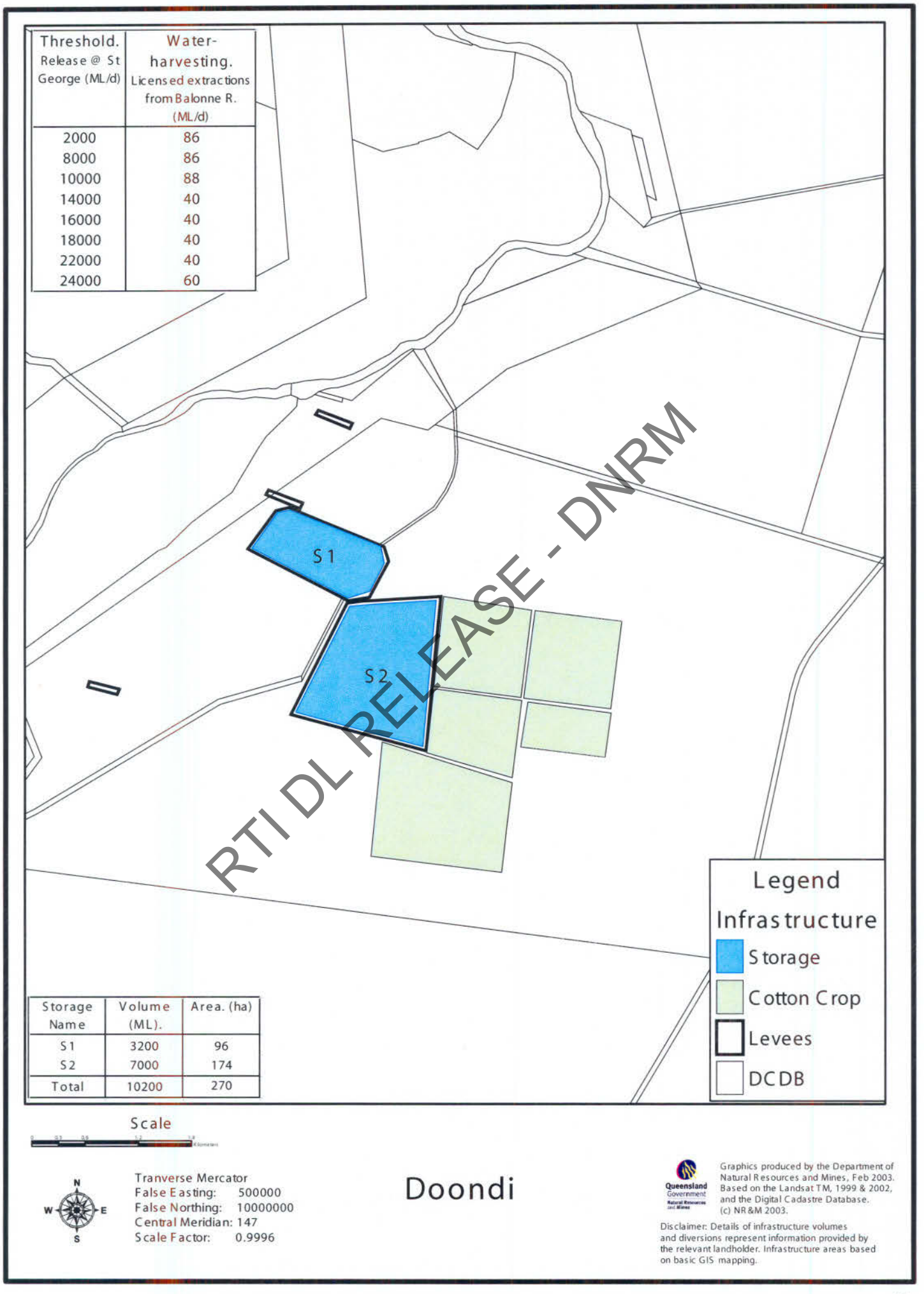
Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Darren

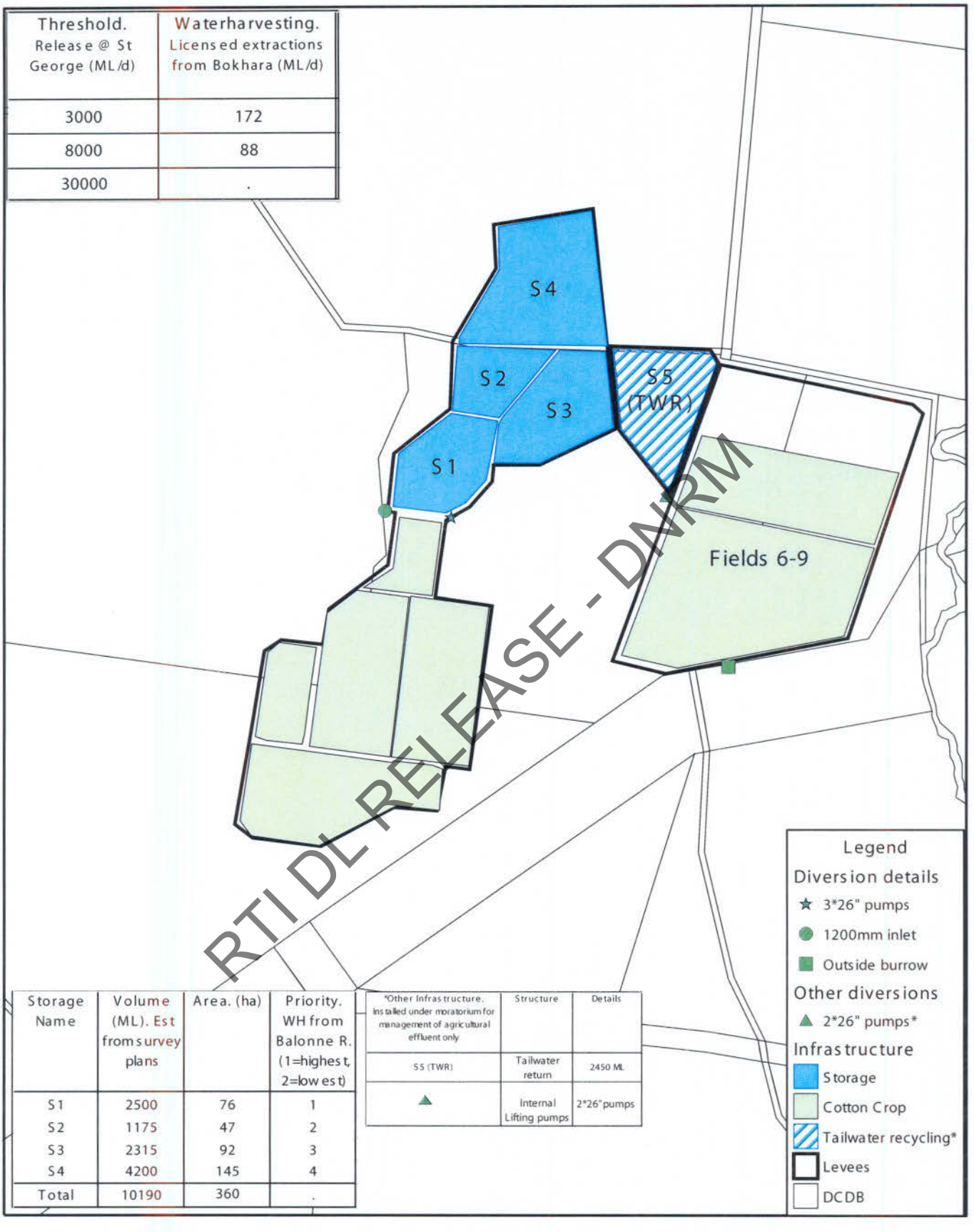
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Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder/s.


Threshold. Release @ St George (ML/d)
Water-harvesting. Licensed extractions from Balonne R. (ML/d)
2000 86
8000 86
10000 88
14000 40
16000 40
18000 40
22000 40
24000 60
S1
S2
RTI DL RELEASE - DNRM
Legend
Infrastructure
Storage
Cotton Crop
Levees
DCDB
Storage Name | Volume (ML). | Area. (ha)
S1 | 3200 | 96
S2 | 7000 | 174
Total | 10200 | 270
Scale
N
W
E
S
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996
Doondi
Queensland Government
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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Bokhara (ML/d)
3000	172
8000	88
30000	.



Storage Name	Volume (ML). Est from survey plans	Area. (ha)	Priority. WH from Balonne R. (1=highest, 2=lowest)
S1	2500	76	1
S2	1175	47	2
S3	2315	92	3
S4	4200	145	4
Total	10190	360	.

*Other Infrastructure. Installed under moratorium for management of agricultural effluent only	Structure	Details
S5 (TWR)	Tailwater return	2450 ML
▲	Internal Lifting pumps	2*26" pumps

Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Euraba

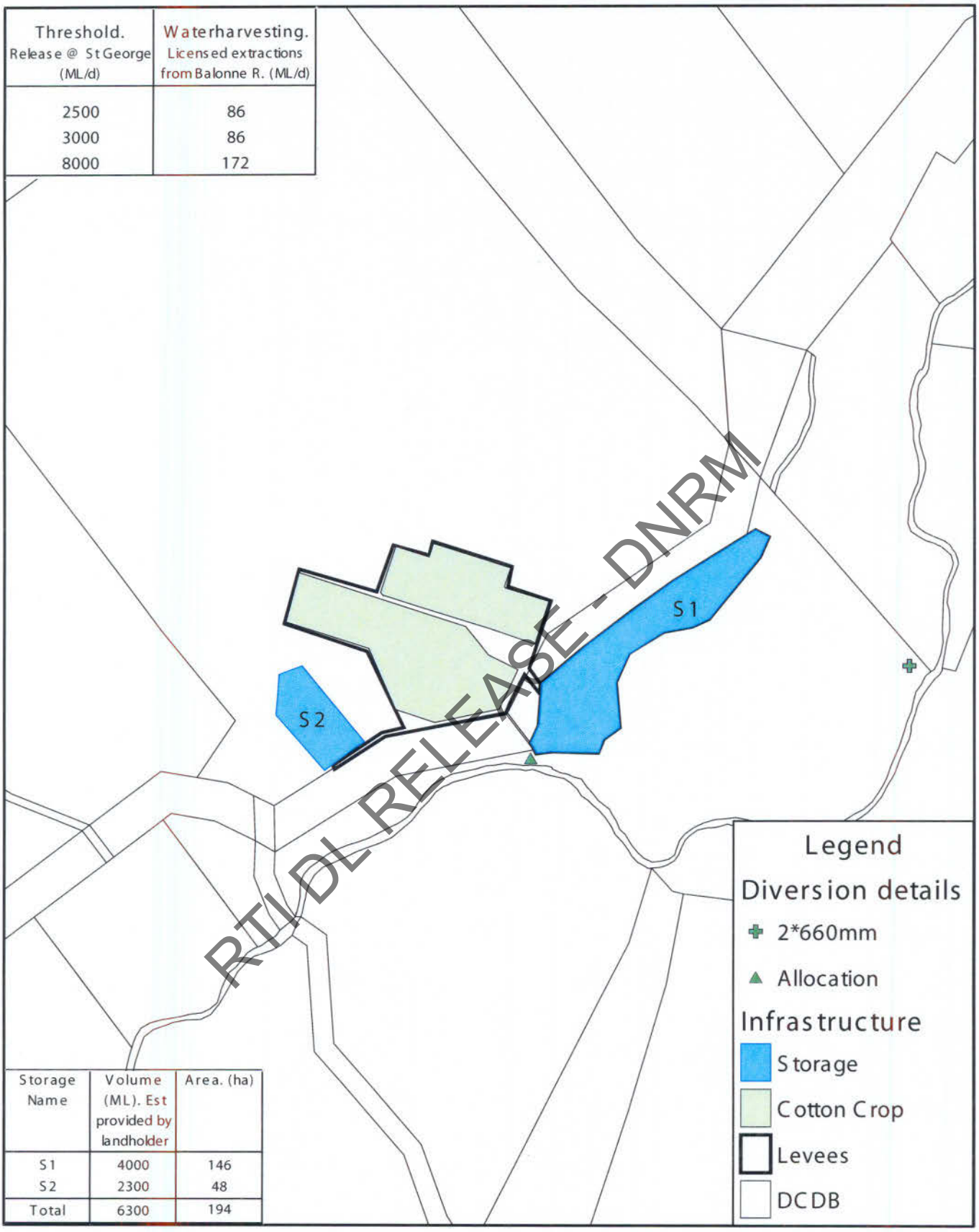
Queensland Government Natural Resources and Mines

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Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder.

* The Department is aware of the claim for additional storage in the area marked as "Fields 6-9"

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne R. (ML/d)
2500	86
3000	86
8000	172



RTI DL RELEASE - DNRM

Storage Name	Volume (ML). Est provided by landholder	Area. (ha)
S1	4000	146
S2	2300	48
Total	6300	194

Scale

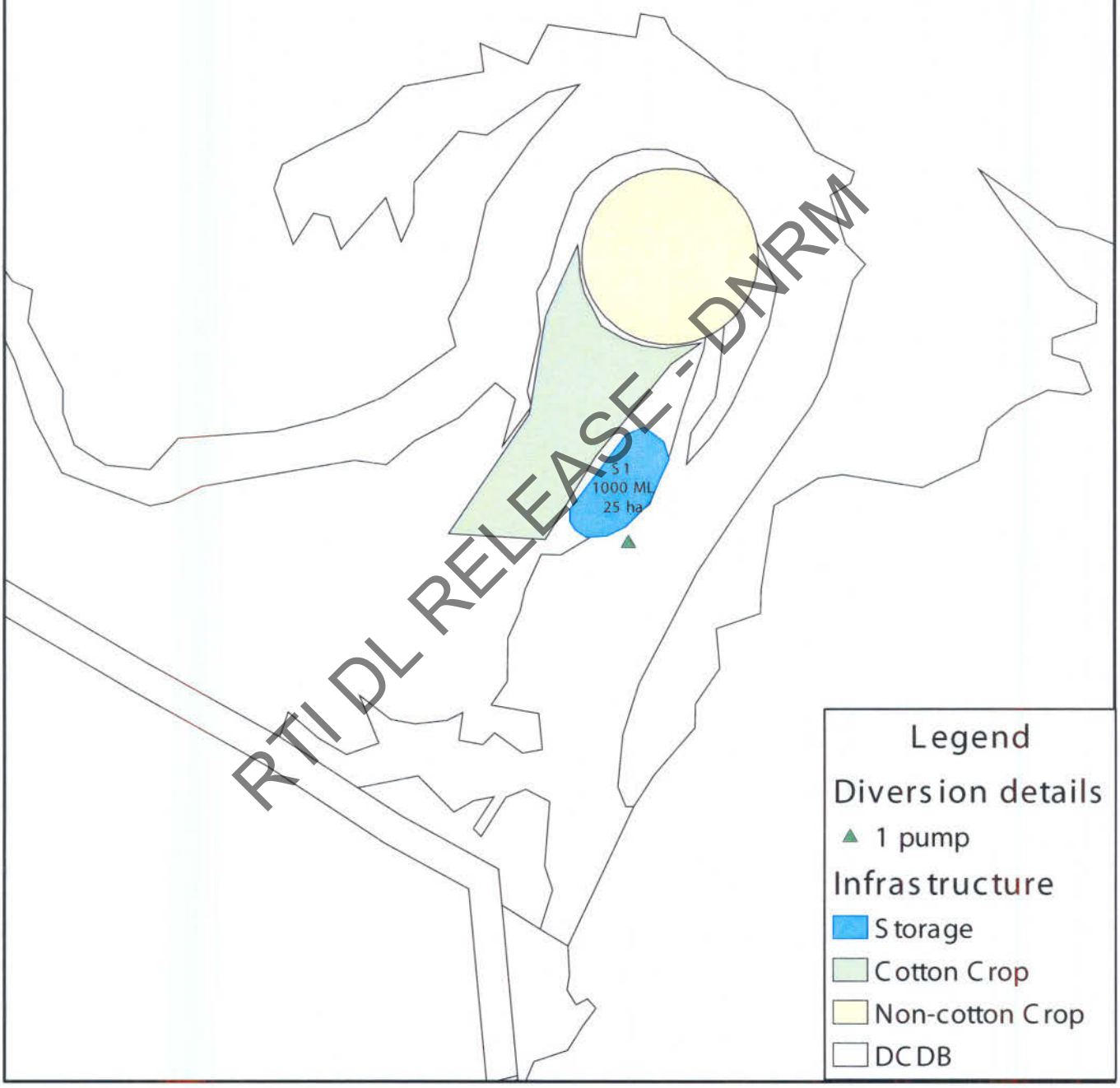
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Eurobodalla

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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne (ML/d)
3000	40



RTI DL RELEASE - DNRM

Scale

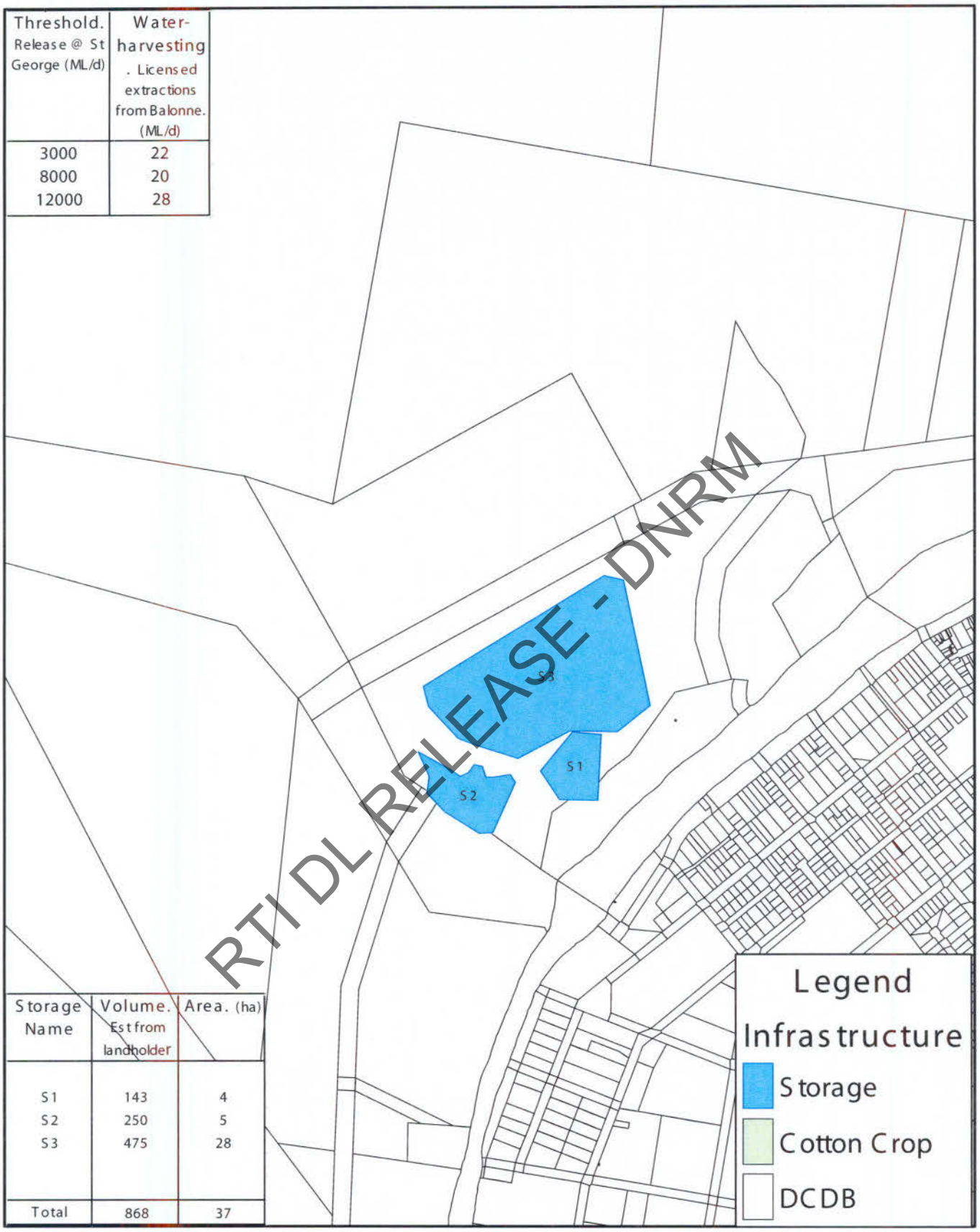
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Ford Park

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Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder.

Threshold. Release @ St George (ML/d)	Water-harvesting . Licensed extractions from Balonne. (ML/d)
3000	22
8000	20
12000	28



RTI DL RELEASE - DNRM

Storage Name	Volume. Est from landholder	Area. (ha)
S1	143	4
S2	250	5
S3	475	28
Total	868	37

Legend

Infrastructure

Storage

Cotton Crop

DCDB

Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

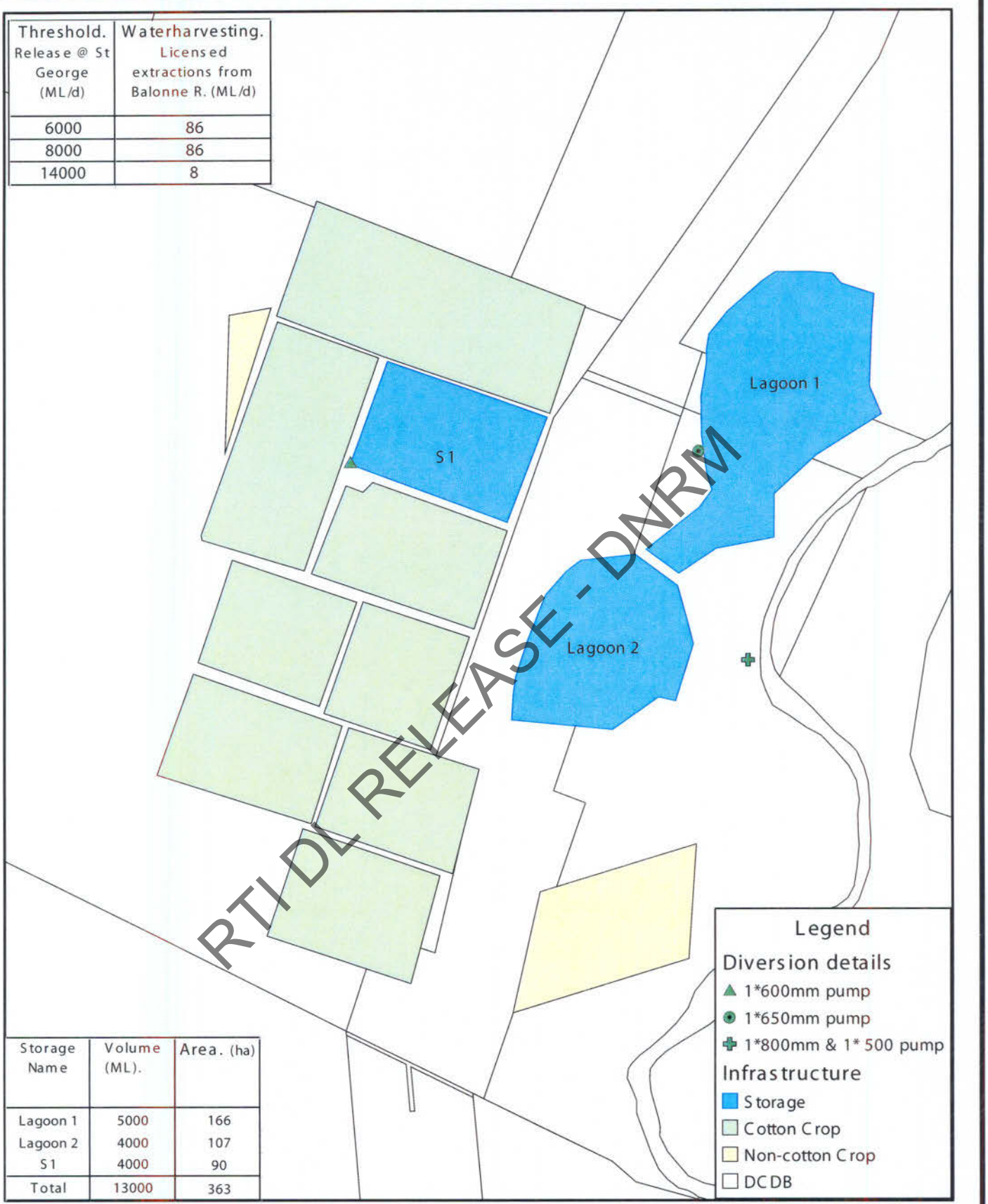
Glenbrae

Queensland Government Natural Resources and Mines

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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne R. (ML/d)
6000	86
8000	86
14000	8



RTI DL RELEASE - DNRM

Storage Name	Volume (ML).	Area. (ha)
Lagoon 1	5000	166
Lagoon 2	4000	107
S1	4000	90
Total	13000	363

Scale

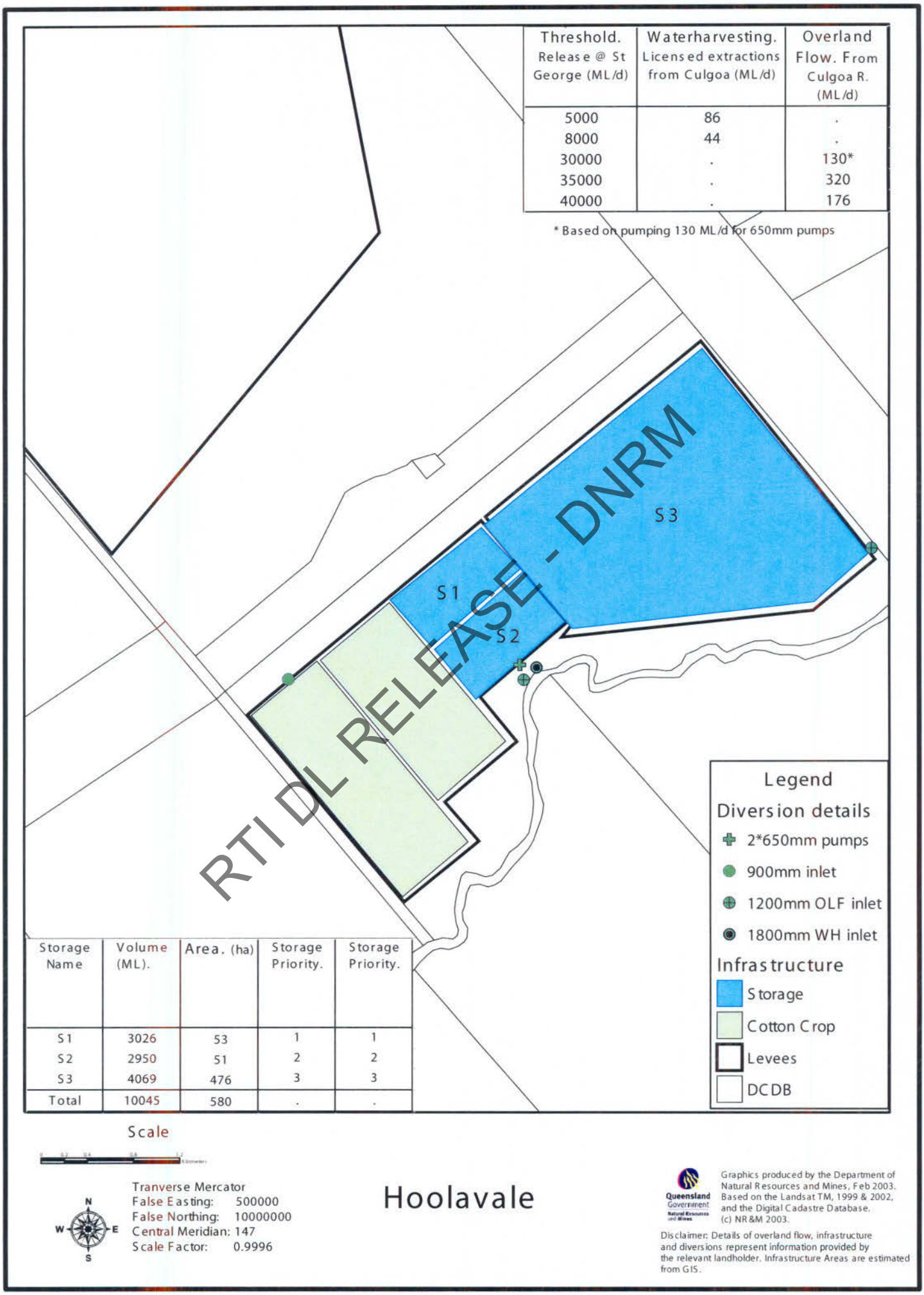
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

"South Kia-Ora"
Gulnarbar

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Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas derived from GIS mapping

42


Threshold. Release @ St George (ML/d)
Waterharvesting. Licensed extractions from Culgoa (ML/d)
Overland Flow. From Culgoa R. (ML/d)
5000 86 .
8000 44 .
30000 . 130*
35000 . 320
40000 . 176
* Based on pumping 130 ML/d for 650mm pumps
S1
S2
S3
RTI DL RELEASE - DNRM
Legend
Diversion details
2*650mm pumps
900mm inlet
1200mm OLF inlet
1800mm WH inlet
Infrastructure
Storage
Cotton Crop
Levees
DCDB
Storage Name | Volume (ML). | Area. (ha) | Storage Priority. | Storage Priority.
S1 3026 53 1 1
S2 2950 51 2 2
S3 4069 476 3 3
Total 10045 580 . .
Scale
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996
Hoolavale
Queensland Government
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Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder. Infrastructure Areas are estimated from GIS.

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne. (ML/d)
4000	86
8000*	86

*Only 1 pump installed



RTI DL RELEASE - DNRM

Scale

Transverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Ingaby Station

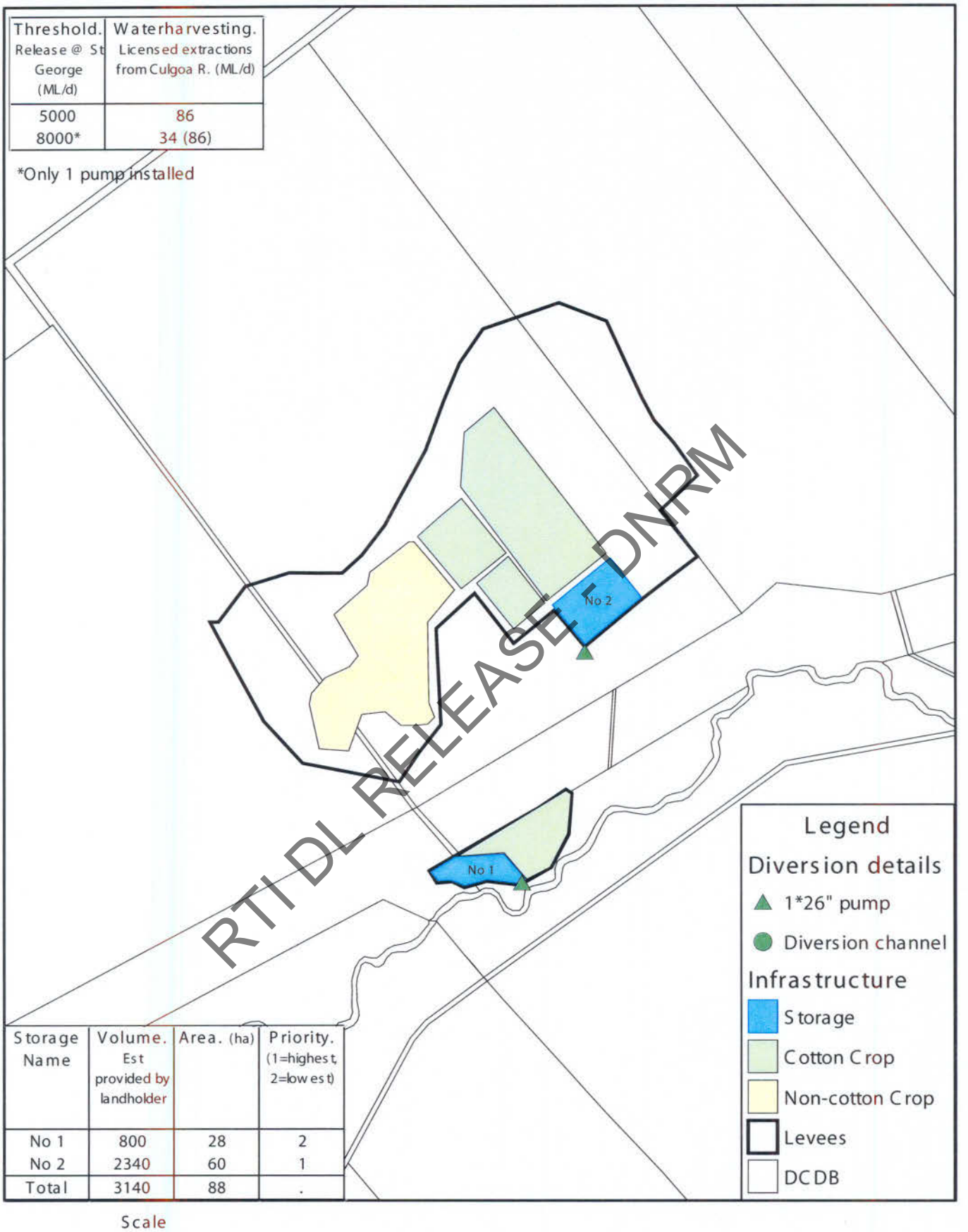
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Disclaimer: Details of overland flow and infrastructure represents information provided by the relevant landholder.

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Culgoa R. (ML/d)
5000	86
8000*	34 (86)

*Only 1 pump installed



RTI DL RELEASE - DNRM

Storage Name	Volume. Est provided by landholder	Area. (ha)	Priority. (1=highest, 2=lowest)
No 1	800	28	2
No 2	2340	60	1
Total	3140	88	.

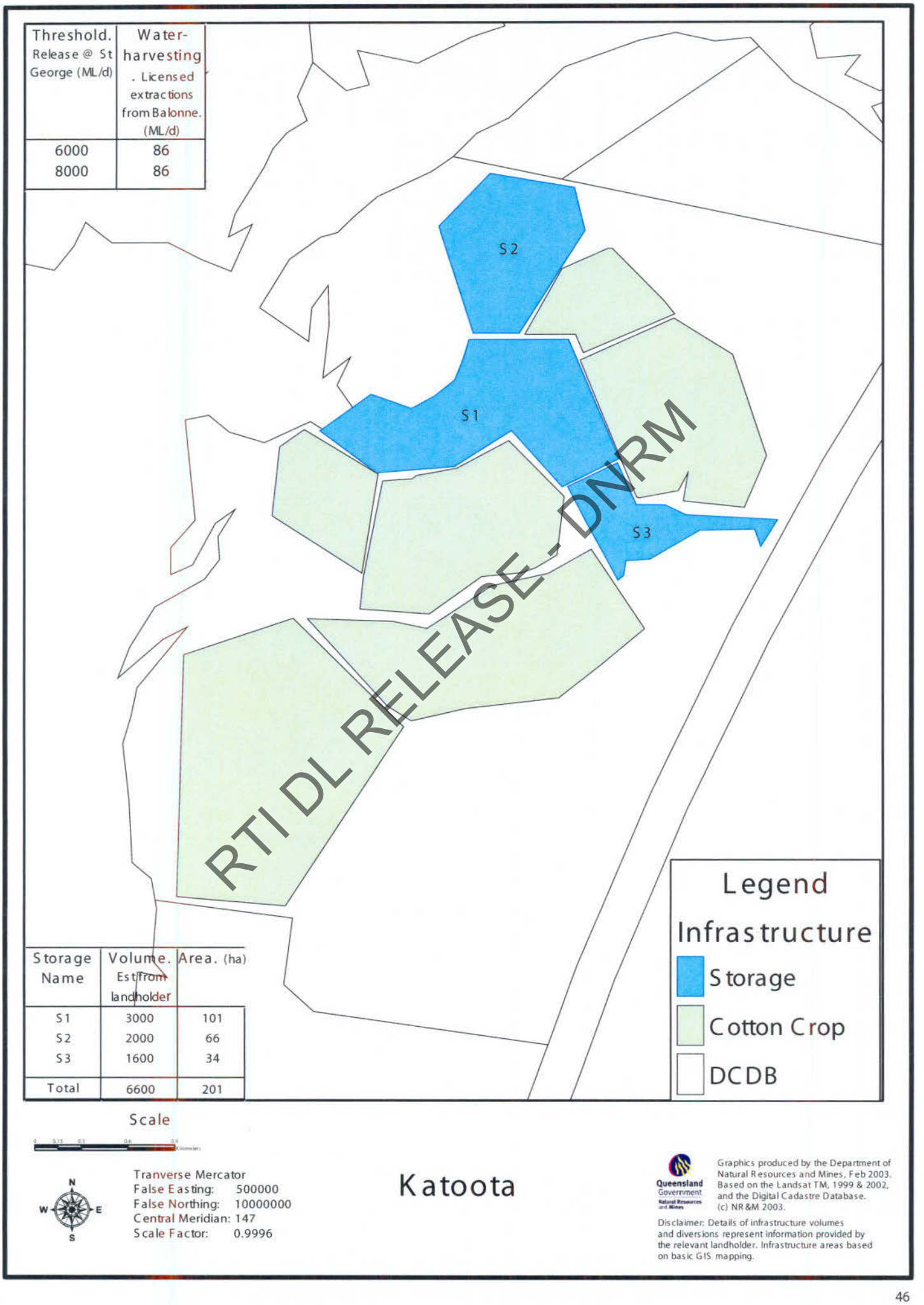
Scale

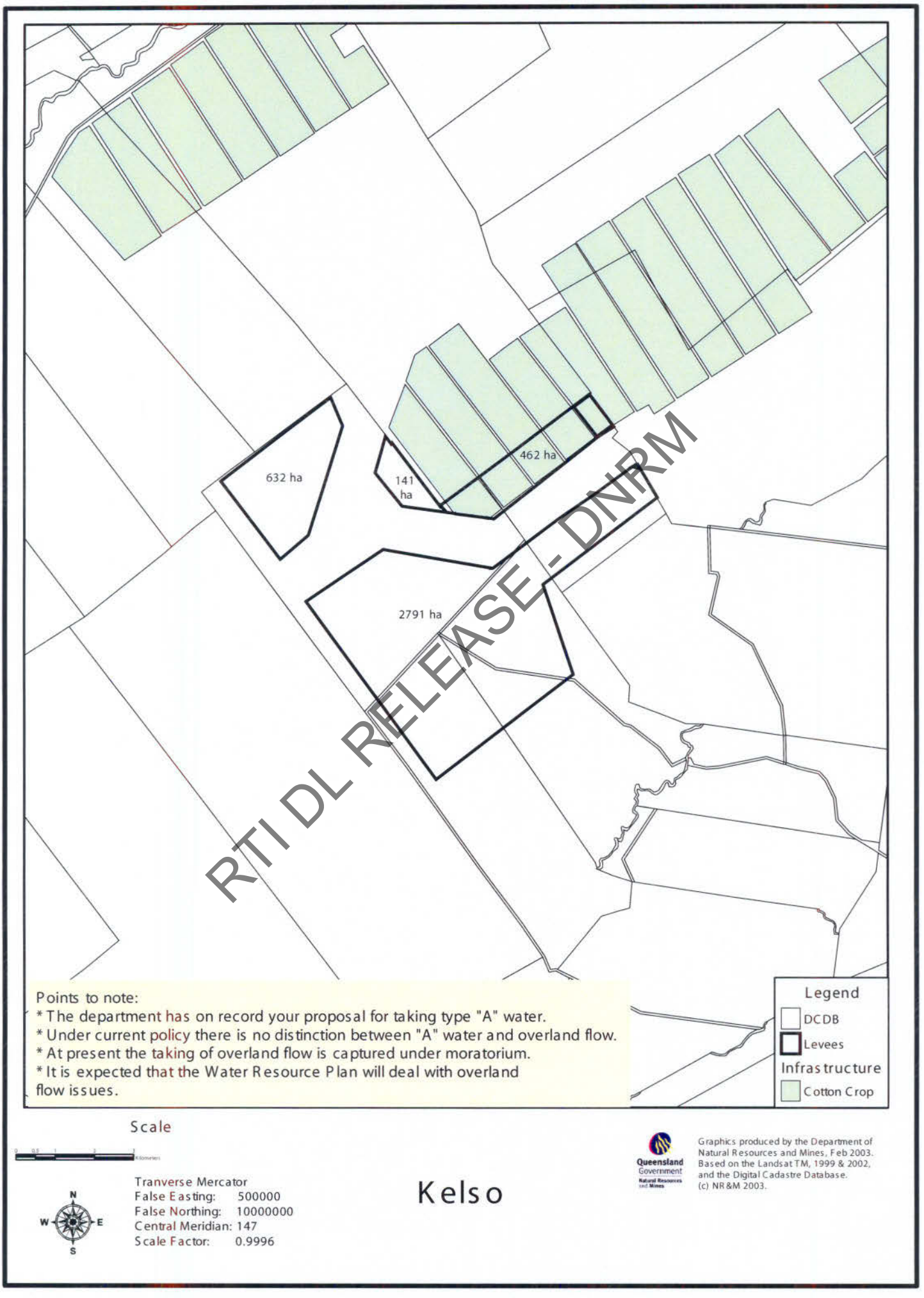
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Ingie

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Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder.
*Overland Flow begins at 60000 ML/d from S George


Threshold. Release @ St George (ML/d)
Water-harvesting . Licensed extractions from Balonne. (ML/d)
6000 86
8000 86
S2
S1
S3
RTI DL RELEASE - DNRM
Storage Name
Volume. Est from landholder
Area. (ha)
S1 3000 101
S2 2000 66
S3 1600 34
Total 6600 201
Legend
Infrastructure
Storage
Cotton Crop
DCDB
Scale
N
W
E
S
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996
Katoota
Queensland Government
Natural Resources and Mines
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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.


632 ha
141 ha
462 ha
2791 ha
RTI DL RELEASE - DNRM
Points to note:
* The department has on record your proposal for taking type "A" water.
* Under current policy there is no distinction between "A" water and overland flow.
* At present the taking of overland flow is captured under moratorium.
* It is expected that the Water Resource Plan will deal with overland flow issues.
Legend
DCDB
Levees
Infrastructure
Cotton Crop
Scale
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996
Kelso
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Based on the Landsat TM, 1999 & 2002, and the Digital Cadastre Database.
(c) NR&M 2003.

Threshold. Release @ St George (ML/d)	Water harvesting. Licensed extractions (ML/d)	Overland Flow. From Balonne R. (ML/d)
1200	213	.
4000	41	.
6000	86	.
8000	171	.
10000	86	.
12000	91	.
30000	.	500
40000	.	500
50000	.	1000
60000	.	1000
80000	.	1000
100000	.	1000
120000	.	2800

Storage Name	Volume (ML).	Area. (ha)	Storage Priority. WH & OLF from Balonne R.
Lake	21400	750	6
Lower Lake	13700	489	7
RT1	4800	124	1
RT2	15000	325	3
RT3	10000	241	2
RT4	10400	260	4
RT5	13800	366	5
Channels/ surges	4000	133	.
Total	**93100**	**2688**	.



RTI DL RELEASE - DNRM

Scale

0 0.4 0.8 1.6 2.4 3.2 4 Kilometers

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Kia Ora

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Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder/s.
*Infrastructure areas based on [illegible] mapping

Release

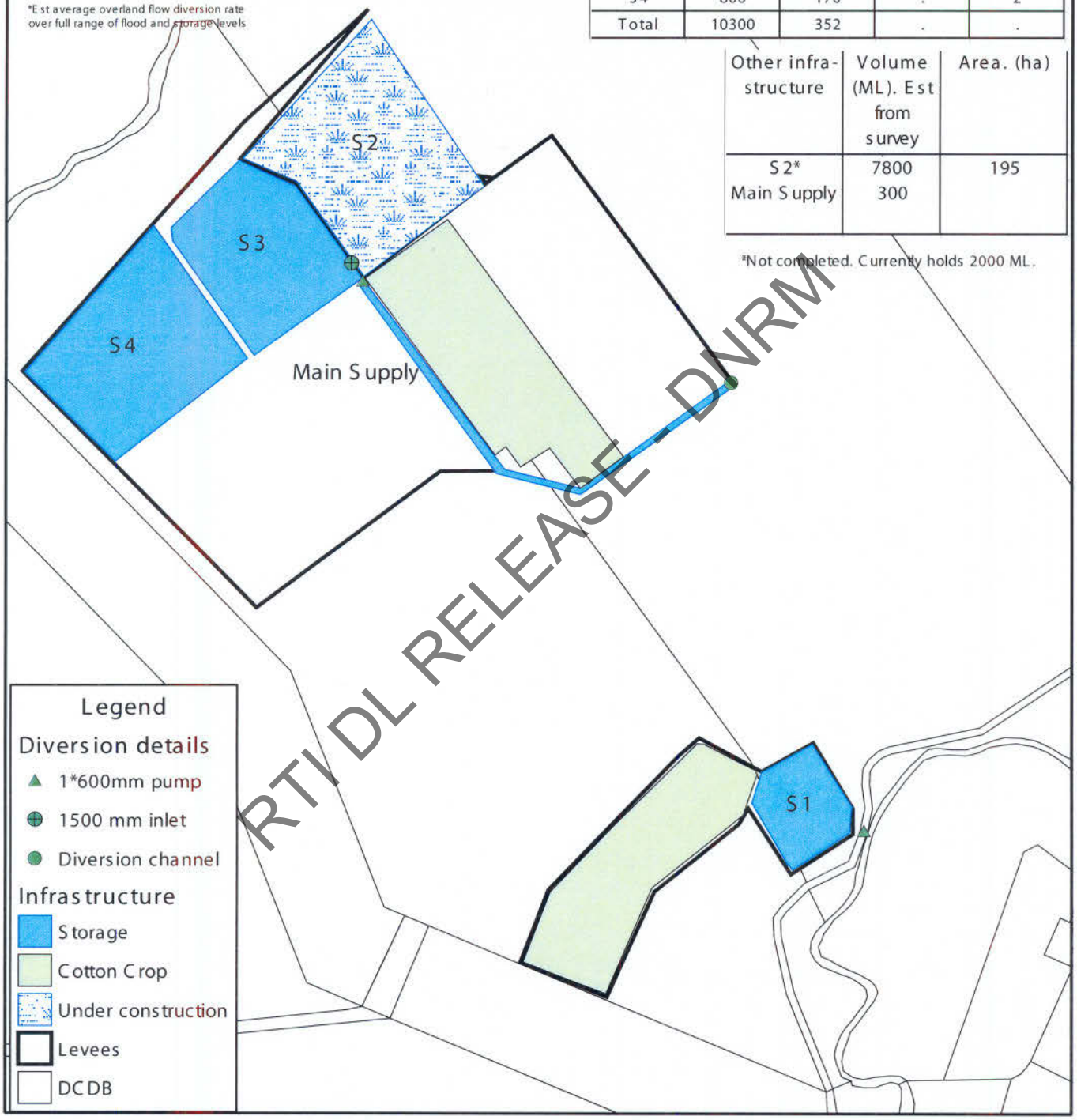
Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonn-minor (ML/d)	Overland Flow. From Culgoa floodplain (ML/d)
2000	86	.
4000	.	120*
8000	44	.

*Est average overland flow diversion rate over full range of flood and storage levels

Storage Name. Existing storage	Volume (ML).	Area. (ha)	Storage Priority.	Storage Priority.
S1	2200	57	1	.
S2*	2000	195		3
S3	5300	125		1
S4	800	170	.	2
Total	10300	352	.	.

Other infra-structure	Volume (ML). Est from survey	Area. (ha)
S2*	7800	195
Main Supply	300	

*Not completed. Currently holds 2000 ML.



RTI DL RELEASE - DNRM

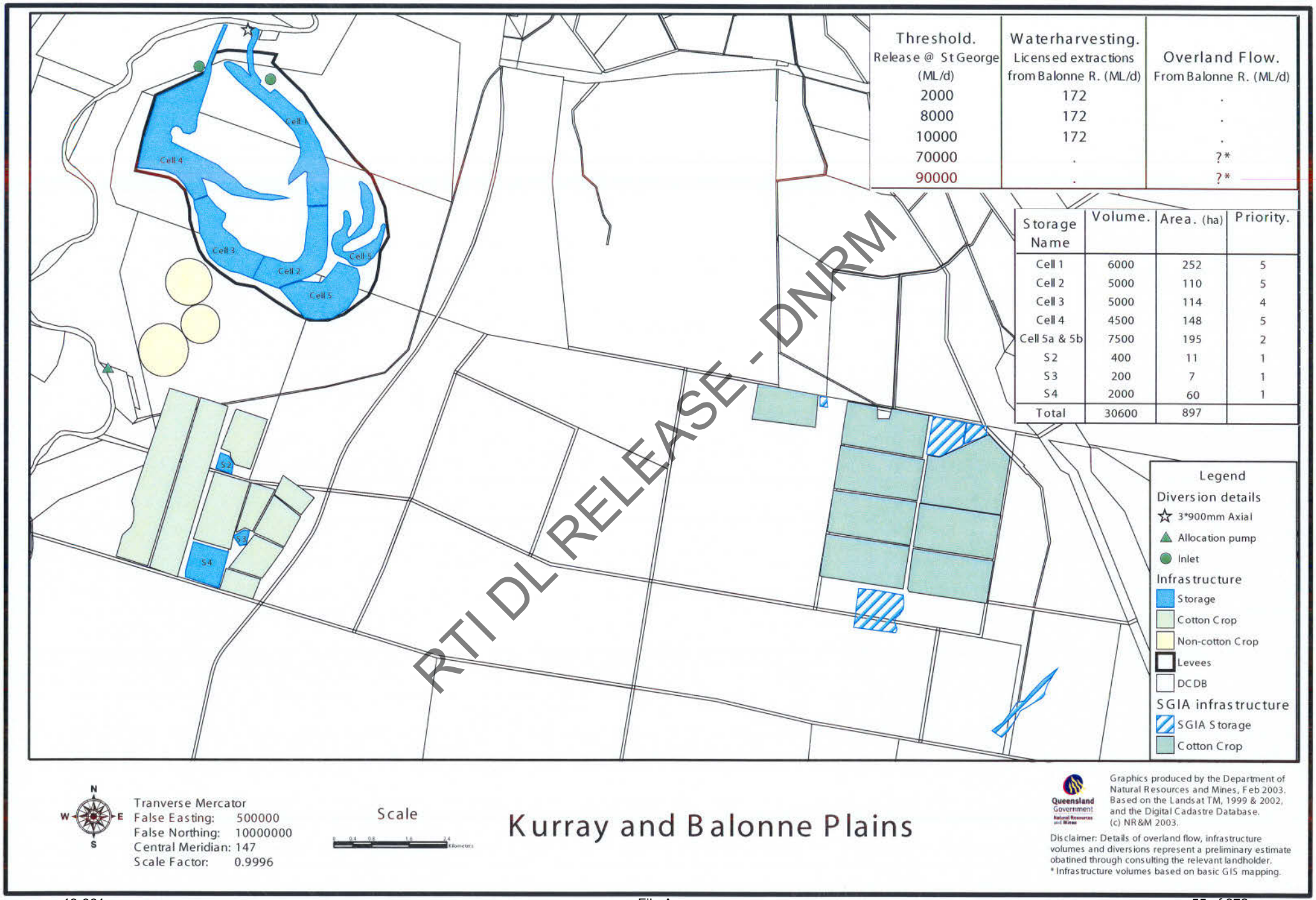
Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Kilcummin

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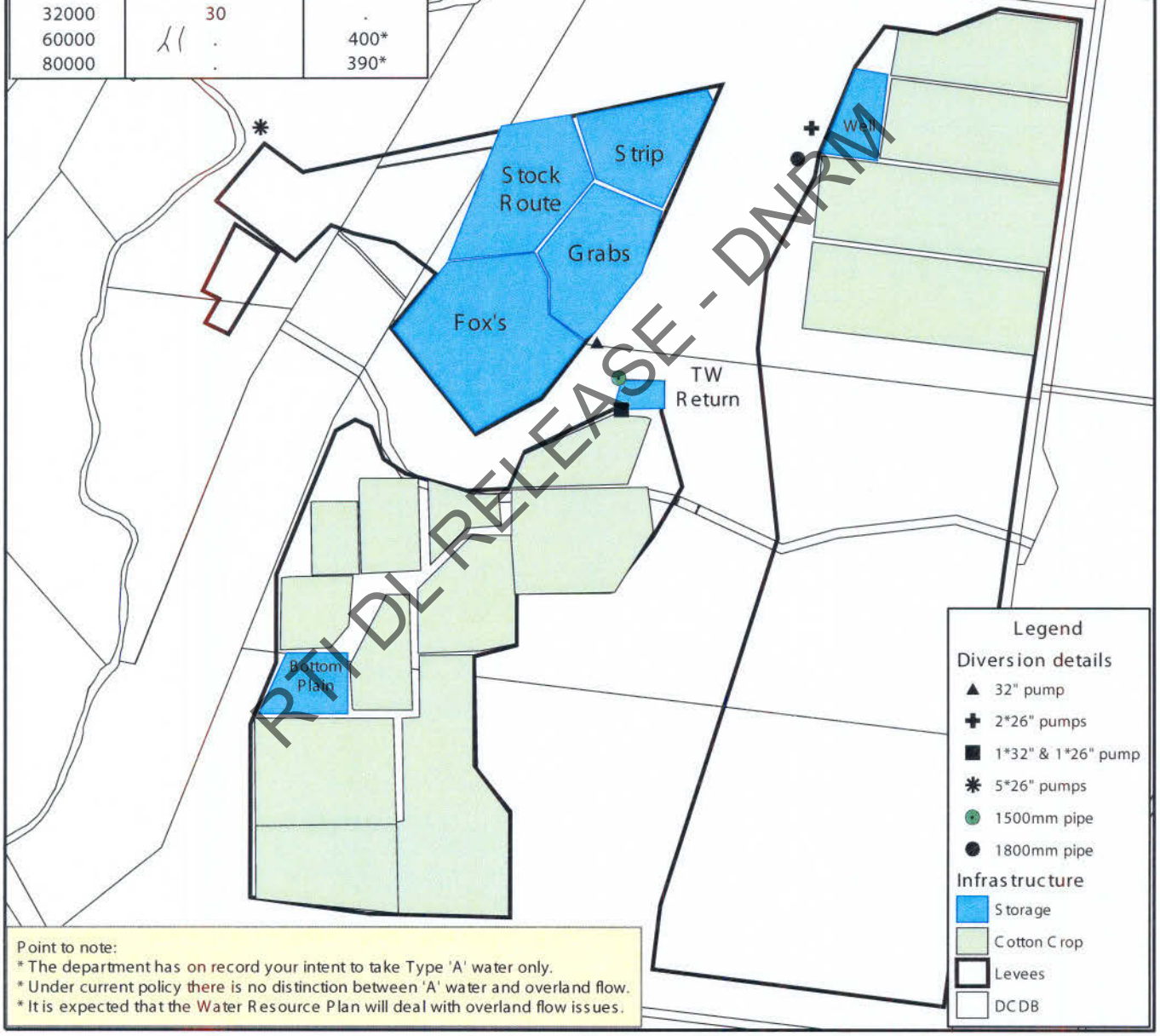
Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder.



RTI DL RELEASE - DNRM

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne R. (ML/d)	Overland Flow. From Balonne R. (ML/d)
2000	86	.
8000	86	.
10000	88	.
14000	40	.
16000	40	.
18000	40	.
20000	40	.
22000	40	.
24000	40	.
26000	40	.
28000	40	.
30000	40	.
32000	30	.
60000	11	400*
80000	.	390*

Storage Name	Volume (ML).	Area. (ha)
Grabs	3150	80
Strip	2620	65
TWR	300	9
Fox's	6645	156
Stockroute	3840	90
Bottom Plain	1400	37
Well	1400	37
Total	19355	474



RTI DL RELEASE - DNRM

Point to note:
* The department has on record your intent to take Type 'A' water only.
* Under current policy there is no distinction between 'A' water and overland flow.
* It is expected that the Water Resource Plan will deal with overland flow issues.

Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

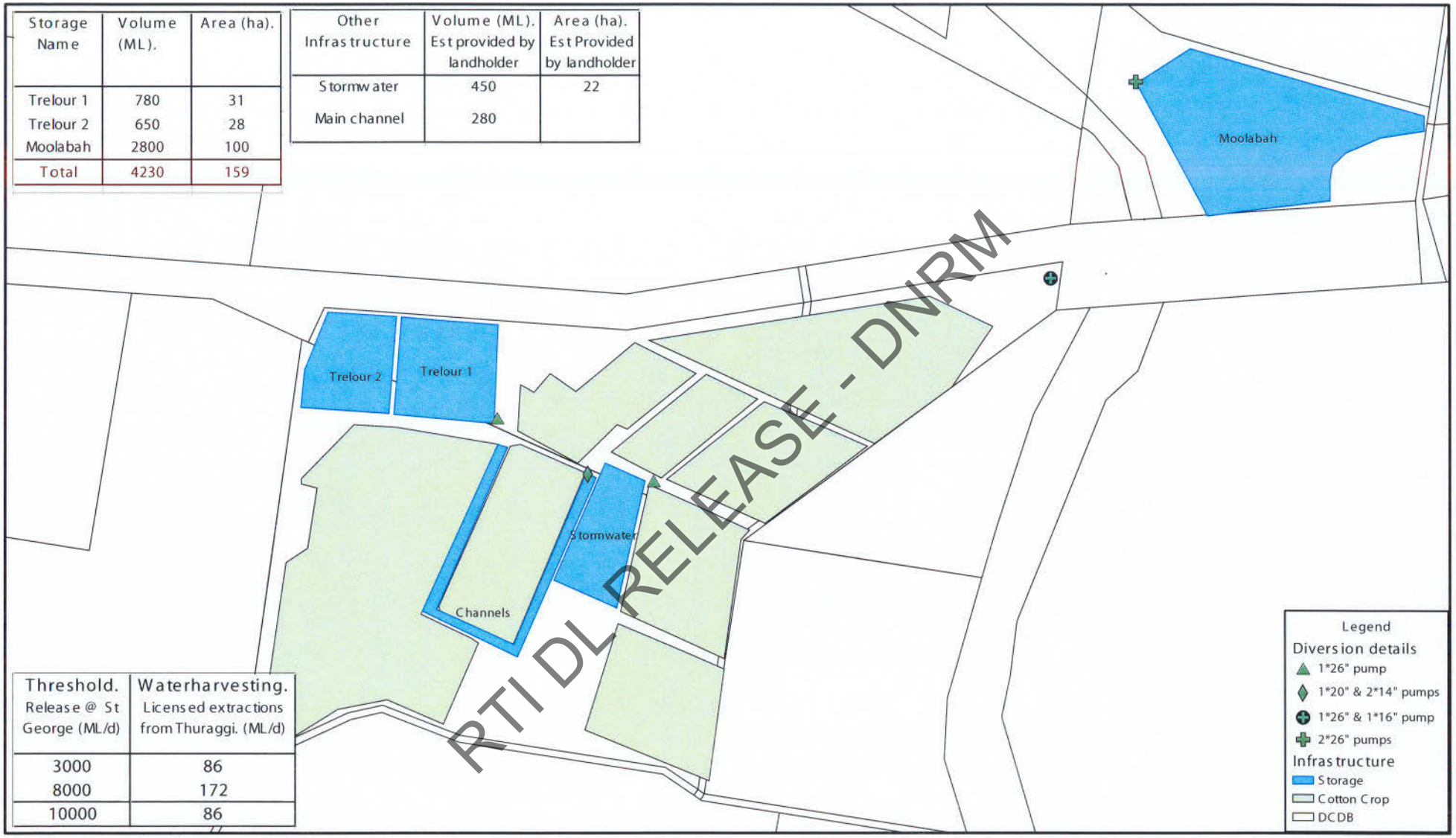
Lower Plains

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Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder.

Storage Name	Volume (ML).	Area (ha).
Trelour 1	780	31
Trelour 2	650	28
Moolabah	2800	100
Total	4230	159

Other Infrastructure	Volume (ML). Est provided by landholder	Area (ha). Est Provided by landholder
Stormwater	450	22
Main channel	280	



RTI DL RELEASE - DNRM

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Thuraggi. (ML/d)
3000	86
8000	172
10000	86

Scale

0 0.2 0.4 0.8 1.2 Kilometers

Transverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Moolabah

Queensland Government Natural Resources and Mines

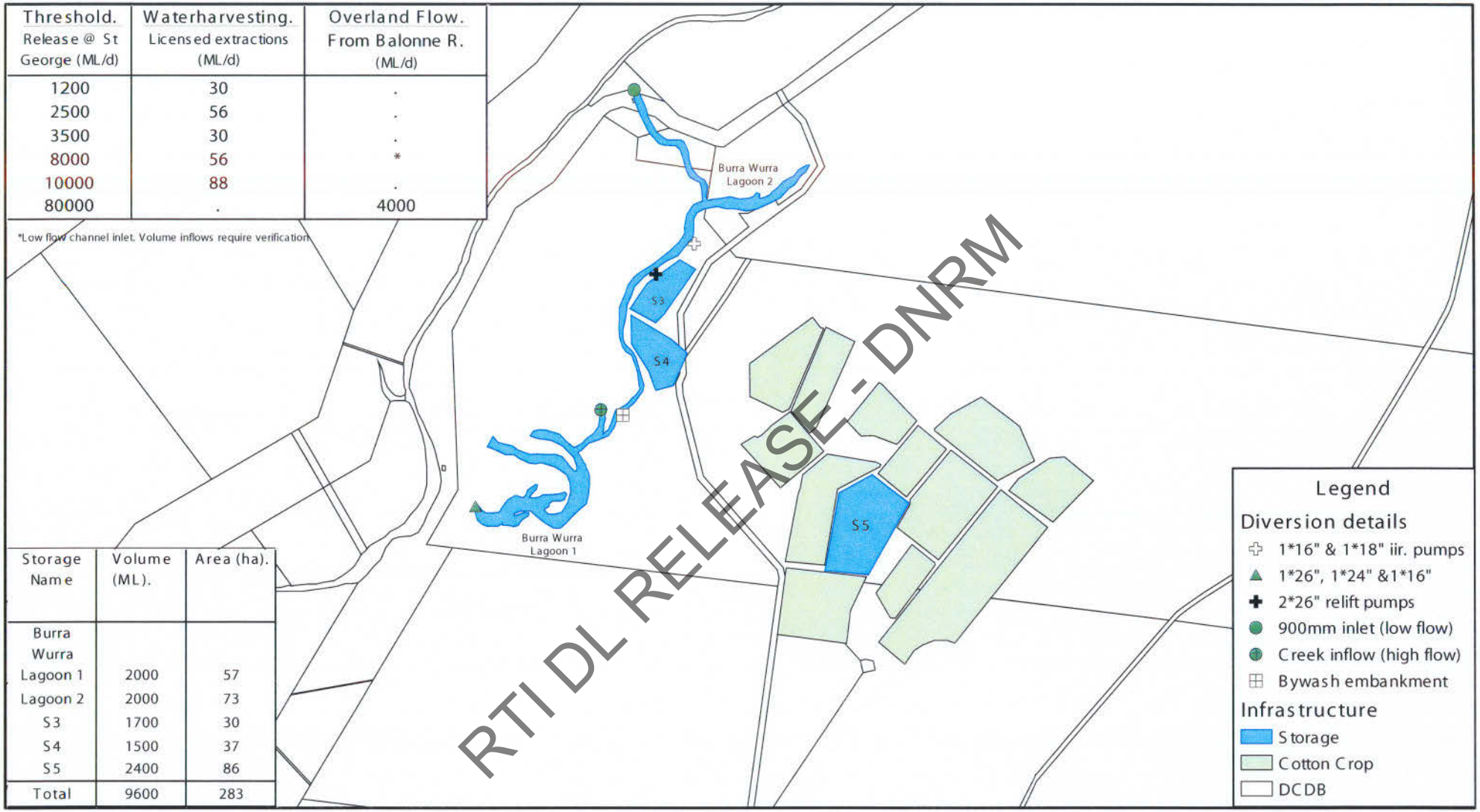
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Disclaimer: Details of overland flow and infrastructure represents information provided by the relevant landholder.

Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions (ML/d)	Overland Flow. From Balonne R. (ML/d)
1200	30	.
2500	56	.
3500	30	.
8000	56	*
10000	88	.
80000	.	4000

*Low flow channel inlet. Volume inflows require verification



Storage Name	Volume (ML).	Area (ha).
Burra Wurra Lagoon 1	2000	57
Burra Wurra Lagoon 2	2000	73
S3	1700	30
S4	1500	37
S5	2400	86
Total	9600	283

RTI DL RELEASE - DNRM

Scale

0 0.35 0.7 1.4 2.1 2.8 3.5 Kilometers

N W E S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

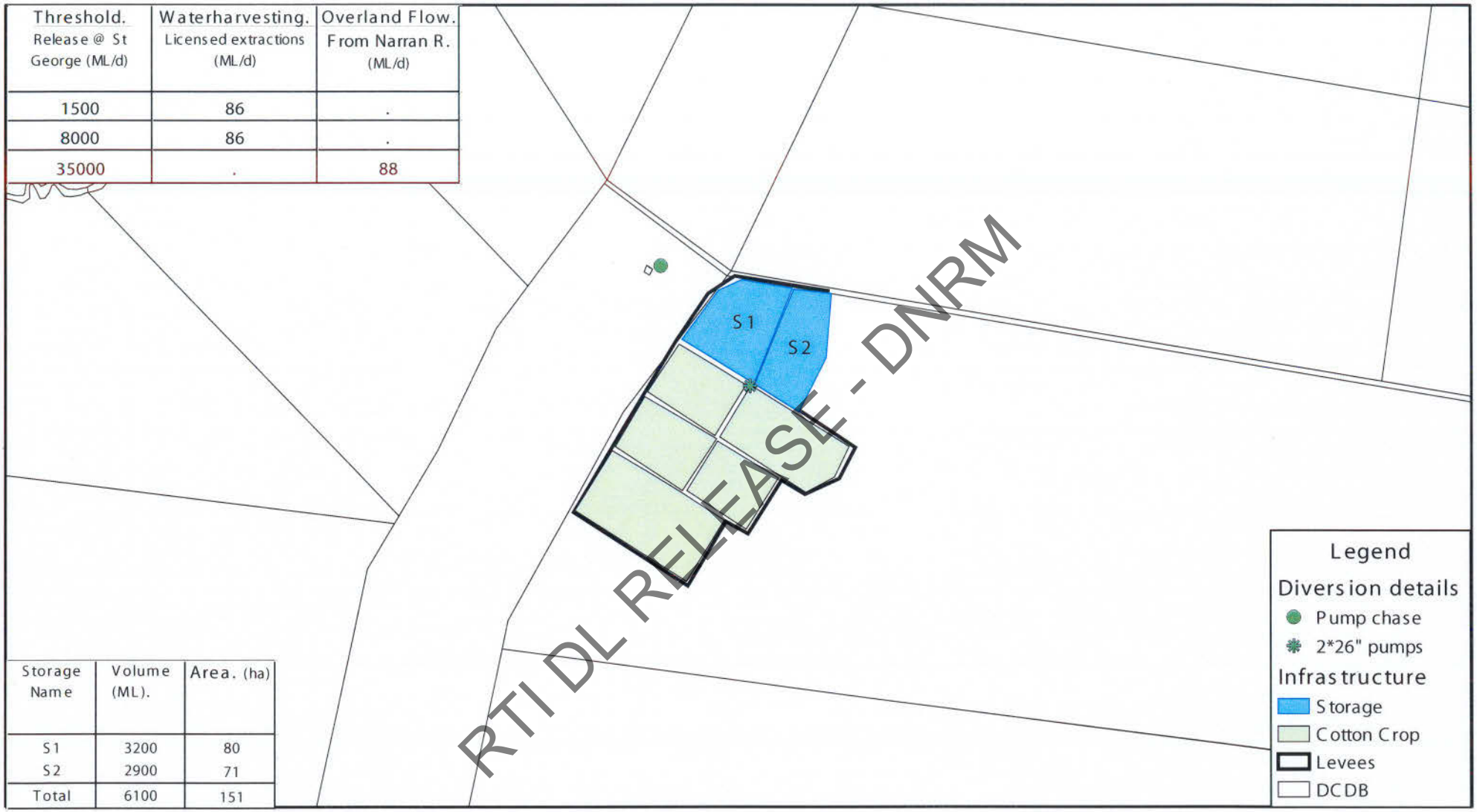
Mooramanna

Queensland Government Natural Resources and Mines

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Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder/s. Areas based on basic GIS mapping

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions (ML/d)	Overland Flow. From Narran R. (ML/d)
1500	86	.
8000	86	.
35000	.	88



RTI DL RELEASE - DNRM

Storage Name	Volume (ML).	Area. (ha)
S1	3200	80
S2	2900	71
Total	6100	151

Scale

0 0.375 0.75 1.5 2.25 3 Kilometers

N
W E
S

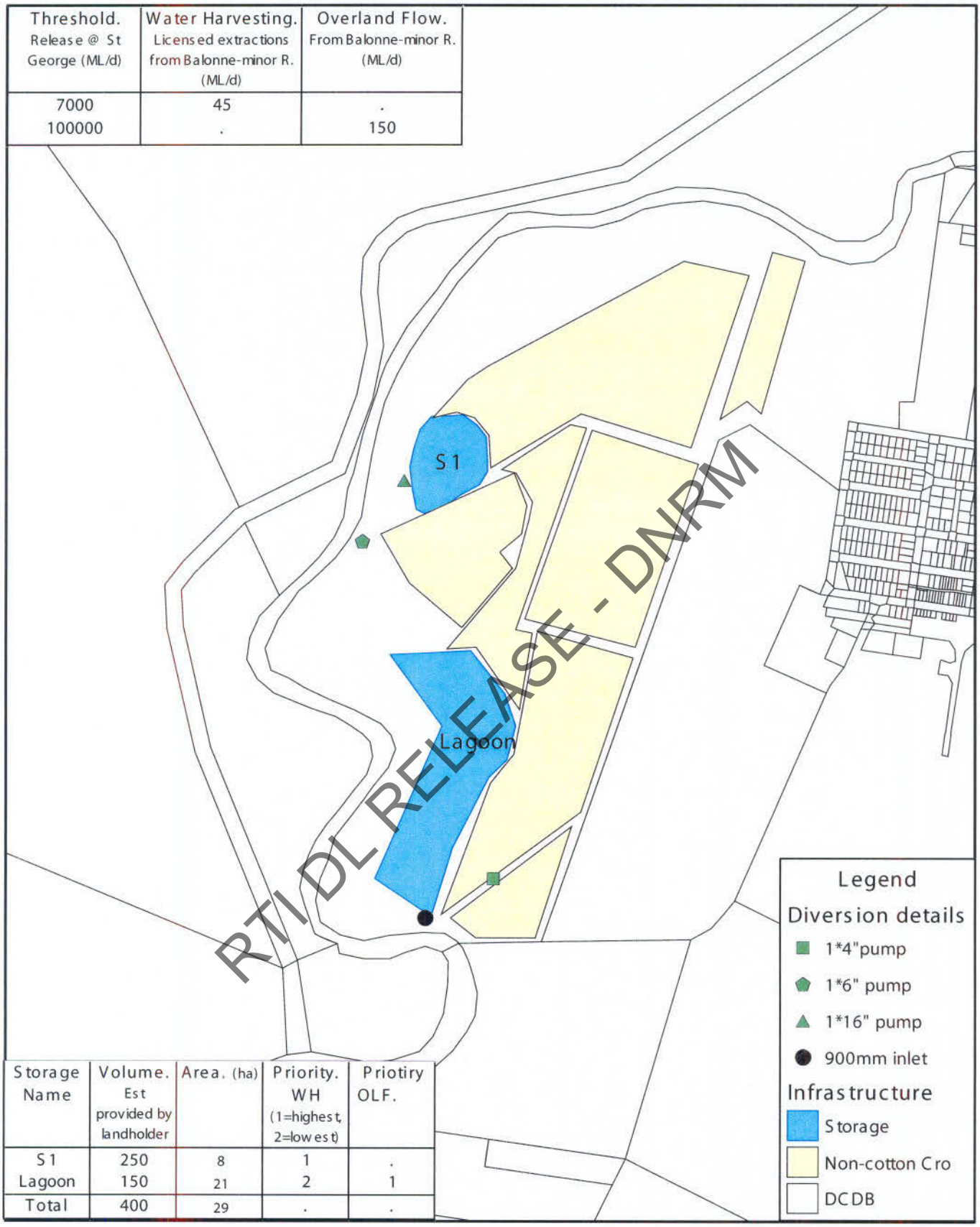
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Moorenbah

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Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder/s. Storage areas based on basic GIS mapping

Threshold. Release @ St George (ML/d)	Water Harvesting. Licensed extractions from Balonne-minor R. (ML/d)	Overland Flow. From Balonne-minor R. (ML/d)
7000	45	.
100000	.	150



Storage Name	Volume. Est provided by landholder	Area. (ha)	Priority. WH (1=highest, 2=lowest)	Priotiry OLF.
S1	250	8	1	.
Lagoon	150	21	2	1
Total	400	29	.	.

Scale

0 0.15 0.3 0.6 0.9 Kilometers

N W E S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Riverside

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Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder. Storage areas based on basic GIS mapping

Release

SGIA Location code	Property	Storage Name	Storage Volume (ML).	Storage Area (Ha). Est from GIS
1	Andermatt	Andermatt 1*	1150*	23*
2	Anderson_F129	S1	160	4
3	Anderson_F27	S1	280	7
4	Armidd_F159	S1	80	2
5	Armidd_F159	S2	80	2
6	Armidd_F159	S3	280	9
7	Armstrong_F113	S1	200	5
8	Balonne	Lagoon_Th	1500	47
9	Balonne Plains	S3	3000	78
10	Balonne Plains	S1	560	14
11	Balonne Plains	S2	2040	51
12	Balonne Plains	S4	120	3
13	Billeroy	S2	120	4
14	Billeroy_41	S1	400	10
15	Billeroy_F151	S1	480	12
16	Blache_F125	S1	360	9
17	Blache_F24	S2	160	4
18	Blache_F24	S1	600	15
19	BlacheF122	S1	800	20
20	Bligh_F159	S1	529	13
21	Bligh_F23	S1	230	8
22	Bligh_F31	S2	40	1
23	Bligh_F31	S1	240	6
24	Brimblecombe_F127	S2	90	2
25	Brimblecombe_F127	S1	80	2
26	Brimblecombe_F150	S1	800	20
27	Brimblecombe_F150	S2	240	6
28	Brookglen_F114	S1	200	5
29	Brookglen_F133	S1	360	6
30	Brookglen_F134	S1	600	15
31	Bundoran	S5	800	33
32	Cooinda_F99	S1	300	15
33	Glenbrae	S1	640	16
34	Hill	S1	280	7
35	Hill	S2	440	11
36	Hill_F124	S1	560	14
37	Kidd_F156	S1	60	3
38	Knights_F104	S1	560	14
39	Knights_F28	S1	1040	26
40	McDonald_F2	S1	600	10
41	Moon_F157	S1	160	4
42	Price_F26	S2	240	6
43	Price_F26	S1	800	20
44	Redgen_F118	Small	60	10
45	Rogan_F109	S1	1120	28
46	Saunders_F153	S2	100	8
47	SAunders_F153		1000	28
48	Saunders_L11	S1	400	9
49	SGIA		150	4
50	Thomas_F120	S1	200	5
51	Thomsa_F101		250	6
52	Wynona_F118	Big	500	14
53			150	4
54	Balonne Plains	Lagoon	500	
Total			25539	675

* Duel purpose storage. Volume included as part of "Gubberamunda" storage infrastructure.

Threshold. Release @ St George (ML/d)	Sunwater Water harvesting. Licensed extractions from Balonne R. (ML/d) Beardmore	Sunwater Water harvesting. Licensed extractions from Balonne R. (ML/d) JTW
8000	900	100

RTI DL RELEASE - DNRM

Legend

Infrastructure

- Storage SGIA
- Cotton Crop
- DCDB
- 53 Storage ID

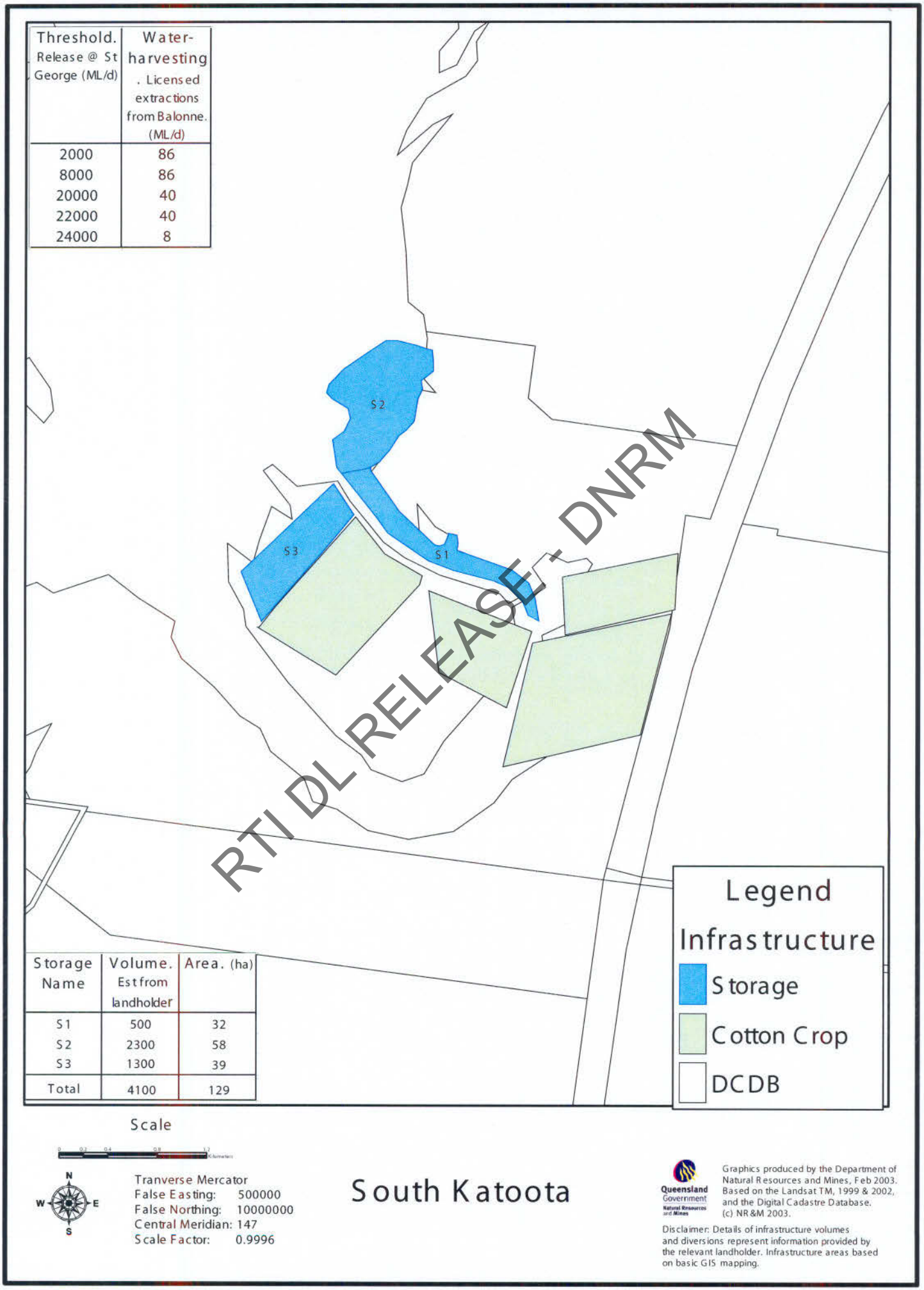
Scale

Transverse Mercator
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Central Meridian: 147
Scale Factor: 0.9996

St George Irrigation Area

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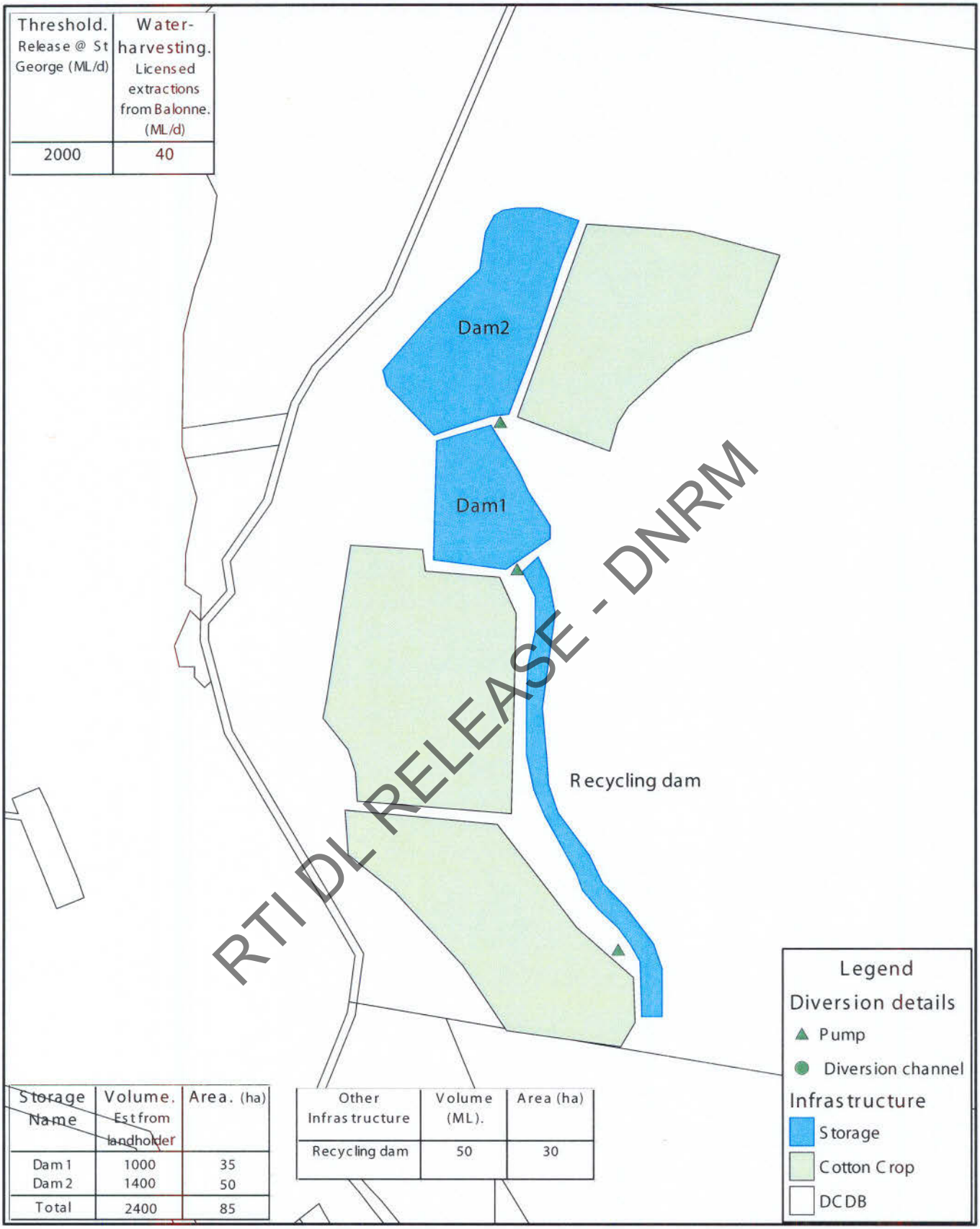
Disclaimer: Details of overland flow and infrastructure represents information provided by the relevant landholder.



RTI DL RELEASE - DNRM

Release

Threshold. Release @ St George (ML/d)	Water-harvesting. Licensed extractions from Balonne. (ML/d)
2000	40



RTI DL RELEASE - DNRM

Storage Name	Volume. Est from landholder	Area. (ha)
Dam 1	1000	35
Dam 2	1400	50
Total	2400	85

Other Infrastructure	Volume (ML).	Area (ha)
Recycling dam	50	30

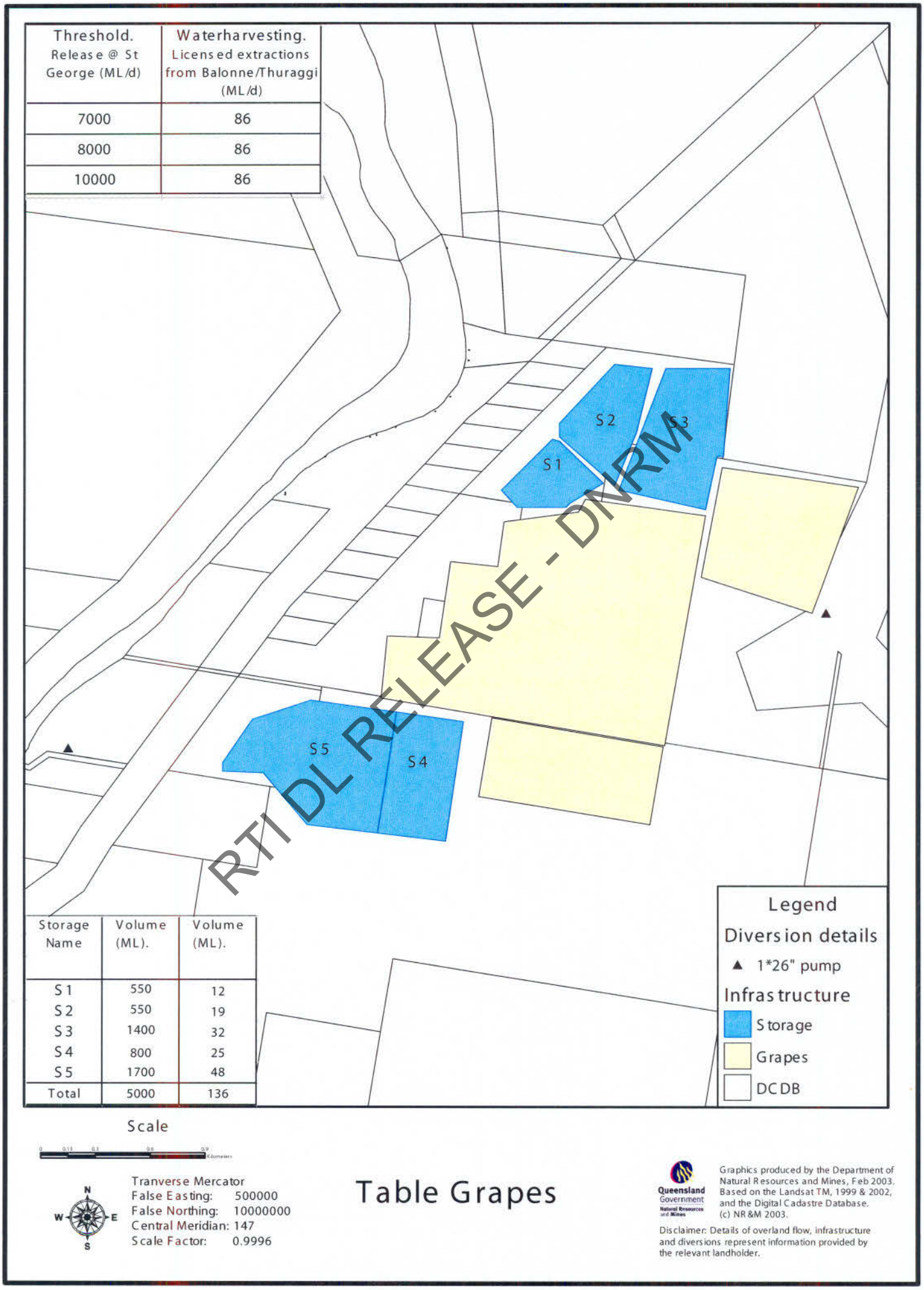
Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

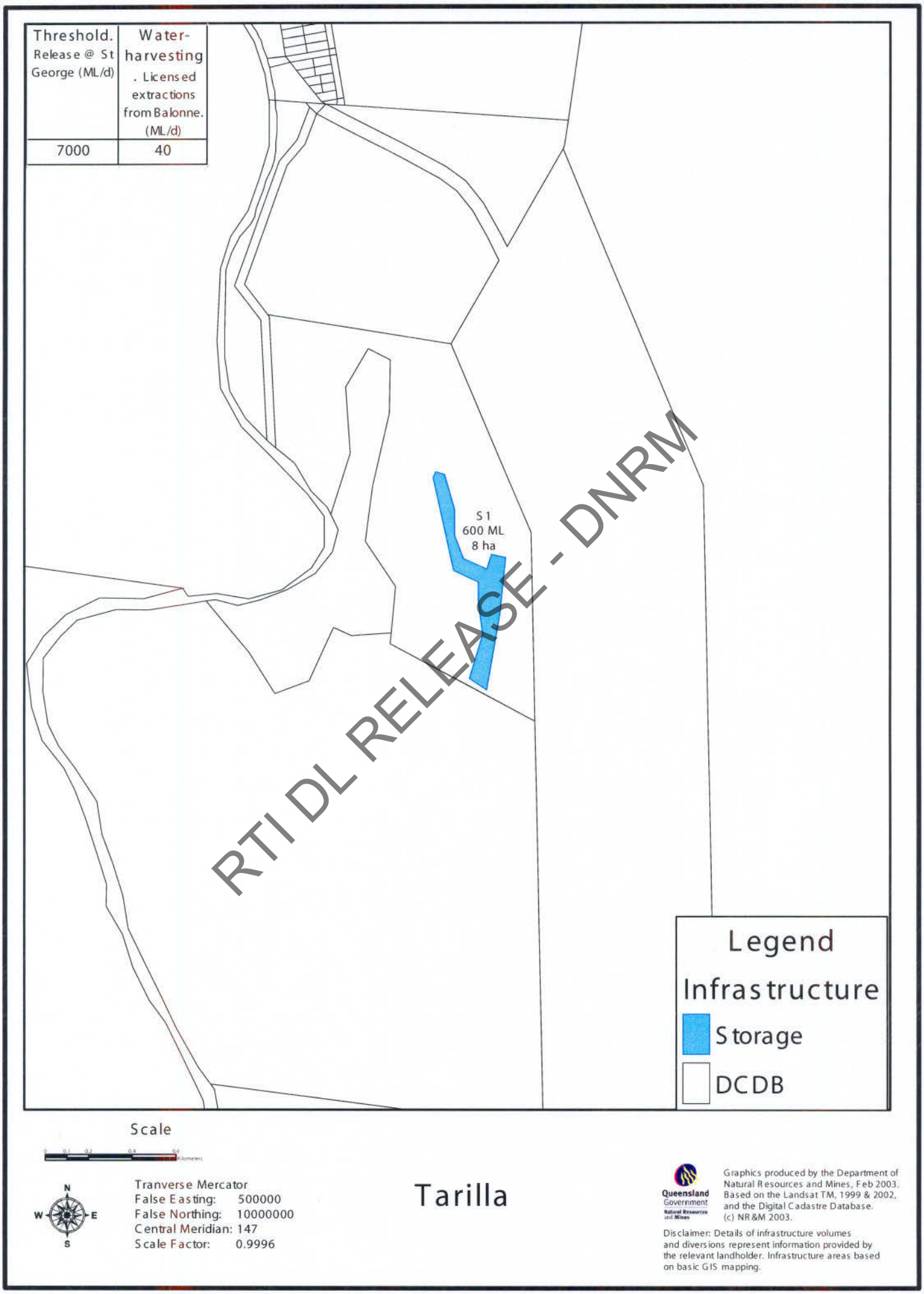
Strathbogie

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Disclaimer: Details of infrastructure and diversions represent information provided by the relevant landholder.


Threshold. Release @ St George (ML/d)
Waterharvesting. Licensed extractions from Balonne/Thuraggi (ML/d)
7000 86
8000 86
10000 86
S1
S2
S3
S4
S5
RTI DL RELEASE - DNRM
Storage Name | Volume (ML). | Volume (ML).
S1 550 12
S2 550 19
S3 1400 32
S4 800 25
S5 1700 48
Total 5000 136
Legend
Diversion details
1*26" pump
Infrastructure
Storage
Grapes
DCDB
Scale
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996
Table Grapes
Queensland Government
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Release


Threshold. Release @ St George (ML/d)
Water-harvesting . Licensed extractions from Balonne. (ML/d)
7000
40
S1
600 ML
8 ha
RTI DL RELEASE - DNRM
Legend
Infrastructure
Storage
DCDB
Scale
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996
Tarilla
Queensland Government
Natural Resources and Mines
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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Threshold. Release @ St George (ML/d)	Water Harvesting. Licensed extractions from Balonne-minor R. (ML/d)	Water Harvesting. Licensed extractions on Belah Ck from Culgoa system (ML/d)	Overland Flow. From Culgoa system.	Overland Flow. From Balonne-minor R. (ML/d)
2000	30	.	.	.
4000	.	86	.	.
8000	.	44	.	.
18000			130**	
36000	.	.	130**	.
80000	.	.	.	130**

** Preliminary landholder estimates of hydraulic capacities



RTI DL RELEASE - DNRM

Storage Name	Volume. Est provided by landholder	Area. (ha)	Priority. WH (1=highest, 2=lowest)	Priority OLF. From Culgoa R.	Priority OLF. From Balonne-minor
S1	1550	59	1	.	.
S2	3400	107	2	1	.
S3	4000	123	3	2	.
Surge 4	750	103		.	2
Surge 5	1200	96	.	.	1
Total	10900	488	.	.	.

Legend

Diversion details

- 1*12" pump
- 2*26" pumps
- 1200 mm pipe
- 1500mm pipe

Infrastructure

- Storage
- Cotton Crop
- Non-cotton Cro
- Levees
- DCDB

Scale

0 0.2 0.4 0.6 1.2 Kilometers

N W E S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Tooroora

Queensland Government Natural Resources and Mines

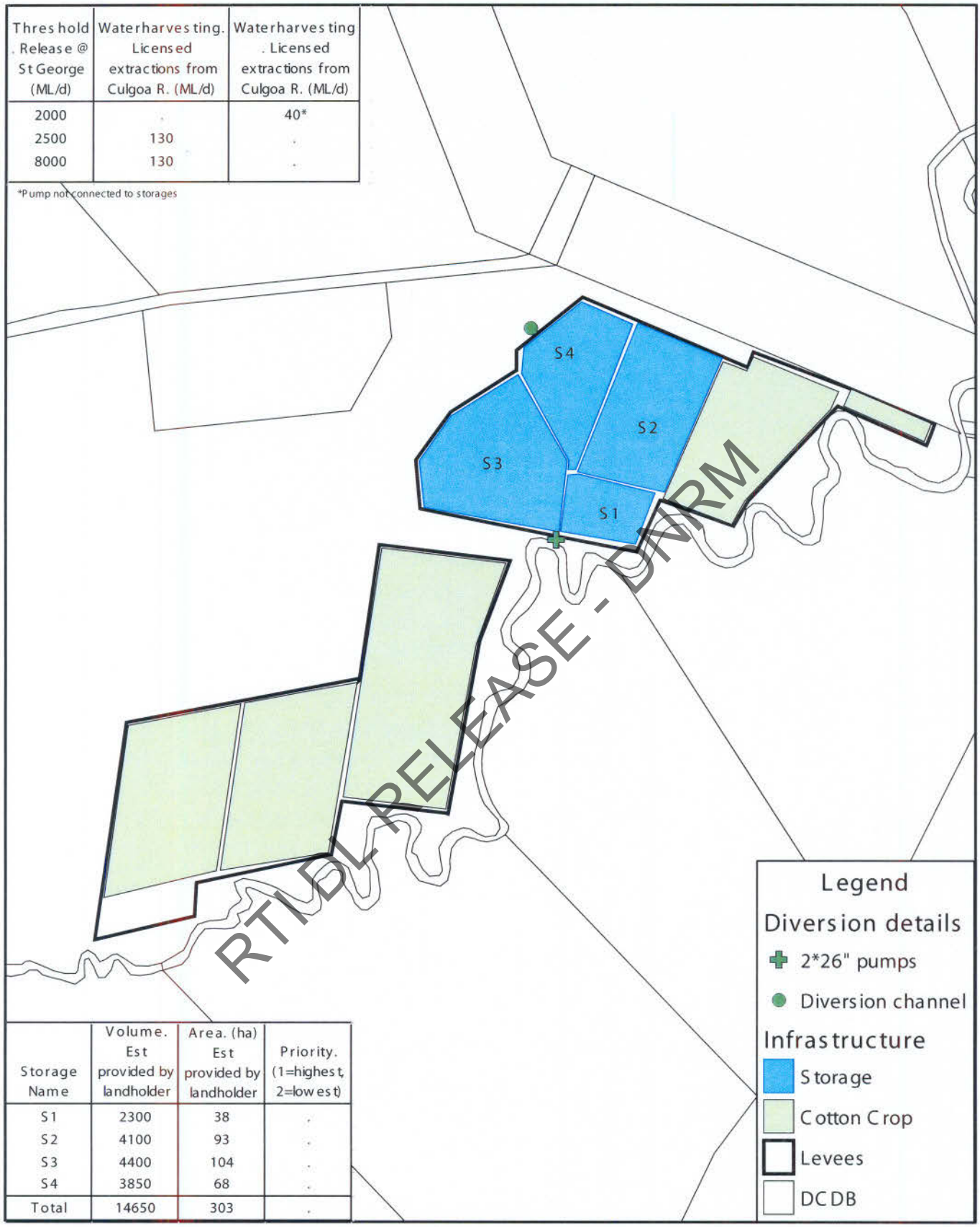
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Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Culgoa R. (ML/d)	Waterharvesting. Licensed extractions from Culgoa R. (ML/d)
2000	.	40*
2500	130	.
8000	130	.

*Pump not connected to storages



Storage Name	Volume. Est provided by landholder	Area. (ha) Est provided by landholder	Priority. (1=highest, 2=lowest)
S1	2300	38	.
S2	4100	93	.
S3	4400	104	.
S4	3850	68	.
Total	14650	303	.

Scale

0 0.25 0.5 1 1.5 Kilometers

N W E S

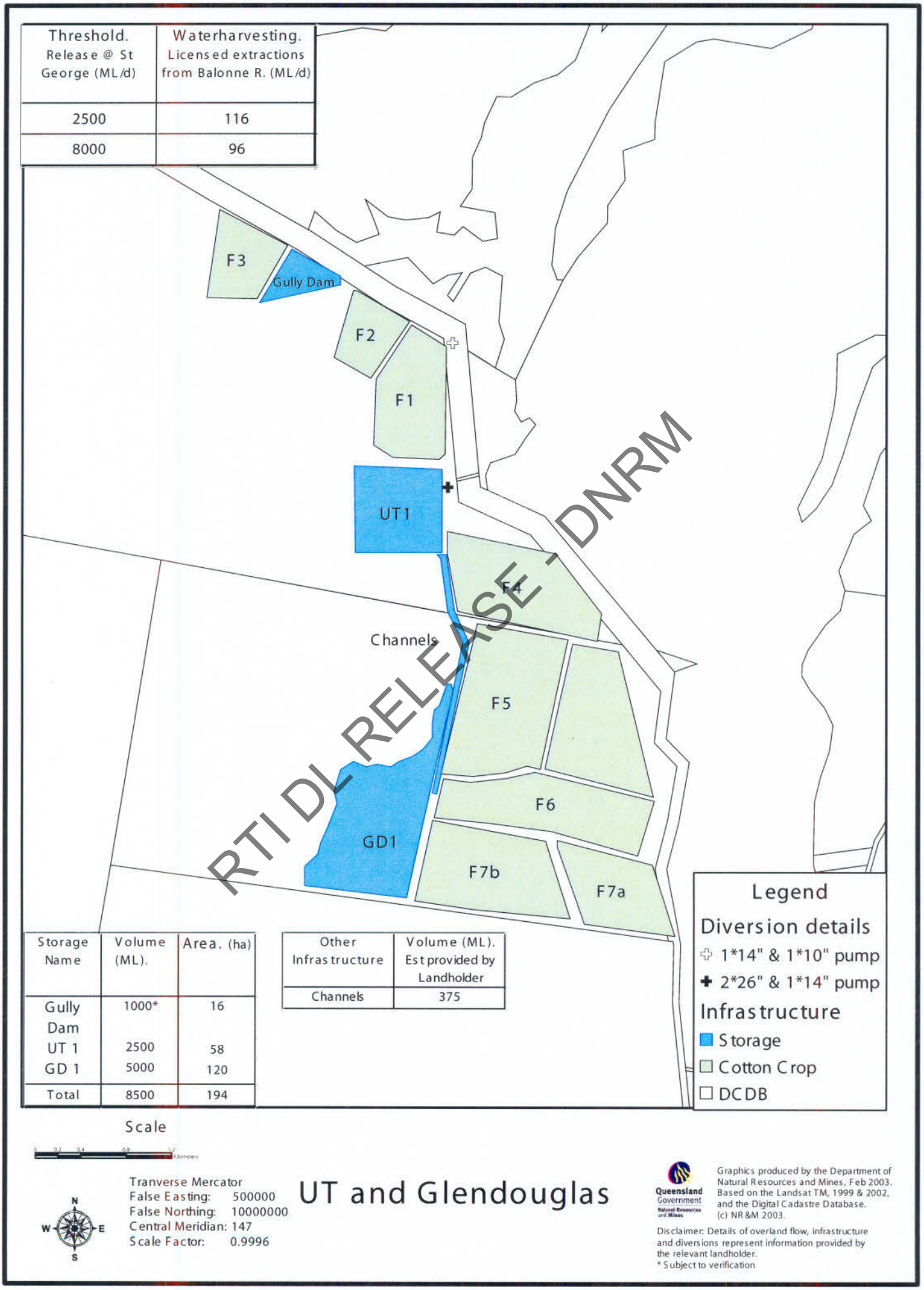
Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Trafalgar

Queensland Government Natural Resources and Mines

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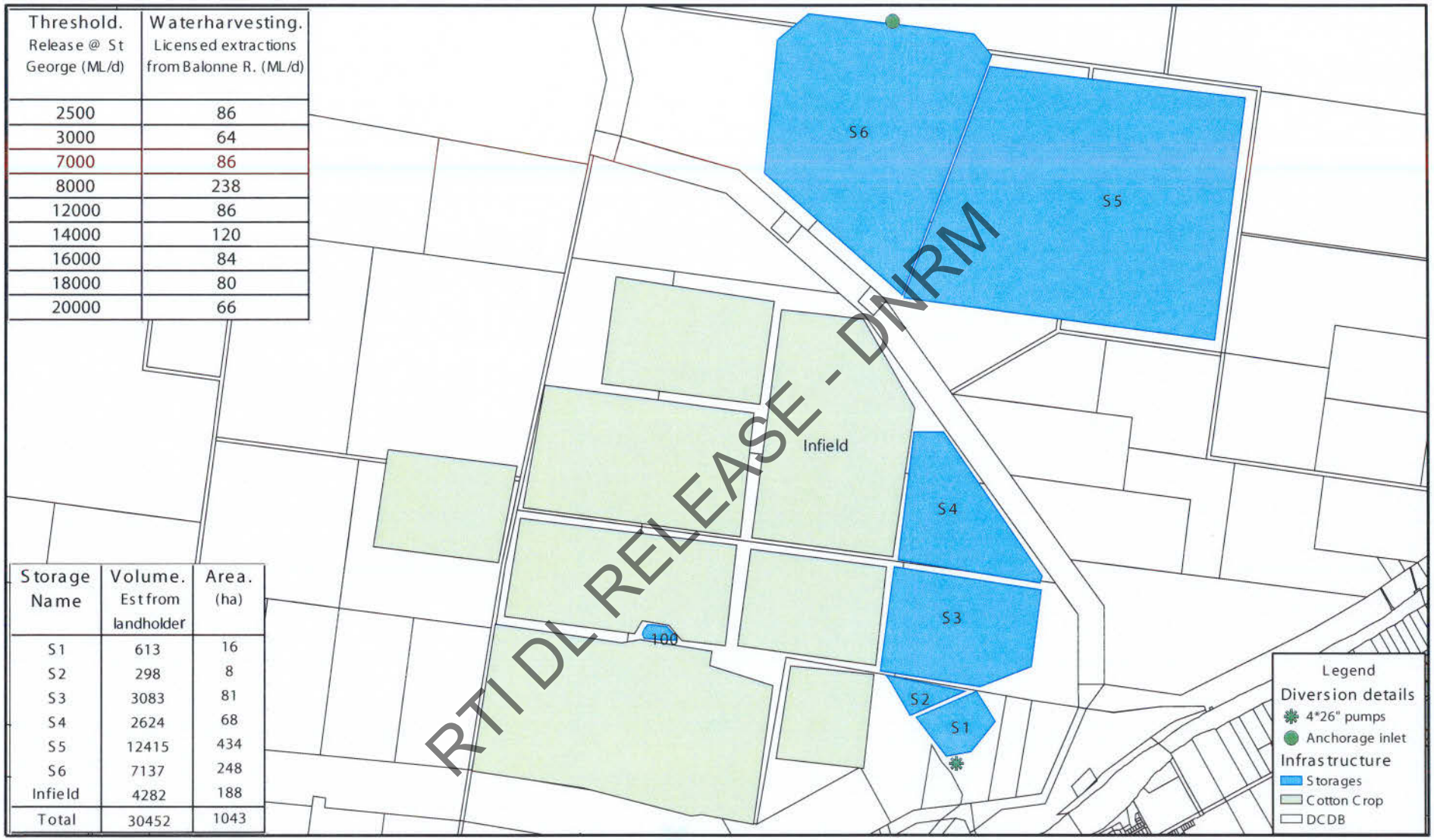


RTI DL RELEASE - DNRM

Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne R. (ML/d)
2500	86
3000	64
7000	86
8000	238
12000	86
14000	120
16000	84
18000	80
20000	66

Storage Name	Volume. Est from landholder	Area. (ha)
S1	613	16
S2	298	8
S3	3083	81
S4	2624	68
S5	12415	434
S6	7137	248
Infield	4282	188
Total	30452	1043



RTI DL RELEASE - DNRM

Scale

Transverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Wagaby

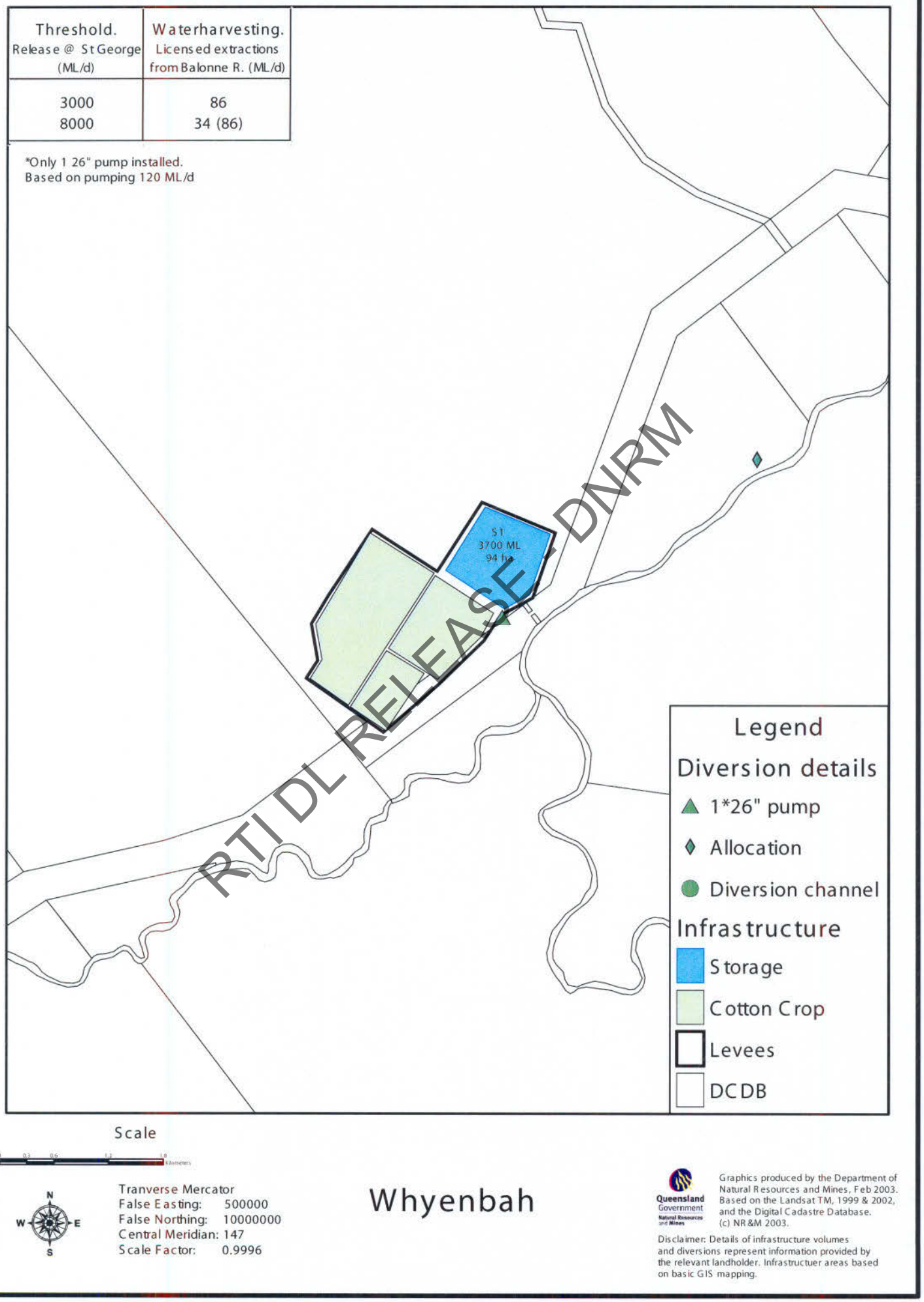
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Disclaimer: Details of infrastructure represents nformation provided by the relevant landholder.

Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Balonne R. (ML/d)
3000	86
8000	34 (86)

*Only 1 26" pump installed.
Based on pumping 120 ML/d



RTI DL RELEASE DNRM

Scale

N
W E
S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Whyenbah

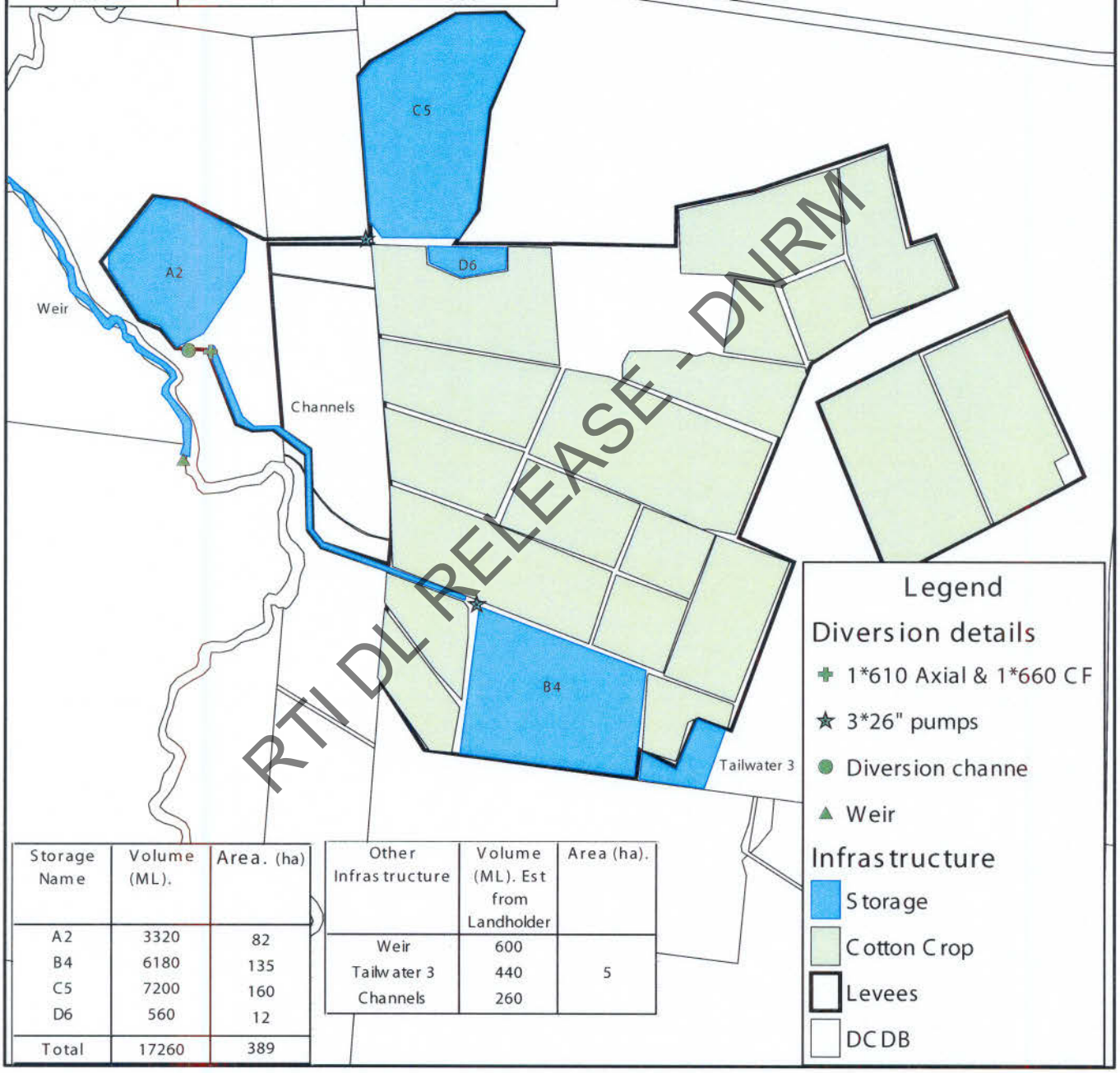
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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructuer areas based on basic GIS mapping.

Release

Threshold. Release @ St George (ML/d)	Waterharvesting. Licensed extractions from Narran R. (ML/d)	Overland Flow. From Narran Floodplain (ML/d)
1200	86	.
8000	86	.
10000	88	.
12000	80	.
14000	80	.
16000	80	.
18000	80	.
20000	80	.
40000	.	380



RTI DL RELEASE - DNRM

Storage Name	Volume (ML).	Area. (ha)
A2	3320	82
B4	6180	135
C5	7200	160
D6	560	12
Total	17260	389

Other Infrastructure	Volume (ML). Est from Landholder	Area (ha).
Weir	600	
Tailwater 3	440	5
Channels	260	

Scale

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

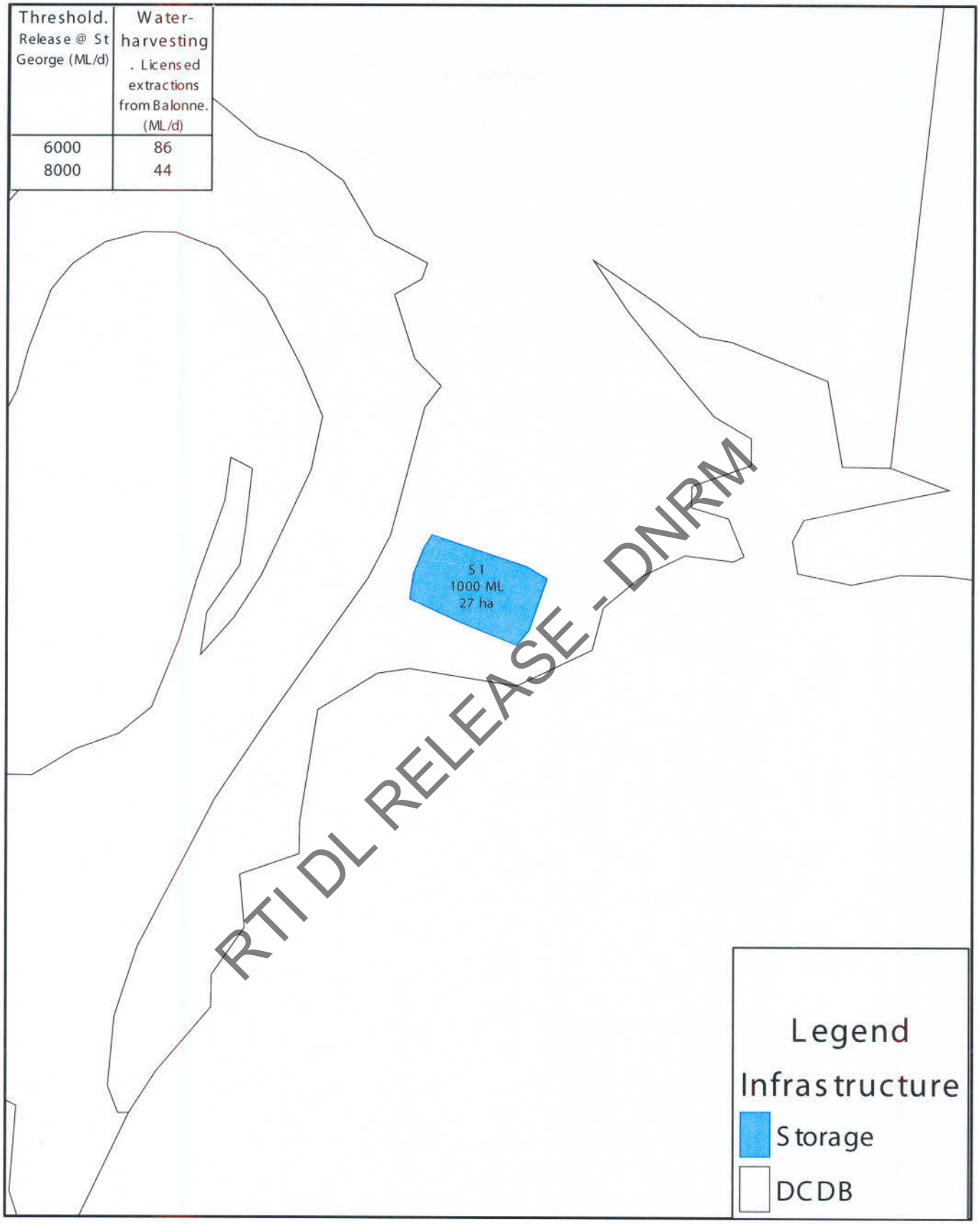
Wynella

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Disclaimer: Details of overland flow, infrastructure volumes and diversions represent information provided by the relevant landholder. Areas based on basic GIS mapping

Release

Threshold. Release @ St George (ML/d)	Water-harvesting . Licensed extractions from Balonne. (ML/d)
6000	86
8000	44



RTI DL RELEASE - DNRM

Scale

0 0.125 0.25 0.5 0.75 Kilometers

N
W E
S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Wynona

Queensland Government Natural Resources and Mines

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Disclaimer: Details of infrastructure volumes and diversions represent information provided by the relevant landholder. Infrastructure areas based on basic GIS mapping.

Release

Property Irrigation Infrastructure and license information:

St George and Lower Balonne area

April 2003

Prepared by:
The Department of Natural Resources and Mines (Queensland)

This report has been prepared with all due care and diligence, using information provided by the relevant landholders and NR&M licensing information; however, the Department holds no responsibility for any errors or omissions. Any decisions made by other parties on the basis of this report are solely the responsibility of those parties. The information contained in this report does not necessarily represent government policy.

RTI DL RELEASE - DNRM

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Release

PROPERTY_NAME	OWNERS_NAME	POSTAL_ADDRESS	TOWN	P/CODE	TELEPHONE	FAX	EMAIL
Armett Waters	sch4p4(6) Personal information	Cooinda Cotton	ST GEORGE	4487	sch4p4(6) Personal information	4625218	sch4p4(6) Personal information
Ashwood		Ashwood	ST GEORGE	4487			
Balgai		Balgai	ST GEORGE	4487			
Ballandool		PO Box 49	MILLMERRAN	4357			
Beardie Lagoon		Beardie Lagoon	DIRRANBANDI	4486			
Beverleigh		Beverleigh	DIRRANBANDI	4486			
Bonathorne		Bonathorne	GOODOOGA	2838			
Booligar		Booligar	ST GEORGE	4487		4625865	
Boorumbirra		Boorumbirra	DIRRANBANDI	4486			
Boweet		Boweet	DIRRANBANDI	4486			
Brenda							
Brenda		Brenda Station	HEBEL	4486			
Brookdale		Brookdale	DIRRANBANDI	4486			
Bundoran		Bundoran	ST GEORGE	4487			
Burgorah		Burgorah	ST GEORGE	4487			
Byra		Byra	DIRRANBANDI	4486			
Calooma		Calooma	DIRRANBANDI	4486		4625862	
Clarkes		Cubbie Station PO Ba	DIRRANBANDI	4486		4625839	
Clyde		Clyde	ST GEORGE	4487			
Cooinda		Cooinda	ST GEORGE	4487			
Cubbie		Cubbie Station PO Ba	GOODOOGA	2838			
Cubbie		Cubbie Station PO Ba	ST GEORGE	4487			
Darran		Darran	ST GEORGE	4487			
Davirton		Davirton	DIRRANBANDI	4486			
Dimberly		Dimberly	ST GEORGE	4487			
Dundee		Dundee	DIRRANBANDI	4486			
Dunwold		Dunwold	DIRRANBANDI	4487		4625811	
Euraba		Euraba	ST GEORGE	4487			
Eurobodalla		Eurobodalla	HEBEL	4486		4625822	
Farm 23		Farm 23 Malwa	ST GEORGE	4487		4625213	
Glenbrae		Glenbrae	ST GEORGE	4487		4625530	
Goonaroo		Goonaroo	ST GEORGE	4487			
Guee		The Anchorage	ST. GEORGE	4487		4625384	
Gulnarbar		Gulnarbar	DIRRANBANDI	4486		4625501	
Hamilton		PO Box 41	ST GEORGE	4487			
Hamilton		Hamilton	DIRRANBANDI	4486			
Harlequin		Harlequin	ST GEORGE	4487		4625517	
Hastings		Hastings	DIRRANBANDI	4486			
Hooloovale		Ooraine	DIRRANBANDI	4486		4625868	
Ingie		Ingie	DIRRANBANDI	4486			
Ingie		Ingie	DIRRANBANDI	4486		4625090	
Iona		Iona	ST GEORGE	4487		4625506	
Katoota		Katoota Stn	ST GEORGE	4487		4625416	
Kelso		Kelso	DIRRANBANDI	4486		4625096	
Kia Ora		Kia Ora	DIRRANBANDI	4486			
Kilcummin		Kilcummin	HEBEL	4486			
Kinglebilla		Kinglebilla	DIRRANBANDI	4486			
Kirrima		Cubbie Station PO Ba	DIRRANBANDI	4486			
Koala		Koala	DIRRANBANDI	4486			
Kurray		Kurray	HEBEL	4486		4625213	
Kurray		Kurray	ST GEORGE	4487			
Lower Plains		Lower Plains	HEBEL	4486		4625411	
Mathalla		Mathalla	DIRRANBANDI	4486			
Miegunyah		Eurobodalla	DIRRANBANDI	4486			
Moolabah		Moolabah	ST GEORGE	4487		4625345	
Moon Rocks		Moon Rocks	ST GEORGE	4487		4625212	
Mooramanna		Mooramanna	ST GEORGE	4487		4625359	
Moorenbah		Moorenbah	DIRRANBANDI	4486		4625841	
Morley		Ballandool	MUNGINDI	2406			
Mugangulla		Mugangulla	DIRRANBANDI	4486			
Muthong		Muthong	DIRRANBANDI	4486			
Narline		Narline	DIRRANBANDI	4486			
Nee Nee		Nee Nee	DIRRANBANDI	4486			
Nelyambo		Nelyambo	HEBEL	4486			
Oakey Park		Oakey Park	DIRRANBANDI	4486		4625099	
Old Woolerina		Old Woolerina	ST GEORGE	4487			
Pilgra		Cubbie Station PO Ba	DIRRANBANDI	4486			
Redbank Cavillon		Clyde	DIRRANBANDI	4487			
Redbank Cavillon		Clyde	DIRRANBANDI	4486			
Riverglen		Riverglen	ST GEORGE	4487			
Riversands Vineyards		Riversands Vineyards	ST GEORGE	4487		4625504	
Seaton		Eurobodalla	DIRRANBANDI	4486		4625822	
Simla		Koala	DIRRANBANDI	4486			
South Katoota		South Katoota	ST GEORGE	4487		4625418	
South Muthong		Galonga	DIRRANBANDI	4486			
Strathbogie		Strathbogie	ST GEORGE	4487			
Strathbogie		Strathbogie	ST GEORGE	4487		4625562	
Tara		Tara	HEBEL	4486			
Tooroora		Tooroora	ST GEORGE	4487			
Trafalgar		Trafalgar	DIRRANBANDI	4486		4625825	
Wagaby		Wagaby	ST GEORGE	4487		4625415	
Warrina		Warrina Farm 112	ST GEORGE	4487		4625213	
Wayenbah		Wayenbah	ST GEORGE	4487		4625321	
Whyenbah		Whyenbah	DIRRANBANDI	4486		4625822	
Woodstock		Woodstock	ST GEORGE	4487			
Woolerbilla		Cubbie Station PO Ba	DIRRANBANDI	4486			
Wynella		Wynella	DIRRANBANDI	4486			
Wynella		Wynella	DIRRANBANDI	4486			
Wynella		Wynella	HEBEL	4486			
Wyralla		Wyralla	DIRRANBANDI	4486			
Yattenbury		Balgai	ST GEORGE	4487			
						4625215	
		Canarvon Hwy	ST GEORGE	4487			

Release

Table 1:	List of storages with less than 1m est. freeboard							Max depth = 4.2m			Max depth = 4.0m		
Owner	Property	Storage name	Volume (ML)	Approximate Area (ha)	Average Depth (m)	Assumed Max Ht (m)	Estimate Freeboard (m)	No hectare error	10% hectare error	Difference in Volume	No hectare error	10% hectare error	Difference in Volume
Knights WD	*"Tarilla"*		600	8.0	7.5	5.0	-2.5	336	369.6	264	320	352	280
Gracie	*"Katoota Station"*	S3	1600	34.0	4.7	5.0	0.3	1428	1570.8	172	1360	1496	240
Knights JC & ES	*"U/T Downs"*	Gully dam	1000	16.0	6.3	5.0	-1.3	672	739.2	328	640	704	360
Knights JC & ES	*"U/T Downs"*	UT1	2500	58	4.3	5.0	0.7	2436	2679.6	64	2320	2552	180
Knights JC & ES	*"Glen Douglas"*	GD1	5000	120	4.2	5.0	0.8	5040	5544	-40	4800	5280	200
Todd, I	*"Wagaby"*	S1	613	16	3.8		0.5						
Todd, I	*"Wagaby"*	S2	298	8	3.7		0.5						
Todd, I	*"Wagaby"*	S3	3083	80	3.9		0.5						
Todd, I	*"Wagaby"*	S4	2624	68	3.9		0.5						
Todd, I	*"Wagaby"*	S5	12415	434	2.9		0.5						
Todd, I	*"Wagaby"*	S6	7137	248	2.9		0.5						
Todd, I	*"Wagaby"*	Infield	4282	188	2.3		0.5						
Brimblecombe	*"Anchorage"*	Old North	1000	25	4.0		0.7						
Brimblecombe	*"Anchorage"*	Santos 1	3054	113	4.0		0.5						
Brimblecombe	*"Anchorage"*	Santos 2	12256	454	2.7		0.8						
Brimblecombe	*"Anchorage"*	Santos 3	15981	571	2.8		0.8						
Brimblecombe	*"Anchorage"*	Santos 4	5550	252	2.2		0.8						
McDonald	*"Glenbrae"*	S2	250	5	5.0	5.0	0.0	210	231	40	200	220	50
Table Grape Growers		S1	550	12	4.6	5.0	0.4	504	554.4	46	480	528	70
Table Grape Growers		S3	1400	32	4.4	5.0	0.6	1344	1478.4	56	1280	1408	120
Brookglen Pty Ltd	*"Bugorah"*		3350	67	5.0	5.0	0.0	2814	3095.4	536	2680	2948	670
Graham	*"Kia Ora North"*	S3	2750	62	4.4	5.0	0.6	2604	2864.4	146	2480	2728	270
Graham	*"Kia Ora North"*	S6	1800	43	4.2	5.0	0.8	1806	1986.6	-6	1720	1892	80
Graham	*"Kia Ora"*	RT3	10000	241	4.1	5.0	0.9	10122	11134.2	-122	9640	10604	360
Graham	*"Kia Ora"*	RT2	15000	325	4.6	5.0	0.4	13650	15015	1350	13000	14300	2000
Benn JD & MM	*"Bundoran"*	S3	400	8	5.0	5.0	0.0	336	369.6	64	320	352	80
Graham	*"Kia Ora South"*	Storage	4000	90	4.4	5.0	0.6	3780	4158	220	3600	3960	400
Armstrong M	*"Darran"*	Cell 3	1900	44	4.5	5.0	0.5	1848	2032.8	52	1760	1936	140
Armstrong M	*"Darran"*	Cell4	1900	44	4.7	5.0	0.3	1848	2032.8	52	1760	1936	140
Dowling R	*"Mooramanna"*	S3	1700	30	5.7	5.0	-0.7	1260	1386	440	1200	1320	500
Dowling R	*"Mooramanna"*	S4	1500	37	4.1	5.0	0.9	1554	1709.4	-54	1480	1628	20
Siddins	*"Lower Plains"*	Fox	6645	156	4.2	5.0	0.8	6552	7207.2	93	6240	6864	405
Hall S	*"Ballandool"*	C1	7300	175	4.2	5.0	0.8	7350	8085	-50	7000	7700	300
Hall S	*"Ballandool"*	C5	45000	1069	4.2	5.0	0.8	44898	49387.8	102	42760	47036	2240
Hall S	*"Ballandool"*	C3	12600	275	4.6	5.0	0.4	11550	12705	1050	11000	12100	1600
Burrell	*"Trafalgar"*	S3	4400	104	4.2	5.0	0.8	4368	4804.8	32	4160	4576	240
Burrell	*"Trafalgar"*	S4	4100	93	4.4	5.0	0.6	3906	4296.6	194	3720	4092	380
Burrell	*"Trafalgar"*	S1	2300	38	6.1	5.0	-1.1	1596	1755.6	704	1520	1672	780
Burrell	*"Trafalgar"*	S2	3850	68	5.7	5.0	-0.7	2856	3141.6	994	2720	2992	1130
Camcott Pty Ltd	*"Clyde"*	S5	4240	101	4.2	5.0	0.8	4242	4666.2	-2	4040	4444	200
Camcott Pty Ltd	*"Clyde"*	S1	7240	171	4.2	5.0	0.8	7182	7900.2	58	6840	7524	400
Camcott Pty Ltd	*"Clyde"*	S4	3560	85	4.2	5.0	0.8	3570	3927	-10	3400	3740	160
Camcott Pty Ltd	*"Clyde"*	S9	11850	274	4.3	5.0	0.7	11508	12658.8	342	10960	12056	890
Camcott Pty Ltd	*"Clyde"*	S10	35600	636	5.6	5.0	-0.6	26712	29383.2	8888	25440	27984	10160
Pechelba	*"Wynella"*	C5	7200	160	4.5	5.0	0.5	6720	7392	480	6400	7040	800
Pechelba	*"Wynella"*	B4	6180	135	4.6	5.0	0.4	5670	6237	510	5400	5940	780
Pechelba	*"Wynella"*	D6	560	12	4.7	5.0	0.3	504	554.4	56	480	528	80
Hall	*"Ballandool"*	B1	2550	62	4.1	5.0	0.9	2604	2864.4	-54	2480	2728	70
Totals			290668	7346.6				205380	225918	16995	195600	215160	26775

actual depth and freeboard levels provided

RTI DL RELEASE - DNRM

Release

Name	Property	Type	Volume	Area (ha)
Knights JC & ES	*"Glen Douglas"*	Channels	375	N/A
Rhea JD&BJ	*"Moolabah"*	Channels	280	N/A
Graham	*"Kia Ora"*	Channels	4000	
Pola	*"Kilcummin"*	Channels	300	
Stevenson Fin Cor	*"Cubbie"*	Major channels	2500	125
Pechelba	*"Wynella"*	Channels	260	
Deshon	*"Euraba"*	Borroughs pits	1190	
Total			**8905**	

RTI DL RELEASE - DNRM

Release

Name	Property	Type	Volume (ML)	Area (ha)	Comments
Todd ID&RM	*"Wagaby"*	Infield	8000	188	
McIntyre H	*"Cavillon"*	Storage	6300	650	Reconfigured
Crothers	*"Booligar"*	Infield	2000	800	Reconfigured
Deshon	*"Euraba"*	Field 6	6300		Outstanding
Total			**22600**		

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Release

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Release

Property Irrigation Infrastructure and License Information

Summary

REACH	Storage Moratorium ML	Storage Area ha	Licenced Diversion ML/day	Overland Flow Diversion ML/day
Upstream of JTW	187792	6000	5604	500
JTW to Bifurcation	214015	6269	4205	8590
Culgoa	505005	12865	10424	28508
Balonne Minor (B1 to B2)	10700	576	217	4150
Balonne Minor (B2 to B3)	65250	2068	2110	0
Bokhara (B3 to Border)	10190	360	260	0
Narran (B2 to Border)	160320	5159	2180	5253
Ballandool (B2 to Border)	17650	809	258	1200
Briarie Ck			130	2500
	1170922	**34106**	**25388**	**50701**

RTI DL RELEASE - DNRM

Upstream of Jack Taylor Weir					
NAME	Storage arrangements				
	Storage Name	Landholder Volume	New or amended storage arrangements (Ha)	Avg WL in Storage (m) for new or changed works	Comments
Olathree	North Storage	540	40	1.4	OLF begins at 80,000 ML/d
"Strathmere"	Little Beardie	300	33	0.9	
	Beardie Storage 2	1370	55	2.5	
	Gully Dam 3	45	2	2.3	
	Beardie South	2460	82	3.0	
	Beardie East	100	6	1.7	
4815	Beardie Lagoon				
Olathree					Lagoon storages is
"Beardie"					no more than
					4000 ML In strathmere
Knights WD		600	8	7.5	
"Tarilla" 600					
Schutt	S1	260	56	0.5	lagoon
"Ingaby Station"					
260					
Gracie	S1	3000	101	3.0	
"Katoota Station"	S2	2000	66	3.0	
6600	S3	1600	34	4.7	
Benn KP & AJ	S2	2300	58	4.0	
"South Katoota"		1300	39	3.3	
		500	32	1.6	
4100					
Saunders	S1	1000	25	4.0	No OLF
"Ford Park" 1000					LicDiv= 1*20" pump
Marsh					
"Colrossie"					
Redgen		1000	27	3.7	
"Wynona"					
1000					
Stewart	Dam 1	1000	35	2.9	No OLF
"Strathbogie"	Dam 2	1400	50	2.8	
	TWR	50*	30	0.2	
2400					
Knights JC & ES	Gully Dam	1000	16	6.3	LicDiv = 2*26" & 1*14" axial
"U/T Downs"	UT1	2500	58	4.3	No OLF
3500					Alloc = 14"axial & 10"cent
Knights JC & ES	GD1	5000	120	4.2	To Confrim Volume
"Glen Douglas" 5000	Channrls	375*			No OLF
Brimblecombe	UD1	2500	58	4.3	No OLF
Upson Downs					
2500					
Brimblecombe	Claypan	35000	967.0	3.6	No OLF
"The Anchorage"	Santos 3	15981	570.0	1.8	
	Santos 2	12256	454.0	3.1	
	Santos 1	3054	113.0	3.5	
	Santos 4	5550	252.0	2.0	
72841	Old North	1000	35.0	2.9	

RTI DL RELEASE - DNRM

Release

Upstream of Jack Taylor Weir					
NAME	Storage arrangements				
	Storage Name	Landholder Volume	New or amended storage arrangements (Ha)	Avg WL in Storage (m) for new or changed works	Comments
Todd ID&RM	S4	2624	68	3.9	No OLF
"Wagaby"	S3	3083	81	3.8	
	S1	613	16	3.8	
	S2	298	8	3.7	
	Infield	4282	188	2.3	
	S5	12415	434	2.9	
	S6	7137	248	2.9	
30452					
St George Golf Club					No OLF
McDonald	S3	475	28	1.7	
"Glenbrae"	S1	143	4	3.6	
	S2	250	5	5.0	
868		640*	16*		SGIA
Lee					
"Lowland"					
S.G.I.A		25539	675	3.8	
25539					
Kajarabie					
Table Grape Growers	S1	550	12	4.6	No OLF
(Was Dallamor)	S2	550	19	2.9	LicDiv= 1*26" pump (river) &
	S3	1400	32	4.4	1*26" pump (thuraggi)
	S4	800	73		
5000	S5	1700	with S4		
Rhea JD&BJ	Trelour 2	650	28	2.3	
"Moolabah"	Trelour 1	780	31	2.5	Areas from survey (QC)
	Trelour 3	450*	22	2.0	T3 is Tailwater
	Moolabah	2800	100	2.8	
4230	Channels	280*			
Brookglen Pty Ltd	Burgorah 1	650	19	3.4	
"Bugorah"	Burgorah 2	3500	92	3.8	
		3350	67	5.0	
Murphy					
"Peppercorn"					
Dowling PJ&SR	Borepad 3	2500	105	2.4	No OLF
"Gubberamunda"	Borepad 2	2000	65	3.1	Areas from survey (QC)
	Borepad 1	1650	57	2.9	
	Borepad 4	2287	76	3.0	
9587	Andermatt 1	1150	25	4.6	
TOTALS		**156017**	**4969**		

RTI DL RELEASE - DNRM

Upstream of Jack Taylor Weir

NAME	Licensed extractions — Diversion Rates at →	LicDiv Storage Priority	Overland Flow extractions	OLF Div Storage Priority
	ML/day (m3/s): 1200 (104), 1500, 2000 (173), 2500, 3000 (259), 4000 (346), 6000 (518), 7000 (605), 8000 (691), 10000 (864), 12000 (1037), 14000 (1210), 16000 (1382), 18000 (1555), 20000 (1728), 22000 (1901), 24000 (2074), 26000 (2246), 28000 (2419), 30000 (2592), 32000 (2765)		60000, 70000, 80000, 90000, 100000	
Olathree **"Strathmere"** 4815	172; 88		500	
Olathree **"Beardie"**				
Knights WD **"Tarilla"** 600	40			
Schutt **"Ingaby Station"** 260	86; 86			
Gracie **"Katoota Station"** 6600	86; 86			
Benn KP & AJ **"South Katoota"** 4100	86; 86; 40; 40; 8			
Saunders **"Ford Park"** 1000	40			
Marsh **"Colrossie"**	1			
Redgen **"Wynona"** 1000	86; 44			
Stewart **"Strathbogie"** 2400	40			
Knights JC & ES **"U/T Downs"** 3500	86; 86	1 UT1 2 Gully Dam		
Knights JC & ES **"Glen Douglas"** 5000	86; 10	3 GD1		
Brimblecombe **Upson Downs** 2500	172; 172; 172			
Brimblecombe **"The Anchorage"** 72841	86; 86; 86			
Todd ID&RM **"Wagaby"** 30452	86; 64; 86; 86; 120; 84; 80; 86			
St George Golf Club	5			
McDonald **"Glenbrae"** 868	20; 28			
Lee **"Lowland"**	4			
S.G.I.A 25539	1000			
Kajarabie	40; 40; 40; 40; 40; 40; 40; 40			
Table Grape Growers (Was Dallamor) 5000	86; 86; 86	1 S5 2 S4		
Rhea JD&BJ **"Moolabah"** 4230	86; 172; 86			
Brookglen Pty Ltd **"Bugorah"** 7500	100; 40; 40; 40			
Murphy **"Peppercorn"**	172			
Dowling PJ&SR **"Gubberamunda"** 9587	86; 86; 40; 38			
TOTALS	86, 0, 9, 86, 172, 0, 0, 172, 1860, 344, 214, 200, 182, 120, 106, 40, 40, 40, 40, 40, 30		0, 0, 500, 0, 0	

RTI DL RELEASE - DNRM

Release

Jack Taylor Weir to B1

NAME	Storage Arrangements				
	Storage Name	Landholder volume	New or amended storage arrangements (Ha)	Avg WL in Storage (m) for new or changed works	Comments
Bennett					No OLF
"Riversands"					
Bligh					No OLF
"Balonnedale					
Walker					No OLF
"Wagaily"					
Graham	S4	2560	66	3.9	No OLF
"Bubbymaur"	S3	2750	62	4.4	
"Kia Ora North"	S5	1800	45	4.0	
	S6	1800	43	4.2	
	S1	1000	40	2.5	
11110	S2	1200	39	3.1	
Graham	RT3	10000	241	4.1	
"Kia Ora"	Channels	4000	133	3.0	9km of channels
	RT1	4800	124	3.9	
	RT2	15000	325	4.6	
	Lake	21400	750	2.9	
	RT5	13800	366	3.8	
	Lower Lake	13700	489	2.8	
93100	RT4*	10400	260	4.0	*Reduced from 12000 to 10400
Benn JD & MM	S4	690	7	2.4	WH/SGIA
"Bundoran"	S1	520	13	4.0	WH/SGIA
	S5	800*	33*		*SGIA
	S3	400	8	5.0	WH/SGIA
2260	S2	540	18	3.0	WH/SGIA
Prescott					OLF starts @ 70,000
"Kurray"	S4	2000	60	3.3	No indication of volumes
	Cell 5	3000	75	4.0	Cell 1 - 5 make up the Lagoon
	Cell 4	4500	148	3.0	
	Cell 1	6000	252	2.4	
	Cell 5	4500	120	3.8	
	Cell 3	5000	114	4.4	
	Cell 2	5000	110	4.5	
	S2	400	11	3.6	
30600	S3	200	7	2.9	
"Gulnarbar"	Lagoon 1	5000	166	3.0	
"Kia Ora South"					
13000	Storage	4000	90	4.4	
Armstrong M	Cell 1	800	20	4.0	No OLF
"Darran"	Cell 2	1000	25	4.0	LicDiv = 1*26" pump
	Blue Lake (Cell 5)	5000	247	2.0	1*26" pump as relift
	Cell 3	1900	44	4.5	Areas from survey (QC)
10600	Cell4	1900	44	4.7	

RTI DL RELEASE - DNRM

Release

Jack Taylor Weir to B1					
NAME	**Storage Arrangements**				
	Storage Name	Landholder volume	New or amended storage arrangements (Ha)	Avg WL in Storage (m) for new or changed works	Comments
Armstrong G	S1	3200	96	3.3	No indication of triggers or volumes of OLF
"Doondi"	S2	7000	174	4.0	
10200					
Dowling R					Installed = 1*26" pump. 1*24" pump. 1*16"pump
"Mooramanna"	S5	2400	86	2.8	Capacity = 220ML/d
	S3	1700	30	5.7	Licensed = 260ML/d
	Burra Wurra Lagoon	2000	73	2.7	(Drawing supplied)
	Burra Wurra Lagoon	2000	57	3.5	Lagoon and associated Storages have a total of 4000ML
9600	S4	1500	37	4.1	New 1450ML @ 4m
Mc Dougall					No indication of triggers or volumes of OLF
"Beardie Lagoon"					
Han	Swamp	2800	245	1.1	No indication of triggers or volumes of OLF
"Brookdale"	S1	1500	40	3.8	
4300					
Siddins	Fox	6645	156	4.2	OLF starts @ 80,000?
"Lower Plains"	Strip	2620	65	3.7	
					Areas from landholder
	Bottom Plain	1400	37	4.0	
	Stock Route	3840	90	4.0	
	Grabs	3150	80	3.7	
	TWR	300	9	3.0	
	Well	1400	37	4.8	
19355					
Price		4000	146	2.7	
"Eurobodalla"					
6300		2300	48	4.8	
Sevil	S1	3700	94	3.9	No OLF
"Whyenbah"					
3700					
TOTAL		214015	6269		

RTI DL RELEASE - DNRM

Jack Taylor Weir to B1

NAME	Licensed extractions																					LicDiv Storage Priority		Overland Flow extractions											OLF Div Storage Priority	
	<----------Licensed Diversion Rates at---------->																							<----------OLF Diversion Rates at---------->											
	1200	2000	2500	3000	3500	4000	6000	7000	8000	10000	12000	14000	16000	18000	20000	22000	24000	26000	28000	30000	32000			20000	30000	40000	50000	60000	70000	80000	90000	100000	110000	120000	
	104	*173*		*216*	*302*	*346*	*518*	*605*	*691*	*864*	*1037*	*1210*	*1382*	*1555*	*1728*	*1901*	*2074*	*2246*	*2419*	*2592*	*2765*			*691*											
Bennett																																			
"Riversands"	-	4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Bligh																																			
"Balonnedale"	-	-		-	-	-	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Walker																																			
"Wagaily"	-	-		-	-	-	-	-	-	-	-	-	-	-	24	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Graham																																			
"Bubbymaur"	-	-		-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
"Kia Ora North"	-	-		-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
	-	-		-	-	-	-	-	-	-	-	126	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
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11110	-	-		-	-	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Graham																																			
"Kia Ora"	213	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	RT1	-	500	-	-	-	-	-	-	-	-	-	1	RT1
	-	-		-	-	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	RT3	-	-	500	-	-	-	-	-	-	-	-	2	RT3
	-	-		-	-	-	86	-		-	-	-	-	-	-	-	-	-	-	-	-	3	RT2	-	-	-	1000	-	-	-	-	-	-	-	3	RT2
	-	-		-	-	-	-	-	171	-	-	-	-	-	-	-	-	-	-	-	-	4	RT4	-	-	-	-	1000	-	-	-	-	-	-	4	RT4
	-	-		-	-	-	-	-	-	86		-	-	-	-	-	-	-	-	-	-	5	RT5	-	-					1000					5	RT5
	-	-		-	-	-	-	-	-	-	91	-	-	-	-	-	-	-	-	-	-	6	Lake	-	-	-	-	-	-	-	-	1000	-	-	6	Lake
																						7	Lower Lake											2800	7	Lower Lake
93100																																			
Benn JD & MM																																			
"Bundoran"	-	-		-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
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2260																																			
Prescott																						1	S4												1	S4
"Kurray"	-	172		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	Cell 5	-	-	-	-	-	?	-	-	-	-	-	2	Cell 5
	-	-		-	-	-	-	-	172	-	-	-	-	-	-	-	-	-	-	-	-	3	Cell 3	-	-	-	-	-	-		?	-	-	-	3	Cell 3
	-	-		-	-	-	-	-	-	172	-	-	-	-	-	-	-	-	-	-	-	4	Cell 2	-	-	-	-	-	-	-	-	-	-	-	4	Cell 2
																						5	Cell 1,4												5	Cell 1,4
30600																																			
Graham																																			
"Gulnarbar"	-	-		-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
"Kia Ora South"	-	-		-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
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Armstrong M																																			
"Darran"	86	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
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10600																																			
Armstrong G																																			
"Doondi"	-	86		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
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Dowling R																						1	S3												1	S2
"Mooramanna"		30																				2	S4	?	-	-	-	-	-		-	-	-	-	2	S1
	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	S5	-	-	-	-	-	-	4000	-	-	-	-		
10																																			

RTI DL RELEASE - DNRM

Release

Jack Taylor Weir to B1

NAME	Licensed extractions																					LicDiv Storage Priority		Overland Flow extractions											OLF Div Storage Priority	
	<----------Licensed Diversion Rates at---------->																							<----------OLF Diversion Rates at---------->											
	1200	2000	2500	3000	3500	4000	6000	7000	8000	10000	12000	14000	16000	18000	20000	22000	24000	26000	28000	30000	32000			20000	30000	40000	50000	60000	70000	80000	90000	100000	110000	120000	
	104	173		216	302	346	518	605	691	864	1037	1210	1382	1555	1728	1901	2074	2246	2419	2592	2765			691											
	-	-		-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	S2	-	-	-	-	-	-	-	-	-	-	-	
	-	-		-	-	-	-	-	56	-	-	-	-	-	-	-	-	-	-	-	-	5	S1	-	-	-	-	-	-	-	-	-	-	-	
9600	-	-		-	-	-	-	-	-	48	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Mc Dougall																																			
"Beardie Lagoon"	-	-		15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Han																																			
"Brookdale"	-	-		86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
4300	-	-		-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Siddins	-	86		-	-	-	-	-	-	-	-	-	-	-										-	-	-	-	400			-	-	-	-	1	Grabs
"Lower Plains"	-	-		-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-		390	-	-	-	-	2	TW
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Price			86																																
"Eurobodalla"	-	-		86		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
6300	-	-		-	-	-	-	-	172	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
Sevil																																			
"Whyenbah"	-	-		86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
3700	-	-		-	-	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-			-	-	-	-	-	-	-	-	-	-	-	
TOTAL	0	4	0	0	0	0	50	0	0	0	0	0	0	0	24	0	0	0	0	0	0			0	500	500	1000	1400	0	5390	0	1000	0	2800		

RTI DL RELEASE - DNRM

Culgoa River

NAME	Storage Arrangements				
	Storage Name	Landholder Volume	New or amended storage arrangements (ha)	Avg WL in Storage (m) for new or changed works	Comments
Hardie DH&PA	S1	1550	59	2.6	OLF starts at 18000
"Tooroora"	S2	3400	107	3.2	Surge areas 4 and 5 for OLF only.
	S3	4000	123	3.3	WH into S1, S2 , S3
	S4	750	103	0.7	OLF from belah Ck into S3 and S2
8950 ML not including surge areas	S5	1200	96	1.3	Areas from survey (QC)
Burrell					No indication of triggers or volumes of OLF
"Trafalgar"					Does take OLF
Carson DW&CD	S1	3026	53	5.1	Has commenced reconfiguring storages. S1 and S2 have average depths of 6.5m. Concern for correct process of resubstitution. OLF starting at 35000 ML/d goes into S3 only.
"Hooloovale"	S2	2950	51	5.8	
	S3	4069	476	0.9	
10045					
Stevenson Fin. Corp.	Mundah		Reconfigured		OLF from Chinaman floodplain
"Cubbie"	Urandool	71480	1370	5.2	into System A storages
	Beltana	84100	1680	4.5	Areas from landholder
	B2	58000	1850	3.1	
	B1	44000	1130	3.9	
	Gunathaby*	4750	95	5.0	*To be decommissioned
	Claypan Surge area	3750	215	1.7	
	Pilgra Surge Areas	3750	250	1.5	
	Surge Areas	3000	200	1.5	
	M1	32920	480	6.9	
	M2	32920	480	6.9	
	M3/4	50730	900	5.6	
389400					

RTI DL RELEASE - DNRM

Culgoa River

NAME	Storage Arrangements				
	Storage Name	Landholder Volume	New or amended storage arrangements (ha)	Avg WL in Storage (m) for new or changed works	Comments
Ferguson	S2	2340	60	2.6	No indication of OLF triggers or Volumes
"Ingie"	S1	800	28	3.3	Areas from survey (QC)
3140					
Stevenson Fin. Corp.	Muganqulla	100	4	2.5	No OLF
"Muganqulla"					
100					
Hall S					
"Morely"			Belongs with Ballandool		
	C6	17000	1100	1.5	OLF storages
21000	C7	4000	100	4.0	
Hall S	C2	5520	136	4.1	
"Ballandool"	C1	7300	175	4.2	Areas from landholder
	C5	45000	1069	4.2	
	C3	12600	275	4.6	
70420					
TOTALS		434585	11210		

Balonne Minor (B1 to B2)

NAME	Storage Name	Landholder Volume	New or amended storage arrangements (ha)	Avg WL in Storage (m) for new or changed works	Comments
Hardie					No OLF
"Tooroora"					
Walker					No OLF
"Bonathorne"					
Pola	S1	2200	57	3.9	
"Kilcummin"	S2	2000	195	1.0	OLF @ 4000 ML/d
	S3	5300	125	4.2	Areas from survey (SMK)
	S4	800	170	0.5	
10300	Channels	300*			
Brischetto	S1	250	8	3.1	
"Riverside"	Lagoon	150	21	0.7	
TOTALS		10700	576		

RTI DL RELEASE - DNRM

Culgoa River

Licensed extractions

NAME	Licensed Diversion Rates at 1200 (104)	2000 (173)	2500	3000 (259)	4000 (346)	5000 (432)	6000 (518)	7000 (605)	8000 (691)	10000 (864)	12000 (1037)	14000 (1210)	16000 (1382)	18000 (1555)	20000 (1728)	22000 (1901)	24000 (2074)	26000 (2246)	28000 (2419)	30000 (2592)	32000 (2765)	34000	36000 (3110)	38000	40000 (3456)	42000	44000 (3802)	46000	48000 (4147)	52000 (4493)	56000 (4838)	60000 (5184)	LicDiv Storage priority
Hardie DH&PA **"Tooroora"** 8950 ML not including surge areas					86				44																							1 S1 2 S2 3 S3
Burrell **"Trafalgar"**		40																														
Carson DW&CD **"Hooloovale"** 10045						86			44																							1 S1 2 S2 3 S3
Stevenson Fin. Corp. **"Cubbie"** 389400				516	172		344	86	1118	494	390	640	480	480	480	320	320	320	320	105	330		390		260		390		260	260	260	260	1 Mundah 2 Urandool 3 Beltana 4 B2 5 B1 6 Gunthaby
Ferguson **"Ingie"** 3140						86			86																							
Stevenson Fin. Corp. **"Mugangulla"** 100		32						45																								
Hall S **"Morely"** 21000						172			88																							
Hall S **"Ballandool"** 70420			86			86			88			80	80	80	80	60																1 C1 2 C2 3 C3
TOTALS	0	62	0	516	258	344	344	131	1380	494	390	640	480	480	480	320	320	320	320	105	330	0	390	0	260	0	390	0	260	260	260	260	

Balonne Minor (B1 to B2)

NAME	Diversion Rates at 1200 (104)	2000 (173)	2500	3000 (259)	4000 (346)	5000 (432)	6000 (518)	7000 (605)	8000 (691)	10000 (864)	12000 (1037)	14000 (1210)	16000 (1382)	18000 (1555)	20000 (1728)	22000 (1901)	24000 (2074)	26000 (2246)	28000 (2419)	30000 (2592)	32000 (2765)		36000 (3110)		40000 (3456)		44000 (3802)		48000 (4147)	52000 (4493)	56000 (4838)	60000 (5184)	LicDiv Storage priority
Hardie **"Tooroora"**		30																															
Walker **"Bonathorne"**		12																															
Pola **"Kilcummin"** 10300		86							44																								1 S1 2 S3 2 S2
Brischetto **"Riverside"**								45																									
TOTALS	0	98		0	0	0	0	45	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

RTI DL RELEASE - DNRM

Culgoa River — Overland Flow extractions

NAME	OLF Diversion Rates at																			OLFDiv Storage priority	
	1200	3000	4000	18000	20000	25000	30000	35000	40000	45000	50000	60000	70000	80000	90000	100000	1200000	160000	200000		
	104	*259*	*346*	*1555*	*1728*	*1901*	*2074*	*2246*	*2419*	*2592*	*2765*	*3110*	*3456*	*3802*	*4147*	*4493*	*4838*	*5184*			
Hardie DH&PA **"Tooroora"** 8950 ML not including surge areas	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-		1 2 3 4	S3 S2 S5 S4
	-	-	-	-	-	-	-	130	-	-	-	-	-	130	-	-	-	-			
Burrell **"Trafalgar"**	-					-	-	-	-	-	-	-	-	-	-	-	-	-			
Carson DW&CD **"Hooloovale"** 10045	-	-	-	-	-	-	130	-	-		-	-	-	-	-	-	-	-		1 2 3	S1 S2 S3
	-	-	-	-	-	-	-	320	-	-	-	-	-	-	-	-	-	-			
									176												
Stevenson Fin. Corp. **"Cubbie"** 389400	-	-	-	-	1000	-	-	-	-	-	-	-	-	-	-	-	-	-		B	Gunthaby
							1500														1
									1000												Surge
											1000										Surge
												1000									Irrigation
													1000								Claypan
														1000							Pilgra
															1000						
Ferguson **"Ingie"** 3140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Stevenson Fin. Corp. **"Muganguila"** 100																					
Hall S **"Morely"** 21000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Hall S **"Ballandool"** 70420	-	-	-	-	-	-	75*	-	274*	-	558*	411*	510*	863*	575*	-	-	-		1 2 3 4	C5 C3 C6 C7
										316	131	185	142	119	106	95	169	284	240		
							75		274	-	558	411	510	863	1069	1290	2869	4286	4996		
TOTALS	0	0	0	130	1000	0	1709	450	1450	316	1689	1596	1652	2112	2175	1385	3038	0			

Balonne-minor (B1 to B2)

NAME	OLF Diversion Rates at																			OLFDiv Storage priority	
	1200	3000	4000	18000	20000	22000	24000	26000	28000	30000	32000	36000	40000	44000	48000	52000	56000	60000	100000		
	104	*259*	*346*	*1555*	*1728*	*1901*	*2074*	*2246*	*2419*	*2592*	*2765*	*3110*	*3456*	*3802*	*4147*	*4493*	*4838*	*5184*			
Hardie **"Tooroora"**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
Walker **"Bonathorne"**																					
Pola **"Kilcummin"** 10000	-	-	120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		1 2 3	S3 S2 S4
	-	-	-								-	-	-	-	-	-	-	-			
Brisbane **"Riverside"**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	150		
TOTALS	0	0	120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

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Balonne Minor (B2 to B3)

NAME	Storage Arrangements				
	Storage Name	Landholder Storage volumes	New or amended storage arrangements (Ha)	Max WL in Storage (m) for new or changed works at 30th Nov 2001	Comments
Burrell	S3	4400	104	4.2	No indication of OLF triggers or voumes
"Trafalgar"	S4	4100	93	4.4	Does take OLF
	S1	2300	38	6.1	Areas from landholder
14650	S2	3850	68	5.7	
Stevenson Fin Cor	Lake Barron	3000	160	1.9	OLF from Bore Ck and Doctors Ck floodplain
"Cubbie"	Top Shed	9000	120	7.5	into System B storages and Surge areas
	Swamp	12000	410	2.9	Areas from landholder
	Corowa	14500	410	3.5	
	Kirrima	9600	540	1.8	
	Surge Area				
	Major channels	2500	125	2.0	
50600					
TOTALS		65250	2068		

Bokhara River

NAME	Storage Arrangements				
	Storage Name	Landholder Storage volumes	New or amended storage arrangements (Ha)	Max WL in Storage (m) for new or changed works at 30th Nov 2001	Comments
Deshon	S4	4200	145	2.9	Claiming 6180ML of low level storage (S6)
"Euraba"	S2	1175	47	2.6	3*20" on Bokhara
	S1	2500	76	3.3	Gravity diversion
	S3	2315	92	2.5	2*26" (lifting) on Narran
10190	S5	2450*	95*	TWR	Takes OLF from Narran
TOTALS		10190	360		

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Balonne Minor (B2 to B3)

NAME	Licensed extractions: Licensed Diversion Rates at																									LicDiv Storage priority	Overland Flow extractions: OLFDiversion Rates at										OLF Storage priority	
	2000	2500	3000	5000	8000	10000	12000	14000	16000	18000	20000	22000	24000	26000	28000	30000	32000	34000	36000	38000	40000	42000	44000	46000		3000	30000	32000	34000	36000	38000	40000	42000	44000	46000		
	173		259	432	691	864	1037	1210	1382	1555	1728	1901	2074	2246	2419	2592	2765	2938	3110	3283	3456	3629	3802	3974		259	2592	2765	2938	3110	3283	3456	3629	3802	3974		
Burrell "Trafalgar" 14650	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-		
	-	-	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-		
Stevenson Fin Cor "Cubbie" 50600	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	1	Top shed
	-	-	-	86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	2	Swamp
	-	-	-	-	58	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	3	Lake Barron
	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	4	Corowa
	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	5	Kirrima
	-	-	-	-	-	-	-	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-		
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TOTALS	0	130	86	86	188	30	30	30	40	100	100	100	100	100	100	100	110	110	120	110	110	80	80	70		0	0	0	0	0	0	0	0	0	0		

Bokhara River

NAME	Licensed extractions: Licensed Diversion Rates at																								LicDiv Storage priority
	2000	2500	3000	5000	8000	10000	12000	14000	16000	18000	20000	22000	24000	26000	28000	30000	32000	34000	36000	38000	40000	42000	44000	46000	
	173		259	432	691	864	1037	1210	1382	1555	1728	1901	2074	2246	2419	2592	2765	2938	3110	3283	3456	3629	3802	3974	
Deshon "Euraba" 10190	-	-	172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1 S1
	-	-	-	-	88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2 S2
																									3 S3
																									4 S4
TOTALS	0	0	172	0	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

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Narran River

NAME	Storage Arrangements				
	Storage Name	Landholder Volume	New or amended storage arrangements (Ha)	Avg WL in Storage (m) for new or changed works	Comments
Crothers H	S1	3200	80	4.0	Meter@River
"Moorenbah"	S2	2900	71	3.9	Gravity Div to 2*26" licensed pumps
6100					OLF starts @ 30000
Camcott Pty Ltd	S9	11850	274	4.3	**Bokhara and Narran water in OLF**
"Clyde"	S8	4100	218	1.9	
	S3	5480	147	3.7	total S1-S5 23880ML
	S5	4240	101	4.2	part of above
	S1	7240	171	4.2	part of above
	S4	3560	85	4.2	part of above
	S2	3360	90	3.1	part of above
	S6	4100	211	1.9	**Bokhara and Narran water in OLF**
	S7	4100	217	1.9	
	S11	37300	1637	2.3	OLF
	S10	35600	636	5.6	OLF (referrable?)
120930					
McIntyre H	Deep storage	2500	51	4.9	Low level storage never filled. Permission to reconfigure
"Cavillon" 6830	Bunded area	4330	599	0.7	Meter@River. 1200mm pipe. Gravity Div to S1. Capacity 200 ML/d @ 15,000. WH+OLF
Crothers CT,NP,	S3	4000	72	5.6	
DT&DM	S1	530	11	4.8	licensed 3*26" pumps
"Booligar"	S2	570	9	6.3	& 1*15" pump
	Recycling	100	3	3.3	Max div = 430 ML/d
	S4	3200	65	4.9	LicDiv = 300@8000
	S5 (TWR)	800	22	3.6	Flow threshold OLF 35000 ML
9200					No OLF at present
Pechelba	C5	7200	160	4.5	OLF @ 40,000 ML/d
Cush	B4	6180	135	4.6	
"Wynella"	A2	3320	82	4.0	Capacity of 380 ML/d
	Weir	600*	600 ML Weir (not for WH)		
	TW3	440*	Tailwater (5ha)		Extra license 80 ML/d @ 20000
	Channels	260*	Channels		
	D6	560	12	4.7	
17260					
Camcott					No infrastructure for taking OLF
"Boorumbirra"					Not inconjunction with Clyde
TOTAL		160320	5159		

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Narran River

NAME	Licensed extractions <----------Licensed Diversion Rates at----------> 1200 (104)	1500 (130)	3000 (259)	5000 (432)	7000 (605)	8000 (691)	10000 (864)	12000 (1037)	14000 (1210)	16000 (1382)	18000 (1555)	20000 (1728)	LicDiv Storage priority	
Crothers H	-	86	-	-	-	-	-	-	-	-	-	-	1	S1
"Moorenbah" 6100	-	-	-	-	-	86	-	-	-	-	-	-	2	S2
Camcott Pty Ltd	-	-	86	-	-	-	-	-	-	-	-	-	1	S1
"Clyde"	-	-	-	86	-	-	-	-	-	-	-	-	2	S2
	-	-	-	-	-	-	-	-	-	-	-	80	3	S3
	-	-	-	-	-	172	-	-	-	-	-	-	4	S4
	-	-	-	-	-	-	88	-	-	-	-	-	5	S5
	-	-	-	-	-	-	-	80	-	-	-	-		
	-	-	-	-	-	-	-	-	80	-	-	-		
	-	-	-	-	-	-	-	-	-	80	-	-		
											80			
120930														
McIntyre H	-	-	-	-	86	-	-	-	-	-	-	-	1	Deep
"Cavillon" 6830													2	Bunded
Crothers CT,NP,	126	-	-	-	-	-	-	-	-	-	-	-	-	-
DT&DM	-	-	-	-	86	-	-	-	-	-	-	-	-	-
"Booligar"	-	-	-	-	-	88	-	-	-	-	-	-	-	-
9200														
Pechelba	86	-	-	-	-	-	-	-	-	-	-	-		
Cush	-	-	-	-	-	86	-	-	-	-	-	-		
"Wynella"	-	-	-	-	-	-	88	-	-	-	-	-		
	-	-	-	-	-	-	-	80	-	-	-	-		
	-	-	-	-	-	-	-	-	80	-	-	-		
	-	-	-	-	-	-	-	-	-	80	-	-		
	-	-	-	-	-	-	-	-	-	-	80	-		
	-	-	-	-	-	-	-	-	-	-	-	80		
17260														
Camcott	86	-	-	-	-	-	-	-	-	-	-	-	-	-
"Boorumbirra"	-	-	-	-	-	44	-	-	-	-	-	-	-	-
TOTAL	0	86	86	86	86	258	88	80	80	80	80	80		

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Narran River

Overland Flow extractions

NAME	<----------OLF Diversion Rates at----------> 1200	15000	35000	40000	50000	60000	70000	80000	90000	100000	110000	120000	130000	140000	150000	160000	170000	180000	190000	200000	OLF Storage priority	
	104	*1382*																				
Crothers H	-	-	88																		1	S1
"Moorenbah"	-	-	-																		2	S2
6100																						
Camcott Pty Ltd	-	-		1280																	1	S6
"Clyde"	-	-			279																2	S7
	-	-				636															3	S8
	-	-					383														4	S9
	-	-						420													5	S10
	-	-							230												6	S11
	-	-								225												
	-	-									130											
												129										
													145									
														145								
															160							
																160						
																	79					
																		79				
																			96			
120930																				95		
McIntyre H	-	114																			1	Deep
"Cavillon" 6830																					2	Bunded
Crothers CT,NP,	-	-																			-	-
DT&DM	-	-																			-	-
"Booligar"	-	-	-																		-	-
9200																						
Pechelba	-	-	-																			
Cush	-	-	-	380																		
"Wynella"	-	-	-																			
	-	-	-																			
	-	-	-																			
	-	-	-																			
	-	-	-																			
	-	-	-																			
17260																						
Camcott	-	-	-																		-	-
"Boorumbirra"	-	-	-																		-	-
TOTAL	0	114	88	1660	279	636	383	420	230	225	130	129	145	145		160		79		95		

RTI DL RELEASE - DNRM

Ballandool and Briarie Rivers					
AMTD	NAME	*Storage Arrangements*			
		Storage Name	Landholder Volume	New or amended storage arrangements (Ha)	Avg WL in Storage (m) for new or changed works
Ballandool River	Hall *"Ballandool"* 6500	B4	6500	443	1.5
Briarie Creek	Hall *"Ballandool"* 11150	B3	3800	100	3.8
		B1	2550	62	4.1
		B2	2300	59	3.9
		B5	2500	145	1.7
	Total		17650	809	

RTI DL RELEASE - DNRM

Ballandool and Briarie Rivers

AMTD	NAME	Licensed Extractions		LicDiv Storage Priority		Overland Flow Extractions						OLF Div Storage Priority	
		<--Diversion Rates at--> ML/day (m3/s)	LocalThreshold			<----OLF Diversion Rates at-------> 50000 (104)	60000 (130)	70000 (259)	80000 (432)	90000 (605)	100000 (691)		
Ballandool River	Hall "Ballandool" 6500	86 86 86	@ 250 Ml/d @ 350 Ml/d @ 450 Ml/d	1 2	B2 B3		300	300			400 200	1 2	B4 B5
Briarie Creek	Hall "Ballandool" 11150	130	@ 200 Ml/d	1 2	B2 B3	500 500	200 300				500 500	1 2	C5 B1

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CUBBIE GROUP ST GEORGE PTY LTD
(Subject to Deed of Company Arrangement)
PO Box 608
ST GEORGE QLD 4487
Ph: (07) 4625 1100
Fax: (07) 4625 1099
stgeorgeadmin@cubbie.com.au

CUBBIE GROUP DIRRANBANDI
(Subject to Deed of Company Arrangement)
PO Box 7
DIRRANBANDI QLD 4486
Ph: (07) 4625 8366
Fax: (07) 4625 8399
dirranadmin@cubbie.com.au



CUBBIE GROUP LTD

(Subject to Deed of Company Arrangement)
www.cubbie.com.au



Cubbie Group Dirranbandi

Certification of 'Swamp North' Storage

Submitted to DERM St George

Date: 13 June 2011

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The information contained within this document is true and correct.

……
Russell McKeowen – Registered Professional Engineer

……
Paul Brimblecombe – Cubbie Group Ltd

Cubbie Group Dirranbandi Waterharvesting

Main Balonne Minor Diversion Structure



RTI DL RELEASE - DNRM

Balonne Minor Diversion Structure

License No: 43357Q
WGS 84 GPS Location: S 28°36'33.9"
E 148°05'10.9"

Invert Level: 162.5 AHD
Pipe Size: 6 x 1800mm
Pipe Length: 36m

Max Flow Rate: 2000ML/Day

Diversion takes place from the Balonne Minor River when releases from Jack Taylor Weir reach 3000ML/Day. Maximum diversion from the Balonne Minor occurs when Jack Taylor Weir reaches 46,000ML/Day. Waterharvesting thresholds for both the Culgoa River and the Balonne Minor River are listed in Table 1.

To fill 'Swamp North' water flows under gravity from the metered Balonne Minor Diversion Structure to the Topshed Pump Station where it can be pumped into 'Swamp' Storage. On the northern wall of 'Swamp' storage, a short section of the

embankment is temporarily removed to allow ‘Swamp North’ to fill.. When diversion ceases the opening is closed. The volume of water stored in ‘Swamp North’ is determined from the attached Swamp North Storage Capacity Table.

Water stored in ‘Swamp North’ is released when required to Balonne Minor Diversion Channel through a 1086 mm outlet pipe located in the north wall at Chainage 3300 m.

RTI DL RELEASE - DNRM

Table 1 – Cubbie's River Diversion Entitlements

CUBBIE RIVER DIVERSION SCHEDULE

JTW RELEASES	CULGOA	B MINOR	TOTAL
3000	490	82	572
4000	654	82	736
5000	654	163	817
6000	980	163	1143
7000	1062	163	1225
8000	2124	219	2343
10000	2594	247	2841
12000	2964	276	3240
14000	3572	304	3876
16000	4028	342	4370
18000	4484	437	4921
20000	4940	532	5472
22000	5244	627	5871
24000	5548	722	6270
26000	5852	817	6669
28000	6156	912	7068
30000	6256	1007	7263
32000	6569	1112	7681
34000	6569	1216	7785
36000	6940	1330	8270
38000	6940	1435	8375
40000	7187	1539	8726
42000	7187	1615	8802
44000	7557	1691	9248
46000	7557	1758	9315
48000	7804	1758	9562
52000	8051	1758	9809
56000	8298	1758	10056
60000	8545	1758	10303

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Note: Above Releases and Entitlements are in ML/day

Table 2 – Cubbie's Floodplain Diversion Entitlements

FLOODPLAIN WATER DIVERSION SCHEDULE

JTW RELEASES	Kelso	Cubbie	Combined
20000		950	950
24000	143		1095
26000	162		1110
28000	181		1130
30000	200	2375	2580
32000	219		2600
34000	238		2620
36000	257		2640
40000		3325	3590
48000		4085	4355
52000		4275	4545
60000		5225	5500
70000		6175	6450
80000		7125	7400
90000		8075	8355

Note: Above Releases and Entitlements are in ML/day

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Looking East to Removable Earth Block

WGS 84 GPS Location:	Easting	603 729
	Northing	6 829 485

RTI DL RELEASE - DNRM



Looking South at Removable Earth Block

WGS 84 GPS Location:	Easting	603 729
	Northing	6 829 485

RTI DL RELEASE - DNRM

SWAMP NORTH
Capacity Table
'Cubbie' Dirranbandi

Full Supply Capacity 5 230 Ml
BM Crest of Balonne Minor Weir RL 164.50m (AHD)
Date: 19/07/2006

	LEVEL	VOLUME	SURFACE AREA
	RL 162.00	0 Ml	0 ha
	RL 162.10	10 Ml	3 ha
	RL 162.20	19 Ml	9 ha
	RL 162.30	29 Ml	9 ha
	RL 162.40	39 Ml	9 ha
	RL 162.50	48 Ml	10 ha
	RL 162.60	60 Ml	10 ha
	RL 162.70	72 Ml	11 ha
	RL 162.80	84 Ml	11 ha
	RL 162.90	94 Ml	12 ha
	RL 163.00	107 Ml	15 ha
	RL 163.10	123 Ml	15 ha
	RL 163.20	140 Ml	15 ha
	RL 163.30	156 Ml	15 ha
	RL 163.40	172 Ml	15 ha
	RL 163.50	188 Ml	20 ha
	RL 163.60	209 Ml	20 ha
	RL 163.70	231 Ml	20 ha
	RL 163.80	252 Ml	20 ha
	RL 163.90	274 Ml	20 ha
	RL 164.00	295 Ml	30 ha
	RL 164.10	331 Ml	33 ha
	RL 164.20	366 Ml	34 ha
	RL 164.30	402 Ml	124 ha
	RL 164.40	535 Ml	154 ha
	RL 164.50	700 Ml	162 ha
	RL 164.60	873 Ml	162 ha
	RL 164.70	1046 Ml	175 ha
	RL 164.80	1234 Ml	175 ha
	RL 164.90	1422 Ml	175 ha
	RL 165.00	1610 Ml	180 ha
	RL 165.10	1790 Ml	180 ha
	RL 165.20	1970 Ml	180 ha
	RL 165.30	2150 Ml	180 ha
	RL 165.40	2330 Ml	230 ha
	RL 165.50	2510 Ml	230 ha
	RL 165.60	2720 Ml	230 ha
	RL 165.70	2930 Ml	230 ha
	RL 165.80	3140 Ml	230 ha
	RL 165.90	3350 Ml	230 ha
	RL 166.00	3560 Ml	230 ha
	RL 166.10	3790 Ml	230 ha
	RL 166.20	4020 Ml	230 ha
	RL 166.30	4250 Ml	230 ha
	RL 166.40	4480 Ml	230 ha
	RL 166.50	4710 Ml	230 ha
	RL 166.60	4970 Ml	230 ha
FSL	RL 166.70	5230 Ml	230 ha

RTI DL RELEASE - DNRM

Attachments

1. **Cubbie Group Dirranbandi Property Plan**
2. **‘Swamp North’ Storage Survey Plot**
3. **‘Swamp North’ Storage Embankment Chainage**
4. **‘Swamp North’ Crest Levels – Chainage 0 – 4 150 m**

RTI DL RELEASE - DNRM

McN+
McGRATHNICOL
CORPORATE RECOVERY

10 November 2011

Mr Mark Bartlem
Senior Project Officer
Department of Environment and Resource Management
PO Box 310
St George Qld 4487

Dear Mr Bartlem

Cubbie Group Limited and its subsidiaries (all Subject to Deed of Company Arrangement) ("Cubbie Group")

I refer to the appointment of Jamie Harris, Colin Nicol and I as Deed Administrators of Cubbie Group on 6 July 2010 and to my letter dated 22 August 2011 regarding the certification of the Swamp North storage at "Cubbie Station", Dirranbandi.

Enclosed are the certification documents for the Swamp North storage.

Should you have any queries in relation to this matter, please contact Mr Paul Brimblecombe on sch4p4(6) Personal information or Ms Kate Miers of my staff on telephone number (07) 3333 9888.

Yours faithfully
Cubbie Group Limited and its subsidiaries (all Subject to Deed of Company Arrangement)

sch4p4(6) Personal information

John Cronin
Deed Administrator

CC:
Mr Paul Brimblecombe (Email: paulb@cubbie.com.au)

Enclosure:
Certification documents

RTI DL RELEASE - DNRM

DATE RECEIVED
ST. GEORGE
15 NOV 2011
ST. GEORGE
DEPARTMENT OF ENVIRONMENT and RESOURCE MANAGEMENT

C13-111109-CUBBCEN01-L-CertificationDocumentsSwamp North-TH

PETER LEESON PTY LTD
A.C.N. 072 700 853
A.B.N. 62 038 278 246

43 River Gums Drive
PO Box 650
GOONDIWINDI QLD 4390

Phone: 07 4671 3263
Mobile: sch4p4(6) Personal information
office@peterleeson.com.au

25 October 2011

Attn: Mark Bartlem
Senior Project Officer
Department of Environment and Resource Management
PO Box 310
St George QLD 4487

Dear Mark,

RE: Certification of Overland Flow Works- Swamp North Storage, "Cubbie Station", Dirranbandi

I, Russell McKeowen am currently registered under the Board of Professional Engineers Australia (RPEQ 8119).

I certify that the information contained in the attached documents present a true and accurate representation of the existing Swamp North Storage.

I visited the site with Glenn Lyons (GL Irrigation Pty Ltd) on 30th June 2011 to inspect the existing infrastructure and discuss the storage with Glenn. I have reviewed all of the information supplied by GL Irrigation Pty Ltd and have provided the certification based on this information.

Yours faithfully

sch4p4(6) Personal information

Russell McKeowen
Engineer (RPEQ 8119)

RTI DL RELEASE - DNRM

CUBBIE GROUP ST GEORGE PTY LTD
(Subject to Deed of Company Arrangement)
PO Box 608
ST GEORGE QLD 4487
Ph: (07) 4625 1100
Fax: (07) 4625 1099
stgeorgeadmin@cubbie.com.au

CUBBIE GROUP DIRRANBANDI
(Subject to Deed of Company Arrangement)
PO Box 7
DIRRANBANDI QLD 4486
Ph: (07) 4625 8366
Fax: (07) 4625 8399
dirranadmin@cubbie.com.au

CUBBIE GROUP LTD
(Subject to Deed of Company Arrangement)
www.cubbie.com.au

Cubbie Group Dirranbandi

Certification of 'Swamp North' Storage

Submitted to DERM St George

Date: 25th October 2011

The information contained within this document is true and correct.

sch4p4(6) Personal information

.....

Russell McKeowen – Registered Professional Engineer (8119)

sch4p4(6) Personal information

~~Paul Brimblecombe~~ – Cubbie Group Ltd (SUBJECT TO DEED OF COMPANY ARRANGEMENT).

JOHN CRONIN

DEED ADMINISTRATOR

RTI DL RELEASE - DNRM

Release

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Introduction

Swamp North is located on "Cubbie Station" under ownership of the Cubbie Group Dirranbandi. The *Condamine and Balonne Water Resources Plan (2004)* required the certification of storages in 2006 to determine the total capacity of existing works that store water. This information was used to determine the allocations and entitlements for the *Condamine and Balonne Resource Operations Plan (2008)*. This report is to certify Swamp North as it was not certified in 2006. The report provides all of the information required to certify the storage following the *Guideline for the Certification of Works in the Lower Balonne (2006)*.

Property Information

Swamp North is located on "Cubbie Station" on Lot 2 & 3 on BEL5370. Figure 1 shows the lot boundaries and the aerial photo (dated 10 Mar 2010) in the background.



Figure 1- Location of Storage on Lot / Plan

Storage Operation

To fill 'Swamp North' water flows under gravity from the metered Balonne Minor Diversion Structure to the Topshed Pump Station where it can be pumped into 'Swamp' Storage. On the northern wall of 'Swamp' storage, a short section of the embankment is temporarily removed to allow 'Swamp North' to fill (Photo 1). The block is open in Figure 1 as the storage was being filled on this date. When diversion ceases the opening is closed. The volume of water stored in 'Swamp North' is determined from the attached Swamp North Storage Capacity Table.

Water stored in 'Swamp North' is released when required to Balonne Minor Diversion Channel through a 1066 mm outlet pipe located in the north wall at Chainage 3300 m (Photo 2).

RTI DL RELEASE - DNRM



Photo 1- Looking South at Removable Earth Block

WGS 84 GPS Location: Easting 603 729
Northing 6 829 485

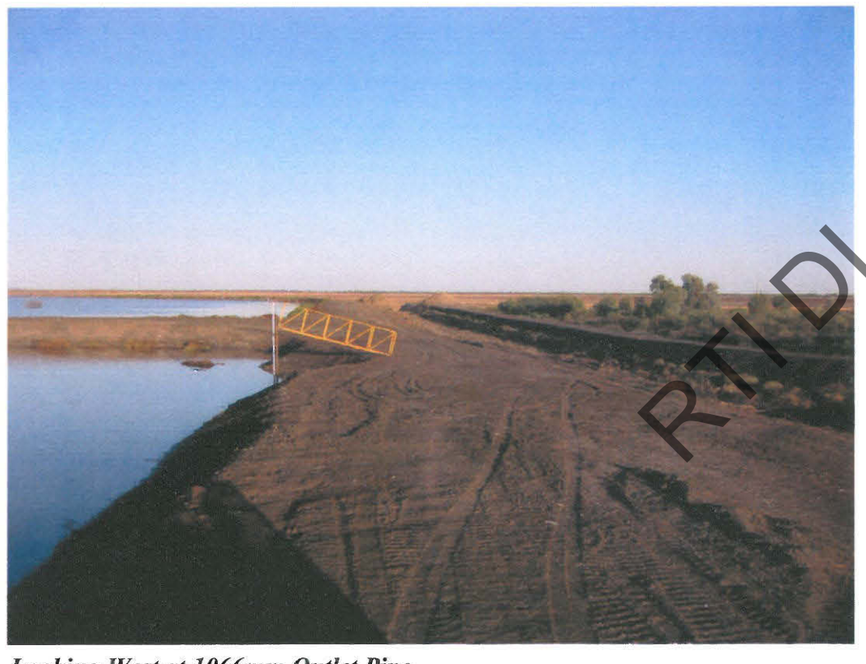


Photo 2- Looking West at 1066mm Outlet Pipe

WGS 84 GPS Location: Easting 603 721
Northing 6 829 606

RTI DL RELEASE - DNRM

Description of the Water Sources for Swamp North

Main Balonne Minor Diversion Structure

Diversion takes place from the Balonne Minor River when releases from Jack Taylor Weir reach 3000ML/Day. Maximum diversion from the Balonne Minor occurs when Jack Taylor Weir reaches 46,000ML/Day. Waterharvesting thresholds for both the Culgoa River and the Balonne Minor River are listed in Table 1.

The details and a photo of the Balonne Minor Structure are given below:

License No:	43357Q
WGS 84 GPS Location:	E 148°05'10.9", S 28°36'33.9"
Invert Level:	162.5 AHD
Pipe Size:	6 x 1800mm
Pipe Length:	36m
Max Flow Rate:	2000ML/Day



Photo 3- Balonne Minor Diversion Structure

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River and Floodplain Diversion Entitlements

Cubbie is located in the Lower Balonne Water Management Area under the Condamine Balonne Resource Operations Plan. The river diversion entitlements are given in Table 1 below for WAN 1541 (Culgoa River) and WAN 1546 (Balonne Minor River). The floodplain diversion entitlements are given in Table 2 below from Licence No. 602 017.

Table 1 – Cubbie's River Diversion Entitlements

CUBBIE RIVER DIVERSION SCHEDULE

Flows in ML/day

JTW RELEASES	CULGOA	B MINOR	TOTAL
3000	490	82	572
4000	654	82	736
5000	654	163	817
6000	980	163	1143
7000	1062	163	1225
8000	2124	219	2343
10000	2594	247	2841
12000	2964	276	3240
14000	3572	304	3876
16000	4028	342	4370
18000	4484	437	4921
20000	4940	532	5472
22000	5244	627	5871
24000	5548	722	6270
26000	5852	817	6669
28000	6156	912	7068
30000	6256	1007	7263
32000	6569	1112	7681
34000	6569	1216	7785
36000	6940	1330	8270
38000	6940	1435	8375
40000	7187	1539	8726
42000	7187	1615	8802
44000	7557	1691	9248
46000	7557	1758	9315
48000	7804	1758	9562
52000	8051	1758	9809
56000	8298	1758	10056
60000	8545	1758	10303

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Table 2 – Cubbie's Floodplain Diversion Entitlements

FLOODPLAIN WATER DIVERSION SCHEDULE
Flows given in ML/day

JTW RELEASES	Kelso	Cubbie	Combined
20000		950	950
24000	143		1095
26000	162		1110
28000	181		1130
30000	200	2375	2580
32000	219		2600
34000	238		2620
36000	257		2640
40000		3325	3590
48000		4085	4355
52000		4275	4545
60000		5225	5500
70000		6175	6450
80000		7125	7400
90000		8075	8355

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Storage Details

Swamp North is a hillside storage with a maximum capacity of 4 353 ML stored over 212.8 ha. Table 3 below contains all of the storage details required for the certification, Table 4 is the storage capacity table for Swamp North.

The RTK Survey data is illustrated in Attachment 2. Glenn Lyons (GL Irrigation Pty Ltd) indicated that the survey was challenging with some areas that were impenetrable and unable to be surveyed. The FSL and Crest Level were determined from the available survey data with the chainages and longitudinal section of the top bank given in Attachments 3 and 4.

Table 3- Storage Volume Table

Item	Data(Units)	
Storage Identifier	**Swamp North**	
Lot on Plan	**2 & 3 on BEL5370**	
Capacity at FSL	**4 353**	**ML**
FSL RL	**166.70**	**m AHD**
Crest RL	**167.50**	**m AHD**
Freeboard	**0.80**	**m**
Maximum Embankment Height above Natural Surface	**4.0**	**m**
Surface Area at FSL	**212.8**	**Ha**
Internal Batter	**4 : 1**	
Outlet Pipe invert RL	**163.70**	**m**
Inlet Pipe Invert RL	**N/A**	
Method of Calculation: **RTK survey of infrastruture, crest, FSL and floor completed by GL Irrigation Pty Ltd, St George. Storage Capacity Table calculated by GL Irrigation Pty Ltd from surfaces generated in CDS.**		
Source of water stored (license number or OLF diversion works identifier): **Balonne Minor R. under the authority of License No. 43357Q** **Overland flow from floodplain under License No. 602017**		
Storage operating arrangements: **Stores water from river and floodplain water harvesting as described in the description above.**		
[x] Map showing location of storage on Lot on Plan attached [x] Data used in calculation of Storage Volume attached		

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Table 4- Storage Capacity Table for Swamp North

SWAMP NORTH
Capacity Table
'CubbieStation' Dirranbandi

Full Supply Level RL 166.70
BM Crest of Balonne Minor Weir RL 164.50 (AHD)
Date: 7/10/2011

LEVEL	VOLUME	SURFACE AREA
RL 163.30	0.0 Ml	0.0 Ha
RL 163.40	0.0 Ml	0.0 Ha
RL 163.50	0.0 Ml	0.0 Ha
RL 163.60	0.0 Ml	0.0 Ha
RL 163.70	5.6 Ml	10.9 Ha
RL 163.80	21.0 Ml	19.8 Ha
RL 163.90	44.1 Ml	25.7 Ha
RL 164.00	71.8 Ml	29.7 Ha
RL 164.10	126.2 Ml	57.9 Ha
RL 164.20	185.4 Ml	60.9 Ha
RL 164.30	248.4 Ml	65.4 Ha
RL 164.40	316.9 Ml	72.0 Ha
RL 164.50	393.4 Ml	81.8 Ha
RL 164.60	481.3 Ml	94.4 Ha
RL 164.70	582.5 Ml	108.0 Ha
RL 164.80	697.4 Ml	121.9 Ha
RL 164.90	826.4 Ml	136.5 Ha
RL 165.00	971.0 Ml	153.1 Ha
RL 165.10	1137.7 Ml	170.8 Ha
RL 165.20	1313.0 Ml	180.7 Ha
RL 165.30	1500.0 Ml	192.5 Ha
RL 165.40	1694.1 Ml	195.4 Ha
RL 165.50	1890.3 Ml	197.3 Ha
RL 165.60	2088.3 Ml	198.9 Ha
RL 165.70	2287.8 Ml	200.2 Ha
RL 165.80	2488.6 Ml	201.6 Ha
RL 165.90	2690.7 Ml	202.9 Ha
RL 166.00	2894.1 Ml	204.1 Ha
RL 166.10	3098.8 Ml	205.4 Ha
RL 166.20	3304.7 Ml	206.7 Ha
RL 166.30	3511.9 Ml	207.9 Ha
RL 166.40	3720.3 Ml	209.1 Ha
RL 166.50	3929.9 Ml	210.3 Ha
RL 166.60	4140.7 Ml	211.5 Ha
RL 166.70	4352.6 Ml	212.8 Ha

RTI DL RELEASE - DNRM

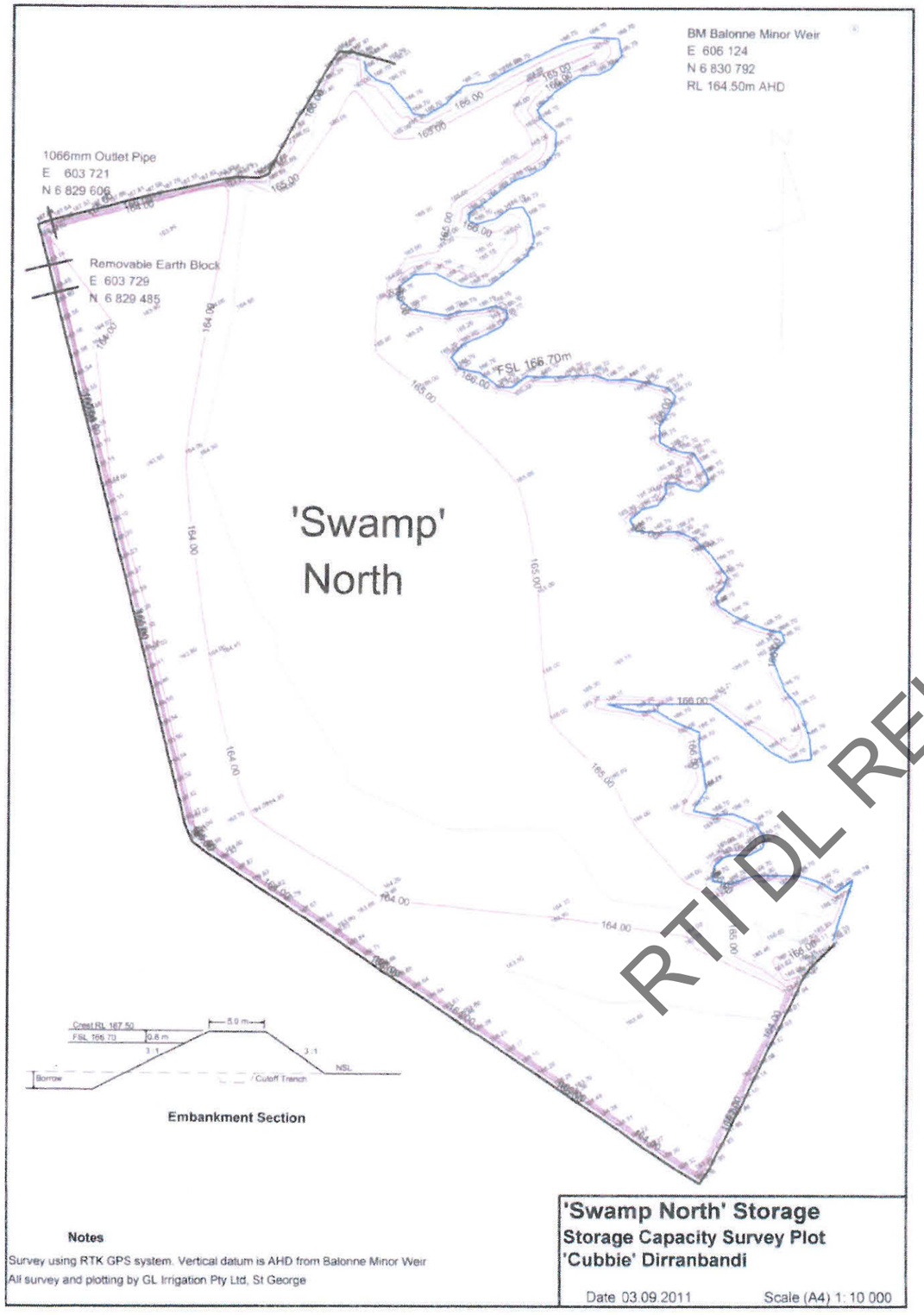
Release

Attachments

RTI DL RELEASE - DNRM

Release

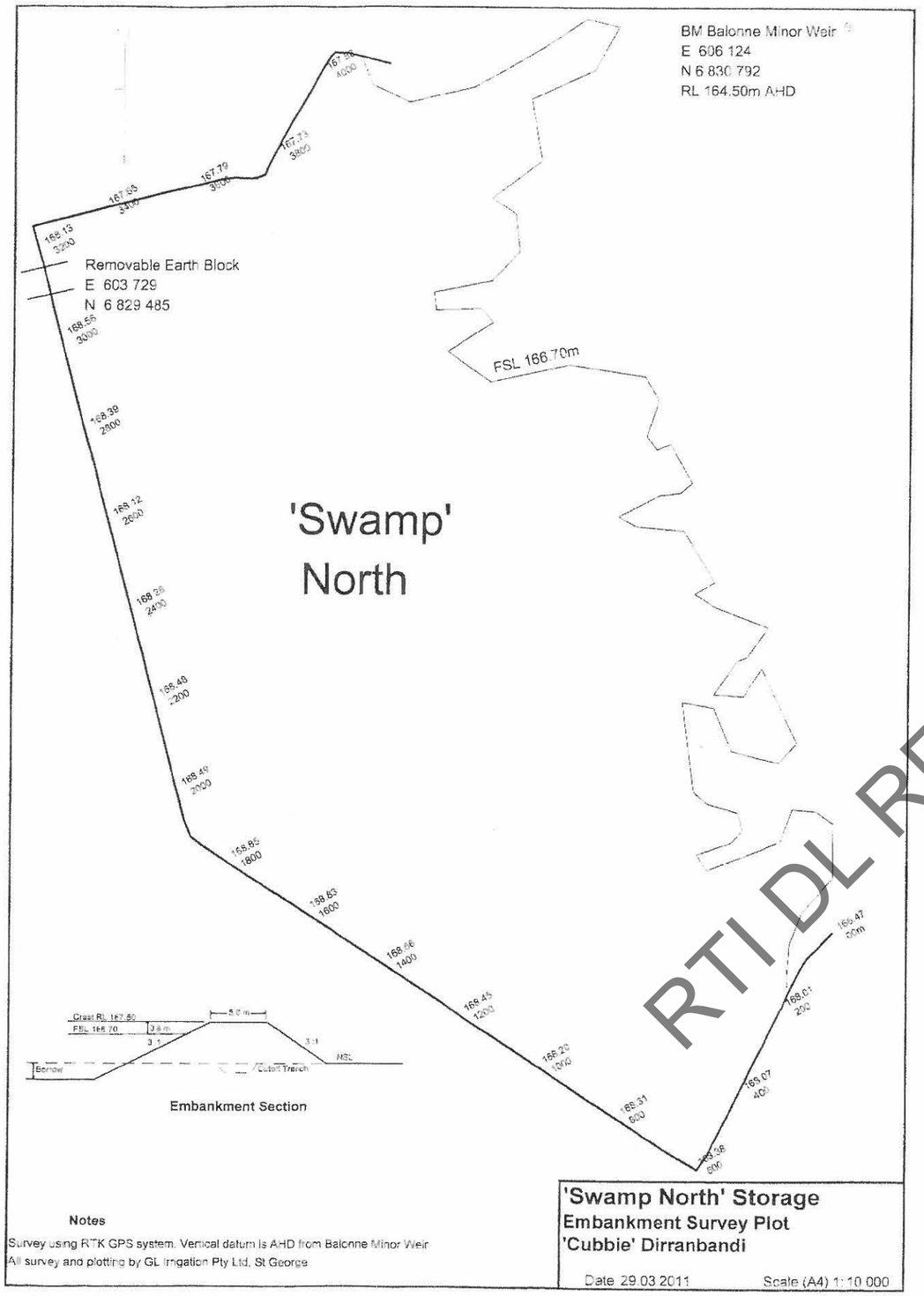
Attachment 2- 'Swamp North' Storage Survey Plot



RTI DL RELEASE - DNRM

Release

Attachment 3- 'Swamp North' Storage Embankment Chainage



RTI DL RELEASE - DNRM

Attachment 4- 'Swamp North' Crest Levels – Chainage 0 – 4 150 m

'Swamp North' Storage Crest Levels 00 - 2 000m

Crest RL 167.50

Datum RL = 166.50

Chainage	Natural Surface
HS 1:7500 VS 1:50	
0	168.47
50	168.10
100	168.08
150	167.95
200	168.01
250	168.07
300	168.10
350	168.17
400	168.07
450	167.87
500	167.91
550	167.95
600	168.39
650	168.32
700	168.28
750	168.23
800	168.31
850	168.40
900	168.41
950	168.27
1000	168.20
1050	168.16
1100	168.20
1150	168.33
1200	168.45
1250	168.62
1300	168.64
1350	168.65
1400	168.66
1450	168.71
1500	168.84
1550	168.84
1600	168.83
1650	168.79
1700	168.82
1750	168.84
1800	168.84
1850	168.89
1900	168.41
1950	168.39
2000	168.49

'Swamp North' Storage Crest Levels 2 000 - 4 150m

Crest RL 167.50

Datum RL = 166.50

Chainage	Natural Surface
HS 1:7500 VS 1:50	
2000	168.49
2050	168.54
2100	168.50
2150	168.53
2200	168.48
2250	168.43
2300	168.35
2350	168.29
2400	168.28
2450	168.28
2500	168.24
2550	168.19
2600	168.12
2650	168.14
2700	168.18
2750	168.20
2800	168.39
2850	168.53
2900	168.54
2950	168.53
3000	168.56
3050	168.56
3100	168.46
3150	168.18
3200	168.13
3250	167.82
3300	167.60
3350	167.58
3400	167.65
3450	167.80
3500	167.82
3550	167.61
3600	167.79
3650	167.90
3700	167.69
3750	167.61
3800	167.73
3850	167.84
3900	167.89
3950	167.91
4000	167.88
4050	167.85
4100	168.01
4150	168.08

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"CUBBIE GROUP DIRRANBANDI"

RTI DL RELEASE - DNRM

EXPLANATION

- Telephone Locations
- Boundary "Cubbie" Holding
- Real Property boundaries
- Natural drainage
- Weir
- Water pumping station & No.
- Reticulation channel
- Tail water surge area
- Cross flood plain channel
- Irrigated paddock, No & direction of irrigation flow
- Water storage holding area
- Future water storage area
- Future irrigation area

0 5 10 Km

QLD. Dirranbandi BRISBANE "Cubbie"

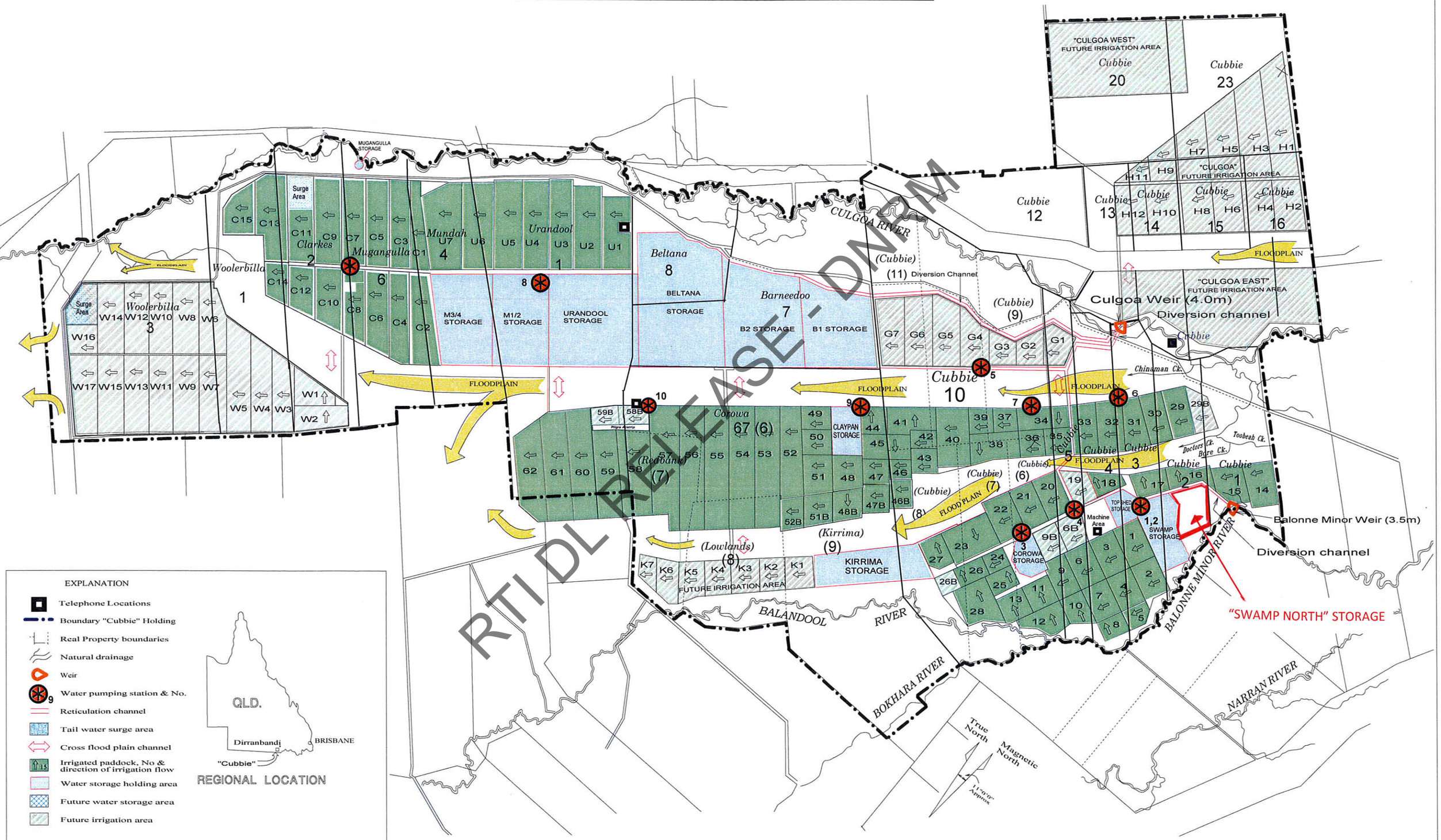
REGIONAL LOCATION

Prepared by S & L Rabjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821

Updated JULY 2008

Release

"CUBBIE GROUP DIRRANBANDI"



EXPLANATION

- Telephone Locations
- Boundary "Cubbie" Holding
- Real Property boundaries
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- Weir
- Water pumping station & No.
- Reticulation channel
- Tail water surge area
- Cross flood plain channel
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- Water storage holding area
- Future water storage area
- Future irrigation area

REGIONAL LOCATION

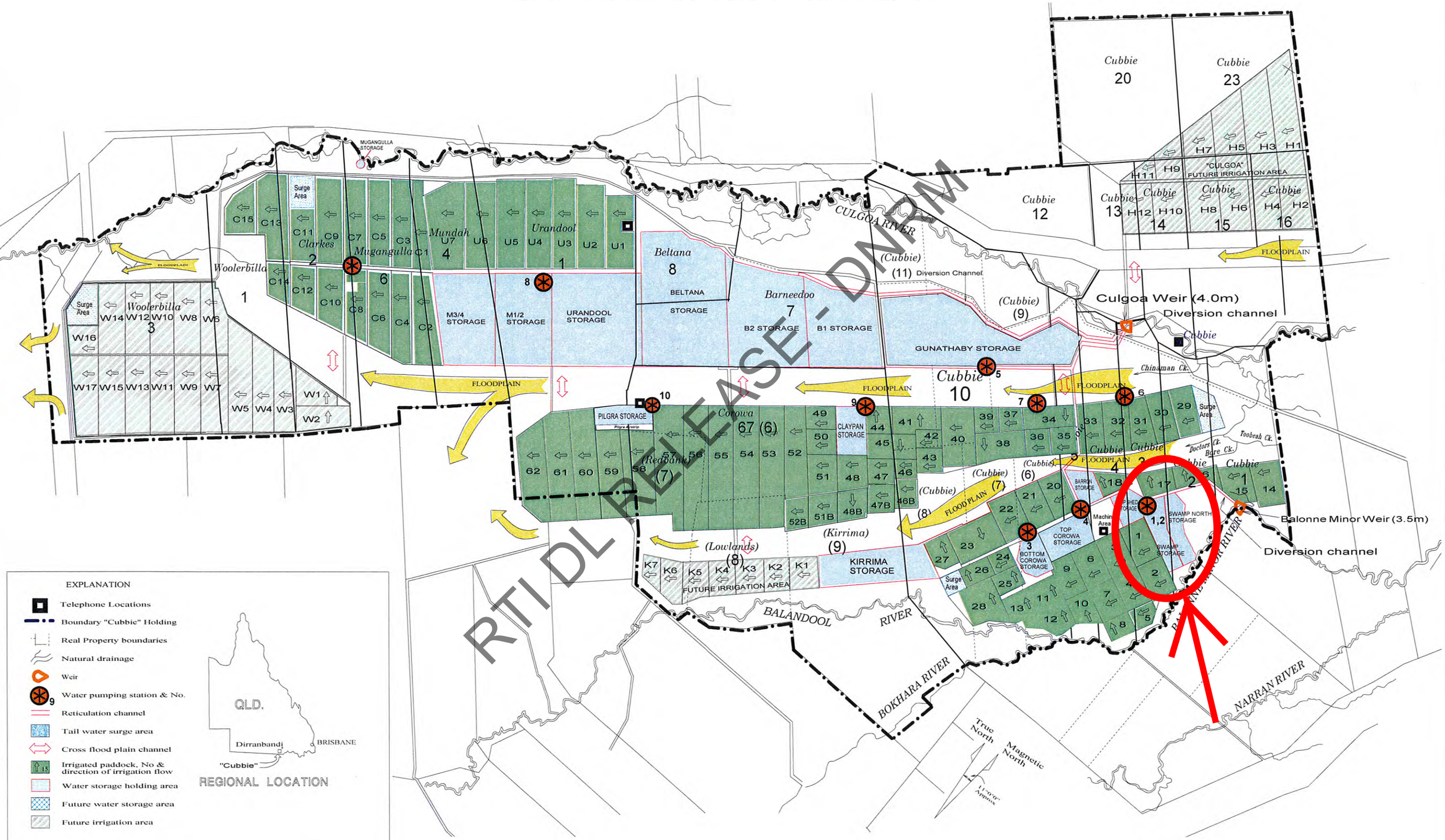
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Prepared by S.& L.Rabjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
Updated JULY 2008

RTI DL RELEASE - DNRM

Release

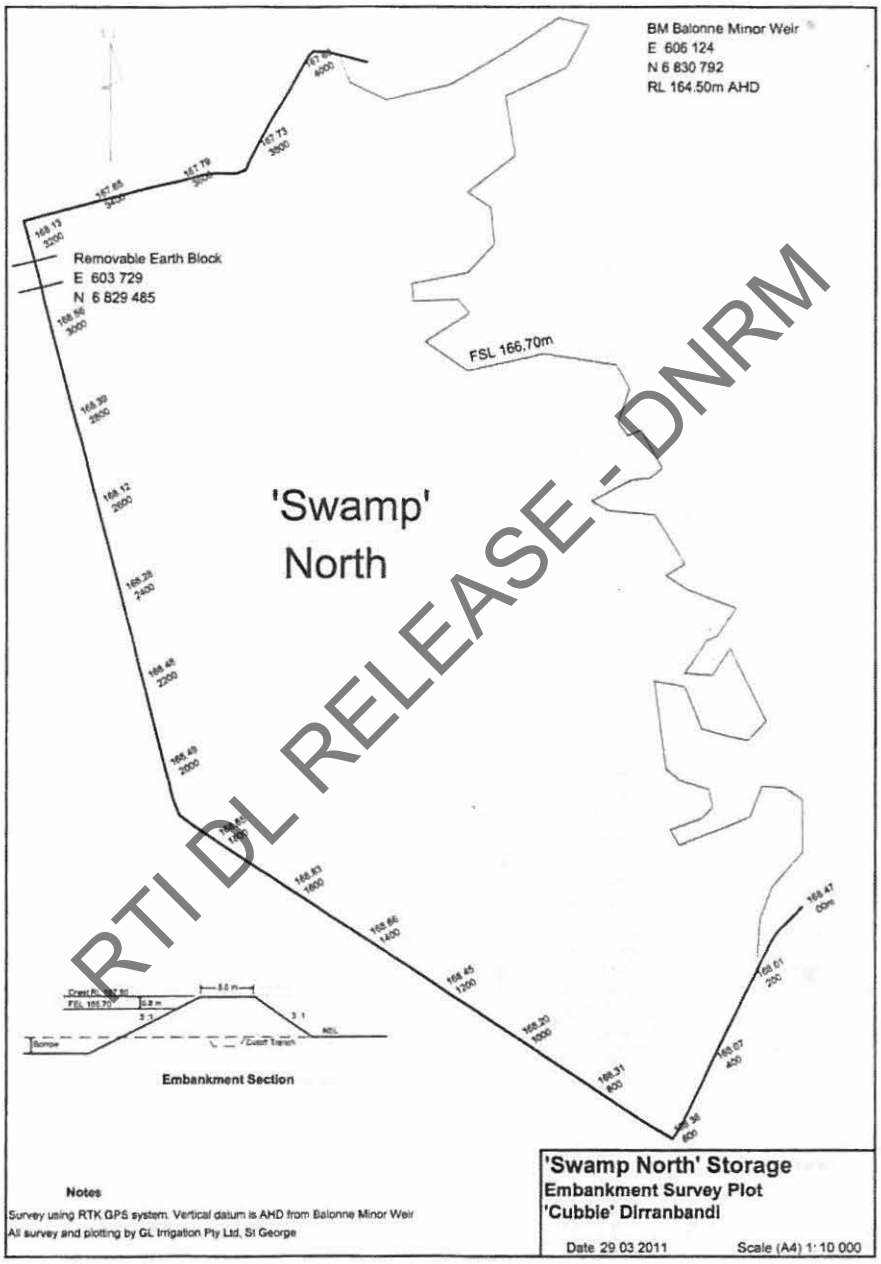
"CUBBIE GROUP DIRRANBANDI"



RTI DL RELEASE - DNRM

Prepared by S & L Rabjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
Updated JULY 2008

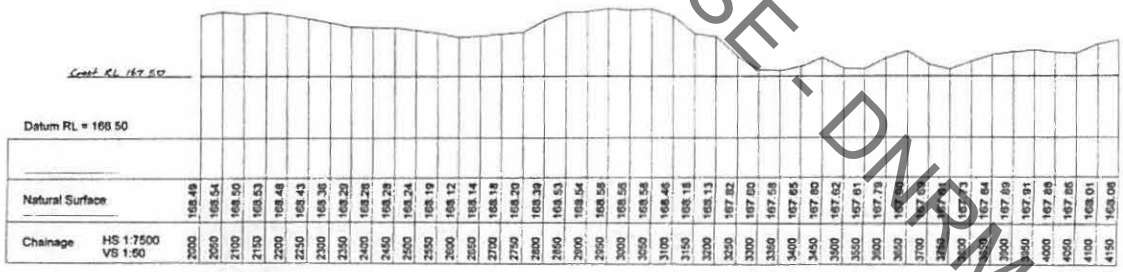
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'Swamp North' Storage Crest Levels 00 - 2 000m



'Swamp North' Storage Crest Levels 2 000 - 4 150m

RTI DISCLOSURE - DNRM

Release

RTI DL RELEASE - DNRM

190-31
File A
128 of 192

F.M. 35 Gate Post
166.13

F.M. 165.00

Sandhill

Top of bank
RL 167.70

SWAMP STORAGE

B.M. 32 Chr. Post
165.52

BM B Tree 164.96

Sand 4.38

B.M. 30
Tree 164.20

B.M. 3
165.

D

N

BARRETT PURCELL

CUBBIE STATION

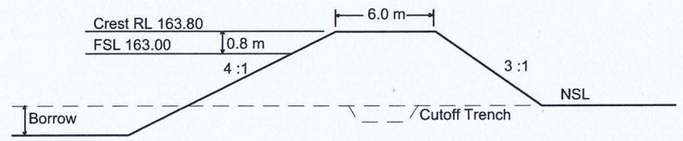
IRRIGATION LAYOUT

Datum B.M.12W 162.61

Scale 1:10000

Schedule 6) Personal information

Release



Embankment Section

RTI DL RELEASE - DNRM

Notes

Survey carried out using a RTK dual frequency GPS system.

UTM output coordinates are WGS84 and vertical datum is AHD from Culgoa Weir.

All survey and plotting has been carried out by GL Irrigation Pty Ltd, St George

'Gunathaby' Storage
Survey Plot
'Cubbie Station' Dirranbandi

Date 29.03.2011 Scale (A3) 1: 20 000

13-061

McN+
McGRATHNICOL
CORPORATE RECOVERY

14 October 2010

Mr Mark Bartlem
Senior Project Officer
Department of Environmental and Resource Management
126 Alfred Street
St George Qld 4487

By Email: Mark.Bartlem@derm.qld.gov.au

By Email

Dear Sir

Cubbie Group Limited and its subsidiaries (all Subject to Deed of Company Arrangement)
Certification of decommissioned water storage

I refer to your letter dated 1 April 2010 (a copy of which is attached) in relation to the certification of the decommissioned water storage, 'Gunathaby', located at Cubbie Station, Dirranbandi.

Pursuant to your request, please find attached the certification of 'Gunathaby' prepared for Cubbie Group by Mr Don Best, registered professional engineer, and by Mr John Grabbe, Cubbie Group's consultant.

If you have any queries or require any further information, please contact Mr Grabbe on sch4p4(6) Personal information or Mr Mark Holland of my staff on (02) 9248 9916.

Yours faithfully
Cubbie Group Ltd and associated companies (all subject to Deeds of Company Arrangement)

sch4p4(6) Personal information

John Cronin
Deed Administrator

CC:
Mr John Grabbe
By Email: grabbe@cubbie.com.au

Enclosures:
DERM letter dated 1 April 2010
Certification of Gunathaby Storage dated 13 October 2010 prepared by Mr Don Best
Cubbie Group Certification of Gunathaby Storage documents dated 13 October 2010
Attachment 1 – Cubbie Group Dirranbandi Property Plan
Attachment 2 – Gunathaby Storage Survey Plot
Attachment 3 – Gunathaby Storage Embankment Chainage
Attachment 4.1 – Gunathaby Crest Levels 1
Attachment 4.2 – Gunathaby Crest Levels 2

C13-101013-CUBBCEN01-CLetterDERMCertofGunathaby-MH

Queensland Government

Department of
Environment and Resource Management

File STG/515/111(0535)
Our Ref LBWMAFE02-CubbieDirranbandi-storage02
Your Ref C10-1003211-CUBBGRo01-I-DERM re Storages-NAH

1 April 2010

Mr John Cronin
Administrator for Cubbie Group of companies
McGrathNicol
Level 14, 145 Eagle Street
Brisbane QLD 4000

Dear Mr Cronin

I refer to correspondence from the department dated 13 March 2010 regarding the diversion of water into a decommissioned water storage located on Cubbie Station, Dirranbandi, during the March 2010 flow event.

Subject to conditions, approval was given to divert water into the "Gunathaby" storage as a precautionary measure to mitigate the risk of possible damage to other currently certified storages on the property.

Further to this approval the Department of Environment and Resource Management requires the following to occur to ensure the current and ongoing use of this storage is consistent with requirements under the provisions of the *Water Resource (Condamine and Balonne) Plan 2004* :-

- As soon as possible a notification of existing works that take overland flow is to be lodged with the department.
  - Information including the relevant forms and guidelines for this process can be downloaded from the department's website regarding **the notification of existing works**.
- Within six months of the receipt of this letter, this storage is to be certified and the certification information provided to the department.
  - The **Guideline for the certification of works in the Lower Balonne** can also be downloaded from the department's website.

Both of these processes will not effect your current diversion entitlements or volumetric limit. Should you have any further enquiries, please do not hesitate to contact me on sch4p4(6) Personal information

Yours sincerely

sch4p4(6) Personal information

Mark Bartlem
Senior Project Officer

Department of Environment and Resource Management
Telephone (07) 4625 3299 Facsimile (07) 4625 3892
126 Alfred Street, St George, Q, 4487
PO Box 310, St George, Q, 4487
Website www.derm.qld.gov.au
ABN 46 640 294 485

RTI DL RELEASE - DNRM

C. J. McD. BEST
BE, FIEAust, CPEng, FASCE, HonFSPE (PNG): RPEQ (Civil)
CONSULTING ENGINEER

ABN 64 343 679 127

505/1 Holman Street
Kangaroo Point, Qld 4169
Australia
Telephone: (07) 3891 1660
Email: donbest@bigpond.net.au

13 October 2010

Department of Natural Resources & Mines
St George, Qld 4487

Attention: Mark Bartlem

Dear Sir,

Certification of Gunathaby Storage – Cubbie Group Dirranbandi

I, Cyril John McDonald Best, Registered Professional Engineer of Queensland 1572, certify that the information contained in the attached documents is true and correct in relation to the storage of licensed diversions in Gunathaby Storage by the Cubbie Group Dirranbandi in the Lower Balonne.

This certification is additional to my Certification of Overland Flow Works – Cubbie Group Dirranbandi of 26 June 2006.

Yours sincerely,

sch4p4(6) Personal information

C. J. McD. Best

RTI DL RELEASE - DNRM

CUBBIE GROUP ST GEORGE PTY LTD
(Subject to Deed of Company Arrangement)
PO Box 608
ST GEORGE QLD 4487
Ph: (07) 4625 1100
Fax: (07) 4625 1099
stgeorgeadmin@cubbie.com.au

CUBBIE GROUP DIRRANBANDI
(Subject to Deed of Company Arrangement)
PO Box 7
DIRRANBANDI QLD 4486
Ph: (07) 4625 8366
Fax: (07) 4625 8399
dirranadmin@cubbie.com.au



CUBBIE GROUP LTD

(Subject to Deed of Company Arrangement)
www.cubbie.com.au



Cubbie Group Dirranbandi

Certification of Gunathaby Storage

Submitted to DERM St George

Date: 13 October 2010

The information contained within this document is true and correct.

sch4p4(6) Personal information

.....
C. J. McD. Best – Registered Professional Engineer

sch4p4(6) Personal information

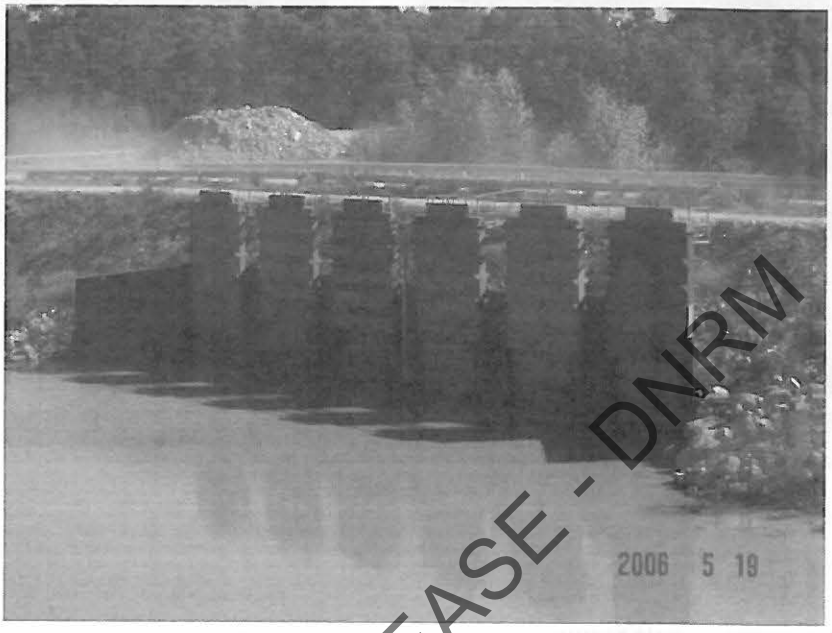
.....
John Grabbe – Consultant to Cubbie Group Ltd

Release

Cubbie Group Dirranbandi Waterharvesting

Culgoa River Gravity Diversion

Main Culgoa Diversion Structure



RTI DL RELEASE - DNRM

License No: 49273Q
WGS 84 GPS Location: S28°37'01.3"
E 148°00'08.1"
Invert Level: 158.50 AHD
Pipe Size: 6 x 3000mm
Pipe Length: 36m
Max Flow Rate: 9000ML/Day

Diversion takes place from the Culgoa River when releases from Jack Taylor Weir reach 3000ML/Day. Maximum diversion from the Culgoa occurs when Jack Taylor Weir reaches 60,000ML/Day. Waterharvesting thresholds for both the Culgoa River and the Balonne Minor River are listed in Table 1.

For Gunathaby water flows under gravity from the metered Main Culgoa Diversion Structure to the south west corner of Gunathaby where it flows into the storage through an opening created by a removable earth block. When diversion ceases the opening is closed. The volume of water stored in Gunathaby is determined from the attached Gunathaby Storage Capacity Table.

Floodplain waters are diverted through the B2 Inlet as shown in Map Note #7 and Table 2 of my 26 June 2006 Certification Report.

Water stored in Gunathaby is released when required by opening the removable earth block and water flows under gravity into Cell B2.

Release



Inlet/Upstream View



Outlet/Downstream View

Map Note #7 B2 Inlet

GPS Location: Easting 594417.856
Northing 6830122.910

Invert Level: 158.00 AHD

Pipe Size: 3000mm

Pipe Length: 36m

Max Flow Rate: 3300ML/Day

RTI DL RELEASE - DNRM

Release

Table 1 – Cubbie's River Diversion Entitlements

CUBBIE RIVER DIVERSION SCHEDULE

JTW RELEASES	CULGOA	B MINOR	TOTAL
3000	490	82	572
4000	654	82	736
5000	654	163	817
6000	980	163	1143
7000	1062	163	1225
8000	2124	219	2343
10000	2594	247	2841
12000	2964	276	3240
14000	3572	304	3876
16000	4028	342	4370
18000	4484	437	4921
20000	4940	532	5472
22000	5244	627	5871
24000	5548	722	6270
26000	5852	817	6669
28000	6156	912	7068
30000	6256	1007	7263
32000	6569	1112	7681
34000	6569	1216	7785
36000	6940	1330	8270
38000	6940	1435	8375
40000	7187	1539	8726
42000	7187	1615	8802
44000	7557	1691	9248
46000	7557	1758	9315
48000	7804	1758	9562
52000	8051	1758	9809
56000	8298	1758	10056
60000	8545	1758	10303

Note: Above Releases and Entitlements are in ML/day

RTI DL RELEASE - DNRM

Release

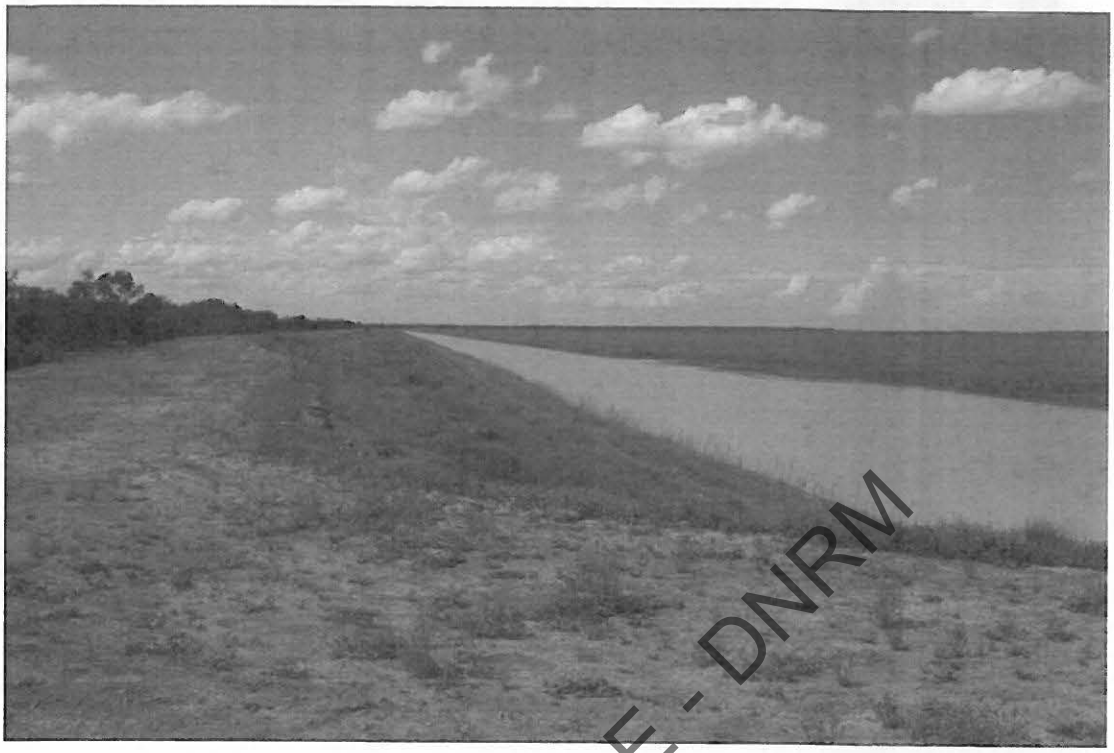
Table 2 – Cubbie's Floodplain Diversion Entitlements

FLOODPLAIN WATER DIVERSION SCHEDULE

JTW RELEASES	Kelso	Cubbie	Combined
20000		950	950
24000	143		1095
26000	162		1110
28000	181		1130
30000	200	2375	2580
32000	219		2600
34000	238		2620
36000	257		2640
40000		3325	3590
48000		4085	4355
52000		4275	4545
60000		5225	5500
70000		6175	6450
80000		7125	7400
90000		8075	8355

Note: Above Releases and Entitlements are in ML/day

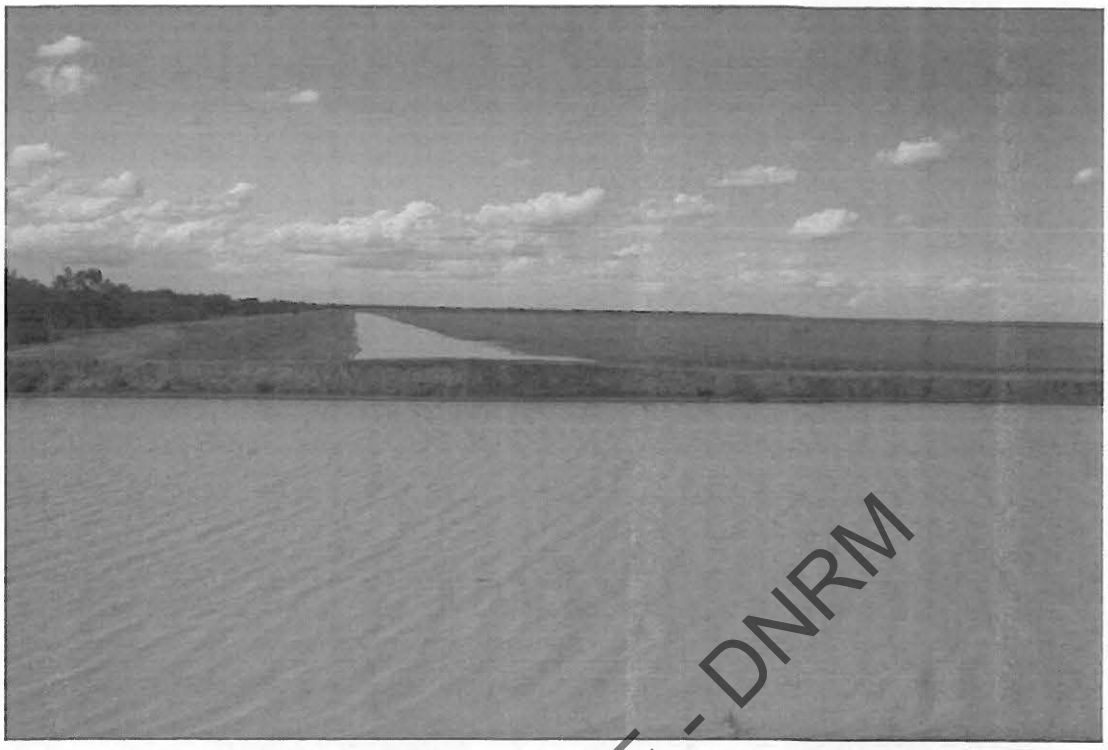
RTI DL RELEASE - DNRM



Looking NE along western wall of Gunathaby

WGS 84 GPS Location: Easting 589265
Northing 6829987

RTI DL RELEASE - DNRM



Looking NE to Gunathaby at removable earth block

WGS 84 GPS Location: Easting 589205
Northing 6829987

RTI DL RELEASE - DNRM

Gunathaby Storage Capacity Table

Level (m)	Volume (ML)	Surface Area (ha)
RL 156.80	0	1
RL 156.90	1	1
RL 157.00	2	2
RL 157.10	5	2
RL 157.20	7	3
RL 157.30	10	3
RL 157.40	14	4
RL 157.50	18	4
RL 157.60	22	5
RL 157.70	28	6
RL 157.80	37	13
RL 157.90	50	13
RL 158.00	64	14
RL 158.10	78	15
RL 158.20	94	16
RL 158.30	110	17
RL 158.40	127	18
RL 158.50	145	19
RL 158.60	165	20
RL 158.70	186	22
RL 158.80	208	23
RL 158.90	232	24
RL 159.00	256	25
RL 159.10	282	27
RL 159.20	309	28
RL 159.30	337	29
RL 159.40	366	30
RL 159.50	397	31
RL 159.60	428	32
RL 159.70	462	41
RL 159.80	526	95
RL 159.90	654	167
RL 160.00	862	250
RL 160.10	1153	333
RL 160.20	1526	414
RL 160.30	1980	495
RL 160.40	2516	579
RL 160.50	3136	662
RL 160.60	3841	748
RL 160.70	4627	826
RL 160.80	5489	896
RL 160.90	6414	954
RL 161.00	7392	1001
RL 161.10	8428	1078
RL 161.20	9544	1148
RL 161.30	10725	1212
RL 161.40	11959	1257
RL 161.50	13236	1305
RL 161.60	14569	1363
RL 161.70	15986	1457
RL 161.80	17463	1491
RL 161.90	18963	1510
RL 162.00	**20481**	**1529**

Full Supply Level = RL 162.00 & Full Supply Volume = 20,481 ML

RTI DO RELEASE - DNRM

Release

Attachments

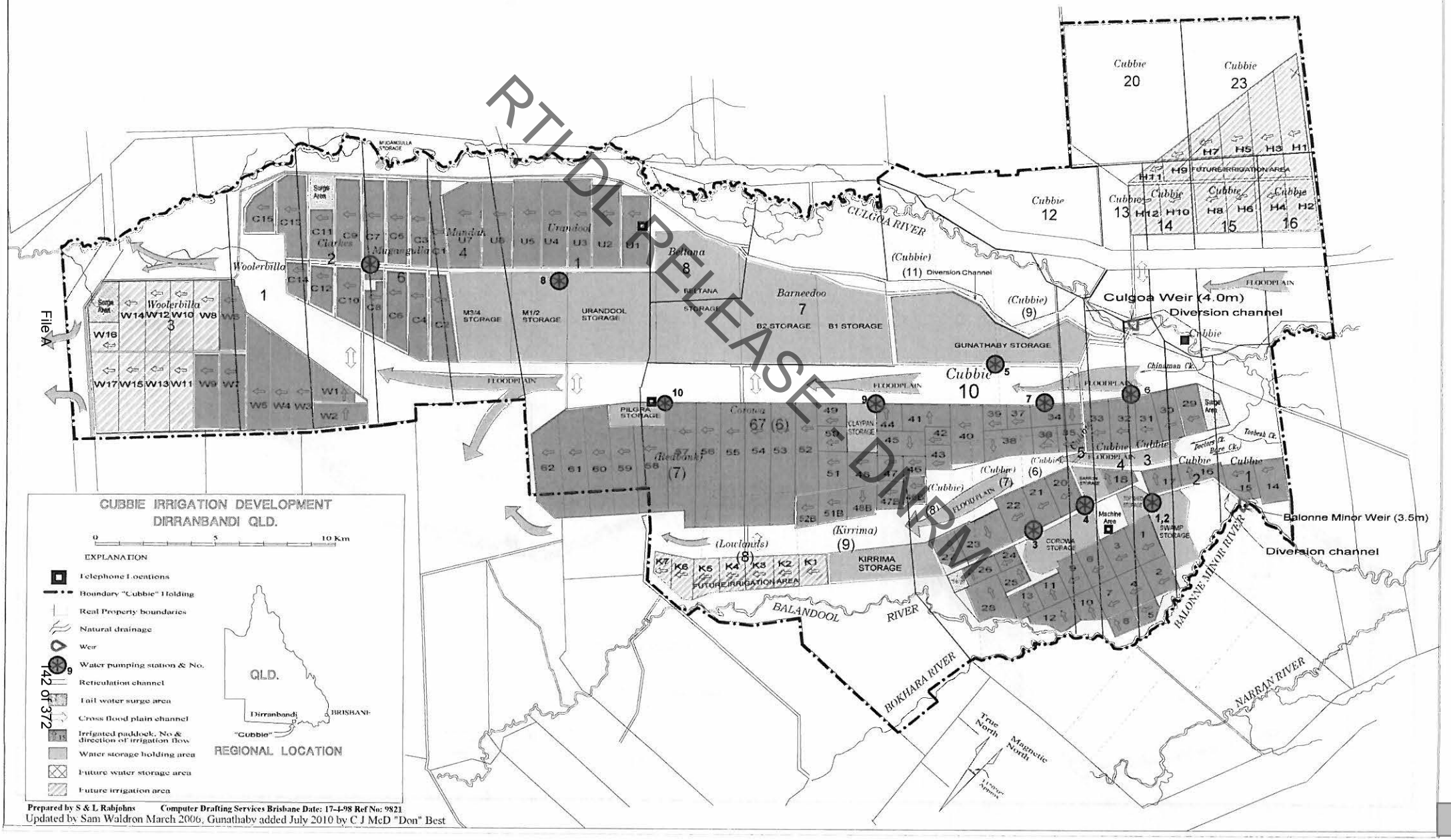
1. **Cubbie Group Dirranbandi Property Plan**
2. **Gunathaby Storage Survey Plot**
3. **Gunathaby Storage Embankment Chainage**
4. **Gunathaby Crest Levels – Chainage 0 – 20093 m**

RTI DL RELEASE - DNRM

13-061

"CUBBIE GROUP DIRRANBANDI" PROPERTY PLAN

RTI DF RELEASE - DNRM



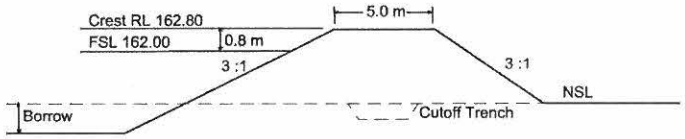
Prepared by S & L Rabjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
Updated by Sam Waldron March 2006, Gunathaby added July 2010 by C J McD "Don" Best

File A

13-061

File A

143 of 372



Embankment Section

RTI DL RELEASE DNRM

'Gunathaby'

BM Gaugeboard in return channel from Storage B1
E 594 410.96
N 6 830 124.11

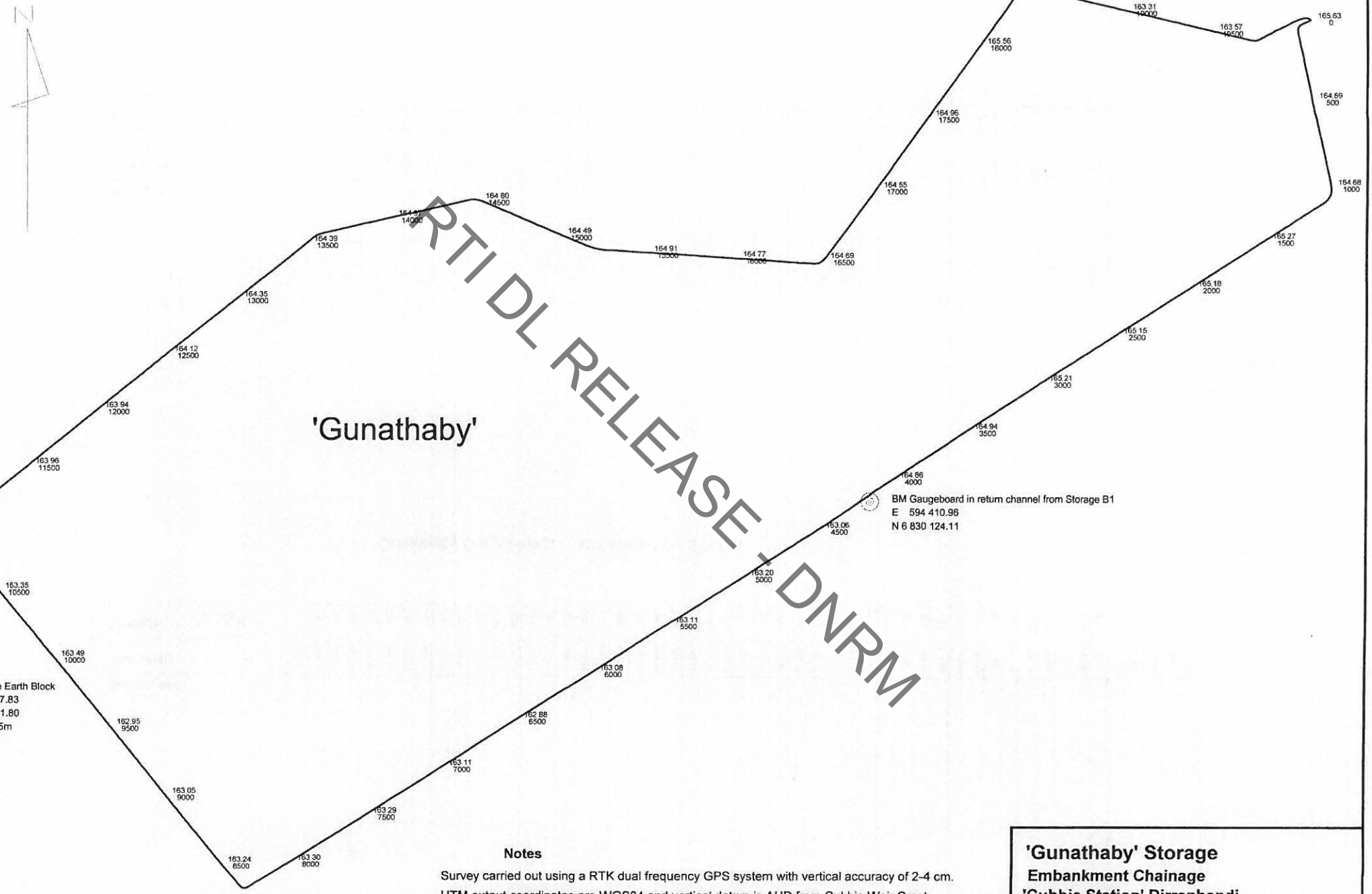
Removable Earth Block
E 589 277.83
N 6 829 951.80
NSL 159.75m

Notes

Survey carried out using a RTK dual frequency GPS system with vertical accuracy of 2-4 cm.
UTM output coordinates are WGS84 and vertical datum is AHD from Cubbie Weir Crest.
All survey and plotting carried out by GL Irrigation Pty Ltd, St George.

'Gunathaby' Storage
Embankment Survey Plot
'Cubbie Station' Dirranbandi
Date 20.07.2010 Scale (A3) 1: 20 000

Release



RTI DL RELEASE - DNRM

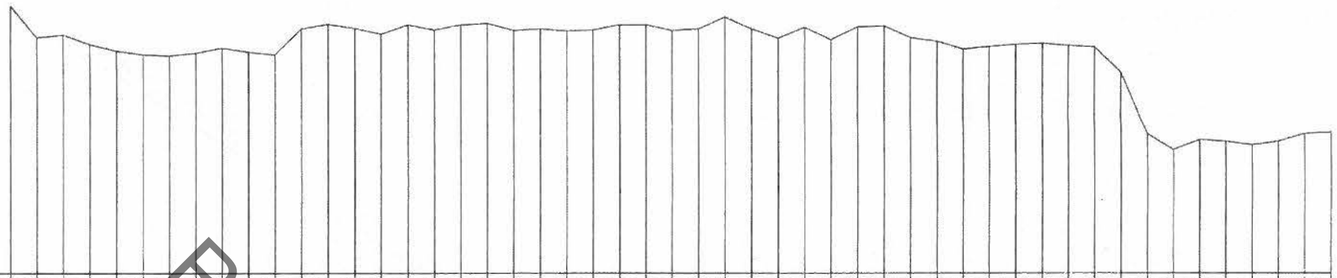
Notes

Survey carried out using a RTK dual frequency GPS system with vertical accuracy of 2-4 cm.
UTM output coordinates are WGS84 and vertical datum is AHD from Cubbie Weir Crest.
All survey and plotting carried out by GL Irrigation Pty Ltd, St George.

'Gunathaby' Storage
Embankment Chainage
'Cubbie Station' Dirranbandi
Date 20.07.2010 Scale (A3) 1: 20 000

Release

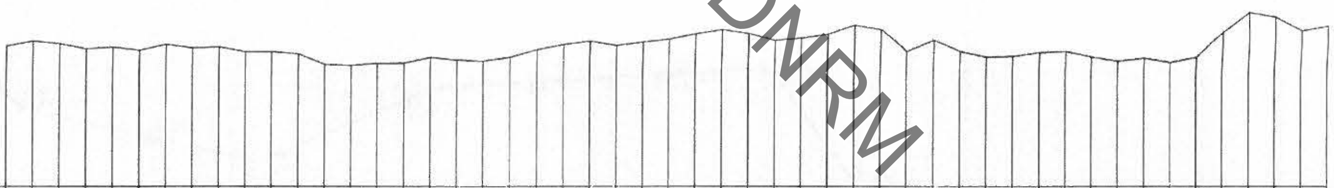
Datum RL = 160.50



Chainage (HS 1:20000, VS 1:100)	Crest Level
0	165.63
100	165.01
200	165.07
300	164.88
400	164.76
500	164.69
600	164.66
700	164.71
800	164.82
900	164.74
1000	164.68
1100	165.19
1200	165.27
1300	165.20
1400	165.09
1500	165.27
1600	165.17
1700	165.26
1800	165.30
1900	165.15
2000	165.18
2100	165.15
2200	165.17
2300	165.27
2400	165.27
2500	165.15
2600	165.18
2700	165.42
2800	165.18
2900	165.00
3000	165.21
3100	164.97
3200	165.22
3300	165.25
3400	165.01
3500	164.94
3600	164.80
3700	164.84
3800	164.89
3900	164.91
4000	164.86
4100	164.84
4200	164.34
4300	163.18
4400	162.88
4500	163.06
4600	163.03
4700	162.97
4800	163.03
4900	163.19
5000	163.20

Gunathaby Crest Levels Chainage 00 - 5 000m

Datum RL = 160.50

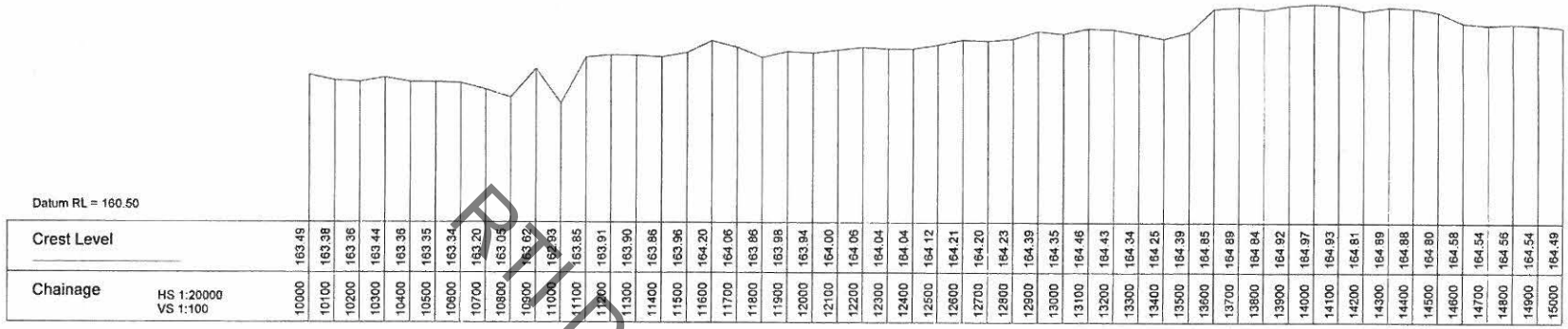


Chainage (HS 1:20000, VS 1:100)	Crest Level
5000	163.20
5100	163.29
5200	163.24
5300	163.14
5400	163.17
5500	163.11
5600	163.23
5700	163.15
5800	163.17
5900	163.08
6000	163.08
6100	163.04
6200	162.86
6300	162.83
6400	162.87
6500	162.88
6600	162.97
6700	162.93
6800	162.91
6900	162.98
7000	163.11
7100	163.19
7200	163.25
7300	163.18
7400	163.23
7500	163.29
7600	163.39
7700	163.46
7800	163.38
7900	163.25
8000	163.30
8100	163.38
8200	163.55
8300	163.45
8400	163.05
8500	163.24
8600	163.06
8700	162.97
8800	162.97
8900	163.03
9000	163.05
9100	162.96
9200	162.90
9300	162.94
9400	162.87
9500	162.95
9600	163.37
9700	163.77
9800	163.68
9900	163.40
10000	163.49

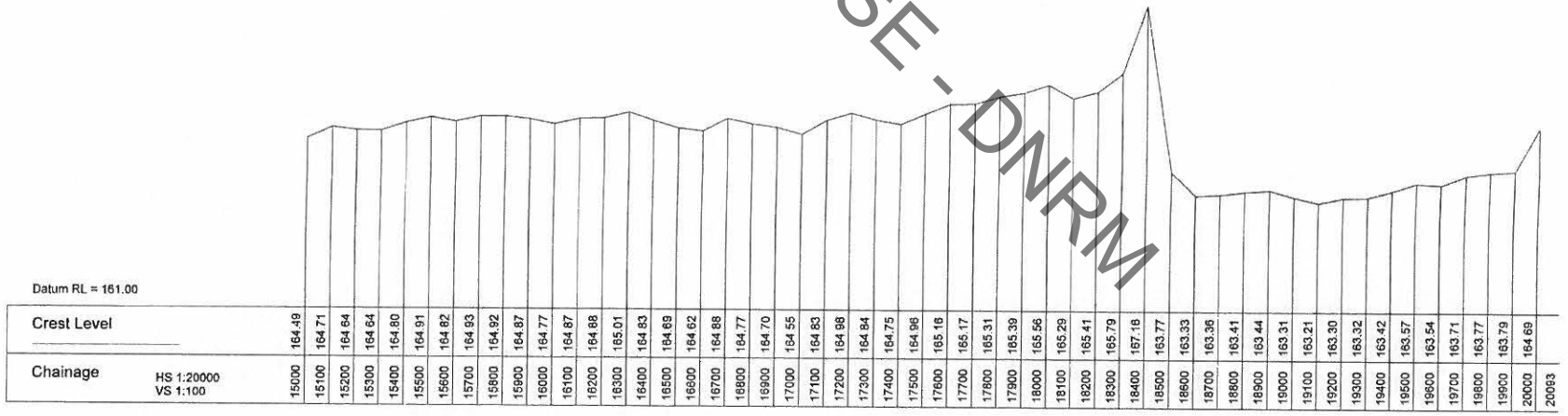
Gunathaby Crest Levels Chainage 5 000 - 10 000m

RTI DL RELEASE - DNRM

Release



Gunathaby Crest Levels Chainage 10 000 - 15 000m



Gunathaby Crest Levels Chainage 15 000 - 20 093m

R1 DL RELEASE - DNRM

Release

Bartlem Mark

From: Bartlem Mark
Sent: Monday, 18 October 2010 12:38 PM
To: 'Mark Holland'
Cc: John Grabbe; Weller Jim
Subject: RE: Cubbie Group Limited as its subsidiaries (all Subject to Deed of Company Arrangement)
Attachments: LBWMA-CubbieDirranbandi-CertGunathaby-Reply.pdf

Dear Mark,

Please refer to the attached.

regards,

Mark Bartlem

Senior Project Officer - Water Services

Telephone 07 4620 8102 (direct) **Mobile** sch4p4(6) Personal information **Facsimile** 07 4625 3892

Email: Mark.Bartlem@derm.qld.gov.au

www.derm.qld.gov.au

Department of Environment and Resource Management

126 Alfred Street, St George, Q, 4487

PO Box 310, St George, Q, 4487

RTI DL RELEASE - DNRM

From: Mark Holland [mailto:mholland@mcgrathnicol.com]
Sent: Friday, 15 October 2010 11:02 AM
To: Bartlem Mark
Cc: John Grabbe
Subject: Cubbie Group Limited as its subsidiaries (all Subject to Deed of Company Arrangement)

Dear Mr Bartlem

Please refer to the attached.

Regards

Mark Holland
Senior Accountant

McGRATHNICOL
Level 31 60 Margaret Street, Sydney NSW 2000, Australia
t +61 2 9248 9916 f +61 2 9338 2699
e mholland@mcgrathnicol.com w **mcgrathnicol.com**

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RTI DL RELEASE - DNRM

Queensland Government

Department of
Environment and Resource Management

File STG/515/111(0535)
Our Ref LBWMA-CubbieDirranbandi-CertGunathaby-Reply
Your Ref C13-101013-CLetterDERMCertofGunathaby-MH

18 October 2010

Mr John Cronin
Deed Administrator
McGrathNicol
Level 14, 145 Eagle Street
Brisbane QLD 4000

By Email: mholland@mcgrathnicol.com

Dear Sir

Thank you for your letter dated 14 October 2010 and the attached certification documents concerning the decommissioned water storage, 'Gunathaby', located at Cubbie Station, Dirranbandi.

Please be advised these certification documents provide sufficient information for the Department of Environment and Resource Management to approve the ongoing use of the "Gunathaby" water storage in its current configuration.

Should you have any further enquiries, please do not hesitate to contact me on telephone 07 4625 3299.

Yours sincerely

sch4p4(6) Personal information

Mark Bartlem
Senior Project Officer

Department of Environment and Resource Management
Telephone + 61 7 4625 3299 Facsimile + 61 7 4625 3892
126 Alfred Street, St George, QLD, 4487
PO Box 310, St George, QLD, 4487
Website www.derm.qld.gov.au
ABN 46 640 294 485

Release

Bartlem Mark

From: Kirsten Murphy [kirsten@cubbie.com.au]
Sent: Monday, 6 December 2010 8:26 AM
To: Bartlem Mark
Cc: 'John Grabbe'; 'Paul Brimblecombe'; 'Jason Pietzner'; 'Kate Miers'
Subject: 'Swamp North' storage at Cubbie Station
Attachments: C10-101206-CUBBGR01-L-DERM re Swamp Storage-JTP.pdf

Hi Mark,

Please find attached correspondence regarding 'Swamp North' storage as discussed with John.

Kind regards

Kirsten Murphy
Financial Controller
☎ 07 4625 8366 | 💻 kirsten@cubbie.com.au

CUBBIE GROUP LTD | www.cubbie.com.au
PO Box 7 Dirranbandi Qld 4486

RTI DL RELEASE - DNRM

Release

Bartlem Mark

From: Kirsten Murphy [kirsten@cubbie.com.au]
Sent: Monday, 6 December 2010 9:15 AM
To: Bartlem Mark
Cc: 'John Grabbe'; 'Paul Brimblecombe'; 'Jason Pietzner'; 'Kate Miers'
Subject: 'Swamp North' storage map attached
Attachments: MX-2300N_20101206_094408.pdf

Hi Mark,

Please find attached map showing location of 'Swamp North' storage.

Kind regards

Kirsten Murphy
Financial Controller
☎ 07 4625 8366 | 💻 kirsten@cubbie.com.au

CUBBIE GROUP LTD | www.cubbie.com.au
PO Box 7 Dirranbandi Qld 4486

RTI DL RELEASE - DNRM

Queensland Government

File STG/515/111(0535)
Our Ref LBWMAFE03-CubbieDirranbandi-SwampNorthstorage-Reply
Your Ref C10-101206-CUBBGR01-L-DERM-re Swamp Storage-JTP

Department of
Environment and Resource Management

6 December 2010

Mr John Cronin
Deed Administrator
McGrathNicol
Level 14, 145 Eagle Street
Brisbane QLD 4000

By Email: Kirsten Murphy [kirsten@cubbie.com.au]

Dear Sir

Thank you for your letter dated 6 December 2010 regarding the diversion of water into the "Swamp North" storage located on Cubbie Station, Dirranbandi during the current flow event in the Lower Balonne water management area.

It is my understanding from your correspondence and conversations with Mr John Grabbe on Sunday the 5th of December 2010 that this proposed action is a precautionary measure to mitigate the risk of possible damage to currently certified storages on Cubbie Station.

The mitigation action proposed is to store water at lower than full supply levels in the currently certified storages and utilise the existing non-certified storage known as "Swamp North" adjacent to the certified storage known as "Swamp" storage. Your correspondence also indicates the diversion to the "Swamp North" storage will be performed by breaching a common wall between this storage and the "Swamp" storage, while maintaining extraction rates that do not exceed those authorised on existing water entitlements.

The Department of Environment and Resource Management provides approval for this action subject to the following –

- Maximum extraction rates specified on your current water entitlements are not exceeded.

RTI DI RELEASE - DNRM

Department of Environment and Resource Management
Telephone + 61 7 4625 3299 Facsimile + 61 7 4625 3892
126 Alfred Street, St George, QLD, 4487
PO Box 310, St George, QLD, 4487
Website www.derm.qld.gov.au
ABN 46 640 294 485

- Only existing authorised works may be used for water diverted under the authority of your overland flow water licence and your water allocations, that is, no additional points of take are to be used.

- The resulting maximum volume of water stored on the property (Administrative Plan 18820) must not exceed the volumetric limit specified on your water licence (reference 602017).

- To ensure the current and ongoing use of this storage is in compliance with your existing entitlements the Department of Environment and Resource Management requires that within six months of the receipt of this letter, this storage is to be certified and the certification information provided to the department. The Guideline for the certification of works in the Lower Balonne can also be downloaded from the department's website.

Should you have any further enquiries, please do not hesitate to contact me on telephone 07 4625 3299.

Yours sincerely

sch4p4(6) Personal information

Mark Bartlem
Senior Project Officer

RTI DL RELEASE - DNRM

Queensland Government

File STG/515/111(0535)
Our Ref LBwma-CubbieDirranbandi-SwampNorthstorage-Cert60dextReply

Department of
Environment and Resource Management

27 May 2011

Mr John Cronin
Deed Administrator
McGrathNicol
Level 14, 145 Eagle Street
Brisbane QLD 4000

By Email: Kate Miers [kmiers@mcgrathnicol.com]

Dear Sir

Thank you for your email dated 26 May 2011 requesting a 60 day extension to lodge the certification documents for Swamp North storage located at Cubbie station, Dirranbandi.

Approval is given for this request.

- Please lodge the certification documents with the Department of Environment and Resource Management by Thursday 1st September 2011.

Should you have any further enquiries, please do not hesitate to contact me at the St George office on telephone 07 4625 3299.

Yours sincerely

sch4p4(6) Personal information

Mark Bartlem
Senior Project Officer

Email cc: Jason Pietzner [JPietzner@mcgrathnicol.com];Tegan Hartwig [thartwig@mcgrathnicol.com]; Paul Brimblecombe [paulb@cubbie.com.au]

Department of Environment and Resource Management
Telephone + 61 7 4625 3299 Facsimile + 61 7 4625 3892
126 Alfred Street, St George, QLD, 4487
PO Box 310, St George, QLD, 4487
Website www.derm.qld.gov.au
ABN 46 640 294 485

Queensland Government

File STG/515/111(0535)
Our Ref LBwma-CubbieDirranbandi-SwampNorthstorage-CertMethodReply

Department of
Environment and Resource Management

21 June 2011

Mr Paul Brimblecombe
Cubbie Group Dirranbandi
PO Box 7
Dirranbandi QLD 4486

By Email: dirranadmin@cubbie.com.au

Dear Paul

Thank you for your email dated 31 May 2011 requesting clarification of the sufficiency of the survey information to be used in the certification documents for Swamp North storage located at Cubbie station, Dirranbandi.

Please accept this letter as confirmation that the survey information provided in your email is sufficient for your engineer to proceed with certification acknowledging the following -

- As the "Swamp-North" storage is currently near at full supply, the level of accuracy required in Table 1 of the "Guideline for the Certification of Works in the Lower Balonne" may be difficult to achieve.
- Alternatively the methodology stated in section 2.3.4 of the "Certification guidelines for assessable works that take overland flow water" for this size storage may currently not be possible due to the level of water in the storage.
- The storage volume is not considered as critical in this case, as volumetric limits and rates of take are currently determined for associated existing water entitlements and water entering the storage can be measured through upstream works.
- You have stated this survey information is consistent with the method previously accepted by the department for the certification of other storages of larger capacity on the same property.

Should you have any further enquiries, please do not hesitate to contact me at the St George office on telephone 07 4625 3299.

Yours sincerely

sch4p4(6) Personal information

Mark Bartlem
Senior Project Officer

Email cc: Glenn Lyons [glennlyons@bigpond.com.au]

Department of Environment and Resource Management
Telephone + 61 7 4625 3299 Facsimile + 61 7 4625 3892
126 Alfred Street, St George, QLD, 4487
PO Box 310, St George, QLD, 4487
Website www.derm.qld.gov.au
ABN 46 640 294 485

RTI DLRELEASE - DNRM

McN+
McGRATHNICOL
CORPORATE RECOVERY

22 August 2011

Mr Mark Bartlem
Senior Project Officer
Department of Environment and Resource Management
126 Alfred Street
St George Qld 4487

By email: Mark.Bartlem@derm.qld.gov.au

By Email

Dear Mr Bartlem

Cubbie Group Limited and its subsidiaries (All subject to Deed of Company Arrangement) ("Cubbie Group")
Certification of Swamp North Storage

I refer to your letter dated 27 May 2011 regarding an extension to lodge certification documents for the Swamp North storage located at Cubbie Station, Dirranbandi and to your recent discussions with Mr Russell McKeowen and Ms Kate Miers.

As discussed with Mr KcKeowen, further survey data is required to complete the certification.

Please confirm a further 90 day extension to collect the data and lodge the certification documents. It is anticipated that the surveying will be able to be completed in a shorter timeframe, weather permitting.

Your assistance in this matter is appreciated.

Should you require further information, please contact Ms Miers on telephone number (07) 3333 9888.

Yours faithfully
Cubbie Group Limited and its subsidiaries (All subject to Deed of Company Arrangement)

sch4p4(6) Personal information

John Cronin
Deed Administrator

CC:
Mr Paul Brimblecombe (Email: paulb@cubbie.com.au)

C13-110819-CUBBCEN01-L-Certification extension-Swamp North-TH

Queensland Government

Department of
Environment and Resource Management

File STG/515/111(0535)
Our Ref LBwma-CubbieDirranbandi-SwampNorthstorage-Certplus90dextReply

23 August 2011

Mr John Cronin
Deed Administrator
McGrathNicol
Level 14, 145 Eagle Street
Brisbane QLD 4000

By Email: John Cronin [jcronin@mcgrathnicol.com]

Dear Sir

Thank you for your email dated 22 August 2011 requesting a further 90 day extension to lodge the certification documents for Swamp North storage located at Cubbie station, Dirranbandi.

Approval is given for this request .

- Please lodge the certification documents with the Department of Environment and Resource Management by Monday 30th January 2012.

Should you have any further enquiries, please do not hesitate to contact me at the St George office on telephone 07 4625 3299.

Yours sincerely

sch4p4(6) Personal information

Mark Bartlem
Senior Project Officer

Email cc: Kate Miers [kmiers@mcgrathnicol.com]; Paul Brimblecombe [paulb@cubbie.com.au]

Department of Environment and Resource Management
Telephone + 61 7 4625 3299 Facsimile + 61 7 4625 3892
126 Alfred Street, St George, QLD, 4487
PO Box 310, St George, QLD, 4487
Website www.derm.qld.gov.au
ABN 46 640 294 485

Bartlem Mark

From: Gander Stephen
Sent: Friday, 12 October 2012 7:50 AM
To: Bartlem Mark; Brownhalls Peter
Subject: FW: Gunathaby Files attached
Attachments: SurveyPlan.pdf; Certification of Gunathaby Works.doc; Gun163.00 0.1damvol.xls

Guys,

Cubbie has changed the cert again

Another version to put on file

Steve

From: Glenn Lyons [mailto:glennlyons@bigpond.com.au]
Sent: Wednesday, 10 October 2012 10:36 AM
To: Gander Stephen
Subject: Gunathaby Files attached

Regards

Glenn Lyons

GL Irrigation Pty Ltd
PO Box 182
St George Qld 4487

Ph/Fax 0746 254 546
Mob. sch4p4(6) Personal information

RTI DL RELEASE - DNRM

McN+
McGRATHNICOL
CORPORATE RECOVERY

6 December 2010

Mr Mark Bartlem
Senior Project Officer – Water Services
Department of Environment and Resource Management
PO Box 310
St George Qld 4487

Dear Sir

Cubbie Group Ltd and its subsidiaries (all subject to Deeds of Company Arrangement) ("the Companies")

I refer to the appointment of Jamie Harris, Colin Nicol and I as Administrators of Cubbie Group on 30 October 2009, to their subsequent appointment as Deed Administrators on 6 July 2010 and to your recent discussions with Mr John Grabbe regarding water storages at "Cubbie Station", Dirranbandi.

As discussed with Mr Grabbe, I request permission from the Department of Environment and Resource Management ("DERM") to divert water into the "Swamp North" storage at "Cubbie Station".

It is the Companies' intention to limit the full supply levels in the certified storages and hence the levels in the certified storages will not reach the total certified volume.

The method by which diversion of water into the "Swamp North" storage will occur is by an internal controlled breach between the 'Swamp' and "Swamp North" storages. The water to be held in the "Swamp North" storage will be a combination of both Balonne Minor river diversion and floodplain diversion water. The diversion volumes from each source will not exceed the total volume extraction limits under the ROP for this event.

The volume to be stored in the "Swamp North" storage will be approximately 5,000 megalitres.

Should you have any technical queries regarding the above, please contact Mr John Grabbe or Mr Paul Brimblecombe at "Cubbie Station"on (07) 4625 8366.

Yours faithfully
Cubbie Group Ltd and its subsidiaries (all subject to Deeds of Company Arrangement)

sch4p4(6) Personal information

John Cronin
Deed Administrator

C10-101206-CUBBGR01-L-DERM re Swamp Storage-JTP

RTI DL RELEASE-DNRM

CUBBIE GROUP ST GEORGE PTY LTD
(Subject to Deed of Company Arrangement)
PO Box 608
ST GEORGE QLD 4487
Ph: (07) 4625 1100
Fax: (07) 4625 1099
stgeorgeadmin@cubbie.com.au



CUBBIE GROUP LTD

(Subject to Deed of Company Arrangement)

www.cubbie.com.au



CUBBIE GROUP DIRRANBANDI
(Subject to Deed of Company Arrangement)
PO Box 7
DIRRANBANDI QLD 4486
Ph: (07) 4625 8366
Fax: (07) 4625 8399
dirranadmin@cubbie.com.au

1 June 2011

District Manager
Department of Environment and Resource Management
126 Alfred Street, St George, Q, 4487

Dear Mark, **Certification of 'Swamp North'**

Please find attached the draft document for Swamp North.

The survey information given is consistent with the method used for all other Cubbie storages except 'Gunathaby' which was mostly dry at the time of Certification.

'Swamp North' is currently almost full.

Can you please review and confirm if survey information is sufficient.

Our engineer requires clarification of this issue before he proceeds with the certification.

Yours faithfully

Paul Brimblecombe

RTI FULL RELEASE - DNRM

C. J. McD. BEST
BE, FIEAust, CPEng, FASCE, HonFSPE (PNG): RPEQ (Civil)
CONSULTING ENGINEER

ABN 64 343 679 127

505/1 Holman Street
Kangaroo Point, Qld 4169
Australia
Telephone: (07) 3891 1660
Email: donbest@bigpond.net.au

26 June 2006

Department of Natural Resources & Mines
St George, Qld 4487

RECEIVED
30 JUN 2006
BY:.....

Attention: Mark Bartlem

Dear Sir,

Certification of Overland Flow Works – Cubbie Group Dirranbandi

I, Cyril John McDonald Best, Registered Professional Engineer of Queensland 1572, certify that the information contained in the attached documents is true and correct in relation to the diversion and storage of river and overland flows by the Cubbie Group Dirranbandi in the Lower Balonne.

Yours sincerely,

sch4p4(6) Personal information

C. J. McD. Best

RTI DL RELEASE - DNRM

CUBBIE GROUP ST GEORGE PTY LTD
PO Box 608
ST GEORGE QLD 4487
Ph: (07) 4625 1100
Fax: (07) 4625 1099
Email: stgeorgeadmin@cubbie.com.au

CUBBIE GROUP DIRRANBANDI
PO Box 7
DIRRANBANDI QLD 4486
Ph: (07) 4625 8366
Fax: (07) 4625 8399
Email: dirranadmin@cubbie.com.au

CUBBIE GROUP LTD

www.cubbie.com.au

Cubbie Group Dirranbandi

Certification of Works

Submitted to DNR&M St George

Date: 26th June 2006

The information contained within this document is true and correct.

sch4p4(6) Personal information

C.J. Mc D. Best
Registered Professional Engineer of Queensland 1572

sch4p4(6) Personal information

John Grabbe & Paul Brimblecombe
Joint Managing Directors
Cubbie Group Ltd

RTI DL RELEASE - DNRM

Release

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RTI DL RELEASE - DNRM

Release

Cubbie Group_Dirranbandi Waterharvesting – River

Culgoa River Gravity Diversion



Cubbie Culgoa River Weir



Off-take from the Culgoa River

WGS 84 GPS Location: S 28°38'42.0"
E 148°00'13.6"

Weir Crest: 162.00 AHD

DNR&M License Number: 43358

Diversion takes place from the Culgoa River when releases from Jack Taylor Weir reach 3000ML/Day. Maximum diversion from the Culgoa occurs when Jack Taylor Weir reaches 60000ML/Day. Waterharvesting thresholds for both the Culgoa River is listed in Table 1.

Detailed site descriptions and diversion works from the Culgoa River are included in the following pages.

RTI DL RELEASE - DNRM

Release

Table 1 – Cubbie *River* Diversion Entitlements

JTW RELEASES	CULGOA	BALONNE MINOR
3000	516	86
4000	688	86
5000	688	172
6000	1032	172
7000	1118	172
8000	2236	230
10000	2730	260
11000	2730	260
12000	3120	290
13000	3120	290
14000	3760	320
15000	3760	320
16000	4240	360
17000	4240	360
18000	4720	460
19000	4720	460
20000	5200	560
22000	5520	660
24000	5840	760
26000	6160	860
28000	6480	960
30000	6585	1060
32000	6915	1170
34000	6915	1280
36000	7305	1400
38000	7305	1510
40000	7565	1620
42000	7565	1700
44000	7955	1780
46000	7955	1850
48000	8215	1850
52000	8475	1850
56000	8735	1850
60000	8995	1850

RTI DL RELEASE - DNRM

Release



Main Culgoa Diversion Structure

License No: 49273Q
WGS 84 GPS Location: S 28°37'01.3"
E 148° 00'08.1"

Invert Level: 158.50 AHD
Pipe Size: 6 x 3000mm
Pipe Length: 36m
Max Flow Rate: 9000ML/Day

Rate of Take Calculation: Head Drop Chart 1

Concrete Diversion Structure

License No: 49273Q
WGS 84 GPS Location: S 28°36'59.7"
E 148°00'14.7

Invert Level: 159.00 AHD
Culvert Size: 2.0m x 2.6m
Culvert Length: 12m
Max Flow Rate: 6000ML/Day

Rate of Take Calculation: Head Drop Chart 2





1800mm Diversion Structure

License No: 49273Q
WGS 84 GPS Location: S 28°36'59.2"
E 148°00'18.3"

Invert Level: 159.50 AHD
Pipe Size: 1 x 1800mm
Pipe Length: 32m
Max Flow Rate: 500ML/Day

Rate of Take Calculation: Head Drop Chart 3

RTI DL RELEASE - DNRM

Release

Head Drop Chart 1

Cubbie Station Main Diversion Structure

6 * 3000mm Pipes

Gate Opening (m) \ Head Drop	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.40	1.60	1.80	2.00	2.25	2.50
0.10	5	6	8	9	11	12	13	13	14	15	16	18	19	20	21	22	24
0.20	15	18	24	27	31	34	36	39	41	43	48	51	55	58	61	65	69
0.30	27	33	43	49	55	61	65	70	74	78	85	92	99	104	110	117	123
0.40	41	49	65	75	84	92	99	106	112	118	130	140	150	159	167	178	187
0.50	57	68	90	103	116	127	136	146	155	163	179	193	207	219	231	245	258
0.60	74	89	117	134	151	165	178	190	201	213	233	252	270	285	301	319	337
0.70	92	111	145	167	188	206	221	237	251	265	291	314	336	355	390	414	437
0.80	111	134	176	202	227	249	268	286	303	321	352	396	423	447	472	501	551
0.90	131	158	207	238	268	293	315	337	372	393	431	466	498	550	580	616	649
1.00	152	183	240	276	310	340	380	407	431	456	500	563	602	637	702	746	787
1.10	173	208	273	314	353	402	433	463	490	541	593	640	716	757	798	848	894
1.20	194	234	307	354	414	453	487	544	577	609	699	754	807	853	899	955	1008
1.30	216	260	341	409	459	525	564	604	640	707	775	837	895	947	998	1060	1118
1.40	238	286	392	451	529	579	623	696	738	780	855	924	988	1045	1101	1170	1234
1.50	260	313	428	492	577	632	711	760	806	851	934	1008	1079	1140	1202	1277	1347
1.60	282	339	464	557	626	717	770	824	873	923	1012	1093	1169	1236	1303	1384	1460
1.70	304	381	501	601	706	774	832	890	943	996	1093	1180	1262	1334	1407	1494	1576
1.80	326	408	559	643	755	828	890	952	1009	1066	1169	1262	1350	1428	1506	1599	1687
1.90	347	435	597	718	806	883	950	1016	1077	1137	1248	1347	1441	1524	1607	1706	1800
2.00	368	461	632	761	854	936	1006	1077	1141	1205	1322	1428	1527	1615	1703	1808	1908
2.10	389	487	699	804	903	989	1063	1137	1205	1273	1397	1508	1613	1706	1799	1910	2015
2.20	444	534	734	844	948	1039	1117	1195	1267	1338	1468	1585	1695	1793	1890	2007	2118
2.30	465	560	769	884	993	1088	1170	1252	1326	1401	1537	1660	1775	1877	1979	2102	2217
2.40	485	583	801	922	1035	1135	1220	1305	1383	1461	1603	1730	1851	1957	2063	2191	2312
2.50	503	605	831	956	1074	1177	1265	1353	1434	1515	1662	1795	1920	2030	2140	2273	2398
2.60	521	626	860	990	1111	1218	1309	1401	1484	1568	1720	1857	1987	2101	2215	2352	2481
2.70	536	644	885	1019	1144	1254	1348	1442	1528	1614	1771	1912	2045	2162	2280	2421	2554
2.80	549	690	907	1043	1172	1284	1380	1477	1565	1653	1814	1958	2094	2215	2335	2480	2616
2.90	560	704	925	1064	1195	1309	1407	1505	1595	1685	1849	1996	2135	2258	2381	2528	2667
3.00	565	782	1027	1182	1327	1455	1564	1673	1773	1873	2055	2218	2373	2509	2645	2809	2964

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Head Drop Chart 2

Waterharvesting Head Drop (m)
2.6 * 2.0 m Box Structures

Drop (m)	Diversion Rate (ML/Day)
1.00	1570
0.95	1530
0.90	1490
0.85	1445
0.80	1400
0.75	1355
0.70	1310
0.65	1260
0.60	1210
0.55	1160
0.50	1110
0.45	1040
0.40	990
0.35	920
0.30	860
0.25	770
0.20	700
0.15	575
0.10	495
0.05	220
0.00	0

Head Drop Chart 3

1800mm Pipe

Gate Opening (m) \ Head Drop	0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.20	1.40	1.60	1.80	2.00	2.25	2.50
0.10	5	8	9	11	12	13	14	15	16	17	19	20	22	23	24	26	27
0.20	14	20	25	29	32	35	38	40	43	45	49	53	57	60	64	68	71
0.30	26	37	45	52	58	63	68	73	78	82	90	97	103	110	116	123	129
0.40	39	55	68	78	88	96	104	111	117	124	136	147	157	166	175	186	196
0.50	54	76	93	107	120	131	142	152	161	170	186	201	214	228	240	254	268
0.60	69	98	120	139	155	170	183	196	208	219	240	259	277	294	310	329	347
0.70	85	121	148	171	191	209	225	241	256	270	295	319	341	362	381	404	426
0.80	102	144	176	204	228	249	269	288	305	322	353	381	407	432	456	483	509
0.90	119	168	206	238	266	291	314	336	356	376	411	444	475	504	531	563	594
1.00	135	192	234	271	303	331	358	382	406	428	469	506	541	574	605	642	677
1.10	152	215	263	304	340	372	402	429	456	481	526	568	607	644	680	721	760
1.20	168	238	291	336	376	411	445	475	504	532	582	629	672	713	752	797	840
1.30	183	260	318	367	410	449	485	519	550	581	635	686	734	778	821	870	918
1.40	198	280	343	396	443	485	524	560	594	626	686	741	791	840	886	939	990
1.50	211	299	366	423	473	517	559	597	634	668	732	790	845	896	945	1002	1056
1.60	223	316	386	446	499	546	590	630	669	705	772	834	891	946	997	1057	1115
1.70	232	329	402	465	519	568	614	656	696	734	804	868	928	985	1039	1101	1161
1.80	237	336	411	475	531	581	628	671	712	751	822	888	949	1007	1062	1126	1187

RTI DL RELEASE - DNRM

Release

Head Drop Chart 4

CULVERT FLOW (ML/Day) 20m Pipe Length

Steel Pipe I.D. (m)	Culvert Head Loss (h) in metres																	K 10m	K 50m	K 100m
	0.1	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1.0**	**1.2**	**1.4**	**1.6**	**1.8**	**2.0**	**2.25**	**2.5**			
0.3	4.5	6.4	7.9	9.1	10.1	11.1	12	12.8	13.6	14.3	15.7	17	18.1	19.2	20.3	21.5	22.7	1.187	0.731	0.548
0.4	8.9	12.6	15.5	17.9	20	22	23.6	25.2	27	28.2	31	33.4	35.7	37.9	40	42.3	45	1.149	0.761	0.582
0.5	14.9	21.2	26	29.8	33	37	39.4	42.2	45	47.1	52	56	60	63	67	71	75	1.123	0.786	0.615
0.6	22.5	31.8	39	45	50	55	59.5	63.6	68	71.1	78	84	90	95	101	107	112	1.103	0.807	0.643
0.7	31.7	44.8	55	63.3	71	79	84	90	95	100	110	119	127	134	142	150	158	1.109	0.826	0.668
0.8	42.4	60	73.5	84.9	95	104	112	120	127.5	134	147	159	170	180	190	201	212	1.076	0.842	0.691
0.9	54.8	77.5	95	110	123	134	145	155	165	173.4	190	205	219	233	245	250	274	1.067	0.856	0.712
1.0	68.8	97.3	119	138	154	169	162	195	206	218	238	257	275	292	308	326	344	1.059	0.868	0.731
1.1	84.3	119.3	146	169	189	207	223	238	253	267	292	316	337	358	377	400	422	1.053	0.878	0.747
1.2	101.5	143.5	175.7	203	227	248	268	287	304	321	352	380	406	431	454	481	507	1.048	0.887	0.763
1.3	120.2	170	208	240.4	269	294	318	340	360	380	416	450	481	510	538	570	601	1.044	0.895	0.777
	140.5	198.7	243	281	314	344	371	397	421	444	487	526	562	596	628	666	702	1.040	0.903	0.789
1.5	162.3	230	281.2	324.7	363	398	429	460	487	513	562	607	649	689	726	770	812	1.037	0.909	0.801
1.6	185.8	263	322	372	415	455	492	525	557	587	643	695	743	788	831	881	930	1.034	0.915	0.811
1.7	210.8	298	365	422	471	516	558	596	632	667	730	789	843	894	943	1000	1054	1.032	0.92	0.821
1.8	237.4	335.7	411	475	531	581	628	671	712	751	822	888	949	1007	1062	1126	1187	1.029	0.924	0.829
1.9	265.5	375.5	460	531	594	650	703	751	797	840	920	994	1062	1126	1187	1260	1328	1.028	0.929	0.837
2.0	295.2	417.5	511.4	591	660	723	781	835	886	934	1022	1104	1181	1252	1320	1400	1476	1.026	0.932	0.845
2.5	467.4	661	810	935	1045	1144	1236	1321	1402	1478	1619	1749	1870	1983	2090	2217	2336	1.019	0.947	0.875
3.0	678.5	895	1175	1357	1517	1662	1795	1919	2035	2146	2350	2539	2714	2679	3034	3219	3393	1.015	0.957	0.897

RTI DL RELEASE - DNRM

Release

Balonne Minor Gravity Diversion



Cubbie Balonne Minor River Weir



Off-take from the Balonne Minor River

WGS 84 GPS Location: S 28°38'44.0"
E 148°05'08.7"

Weir Crest: 164.50 AHD

DNR&M License Number: 43356

Diversion takes place from the Balonne Minor River when releases from Jack Taylor Weir reach 3000ML/Day. Maximum diversion from the Balonne Minor occurs when Jack Taylor Weir reaches 46000ML/Day. Waterharvesting thresholds for the Balonne Minor River is listed in Table 1.

Detailed site description and diversion works from the Balonne Minor River are included in the following pages.

RTI DL RELEASE - DNRM

Release



Balonne Minor Diversion Structure

License No: 43357Q
WGS 84 GPS Location: S 28°36'33.9"
E 148°05'10.9"

Invert Level: 162.5 AHD
Pipe Size: 6 x 1800mm
Pipe Length: 36m
Max Flow Rate: 2000ML/Day

Rate of Take Calculation: Head Drop Chart 3

RTI DL RELEASE - DNRM

Release

Cubbie Group_Dirranbandi Waterharvesting - Floodplain

Cubbie Station has two large floodplains running through its property, the Chinaman Creek floodplain and the Bore Creek floodplain. The Bore Creek floodplain is a combination of water from Bore Creek and Doctors Creek.

The headwaters of these two floodplains are easily identified on the Cubbie Property Plan in Appendix 1

Extraction points from these floodplains is summarized in Table 2 with their location indicated on the attached "Cubbie Group_Dirranbandi Property Plan_Floodplain" map in Appendix 2. Each floodplain diversion point is accurately described in the following pages relating to Map Note #1 through to Map Note #20.

Chinaman Creek



Chinaman Creek Channel



Spill Point on Floodplain

Chinaman Creek starts spilling water onto the floodplain at approximately 162.50 AHD.

PTI DE RELEASE - DNRM

Release

Doctors Creek



Doctors Creek Channel



Spill Point on Floodplain

Doctors Creek starts spilling water onto the floodplain at approximately 163.60 AHD.

Bore Creek



Bore Creek Channel



Spill Point on Floodplain

Bore Creek starts spilling water onto the floodplain at approximately 163.05 AHD.

RTI DL RELEASE - DNRM

Release

Floodplain Diversion Points

A summary of floodplain diversion thresholds and diversion points is listed in Table 2. The following pages detail each individual site.



Map Note #1 Dry Cell

GPS Location: Easting 601714.230
Northing 6829701.970

Invert Level: 160.71; 160.60 AHD

Pipe Size: 1 x 1500; 1 x 1350mm

Pipe Lengths: 20m

Max Flow Rate: 1460ML/Day (Head Drop Chart 4)

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Release



Map Note #2 Field 17

GPS Location: Easting 601802.266
Northing 6829732.586

Invert Level: 160.56 AHD

Pipe Size: 1350mm

Pipe Length: 42m

Max Flow Rate: 130ML/Day (26" Pump)

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Release



1800mm



1200mm

Map Note #3 Field 20

GPS Location: Easting 599346.746; 599335.990
Northing 6828076.230; 6828069.795

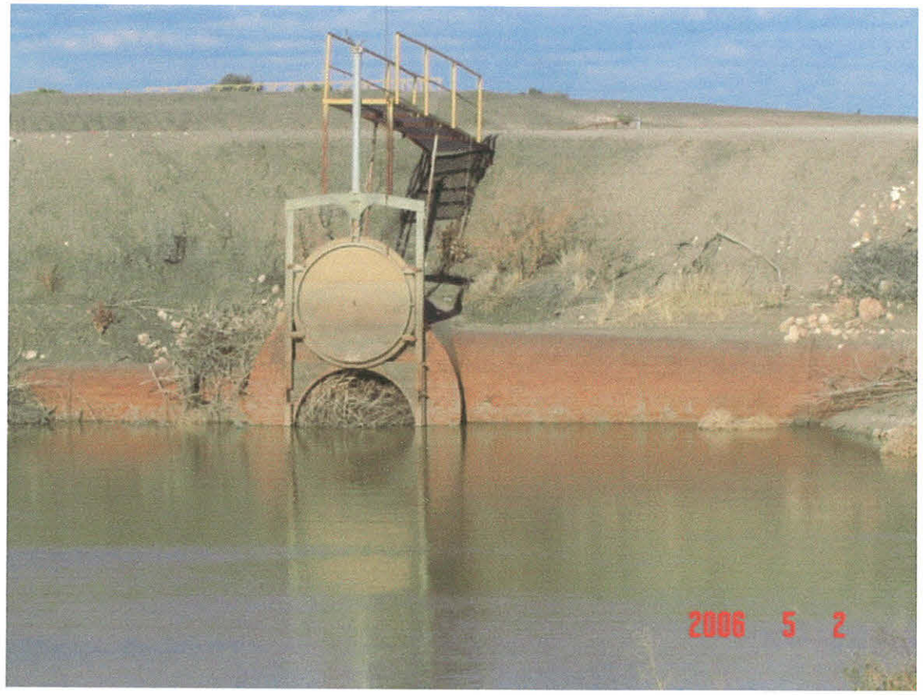
Invert Level: 159.13; 159.96 AHD

Pipe Size: 1800; 1200mm

Pipe Length: 24; 18m

Max Flow Rate: 500; 200ML/Day (Head Drop Chart 3;4)

RTI DL RELEASE - DNRM



Map Note #4 Cross-Floodplain

GPS Location: Easting 599346.746
Northing 6828076.230

Invert Level 159.13 AHD

Pipe Size 3000mm

Pipe Length 24m

Max Flow Rate: 480ML/Day (32" Axial Pump; 26" Mixed Flow Pump)

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Release



Map Note #5 Kirrima

GPS Location: Easting 596897.706
Northing 6823144.172

Invert Level: 157.970 AHD

Pipe Size: 1800mm

Pipe Length: 18m

Max Flow Rate: 480ML/Day (Head Drop Chart 3)

RTI DL RELEASE - DNRM

Release



Inlet/Upstream View



Outlet/Downstream View

Map Note #6 B1 Inlet

GPS Location: Easting 594813.814
Northing 6830301.970

Invert Level: 157.76 AHD

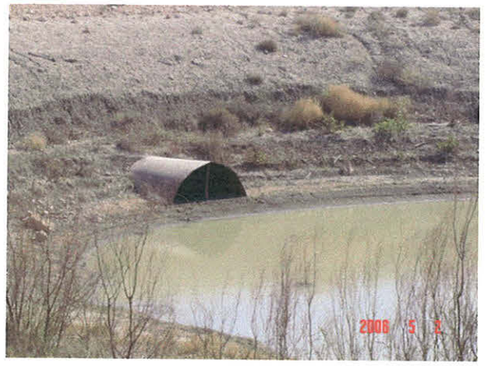
Pipe Size: 2 x 3000; 1 x 1800mm

Pipe Length: 35; 48m

Max Flow Rate: 7350ML/Day (Head Drop Chart 1)

RTI DL RELEASE - DNRM

Release



Inlet/Upstream View



Outlet/Downstream View

Map Note #7 B2 Inlet

GPS Location: Easting 594417.856
Northing 6830122.910

Invert Level: 158.00 AHD

Pipe Size: 3000mm

Pipe Length: 36m

Max Flow Rate: 3300ML/Day (Head Drop Chart 1)

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Release



Map Note #8 Butch & Harry

GPS Location: Easting 598053.514
Northing 6830641.054

Invert Level: 159.370 AHD

Pipe Size: 1500mm

Pipe Length: 52m

Max Flow Rate: 390ML/Day (3 x 26" Pumps)

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Map Note #9 Gooragully Farm

GPS Location: Easting 596724.766
Northing 6829597.811

Invert Level: 159.05 AHD

Pipe Size: 1800mm

Pipe Length: 42m

Max Flow Rate: 530ML/Day (2 x 32"; 1x 26" Pumps)

RTI DL RELEASE - DNRM

Release



Map Note #10 Gooragully Twin Pipes

GPS Location: Easting 596683.220
Northing 6829594.738

Invert Level: 159.75 AHD

Pipe Size: 2 x 1800mm

Pipe Length: 30m

Max Flow Rate: 1000ML/Day (Head Drop Chart 3)

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Map Note #11 Claypan CFC 2 East

GPS Location:	Easting	586500.071
	Northing	6822955.370
Invert Level		153.321 AHD
Pipe Size		3 x 1800mm
Pipe Length		27m
Max Flow Rate		1400ML/Day (7 x 32" Pumps)

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Map Note #12 Pilgra

GPS Location: Easting 580458.106
Northing 6818853.286

Invert Level: 150.61AHD

Pipe Size 3 x 1800mm

Pipe Length: 30m

Max Flow Rate: 1200ML/Day (6 x 32" Pumps)

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Release



Map Note #13 Urandool/Clarkes

GPS Location: Easting 579376.771
Northing 6820271.409

Invert Level: 150.588 AHD

Pipe Size: 5 x 1800mm

Pipe Length: 36m

Max Flow Rate: 2500ML/Day (Head Drop Chart 3)

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Pump Stations for Rainfall Events



Map Note #14 Corowa Tailwater Pumps

WGS 84 GPS Location: S 28°42.135'
E 148° 01.149'

Description: 4 x 26" Pumps
1 x 32" Pump

Max Flow Rate: 720ML/Day

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Release



Map Note #15 Field 17 Pump

WGS 84 GPS Location: S 28°39.765’
E 148° 03.146’

Description: 1 x 26” Pump (Currently undergoing rebuild)

Max Flow Rate: 130ML/Day

RTI DL RELEASE - DNRM

Release



Map Note #16 Butch & Harry Pumps

WGS 84 GPS Location: S 28°38.043'
E 148° 01.371'

Description: 3 x 26" Pumps

Max Flow Rate: 390ML/Day

RTI DL RELEASE - DNRM

Release



Map Note #17 Gooragully Pumps

WGS 84 GPS Location: S 28°39.403'
E 147° 59.461'

Description: 1 x 26" Pump (Currently undergoing rebuild)
2 x 32" Pumps

Max Flow Rate: 530ML/Day

RTI DL RELEASE - DNRM



Map Note #18 Claypan Pump Station

WGS 84 GPS Location: S 28°41.687'
E 147° 55.667'

Description: 7 x 32" Pumps

Max Flow Rate: 1400ML/Day

RTI DL RELEASE - DNRM

Release



Map Note #19 Pilgra Pump Station

WGS 84 GPS Location: S 28°44.199'
E 147° 51.271'

Description: 6 x 32" Pumps

Max Flow Rate: 1200ML/Day

RTI DL RELEASE - DNRM

Release



Map Note #20 Urandool Pump Station

WGS 84 GPS Location: S 28°42.683'
E 147° 47.370'

Description: 5 x 32" Pumps (1 pump undergoing repair)

Max Flow Rate: 1000ML/Day

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Release

Cross Floodplain Transfer - Special Application

There are a number of outlet works from the storages that allow the transfer of water across the floodplain to other storages or irrigation areas.

These structures have not been summarized as they do not extract floodplain or river flows.

A number of the structures outlined above for certification are integral in cross-floodplain water transfer. This transfer occurs during flow and no-flow periods.

Storage System

Cubbie Group_Dirranbandi consists of sixteen storages ranging is sizes from 100ML through to 110400ML.

Maximum storage capacity is 469500 megalitres. This consists of Cubbie's component 462500 megalitres and Kelso's component 7000 megalitres.

The storages and their associated details are summarized in Table 3.

The storage capacity tables are in Appendix 3.

Detailed individual storage data and A3 plans of storages and their associated crest surveys and cross-section drawing is in Appendix 4.

An overall stadia survey plan of the farm indicating storage location is in Appendix 5A and 5B.

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T3061

TABLE 3 - Storage Summary

Storage Name	Type of Storage	Location/Property Description		Capacity @ FSL (ML)	FSL RL (AHD)	Crest RL (AHD)	Max. Emb. Ht. above NS	Surface Area @ FSL	Internal Batter (1 in)	Outlet Pipe Invert RL (AHD)	Inlet Pipe Invert RL (AHD)
		Lot	Plan								
B1	Ring Tank	7	SP 133008	44216	162.70	163.50	5.7	1130	4	156.2	157.8
B2	Ring Tank	7	SP 133008	79086	162.20	163.00	6.6	1850	4	155.2	158.0
BELTANA	Ring Tank	7 & 8	SP 133008	112302	162.10	162.90	8.0	1880	4	153.9	155.1
URANDOOL	Ring Tank	1	SP 118239	82440	161.40	162.20	8.0	1370	4	152.8	154.4
M1/2	Ring Tank	1	SP 118239	67924	160.60	161.40	8.0	1000	4	151.5	153.4
M3/4	Ring Tank	4	SP 132531	47130	157.90	158.70	6.5	900	4	150.4	152.2
SWAMP	Ring Tank	2 & 3	BEL5370	4450	166.70	167.50	3.7	180	4	162.5	163.0
TOP SHED	Ring Tank	3 & 4	BEL5370	7002	169.20	170.70	9.0	120	4	163.0	163.0
COROWA	Ring Tank	5 & (10)	BEL5370 & (SP 133008)	12084	164.70	165.50	4.5	410	4	158.5	160.6
BARRON	Ring Tank	4 & 5	BEL5370	3789	165.20	166.00	3.6	160	4	159.2	160.2
KIRRIMA	Ring Tank	10 & (67)	SP 133008 & (SP 129702)	7730	160.75	161.55	6.1	550	4	158.0	n/a
CLAYPAN	Ring Tank	67	SP 129702	1064	160.20	161.00	2.3	210	3	157.0	158.2
PILGRA	Ring Tank	67 & (1)	SP 129702 & (SP118239)	2707	156.60	157.40	3.2	220	3	154.5	155.1
MUGANGULLA	Ring Tank	6	SP 132531	100	152.00	152.90	1.5	7.3	3	n/a	n/a
			Total	**472024**	**ML**						

Storage Volume	
Cubbie	**462500**
Kelso	**7000**
TOTAL (ML)	**469500**

RTI DL RELEASE - DNRM

File A

Release

Release

FOR RELEASE - DNRM

TABLE 2 - Overland Flow Summary

FLOODPLAIN DIVERSION POINTS

MAP NOTE	FARM LOCATION	LOCATION/PROPERTY DESCRIPTION	FLOODPLAIN SOURCE	DESTINATION (Storage/Irrigation)	DIVERSION METHOD (Gravity/Pumping)	PUMP/PIPE SIZE (ie. 26", 1800mm)	MAX PHYSICAL DIVERSION (ML/Day)
#1	Dry Cell	Lot3 on BEL5370	Bore Creek	Storage System B & Irrigation	Gravity	1 x 1500mm; 1 x 1350mm	1460
#2	FD 17	Lot 3 on BEL5370	Bore Creek	Storage System B & Irrigation	Pump	1 x 1350mm	130
#3	FD 20	Lot 5 on BEL5370	Doctors Creek	Storage System B & Irrigation	Gravity	1 x 1800mm; 1 x 1200mm	700
#4	Cross-Floodplain	Lot 5 on BEL5370	Doctors Creek	Storage System B & Irrigation	Pump	1 x 3000mm	480
#5	Kirrima	Lot 10 on SP 133008 Parish of Cubbie	Doctors Creek	Storage (Kirrima)	Gravity	1 x 1800mm	750
#6	B1 Inlet	Lot 10 on SP 133008 Parish of Cubbie	Chinaman	Storage System A & Irrigation	Gravity	2 x 3000mm + 1 x 1800mm	7350
#7	B2 Inlet	Lot 10 on SP 133008 Parish of Cubbie	Chinaman	Storage System A & Irrigation	Gravity	1 x 3000mm	3300
#8	Butch & Harry	Lot 3 on BEL5370	Chinaman	Surge Area & Irrigation	Pump	1 x 1500mm	390
#9	Gooragully Farm	Lot 10 on SP 133008 Parish of Cubbie	Chinaman	Irrigation	Pump	1 x 1800mm	530
#10	Gooragully Twin Pipes	Lot 10 on SP 133008 Parish of Cubbie	Chinaman	Irrigation	Gravity	2 x 1800mm	1000
#11	Claypan CFC 2 East	Lot 67 on SP 129702 Parish of Euraba/Codernah	Chinaman	Claypan Storage & Irrigation	Pump	3 x 1800mm	1400
#12	Pilgra	Lot 1 on SP 118239 Parish of Codernah	Chinaman	Pilgra Storage & Irrigation	Pump	3 x 1800mm	1200
#13	Urandool/Clarkes	Lot 1 on SP 118239 Parish of Codernah	Chinaman	Storage System A & Irrigation	Gravity/Pump	5 x 1800mm	2500

STORAGE SYSTEM A	STORAGE SYSTEM B
B1	Swamp
B2	Top Shed
Beltana	Corowa
Urandool	Barron
M1	
M2	
M3/4	

PUMP FLOW RATES	
26" Mixed Flow	130 ML/Day
32" Mixed Flow	200 ML/Day
32" Axial Flow	350 ML/Day

PUMP STATIONS FOR RAINFALL EVENTS

MAP NOTE	FARM LOCATION	LOCATION/PROPERTY DESCRIPTION	PUMP SIZE	MAX PHYSICAL DIVERSION (ML/Day)
#14	Corowa Tailwater Pumps	Lot 10 on SP 133008 Parish of Cubbie	4 x 26"; 1 x 32"	720
#15	Field 17 Pump	Lot 3 on BEL5370	1 x 26"	130
#16	Butch & Harry	Lot 3 on BEL5370	3 x 26"	390
#17	Gooragully	Lot 10 on SP 133008 Parish of Cubbie	2 x 32"; 1 x 26"	530
#18	Claypan	Lot 67 on SP 129702 Parish of Euraba/Codernah	7 x 32"	1400
#19	Pilgra	Lot 67 on SP 129702 Parish of Euraba/Codernah	6 x 32"	1200
#20	Urandool	Lot 1 on SP 118239 Parish of Codernah	5 x 32"	1000

FLOODPLAIN WATER DIVERSION SCHEDULE

JTW Flow	Cubbie Ent.
20000	1000
30000	2500
40000	3500
48000	4300
52000	4500
60000	5500
70000	6500
80000	7500
90000	8500

FLOODPLAIN WATER DIVERSION SCHEDULE (RANKED)

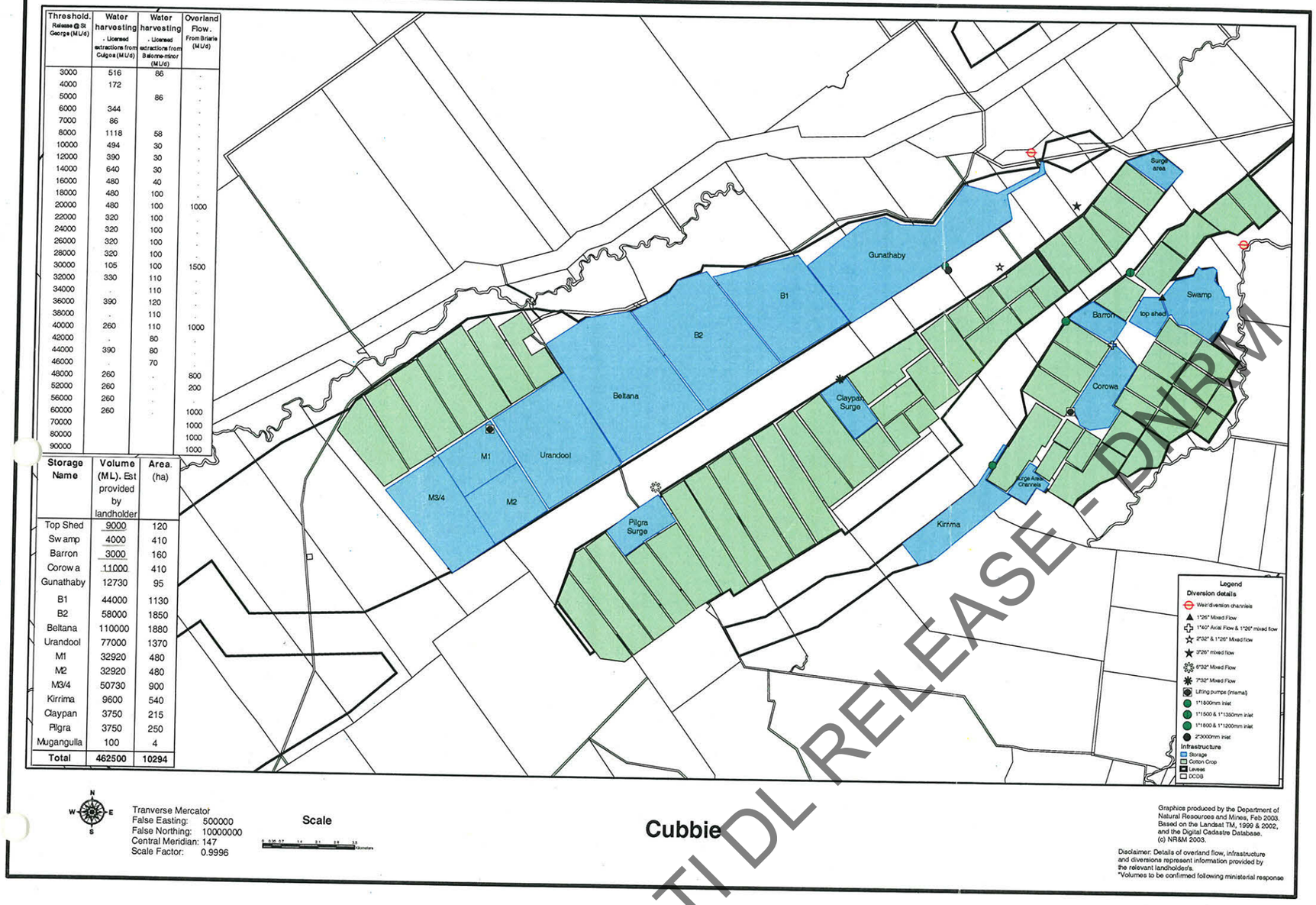
JTW Flow	Cubbie Ent.	Kelso Ent.
20000	1000	
22000	1300	
24000	1600	150
26000	1900	170
28000	2200	190
30000	2500	210
32000	2700	230
34000	2900	250
36000	3100	270
38000	3300	
40000	3500	
42000	3700	
44000	3900	
46000	4100	
48000	4300	
50000	4400	
52000	4500	
54000	4750	
56000	5000	
58000	5250	
60000	5500	
62000	5700	
64000	5900	
66000	6100	
68000	6300	
70000	6500	
72000	6700	
74000	6900	
76000	7100	
78000	7300	
80000	7500	
82000	7700	
84000	7900	
86000	8100	
88000	8300	
90000	8500	

13-061

Release

Threshold. Release @ St George (ML/d)	Water harvesting - Licensed extractions from Culgoa (ML/d)	Water harvesting - Licensed extractions from Balonne-minor (ML/d)	Overland Flow. From Briarie (ML/d)
3000	516	86	-
4000	172		-
5000		86	-
6000	344		-
7000	86		-
8000	1118	58	-
10000	494	30	-
12000	390	30	-
14000	640	30	-
16000	480	40	-
18000	480	100	-
20000	480	100	1000
22000	320	100	-
24000	320	100	-
26000	320	100	-
28000	320	100	-
30000	105	100	1500
32000	330	110	-
34000	-	110	-
36000	390	120	-
38000	-	110	-
40000	260	110	1000
42000	-	80	-
44000	390	80	-
46000	-	70	-
48000	260	-	800
52000	260	-	200
56000	260	-	-
60000	260	-	1000
70000			1000
80000			1000
90000			1000

Storage Name	Volume (ML). Est provided by landholder	Area. (ha)
Top Shed	9000	120
Swamp	4000	410
Barron	3000	160
Corowa	11000	410
Gunathaby	12730	95
B1	44000	1130
B2	58000	1850
Beltana	110000	1880
Urandool	77000	1370
M1	32920	480
M2	32920	480
M3/4	50730	900
Kirrima	9600	540
Claypan	3750	215
Pilgra	3750	250
Mugangulla	100	4
Total	**462500**	**10294**



Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Scale

Cubbie

Graphics produced by the Department of Natural Resources and Mines, Feb 2003. Based on the Landsat TM, 1999 & 2002, and the Digital Cadastre Database. (c) NR&M 2003.

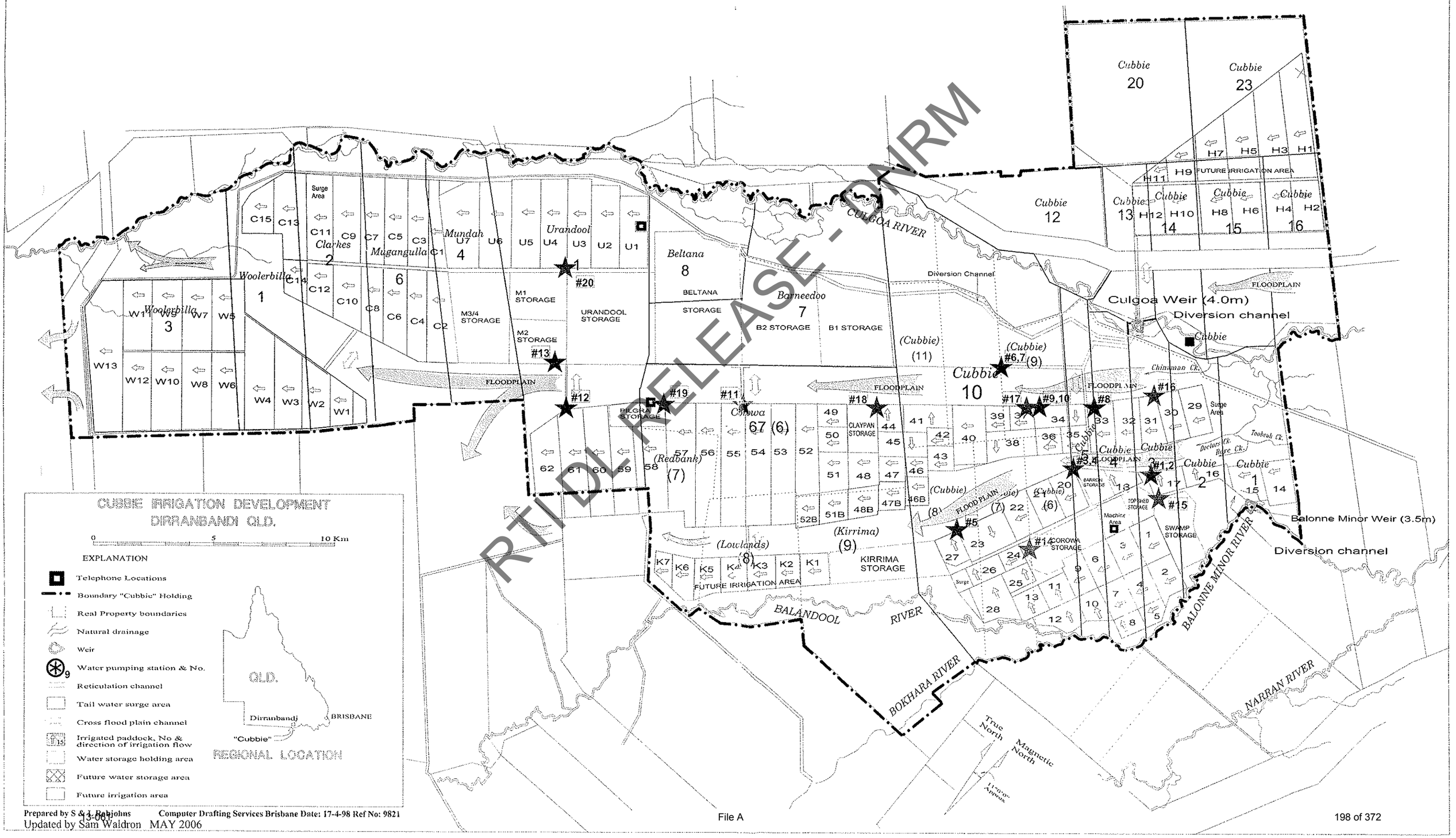
Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder/s.
*Volumes to be confirmed following ministerial response

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Release

APPENDIX 2

"CUBBIE GROUP DIRRANBANDI" PROPERTY PLAN FLOODPLAIN



RTI DI RELEASE - DNRM

Prepared by S & J Babjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
Updated by Sam Waldron MAY 2006

Release

APPENDIX 2

"CUBBIE GROUP_DIRRANBANDI" PROPERTY PLAN_FLOODPLAIN

RTIDL RELEASE - DNRM

CUBBIE IRRIGATION DEVELOPMENT
DIRRANBANDI QLD.

0 5 10 Km

EXPLANATION

- Telephone Locations
- Boundary "Cubbie" Holding
- Real Property boundaries
- Natural drainage
- Weir
- Water pumping station & No.
- Reticulation channel
- Tail water surge area
- Cross flood plain channel
- Irrigated paddock, No & direction of irrigation flow
- Water storage holding area
- Future water storage area
- Future irrigation area

QLD.
Dirranbandi
BRISBANE
"Cubbie"
REGIONAL LOCATION

Prepared by S & L Robjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
Updated by Sam Waldron MAY 2006

13.061

Release

APPENDIX 1

"CUBBIE GROUP_DIRRANBANDI" PROPERTY PLAN

RTIDL RELEASE - DNRM

CUBBIE IRRIGATION DEVELOPMENT
DIRRANBANDI QLD.

0 5 10 Km

EXPLANATION

- Telephone Locations
- Boundary "Cubbie" Holding
- Real Property boundaries
- Natural drainage
- Weir
- 9 Water pumping station & No.
- Reticulation channel
- Tail water surge area
- Cross flood plain channel
- 15 Irrigated paddock, No & direction of irrigation flow
- Water storage holding area
- Future water storage area
- Future irrigation area

QLD.
Dirranbandi
BRISBANE
"Cubbie"
REGIONAL LOCATION

Prepared by S & L Robjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
Updated by Sam Waldron MAY 2006

Page 201 redacted for the following reason:
- - - - - - - - - - - - - - - - - - - -
s.37(3)(d) Deferral of access

Release

Condamine and Balonne Resource Operations Plan
Review of Certifications

Meeting 1 – 21 August 2006
Level 9 Conference Room – Mineral House

ATTENDEES

Randall Cox	Mark Wheeler
Kerry Marler	Matt Driver
Justin Carpenter	Steve Goudie
Russ Robson	Pat Levings
Saji Joseph	Lamond Graham

AGENDA

1. Purpose of Meeting and Outcomes
2. Background to Certification
   - Timetable
   - Process
   - Roles and responsibilities
3. Cubbie
4. Kelso
5. Lower Plains
6. Booligar
7. Ford Park
8. Other Issues
   - Storages on watercourses
   - How to deal with breaches of the moratorium
   - Unauthorised works
   - Confirmation that works identified through certification are licenced
9. Next Meeting

- Acknowledgment required by Council of certificati completed.
- Regional recommendation

RTI DL RELEASE - DNRM

Author: Patrick Levings
File / Ref number:
Unit: Water Planning
Phone (07) 3224 7821

4/8/2003

Les Boully
"Kelso"
Dirranbandi
QLD 4486

Dear Les

RE: Type 'A' Storage Volume for Kelso

Thankyou for your letter dated 19/7/2003. I note that you had previously advised the department that you are operating infrastructure enabling you to presently capture "A" water on Kelso. The department's previous advice suggested that the bunded area would be considered once there was a more defined policy direction on the treatment of overland flow in the Lower Balonne.

Following a review of the information that was originally obtained from you, it was determined that your infrastructure would be included in the IQQM as a storage of up to 7000 ML for the purpose of storing type 'A' water. The IQQM is currently being updated to include this information and any future model runs will include the Kelso storage as part of the moratorium case.

I hope this letter clarifies the situation. Please do not hesitate to contact me should you have any more questions regarding this matter.

Yours sincerely,

Greg Claydon

General Manager
Water Planning
Department of Natural Resources and Mines

RTI DL RELEASE - DNRM

Queensland 4000 Australia
Telephone (07) 3224 7821
Facsimile (07) 3224 8359
Website
www.nrm.qld.gov.au

Release

Mineral House
Brisbane Q 4001

RTI DL RELEASE - DNRM

Release

APPENDIX 3 - Storage Capacity Tables

B1 FSL 162.70 1130 ha **44216 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
158	130	198	265	559	852	1263	1673	2237	2801	3470
159	4138	4883	5627	6481	7335	8335	9330	10418	11505	12610
160	13720	14843	15966	17116	18226	19356	20486	21616	22746	23876
161	25006	26136	27266	28396	29526	30656	31786	32916	34046	35176
162	36306	37436	38566	39696	40826	41956	43086	44216		

B2 FSL 162.20 1850 ha **79086 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
156	0	150	300	450	600	750	900	1050	1130	1209
157	1431	1654	2020	2386	2998	3610	4495	5380	6456	7533
158	8834	10135	11634	13114	14648	16183	17717	19252	20795	22338
159	23889	25440	26993	28547	30102	31657	33214	34771	36328	37885
160	39456	41028	42708	44389	46166	47943	49732	51521	53310	55099
161	56938	58777	60586	62436	64286	66136	67986	69836	71686	73536
161	75386	77234	79086							

Beltana FSL 162.10 1880 ha **112302 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
155	0	200	400	600	800	1016	1223	1430	1827	2224
156	3048	3873	4913	5954	7167	8381	9844	11307	12959	14612
157	16449	18287	20182	22086	23942	25882	27702	29582	31462	33342
158	35222	37102	38982	40862	42742	44622	46502	48382	50262	52142
159	54022	55902	57782	59662	61542	63422	65302	67182	69062	70942
160	72822	74702	76582	78462	80342	82222	84102	85982	87862	89742
161	91622	93502	95382	97262	99142	101022	102902	104782	106662	108542
162	110422	112302								

Urandool FSL 161.40 1370 ha **82440 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
154	0	0	0	0	0	0	210	420	640	850
155	1060	1550	2040	2540	3030	3520	4510	5500	6480	7470
156	8460	9830	11200	12570	13940	15310	16680	18050	19420	20790
157	22160	23530	24900	26270	27640	29010	30380	31750	33120	34490
158	35860	37230	38600	39970	41340	42710	44080	45450	46820	48190
159	49560	50930	52300	53670	55040	56410	57780	59150	60520	61890
160	63260	64630	66000	67370	68740	70110	71480	72850	74220	75590
161	76960	78330	79700	81070	82440					

M1/2 FSL 160.60 1000 ha **67924 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
151				0	100	200	300	400	500	600
152	700	800	900	1000	1100	1200	1300	1400	1500	1600
153	1700	1824	1948	2072	2196	2320	2653	2986	3318	3651
154	3984	4677	5370	6062	6755	7448	8343	9238	10134	11029
155	11924	12924	13924	14924	15924	16924	17924	18924	19924	20924
156	21924	22924	23924	24924	25924	26924	27924	28924	29924	30924
157	31924	32924	33924	34924	35924	36924	37924	38924	39924	40924
158	41924	42924	43924	44924	45924	46924	47924	48924	49924	50924
159	51924	52924	53924	54924	55924	56924	57924	58924	59924	60924
160	61924	62924	63924	64924	65924	66924	67924			

M3/4 FSL 157.90 900 ha **47130 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
150									0	53
151	107	160	213	267	320	373	427	480	533	587
152	640	693	747	800	923	1128	1425	1794	2245	2778
153	3393	4090	4869	5730 (900)	6630	7530	8430	9330	10230	11130
154	12030	12930	13830	14730	15630	16530	17430	18330	19230	20130
155	21030	21930	22830	23730	24630	15530	26430	27330	28230	29130
156	30030	30930	31830	32730	33630	34530	35430	36330	37230	38130
157	39030	33930	40830	41730	42630	43530	44430	45330	46230	47130

Swamp FSL 166.70 180 ha **4450 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
162	0	8	17	25	33	42	52	62	72	82
163	93	107	120	134	148	162	181	199	218	236
164	255	286	317	348	462	604	754	904	1066	1228
165	1390	1570	1750	1930	2110	2290	2470	2650	2830	3010
166	3190	3370	3550	3730	3910	4090	4270	4450		

Top Shed FSL 169.20 120 ha **7002 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
161	0	35	70	105	140	175	210	245	280	315
162	350	383	416	449	482	515	548	581	614	647
163	680	719	758	794	827	860	904	948	1000	1060
164	1120	1194	1268	1360	1470	1580	1692	1804	1916	2028
165	2100	2220	2340	2460	2580	2700	2816	2932	3048	3164
166	3280	3398	3516	3634	3752	3870	3986	4102	4218	4334
167	4450	4568	4686	4804	4922	5040	5152	5264	5376	5488
168	5600	5716	5832	5948	6064	6180	6298	6416	6534	6652
169	6770	6886	7002							

Corowa FSL 164.70 410 ha **12084 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
159	0	8	15	23	30	38	45	53	60	68
160	75	94	112	131	149	168	194	221	247	274
161	300	334	367	428	516	604	799	994	1189	1384
162	1579	1902	2226	2549	2873	3196	3595	3993	4392	4790
163	5189	5590	5992	6393	6795	7196	7601	8005	8410	8814
164	9219	9626	10034	10444	10854	11264	11674	12084		

Barron FSL 165.20 160 ha **3789 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
162	0	3	7	10	14	17	86	155	224	293
163	362	508	653	799	944	1090	1247	1405	1562	1720
164	1877	2036	2194	2353	2511	2670	2829	2989	3149	3309
165	3469	3629	3789							

Kirrima FSL 160.75 550 ha **7730 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
156				0	1	3	6	12	20	29
157	41	55	71	89	108	129	151	175	202	231
158	263	297	333	372	413	458	508	563	624	693
159	772	879	1024	1208	1423	1674	1982	2347	2753	3192
160	3670	4180	4702	5248	5797	6348	6900	7453	8007	

Claypan FSL 160.20 210 ha **1064 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
158								0	2	6
159	8	31	55	79	102	170	238	350	461	572
160	684	874	1064							

Pilgra FSL 156.60 220 ha **2707 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
154			0	4	8	14	20	45	70	98
155	126	244	363	481	600	726	852	986	1119	1253
156	1387	1607	1827	2047	2267	2487	2707			

Mugangulla FSL 152.00 7.3 ha **100 ML**

RL	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
149				0	1	3	4	6	8	10
150	12	14	17	20	23	26	29	33	37	41
151	45	50	55	60	66	72	78	84	89	95
152	100									

TOTAL STORAGE VOLUME **472024 ML**

TOTAL SURFACE AREA **9987 HA**

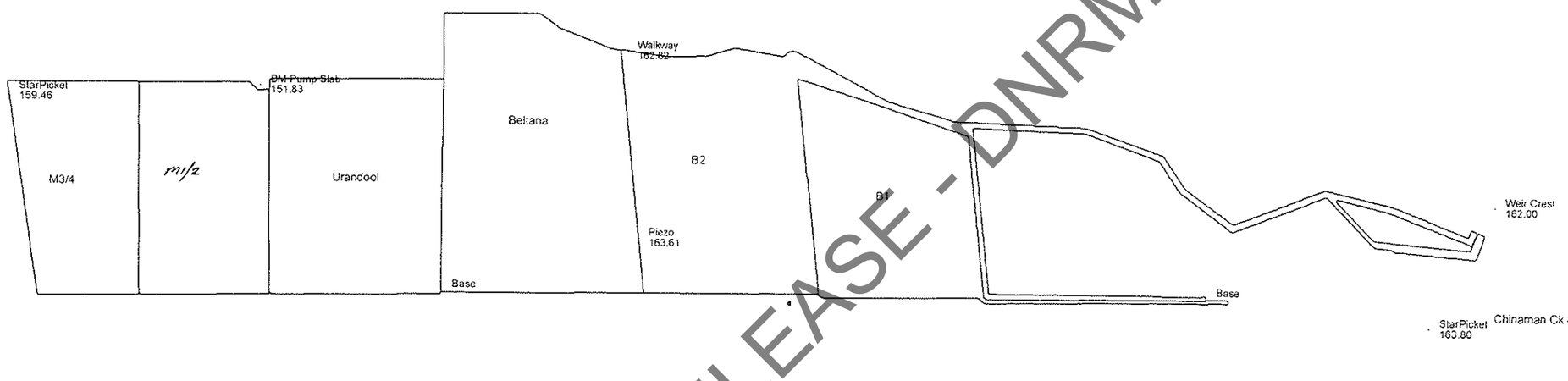
RTIDL RELEASE - DNRM

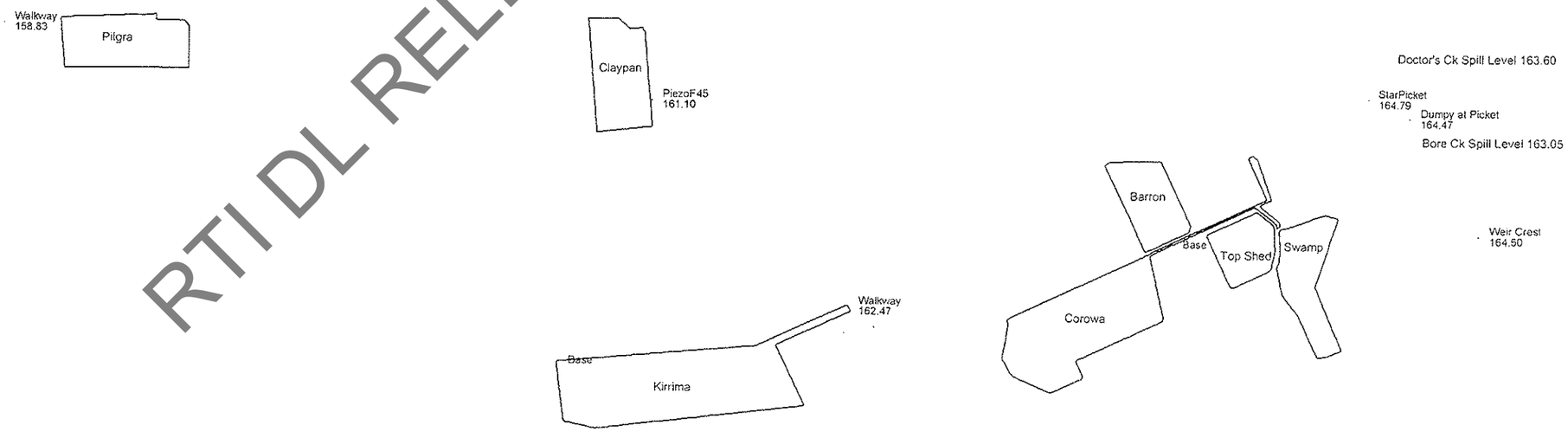
APPENDIX 4.

Notes

Survey has be carried using a Novatel RTK dual frequency GPS system with vertical accuracy of 2-4 cm.
UTM output coordinates are in WGS84 and the vertical datum is AHD taken from weir crests.
The data has been processed using a program called CDS Professional Solutions from Foresight Software at Broadmeadow NSW.
All survey and plotting has been carried out by GL Irrigation Pty Ltd, St George

Mugangulla Dam





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Storage Layout Plan
'Cubbie Station'
Dirranbandi

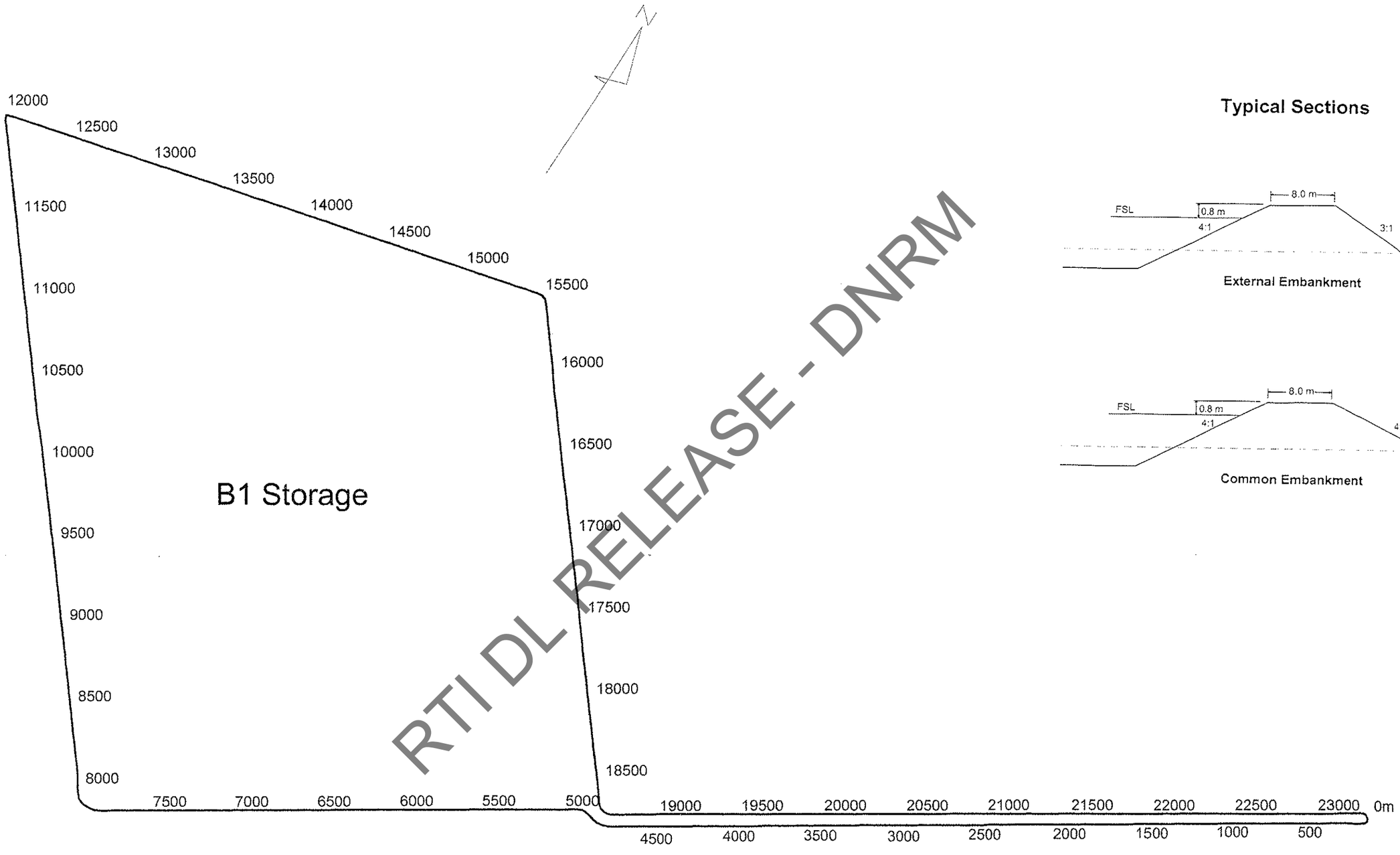
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Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	B1 - Ring Tank
Lot on Plan	-	Lot 7 on Plan SP 133008
Capacity at FSL	ML	44216
FSL RL	m AHD	162.70
Crest RL	m AHD	163.50
Maximum Embankment Height above NS	m	5.7
Surface Area at FSL	ha	1130
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	156.20
Inlet Pipe Invert RL	m AHD	157.80
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #6)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

RTI DL RELEASE - DNRM



RTI DL RELEASE - DNRM

Typical Sections

External Embankment

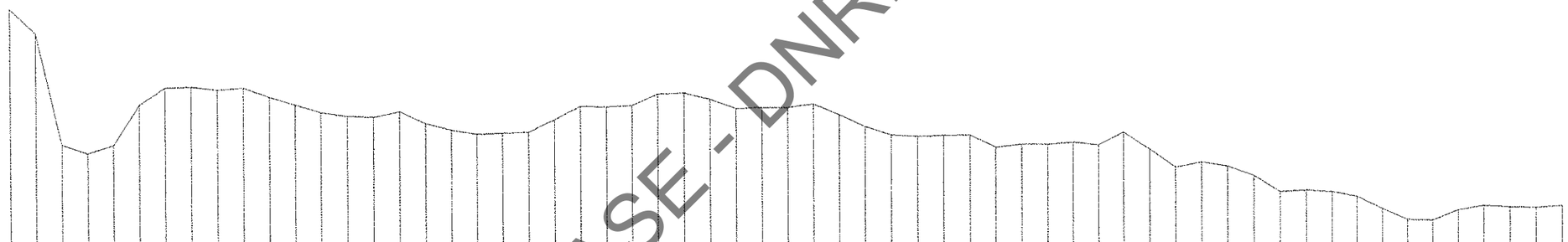
Common Embankment

B1 Storage
Cubbie Station, Dirranbandi

13-061

File A

Date 24.04.06 Scale 1 : 25000

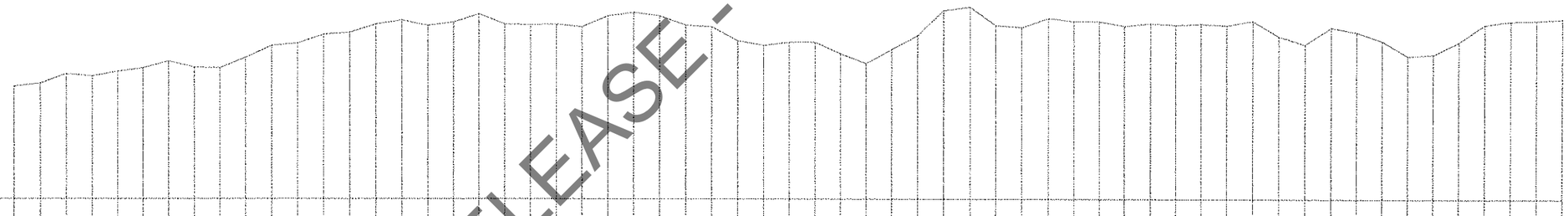


Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	165.50	165.26	164.18	164.09	164.17	164.56	164.73	164.74	164.71	164.73	164.64	164.56	164.49	164.45	164.44	164.50	164.38	164.32	164.28	164.29	164.30	164.42	164.55	164.54	164.56	164.67	164.68	164.62	164.53	164.54	164.54	164.57	164.47	164.35	164.27	164.26	164.27	164.27	164.15	164.18	164.18	164.20	164.18	164.30	164.14	163.96	164.01	163.97	163.88	163.73	163.74	163.73	163.68	163.56	163.46	163.45	163.55	163.60	163.58	163.58	163.60

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B1 Storage Crest Levels Chainage 00 - 3000m

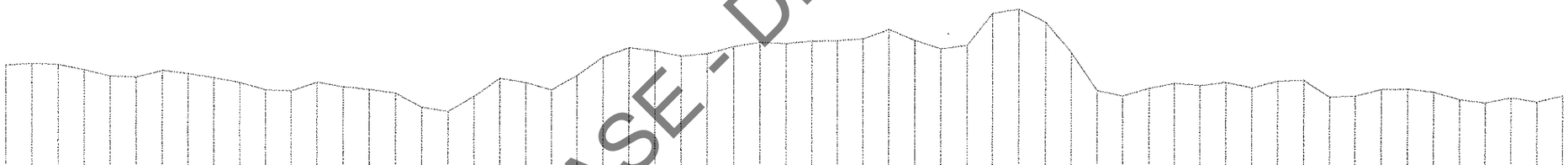


Datum RL = 162.500

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	163.60	163.63	163.72	163.70	163.74	163.78	163.84	163.78	163.78	163.88	163.99	164.02	164.10	164.12	164.20	164.24	164.19	164.22	164.30	164.20	164.20	164.20	164.18	164.28	164.32	164.28	164.19	164.18	164.04	164.00	164.03	164.03	163.92	163.82	163.96	164.09	164.34	164.37	164.19	164.17	164.26	164.23	164.23	164.19	164.21	164.20	164.21	164.19	164.24	164.09	164.01	164.17	164.13	164.04	163.90	163.91	164.03	164.20	164.24	164.24	164.26

RTI DL RELEASE - DNRM

B1 Storage Crest Levels Chainage 3000 - 6000m



Datum RL = 162.500

Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000
Height (m) AHD	164.26	164.27	164.26	164.21	164.15	164.14	164.21	164.18	164.14	164.09	164.02	164.01	164.10	164.05	164.03	163.99	163.86	163.82	163.96	164.14	164.10	164.03	164.17	164.35	164.44	164.41	164.36	164.38	164.45	164.49	164.48	164.51	164.51	164.53	164.62	164.52	164.44	164.47	164.78	164.82	164.70	164.41	164.04	163.99	164.06	164.11	164.09	164.12	164.07	164.14	164.15	163.99	164.00	164.06	164.07	164.04	163.97	163.94	163.99	163.95	164.01

B1 Storage - Crest Levels Chainage 6000 - 9000m

RTI DL RELEASE - DNRM

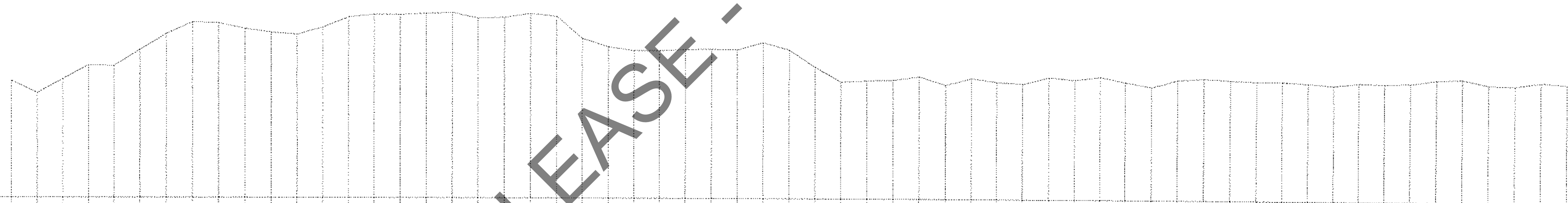
B1 Storage Crest Levels

Chainage 9000 - 12000m

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
	Datum RL = 162.000
9000	164.01
9050	163.78
9100	163.78
9150	163.75
9200	163.72
9250	163.66
9300	163.66
9350	163.68
9400	163.60
9450	163.55
9500	163.63
9550	163.70
9600	163.57
9650	163.75
9700	163.92
9750	163.93
9800	164.02
9850	164.16
9900	164.04
9950	163.97
10000	164.01
10050	163.94
10100	163.96
10150	164.01
10200	163.89
10250	163.73
10300	163.65
10350	163.69
10400	163.62
10450	163.65
10500	163.63
10550	163.46
10600	163.62
10650	163.83
10700	163.76
10750	163.69
10800	163.69
10850	163.79
10900	163.80
10950	163.65
11000	163.58
11050	163.52
11100	163.48
11150	163.51
11200	163.51
11250	163.56
11300	163.66
11350	163.73
11400	163.68
11450	163.64
11500	163.65
11550	163.66
11600	163.50
11650	163.48
11700	163.63
11750	163.82
11800	163.79
11850	163.69
11900	163.82
11950	163.76
12000	163.64

RTI RELEASE - DNRM

Release



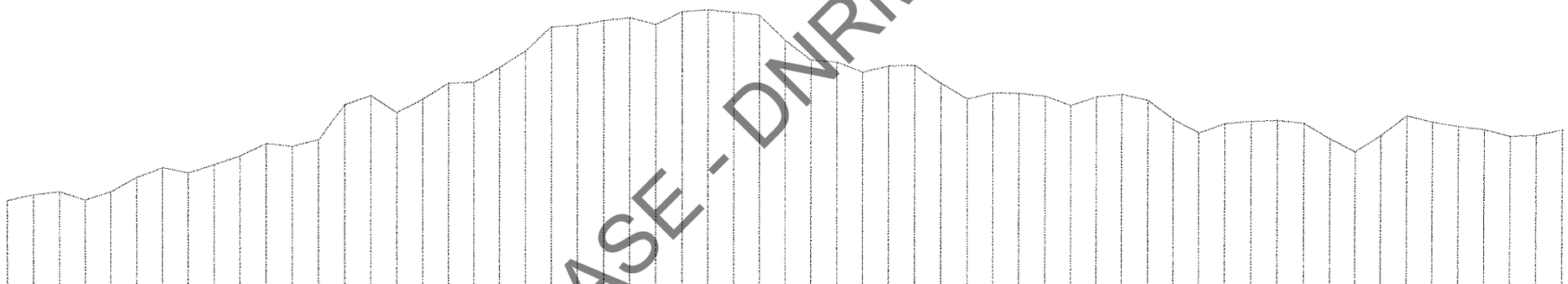
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Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
12000	163.64
12050	163.52
12100	163.65
12150	163.79
12200	163.78
12250	163.94
12300	164.09
12350	164.21
12400	164.20
12450	164.14
12500	164.11
12550	164.09
12600	164.16
12650	164.26
12700	164.28
12750	164.28
12800	164.29
12850	164.30
12900	164.25
12950	164.26
13000	164.29
13050	164.27
13100	164.05
13150	163.97
13200	163.94
13250	163.94
13300	163.95
13350	163.95
13400	163.95
13450	164.02
13500	163.95
13550	163.78
13600	163.64
13650	163.65
13700	163.66
13750	163.69
13800	163.61
13850	163.68
13900	163.64
13950	163.63
14000	163.69
14050	163.67
14100	163.70
14150	163.65
14200	163.60
14250	163.67
14300	163.69
14350	163.67
14400	163.66
14450	163.66
14500	163.65
14550	163.63
14600	163.65
14650	163.65
14700	163.65
14750	163.69
14800	163.70
14850	163.64
14900	163.63
14950	163.67
15000	163.65

RTI DL RELEASE - DNRM

B1 Storage Crest Levels Chainage 12000 - 15000m

Release

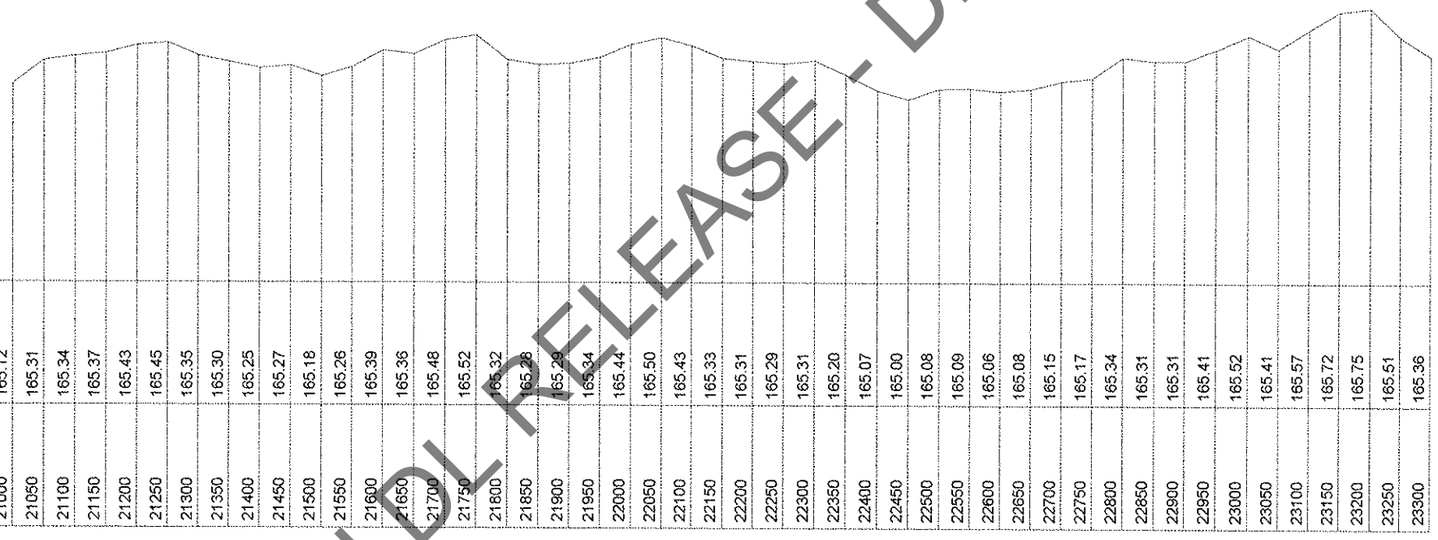


Datum RL = 163.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
18000	164.38
18050	164.44
18100	164.47
18150	164.39
18200	164.47
18250	164.61
18300	164.70
18350	164.65
18400	164.73
18450	164.82
18500	164.94
18550	164.91
18600	164.98
18650	165.32
18700	165.41
18750	165.24
18800	165.37
18850	165.53
18900	165.54
18950	165.68
19000	165.84
19050	166.08
19100	166.09
19150	166.14
19200	166.17
19250	166.10
19300	166.23
19350	166.25
19400	166.22
19450	166.20
19500	165.96
19550	165.76
19600	165.74
19650	165.65
19700	165.71
19750	165.72
19800	165.54
19850	165.39
19900	165.45
19950	165.45
20000	165.42
20050	165.33
20100	165.42
20150	165.44
20200	165.39
20250	165.20
20300	165.07
20350	165.16
20400	165.19
20450	165.20
20500	165.17
20550	165.02
20600	164.90
20650	165.06
20700	165.25
20750	165.19
20800	165.15
20850	165.12
20900	165.05
20950	165.06
21000	165.12

RTI DL RELEASE - DNRM

B1 Storage - Crest Levels Chainage 18000 - 21000m



Datum RL = 163.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
21000	165.12
21050	165.31
21100	165.34
21150	165.37
21200	165.43
21250	165.45
21300	165.35
21350	165.30
21400	165.25
21450	165.27
21500	165.18
21550	165.26
21600	165.39
21650	165.36
21700	165.48
21750	165.52
21800	165.32
21850	165.28
21900	165.29
21950	165.34
22000	165.44
22050	165.50
22100	165.43
22150	165.33
22200	165.31
22250	165.29
22300	165.31
22350	165.20
22400	165.07
22450	165.00
22500	165.08
22550	165.09
22600	165.06
22650	165.08
22700	165.15
22750	165.17
22800	165.34
22850	165.31
22900	165.31
22950	165.41
23000	165.52
23050	165.41
23100	165.57
23150	165.72
23200	165.75
23250	165.51
23300	165.36

RTI DL RELEASE - DNRM

B1 Storage - Crest Levels Chainage 21000 - 23342m

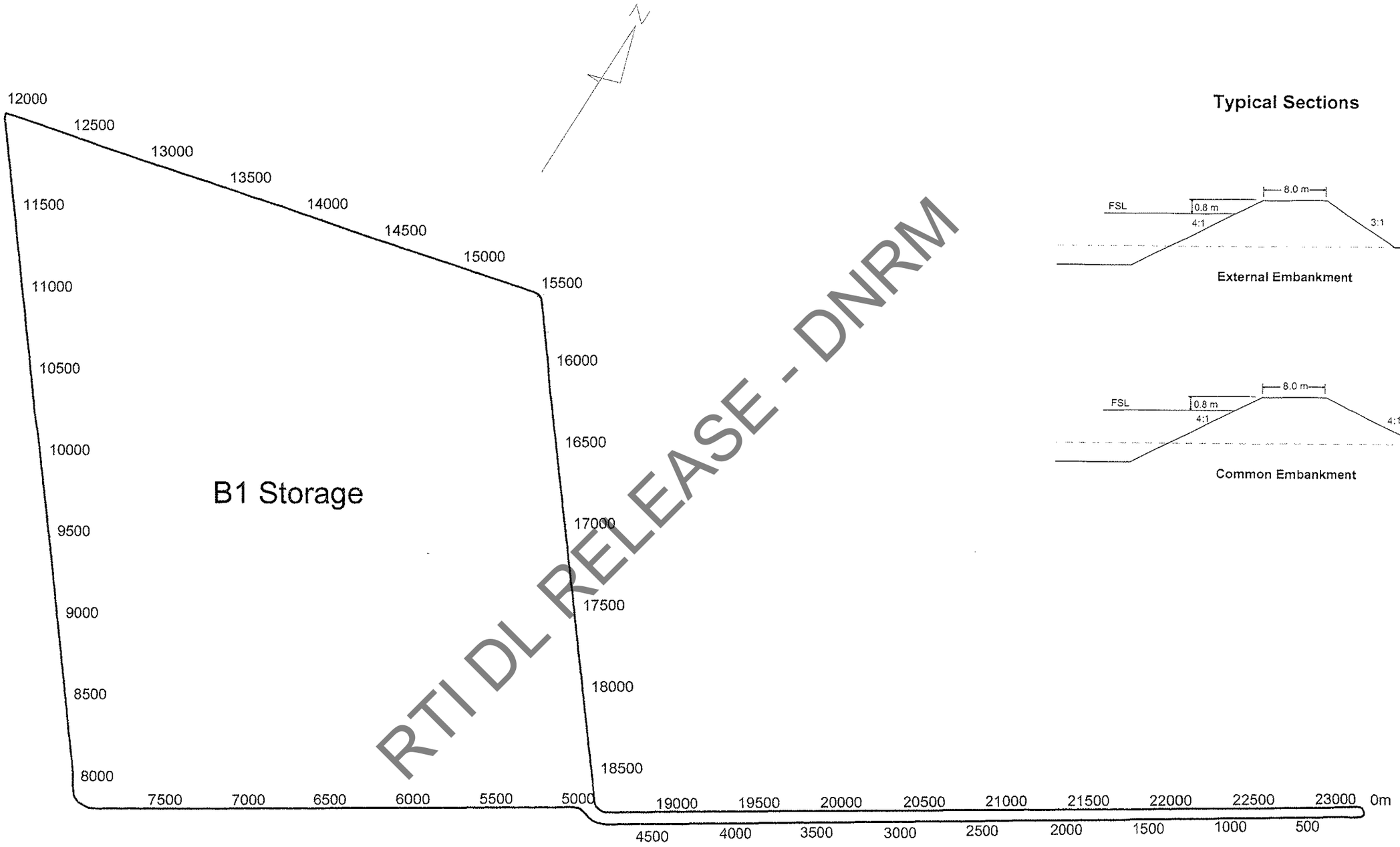
Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	B2 - Ring Tank
Lot on Plan	-	Lot 7 on Plan SP 133008
Capacity at FSL	ML	79086
FSL RL	m AHD	162.20
Crest RL	m AHD	163.00
Maximum Embankment Height above NS	m	6.6
Surface Area at FSL	ha	1850
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	155.20
Inlet Pipe Invert RL	m AHD	158.00
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #7)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

RTI DL RELEASE - DNRM

Release



RTI DL RELEASE - DNRM

Typical Sections

External Embankment

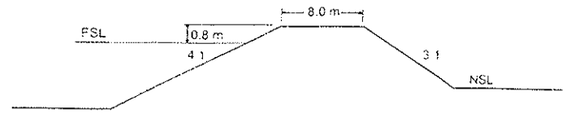
Common Embankment

B1 Storage
Cubbie Station, Dirranbandi

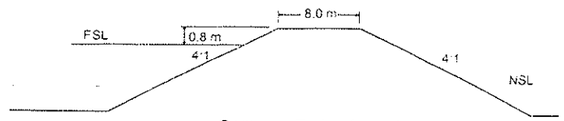
13-061 File A Date 24.04.06 Scale 1:25000

Release

Typical Sections



External Embankment



Common Embankment

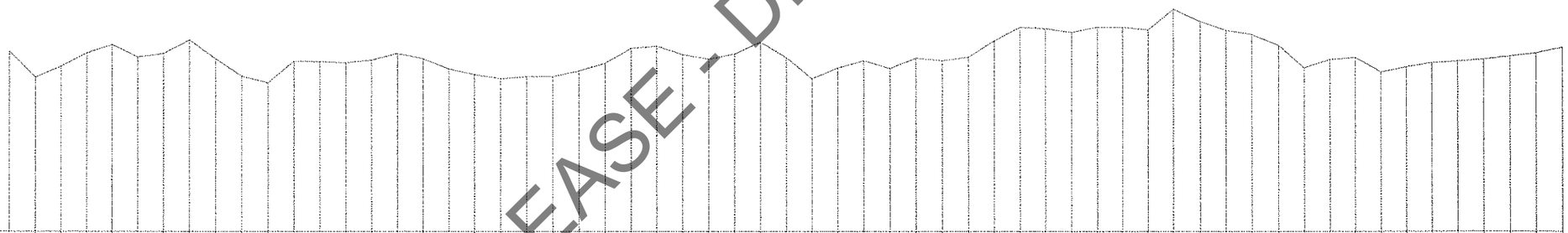
RTI DL RELEASE - DNRM

B2 Storage - Page 2

Cubbie Station, Dirranbandi

Date 24.04.06 Scale 1 : 25 000

Release

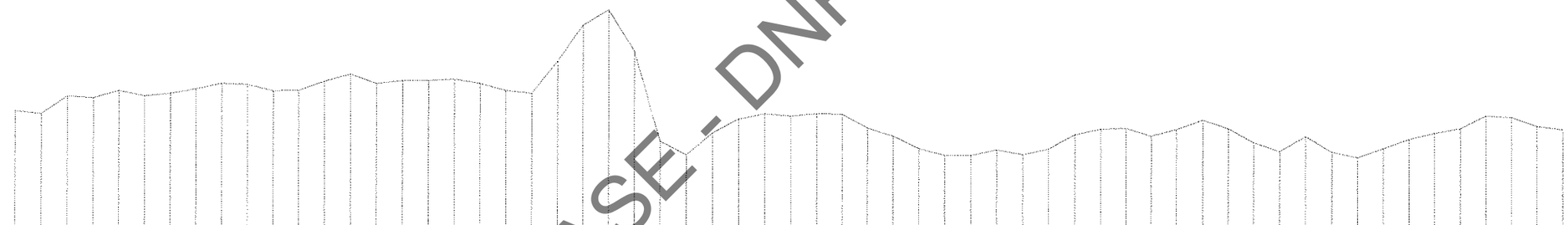


Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
0	163.75
50	163.50
100	163.61
150	163.74
200	163.82
250	163.70
300	163.73
350	163.86
400	163.68
450	163.51
500	163.45
550	163.66
600	163.65
650	163.64
700	163.67
750	163.73
800	163.68
850	163.58
900	163.53
950	163.49
1000	163.51
1050	163.51
1100	163.56
1150	163.64
1200	163.78
1250	163.80
1300	163.72
1350	163.68
1400	163.73
1450	163.84
1500	163.69
1550	163.49
1600	163.59
1650	163.66
1700	163.59
1750	163.69
1800	163.66
1850	163.70
1900	163.86
1950	163.99
2000	163.97
2050	163.94
2100	163.99
2150	163.99
2200	163.96
2250	164.16
2300	164.04
2350	163.96
2400	163.92
2450	163.81
2500	163.59
2550	163.67
2600	163.69
2650	163.55
2700	163.60
2750	163.64
2800	163.66
2850	163.68
2900	163.71
2950	163.74
3000	163.79

B2 Storage Crest Levels Chainage 00 - 3000m

RTI DL RELEASE - DNRM



Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	163.79	163.77	163.94	163.92	163.99	163.94	163.97	164.01	164.07	164.06	164.00	164.00	164.09	164.16	164.07	164.10	164.10	164.12	164.08	164.01	163.98	164.30	164.65	164.80	164.40	163.52	163.39	163.61	163.74	163.79	163.77	163.80	163.79	163.66	163.58	163.46	163.40	163.40	163.45	163.41	163.46	163.60	163.66	163.67	163.59	163.66	163.75	163.67	163.53	163.45	163.59	163.44	163.39	163.48	163.57	163.63	163.67	163.80	163.78	163.70	163.67

B2 Storage Crest Levels Chainage 3000 - 6000m

RTI DL RELEASE - DNRM

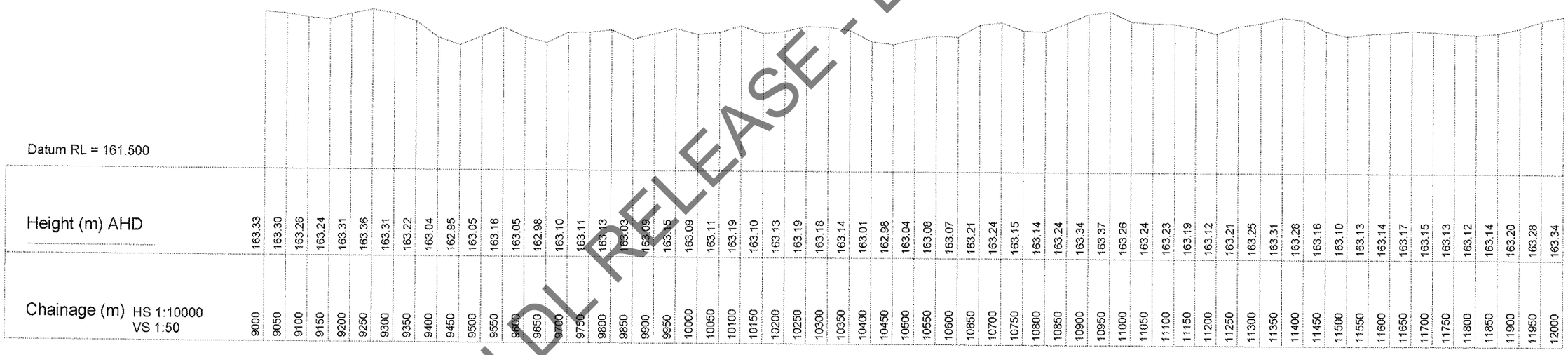


Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000
Height (m) AHD	163.67	163.62	163.52	163.55	163.45	163.45	163.66	163.64	163.63	163.61	163.38	163.29	163.28	163.32	163.34	163.37	163.19	163.16	163.24	163.26	163.28	163.22	163.16	163.15	163.20	163.25	163.22	163.16	163.15	163.18	163.29	163.25	163.19	163.27	163.25	163.19	163.12	163.26	163.41	163.53	163.42	163.33	163.34	163.42	163.38	163.31	163.38	163.25	163.38	163.45	163.35	163.32	163.07	163.09	163.09	163.16	163.32	163.47	163.52	163.47	163.33

RTI DL RELEASE - DNRM

B2 Storage Crest Levels Chainage 6000 - 9000m



Datum RL = 161.500

Chainage (m) HS 1:10000 VS 1:50	9000	9050	9100	9150	9200	9250	9300	9350	9400	9450	9500	9550	9600	9650	9700	9750	9800	9850	9900	9950	10000	10050	10100	10150	10200	10250	10300	10350	10400	10450	10500	10550	10600	10650	10700	10750	10800	10850	10900	10950	11000	11050	11100	11150	11200	11250	11300	11350	11400	11450	11500	11550	11600	11650	11700	11750	11800	11850	11900	11950	12000
Height (m) AHD	163.33	163.30	163.26	163.24	163.31	163.36	163.31	163.22	163.04	162.95	163.05	163.16	163.05	162.98	163.10	163.11	163.13	163.03	163.09	163.15	163.09	163.11	163.19	163.10	163.13	163.19	163.18	163.14	163.01	162.98	163.04	163.08	163.07	163.21	163.24	163.15	163.14	163.24	163.34	163.37	163.26	163.24	163.23	163.19	163.12	163.21	163.25	163.31	163.28	163.16	163.10	163.13	163.14	163.17	163.15	163.13	163.12	163.14	163.20	163.28	163.34

B2 Storage Crest Levels Chainage 9000 - 12000m

RTI DL RELEASE - DNRM

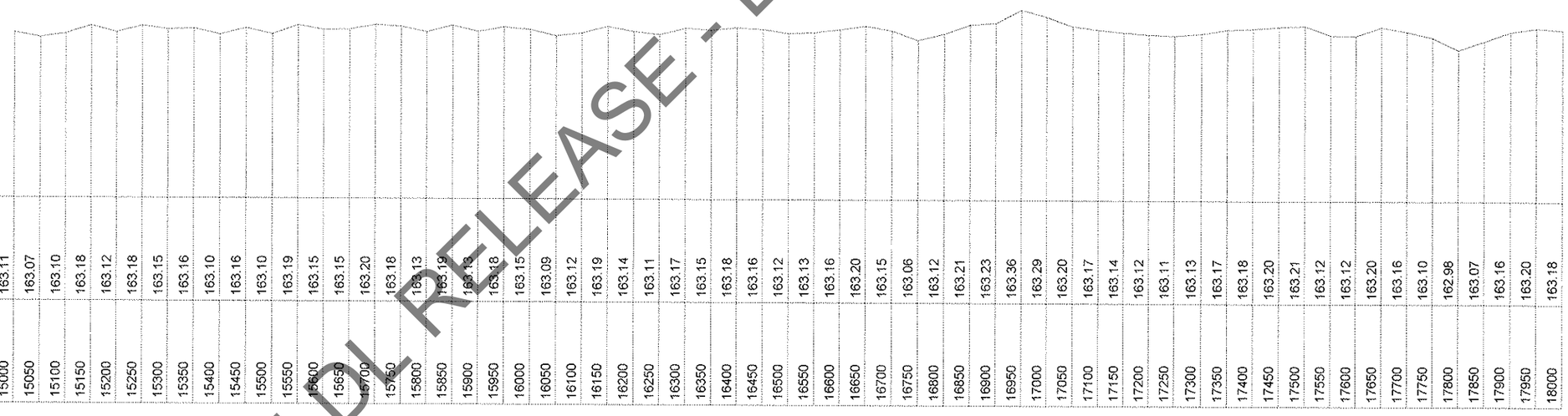
RTI DL RELEASE - DNRM

Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
12000	163.34
12050	163.20
12100	163.13
12150	163.19
12200	163.17
12250	163.30
12300	163.31
12350	163.25
12400	163.17
12450	163.21
12500	163.30
12550	163.24
12600	163.24
12650	163.28
12700	163.26
12750	163.10
12800	163.16
12850	163.18
12900	163.31
12950	163.20
13000	163.18
13050	163.33
13100	163.31
13150	163.28
13200	163.23
13250	163.20
13300	163.28
13350	163.17
13400	163.06
13450	163.16
13500	163.15
13550	163.10
13600	163.17
13650	163.23
13700	163.12
13750	163.20
13800	163.34
13850	163.27
13900	163.19
13950	163.13
14000	163.11
14050	163.10
14100	163.13
14150	163.16
14200	163.30
14250	163.18
14300	163.10
14350	163.17
14400	163.13
14450	163.16
14500	163.11
14550	163.12
14600	163.13
14650	163.16
14700	163.12
14750	163.16
14800	163.18
14850	163.11
14900	163.13
14950	163.15
15000	163.11

B2 Storage Crest Levels Chainage 12000 - 15000m

RTI DL RELEASE - DNRM

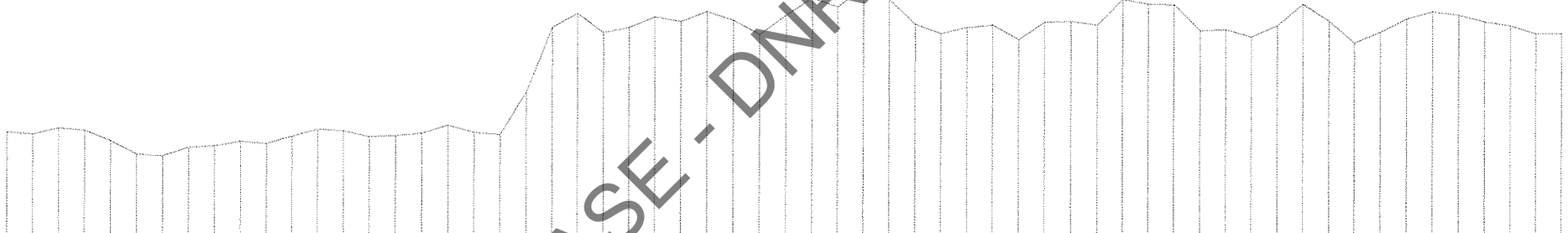


Datum RL = 161.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
15000	163.11
15050	163.07
15100	163.10
15150	163.18
15200	163.12
15250	163.18
15300	163.15
15350	163.16
15400	163.10
15450	163.16
15500	163.10
15550	163.19
15600	163.15
15650	163.15
15700	163.20
15750	163.18
15800	163.13
15850	163.19
15900	163.13
15950	163.18
16000	163.15
16050	163.09
16100	163.12
16150	163.19
16200	163.14
16250	163.11
16300	163.17
16350	163.15
16400	163.18
16450	163.16
16500	163.12
16550	163.13
16600	163.16
16650	163.20
16700	163.15
16750	163.06
16800	163.12
16850	163.21
16900	163.23
16950	163.36
17000	163.29
17050	163.20
17100	163.17
17150	163.14
17200	163.12
17250	163.11
17300	163.13
17350	163.17
17400	163.18
17450	163.20
17500	163.21
17550	163.12
17600	163.12
17650	163.20
17700	163.16
17750	163.10
17800	162.98
17850	163.07
17900	163.16
17950	163.20
18000	163.18

B2 Storage Crest Levels Chainage 15000 - 18000m

Release



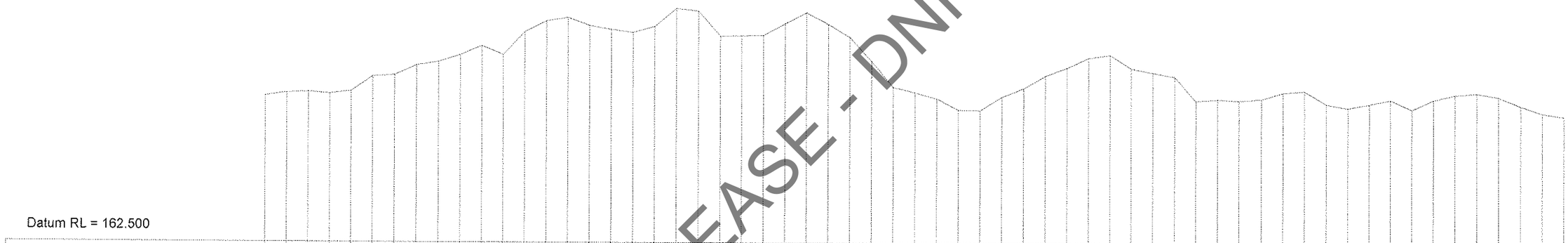
Datum RL = 161.500

Height (m) AHD	163.18	163.16	163.22	163.20	163.10	162.97	162.95	163.04	163.05	163.10	163.08	163.15	163.22	163.20	163.15	163.16	163.18	163.26	163.19	163.17	163.59	164.22	164.35	164.17	164.22	164.32	164.28	164.38	164.29	164.16	164.34	164.51	164.43	164.62	164.50	164.26	164.17	164.23	164.26	164.12	164.29	164.30	164.26	164.51	164.47	164.46	164.21	164.22	164.15	164.26	164.47	164.31	164.10	164.20	164.33	164.40	164.37	164.31	164.27	164.20	164.20
Chainage (m) HS 1:10000 VS 1:50	18000	18050	18100	18150	18200	18250	18300	18350	18400	18450	18500	18550	18600	18650	18700	18750	18800	18850	18900	18950	19000	19050	19100	19150	19200	19250	19300	19350	19400	19450	19500	19550	19600	19650	19700	19750	19800	19850	19900	19950	20000	20050	20100	20150	20200	20250	20300	20350	20400	20450	20500	20550	20600	20650	20700	20750	20800	20850	20900	20950	21000

RTI DL RELEASE - DNRM

B2 Storage Crest Levels Chainage 18000 - 21000m

Release



Chainage (m) HS 1:10000 VS 1:50	21000	21050	21100	21150	21200	21250	21300	21350	21400	21450	21500	21550	21600	21650	21700	21750	21800	21850	21900	21950	22000	22050	22100	22150	22200	22250	22300	22350	22400	22450	22500	22550	22600	22650	22700	22750	22800	22850	22900	22950	23000	23050	23100	23150	23200	23250	23300	23350	23400	23450	23500	23550	23600	23650	23700	23750	23800	23850	23900	23950	24000
Height (m) AHD	164.20	164.23	164.24	164.22	164.25	164.42	164.44	164.55	164.59	164.67	164.78	164.68	164.94	165.07	165.11	165.02	164.97	164.94	165.01	165.22	165.19	164.90	164.90	164.91	165.04	165.17	165.04	164.89	164.61	164.31	164.25	164.18	164.05	164.05	164.20	164.30	164.45	164.54	164.66	164.69	164.54	164.49	164.44	164.16	164.18	164.17	164.19	164.26	164.28	164.13	164.09	164.13	164.18	164.07	164.18	164.24	164.26	164.22	164.12	164.03	164.00

B2 Storage Crest Levels Chainage 21000 - 24000m

RTI DL RELEASE - DNRM

Release

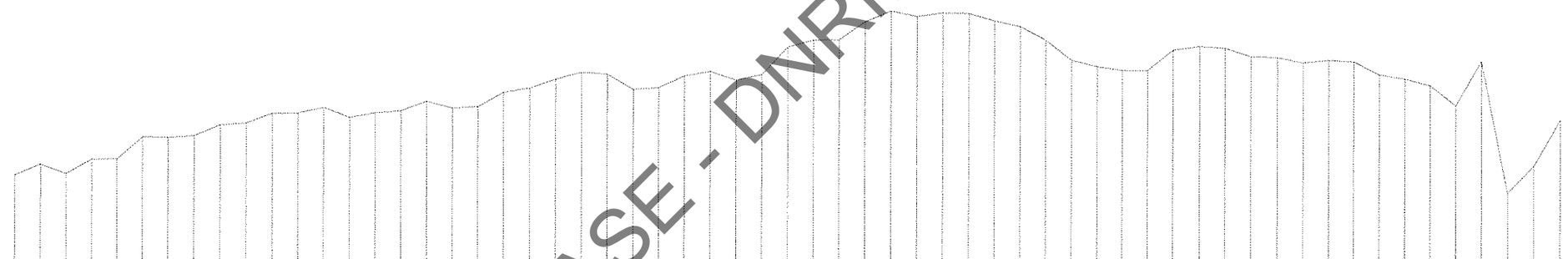


Datum RL = 162.500

Chainage (m) HS 1:10000 VS 1:50	24000	24050	24100	24150	24200	24250	24300	24350	24400	24450	24500	24550	24600	24650	24700	24750	24800	24850	24900	24950	25000	25050	25100	25150	25200	25250	25300	25350	25400	25450	25500	25550	25600	25650	25700	25750	25800	25850	25900	25950	26000	26050	26100	26150	26200	26250	26300	26350	26400	26450	26500	26550	26600	26650	26700	26750	26800	26850	26900	26950	27000
Height (m) AHD	164.00	163.96	164.03	163.98	163.99	163.98	164.14	164.23	164.23	164.24	164.24	164.33	164.39	164.34	164.39	164.36	164.21	163.99	164.17	164.02	164.17	164.31	164.24	164.05	163.98	164.05	164.09	164.03	163.91	164.08	164.19	164.14	164.04	164.06	164.15	163.98	164.05	164.28	164.34	164.13	164.13	164.23	164.43	164.59	164.85	165.04	165.17	165.17	165.12	165.11	165.04	164.96	165.04	165.00	165.04	165.08	165.02	165.02	164.95	164.96	165.03

RTI DU RELEASE - DNRM

B2 Storage Crest Levels Chainage 24000 - 27000m



Datum RL = 163.500

Chainage (m) HS 1:10000 VS 1:50	27000	27050	27100	27150	27200	27250	27300	27350	27400	27450	27500	27550	27600	27650	27700	27750	27800	27850	27900	27950	28000	28050	28100	28150	28200	28250	28300	28350	28400	28450	28500	28550	28600	28650	28700	28750	28800	28850	28900	28950	29000	29050	29100	29150	29200	29250	29300	29350	29400	29450	29500	29550	29600	29650	29700	29750	29800	29850	29900	29950	30000
Height (m) AHD	165.03	165.13	165.04	165.18	165.19	165.40	165.40	165.42	165.52	165.54	165.64	165.64	165.70	165.60	165.65	165.67	165.76	165.70	165.71	165.85	165.90	165.98	166.05	166.04	165.89	165.91	166.02	166.07	165.98	166.04	166.31	166.38	166.38	166.56	166.66	166.61	166.65	166.64	166.57	166.52	166.39	166.19	166.13	166.10	166.10	166.30	166.33	166.32	166.24	166.23	166.18	166.20	166.19	166.06	166.02	165.96	165.76	166.20	164.91	165.18	165.63

RTI DL RELEASE - DNRM

B2 Storage Crest Levels Chainage 27000 - 30000m

Release

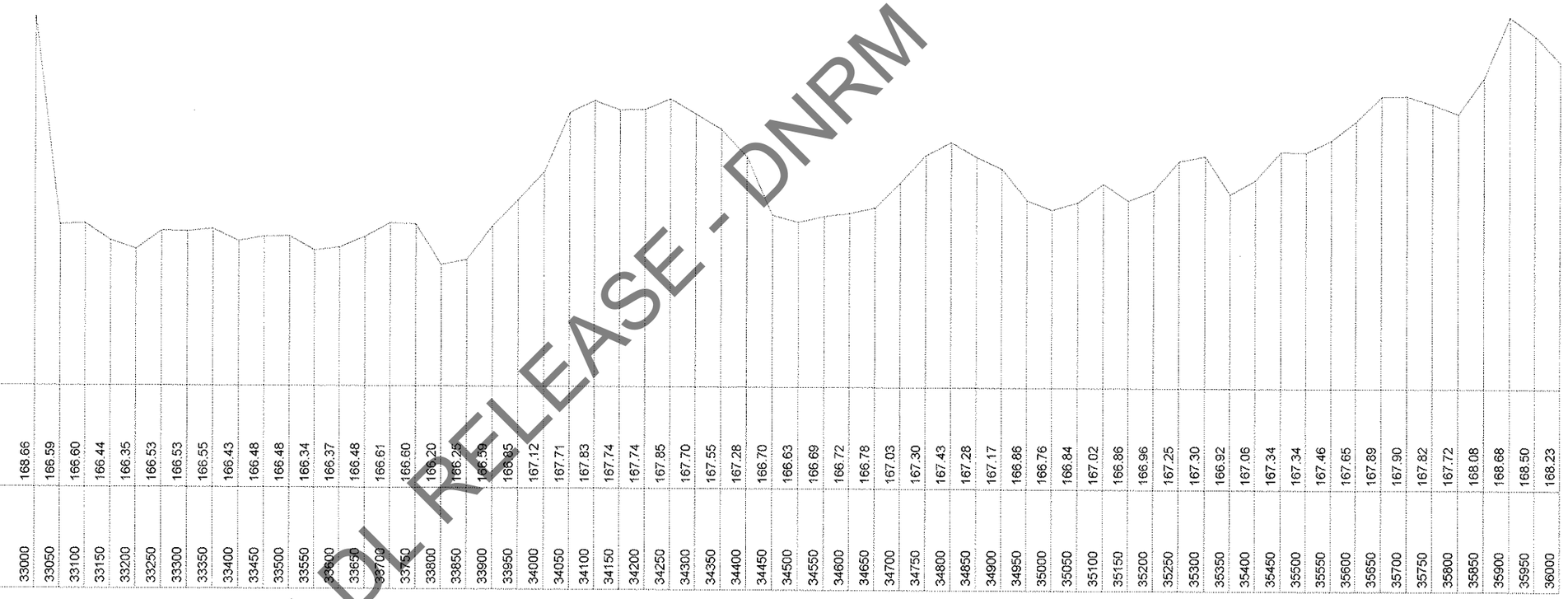


Datum RL = 164.000

Chainage (m) HS 1:10000 VS 1:50	30000	30050	30100	30150	30200	30250	30300	30350	30400	30450	30500	30550	30600	30650	30700	30750	30800	30850	30900	30950	31000	31050	31100	31150	31200	31250	31300	31350	31400	31450	31500	31550	31600	31650	31700	31750	31800	31850	31900	31950	32000	32050	32100	32150	32200	32250	32300	32350	32400	32450	32500	32550	32600	32650	32700	32750	32800	32850	32900	32950	33000
Height (m) AHD	166.22	167.63	167.89	167.80	167.78	168.07	167.30	166.26	166.30	166.33	166.58	166.84	166.86	166.78	166.56	166.32	166.24	166.13	165.86	166.03	165.98	166.13	166.31	166.37	166.18	166.12	166.25	166.38	166.54	166.59	166.57	166.46	166.44	166.35	166.19	166.09	166.13	166.02	165.87	165.83	165.72	165.77	165.84	165.71	165.80	165.72	165.59	165.58	165.53	165.46	165.57	165.62	165.61	165.63	165.60	165.56	165.62	165.50	165.52	165.78	168.66

B2 Storage Crest Levels Chainage 30000 - 33000m

RTI DL RELEASE - DNRM

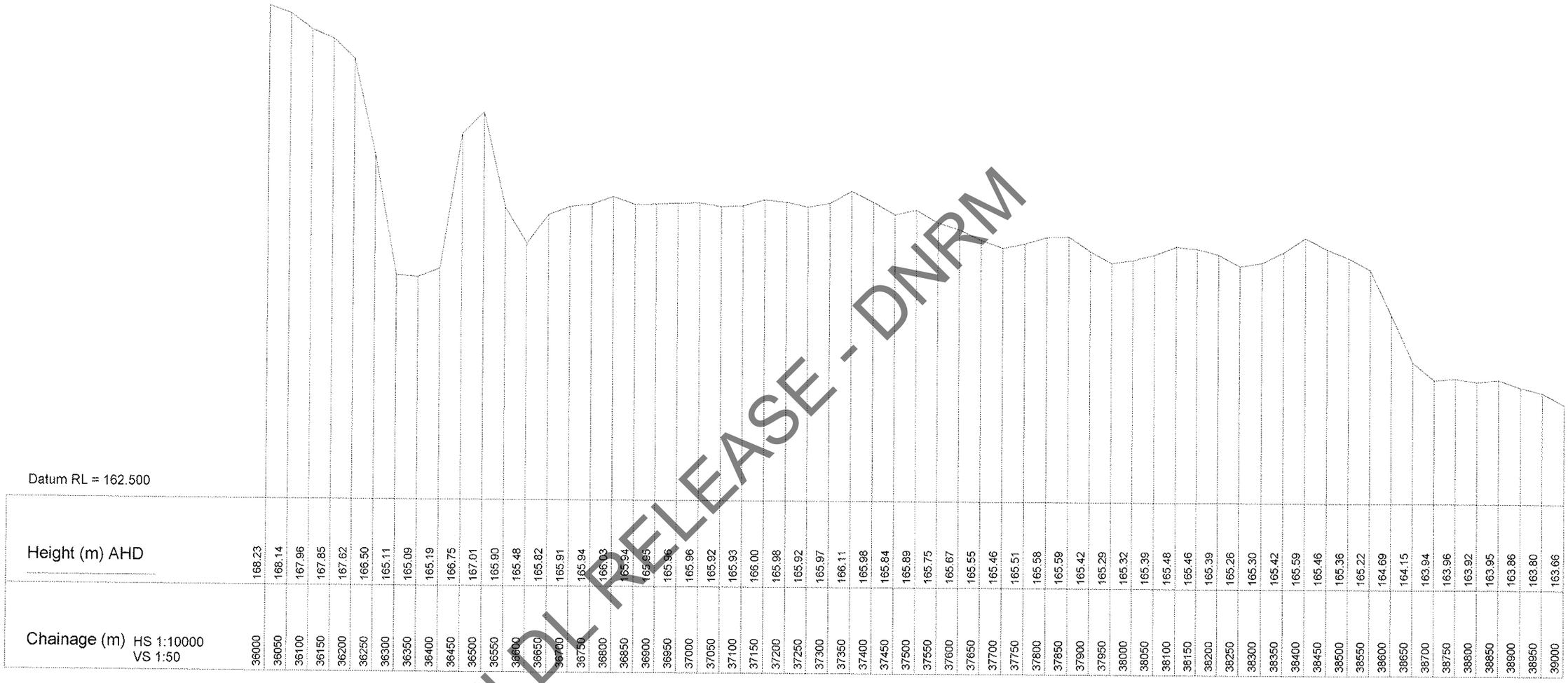


Datum RL = 165.000

Chainage (m) HS 1:10000 VS 1:50	33000	33050	33100	33150	33200	33250	33300	33350	33400	33450	33500	33550	33600	33650	33700	33750	33800	33850	33900	33950	34000	34050	34100	34150	34200	34250	34300	34350	34400	34450	34500	34550	34600	34650	34700	34750	34800	34850	34900	34950	35000	35050	35100	35150	35200	35250	35300	35350	35400	35450	35500	35550	35600	35650	35700	35750	35800	35850	35900	35950	36000
Height (m) AHD	168.66	166.59	166.60	166.44	166.35	166.53	166.53	166.55	166.43	166.48	166.48	166.34	166.37	166.48	166.61	166.60	166.20	166.25	166.58	166.85	167.12	167.71	167.83	167.74	167.74	167.85	167.70	167.55	167.28	166.70	166.63	166.69	166.72	166.78	167.03	167.30	167.43	167.28	167.17	166.86	166.76	166.84	167.02	166.86	166.96	167.25	167.30	166.92	167.06	167.34	167.34	167.46	167.65	167.89	167.90	167.82	167.72	168.08	168.68	168.50	168.23

B2 Storage Crest Levels Chainage 33000 - 36000m

RTI DL RELEASE - DNRM



Datum RL = 162.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
36000	168.23
36050	168.14
36100	167.96
36150	167.85
36200	167.62
36250	166.50
36300	165.11
36350	165.09
36400	165.19
36450	166.75
36500	167.01
36550	165.90
36600	165.48
36650	165.82
36700	165.91
36750	165.94
36800	166.03
36850	165.94
36900	165.95
36950	165.96
37000	165.96
37050	165.92
37100	165.93
37150	166.00
37200	165.98
37250	165.92
37300	165.97
37350	166.11
37400	165.98
37450	165.84
37500	165.89
37550	165.75
37600	165.67
37650	165.55
37700	165.46
37750	165.51
37800	165.58
37850	165.59
37900	165.42
37950	165.29
38000	165.32
38050	165.39
38100	165.48
38150	165.46
38200	165.39
38250	165.26
38300	165.30
38350	165.42
38400	165.59
38450	165.46
38500	165.36
38550	165.22
38600	164.69
38650	164.15
38700	163.94
38750	163.96
38800	163.92
38850	163.95
38900	163.86
38950	163.80
39000	163.66

B2 Storage Crest Levels Chainage 36000 - 39000m

PTI DL RELEASE - DNRM

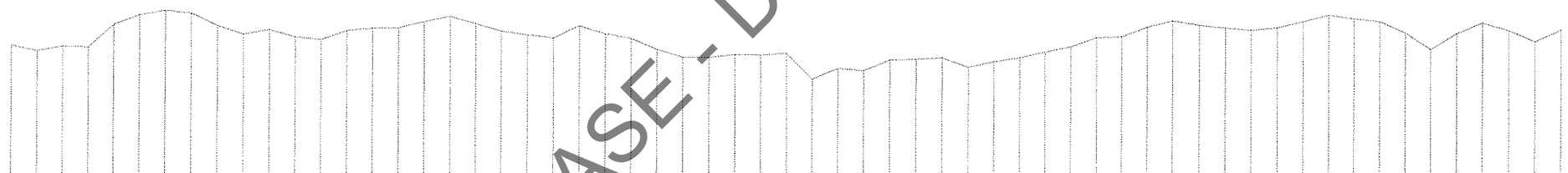


Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	39000	39050	39100	39150	39200	39250	39300	39350	39400	39450	39500	39550	39600	39650	39700	39750	39800	39850	39900	39950	40000	40050	40100	40150	40200	40250	40300	40350	40400	40450	40500	40550	40600	40650	40700	40750	40800	40850	40900	40950	41000	41050	41100	41150	41200	41250	41300	41350	41400	41450	41500	41550	41600	41650	41700	41750	41800	41850	41900	41950	42000
Height (m) AHD	163.66	163.61	163.66	163.65	163.54	163.41	163.46	163.44	163.42	163.37	163.34	163.36	163.46	163.60	163.54	163.55	163.56	163.58	163.52	163.54	163.41	163.42	164.04	165.89	167.27	167.40	166.39	165.59	165.54	165.36	165.37	165.52	165.62	165.51	165.44	165.36	165.37	165.29	165.18	165.16	165.17	165.17	165.05	164.92	164.70	164.67	164.93	165.14	165.06	165.02	164.86	164.72	164.66	164.67	164.74	164.80	164.84	164.83	164.91	164.84	164.69

B2 Storage Crest Levels Chainage 39000 - 42000m

RTI DL RELEASE - DNRM

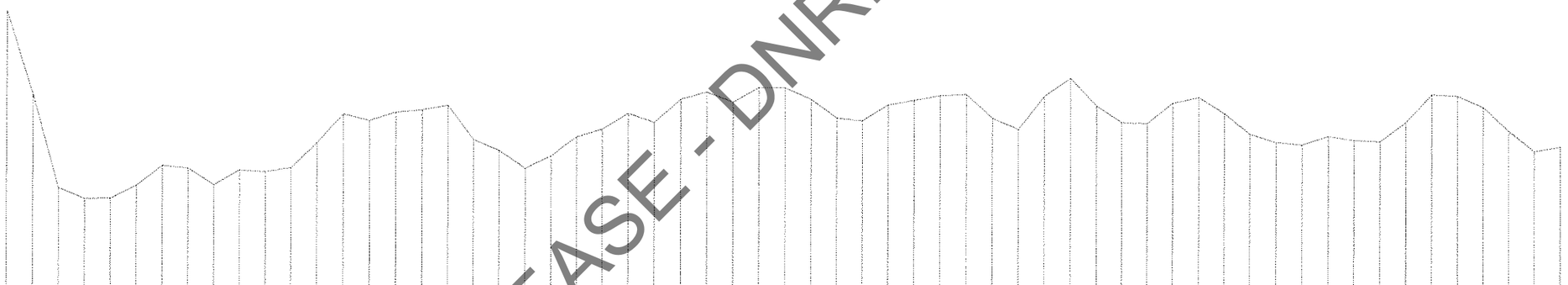


Datum RL = 163.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
42000	164.69
42050	164.64
42100	164.68
42150	164.68
42200	164.90
42250	164.99
42300	165.04
42350	165.01
42400	164.89
42450	164.81
42500	164.86
42550	164.79
42600	164.76
42650	164.85
42700	164.88
42750	164.88
42800	164.94
42850	165.00
42900	164.93
42950	164.86
43000	164.82
43050	164.79
43100	164.91
43150	164.84
43200	164.79
43250	164.69
43300	164.61
43350	164.61
43400	164.64
43450	164.64
43500	164.66
43550	164.41
43600	164.51
43650	164.49
43700	164.60
43750	164.61
43800	164.82
43850	164.53
43900	164.59
43950	164.63
44000	164.68
44050	164.74
44100	164.83
44150	164.84
44200	164.93
44250	164.99
44300	164.95
44350	164.93
44400	164.91
44450	164.93
44500	164.99
44550	165.06
44600	165.02
44650	165.00
44700	164.89
44750	164.73
44800	164.88
44850	164.99
44900	164.92
44950	164.81
45000	164.93

B2 Storage Crest Levels Chainage 42000 - 45000m

RTI DL RELEASE - DNRM



Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	45000	45050	45100	45150	45200	45250	45300	45350	45400	45450	45500	45550	45600	45650	45700	45750	45800	45850	45900	45950	46000	46050	46100	46150	46200	46250	46300	46350	46400	46450	46500	46550	46600	46650	46700	46750	46800	46850	46900	46950	47000	47050	47100	47150	47200	47250	47300	47350	47400	47450	47500	47550	47600	47650	47700	47750	47800	47850	47900	47950	48000
Height (m) AHD	164.93	164.12	163.22	163.11	163.12	163.24	163.44	163.41	163.25	163.40	163.38	163.42	163.67	163.94	163.88	163.96	163.99	164.03	163.70	163.60	163.43	163.55	163.73	163.81	163.96	163.88	164.10	164.17	164.08	164.22	164.22	164.11	163.93	163.90	164.06	164.10	164.15	164.16	163.93	163.83	164.15	164.32	164.06	163.90	163.89	164.09	164.14	163.98	163.79	163.71	163.69	163.77	163.73	163.72	163.91	164.18	164.16	164.06	163.83	163.63	163.68

B2 Storage Crest Levels Chainage 45000 - 48000m

RTI DI RELEASE - DNRM

Release



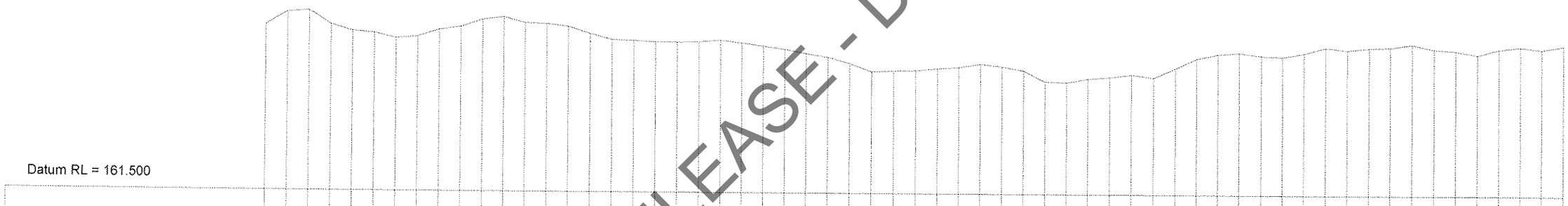
Datum RL = 161.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
48000	163.68
48050	163.82
48100	163.72
48150	163.34
48200	163.41
48250	163.31
48300	163.40
48350	163.31
48400	163.21
48450	163.16
48500	163.15
48550	163.26
48600	163.31
48650	163.37
48700	163.30
48750	163.39
48800	163.43
48850	163.41
48900	163.46
48950	163.48
49000	163.43
49050	163.42
49100	163.45
49150	163.39
49200	163.48
49250	163.48
49300	163.56
49350	163.41
49400	163.57
49450	163.69
49500	163.72
49550	163.82
49600	163.75
49650	163.50
49700	163.08
49750	162.98
49800	163.00
49850	162.91
49900	162.93
49950	162.99
50000	162.95
50050	162.84
50100	162.90
50150	162.99
50200	163.01
50250	163.08
50300	163.14
50350	163.09
50400	163.00
50450	163.05
50500	163.02
50550	163.02
50600	163.05
50650	163.12
50700	163.21
50750	163.24
50800	163.22
50850	163.12
50900	163.10
50950	163.48
51000	163.43

B2 Storage Crest Levels Chainage 48000 - 51000m

RTI DU RELEASE - DNRM

Release

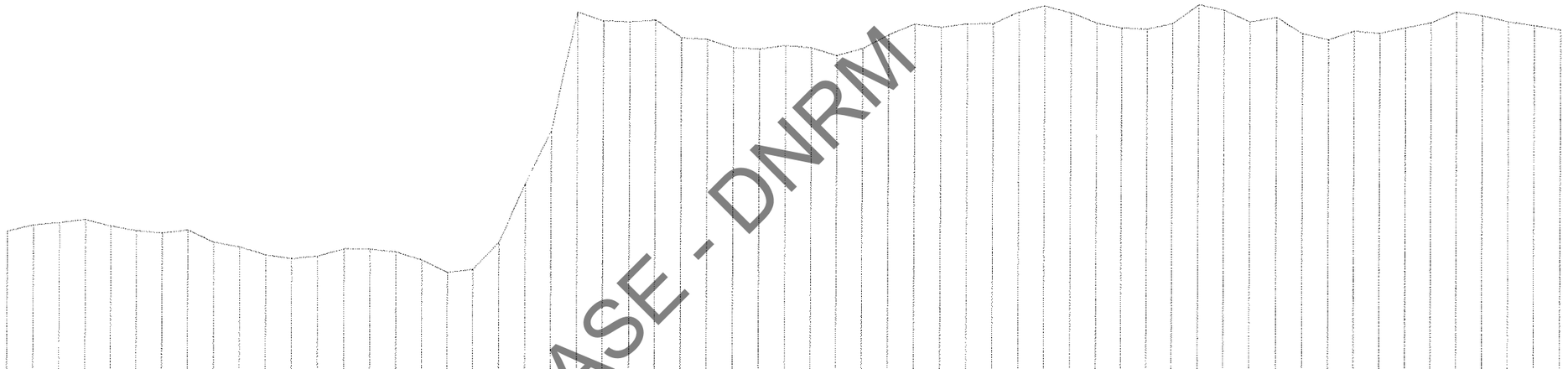


Datum RL = 161.500

Chainage (m) HS 1:10000 VS 1:50	51000	51050	51100	51150	51200	51250	51300	51350	51400	51450	51500	51550	51600	51650	51700	51750	51800	51850	51900	51950	52000	52050	52100	52150	52200	52250	52300	52350	52400	52450	52500	52550	52600	52650	52700	52750	52800	52850	52900	52950	53000	53050	53100	53150	53200	53250	53300	53350	53400	53450	53500	53550	53600	53650	53700	53750	53800	53850	53900	53950	54000
Height (m) AHD	163.43	163.57	163.59	163.43	163.36	163.34	163.28	163.30	163.38	163.41	163.50	163.53	163.46	163.45	163.42	163.34	163.37	163.26	163.25	163.25	163.25	163.27	163.24	163.21	163.17	163.12	163.08	163.01	162.92	162.93	162.93	162.96	162.97	163.01	162.98	162.94	162.81	162.80	162.85	162.87	162.90	162.86	162.97	163.09	163.14	163.16	163.12	163.11	163.15	163.22	163.19	163.22	163.23	163.26	163.21	163.19	163.14	163.21	163.24	163.21	163.25

RTI DL RELEASE - DNRM

B2 Storage Crest Levels Chainage 51000 - 54000m



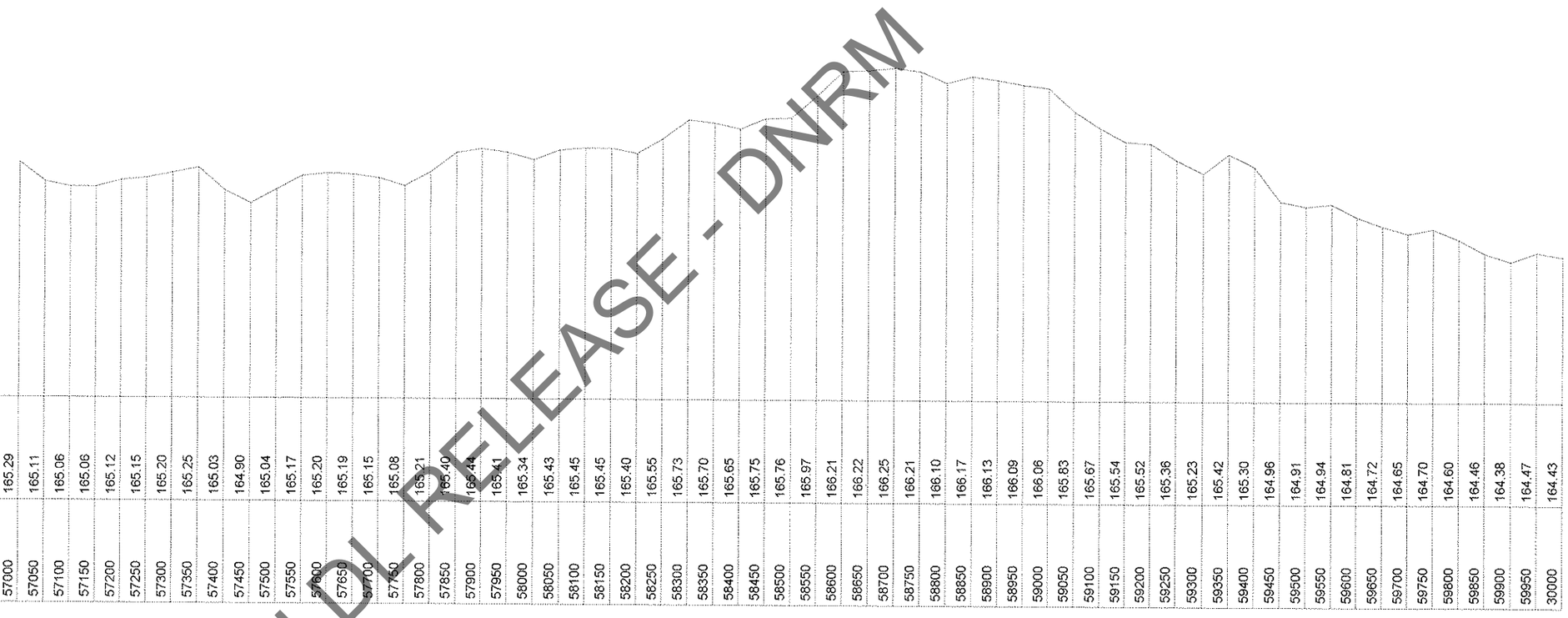
Datum RL = 161.500

Chainage (m) HS 1:10000 VS 1:50	54000	54050	54100	54150	54200	54250	54300	54350	54400	54450	54500	54550	54600	54650	54700	54750	54800	54850	54900	54950	55000	55050	55100	55150	55200	55250	55300	55350	55400	55450	55500	55550	55600	55650	55700	55750	55800	55850	55900	55950	56000	56050	56100	56150	56200	56250	56300	56350	56400	56450	56500	56550	56600	56650	56700	56750	56800	56850	56900	56950	57000
Height (m) AHD	163.25	163.31	163.34	163.37	163.31	163.26	163.24	163.27	163.16	163.11	163.04	163.00	163.03	163.10	163.10	163.07	163.00	162.88	162.91	163.17	163.74	164.26	165.41	165.33	165.32	165.34	165.17	165.15	165.07	165.06	165.10	165.08	165.00	165.07	165.21	165.31	165.28	165.32	165.32	165.44	165.50	165.43	165.33	165.29	165.28	165.33	165.52	165.47	165.35	165.40	165.24	165.18	165.27	165.25	165.30	165.35	165.46	165.42	165.37	165.33	165.29

B2 Storage Crest Levels Chainage 54000 - 57000m

RTI DL RELEASE - DNRM

Release



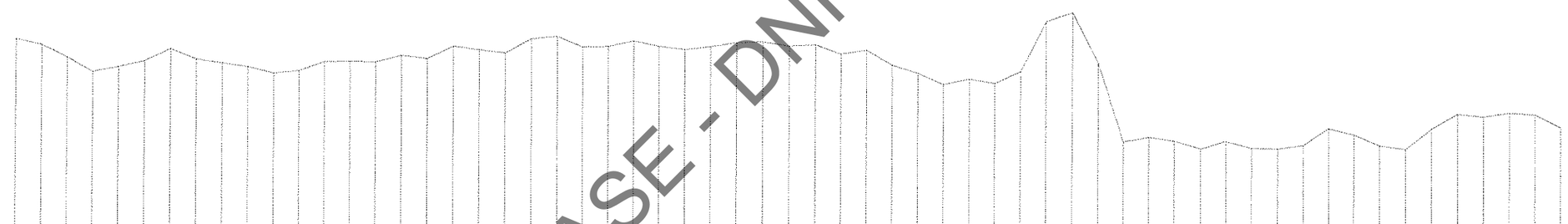
Datum RL = 163.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
57000	165.29
57050	165.11
57100	165.06
57150	165.06
57200	165.12
57250	165.15
57300	165.20
57350	165.25
57400	165.03
57450	164.90
57500	165.04
57550	165.17
57600	165.20
57650	165.19
57700	165.15
57750	165.08
57800	165.21
57850	165.40
57900	165.44
57950	165.41
58000	165.34
58050	165.43
58100	165.45
58150	165.45
58200	165.40
58250	165.55
58300	165.73
58350	165.70
58400	165.65
58450	165.75
58500	165.76
58550	165.97
58600	166.21
58650	166.22
58700	166.25
58750	166.21
58800	166.10
58850	166.17
58900	166.13
58950	166.09
59000	166.06
59050	165.83
59100	165.67
59150	165.54
59200	165.52
59250	165.36
59300	165.23
59350	165.42
59400	165.30
59450	164.96
59500	164.91
59550	164.94
59600	164.81
59650	164.72
59700	164.65
59750	164.70
59800	164.60
59850	164.46
59900	164.38
59950	164.47
30000	164.43

RTI DL RELEASE - DNRM

B2 Storage Crest Levels Chainage 57000 - 60000m

Release



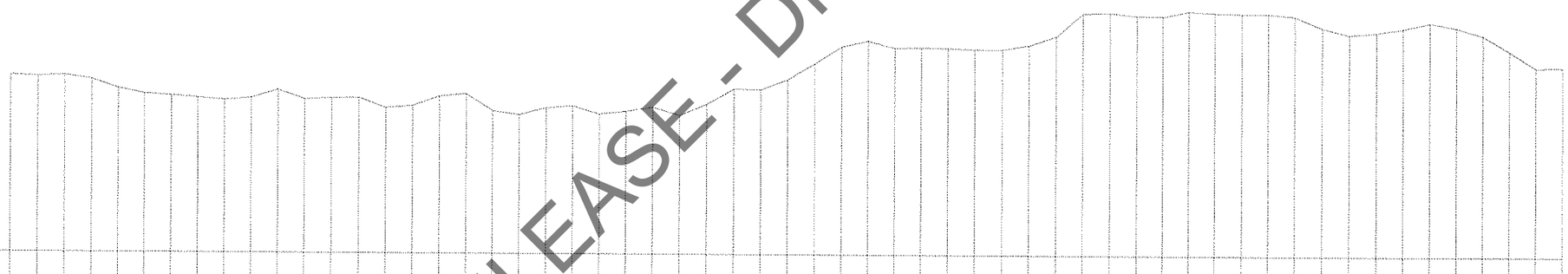
Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
30000	164.43
30050	164.38
30100	164.26
30150	164.12
30200	164.17
30250	164.23
30300	164.35
30350	164.25
30400	164.21
30450	164.18
30500	164.12
30550	164.14
30600	164.23
30650	164.24
30700	164.23
30750	164.30
30800	164.27
30850	164.39
30900	164.38
30950	164.33
31000	164.47
31050	164.49
31100	164.39
31150	164.40
31200	164.45
31250	164.40
31300	164.37
31350	164.40
31400	164.44
31450	164.45
31500	164.41
31550	164.43
31600	164.34
31650	164.38
31700	164.23
31750	164.16
31800	164.05
31850	164.10
31900	164.06
31950	164.18
32000	164.67
32050	164.76
32100	164.27
32150	163.50
32200	163.55
32250	163.51
32300	163.44
32350	163.51
32400	163.45
32450	163.44
32500	163.48
32550	163.64
32600	163.58
32650	163.48
32700	163.44
32750	163.64
32800	163.79
32850	163.76
32900	163.80
32950	163.79
33000	163.66

RTI DL RELEASE - DNRM

B2 Storage Crest Levels Chainage 60000 - 63000m

RTI DL RELEASE - DNRM



Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
33000	163.66
33050	163.65
33100	163.66
33150	163.63
33200	163.54
33250	163.49
33300	163.48
33350	163.46
33400	163.44
33450	163.46
33500	163.53
33550	163.45
33600	163.46
33650	163.46
33700	163.37
33750	163.39
33800	163.48
33850	163.50
33900	163.34
33950	163.31
34000	163.37
34050	163.39
34100	163.32
34150	163.34
34200	163.38
34250	163.31
34300	163.41
34350	163.56
34400	163.55
34450	163.65
34500	163.80
34550	163.96
34600	164.01
34650	163.95
34700	163.95
34750	163.95
34800	163.94
34850	163.94
34900	163.98
34950	164.06
35000	164.28
35050	164.29
35100	164.26
35150	164.25
35200	164.30
35250	164.29
35300	164.28
35350	164.28
35400	164.26
35450	164.15
35500	164.09
35550	164.11
35600	164.15
35650	164.20
35700	164.16
35750	164.08
35800	163.94
35850	163.78
35900	163.79

B2 Storage Crest Levels Chainage 63000 - 65935m

Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Beltana - Ring Tank
Lot on Plan	-	Lot 7 & 8 on Plan SP 133008
Capacity at FSL	ML	112302
FSL RL	m AHD	162.10
Crest RL	m AHD	162.90
Maximum Embankment Height above NS	m	8.0
urface Area at FSL	ha	1880
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	153.90
Inlet Pipe Invert RL	m AHD	155.10
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #6;#7)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
ap Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

RTI DL RELEASE - DNRM

Release

N

0m
500
1000
1500
2000
2500
3000
3500
4000
4500

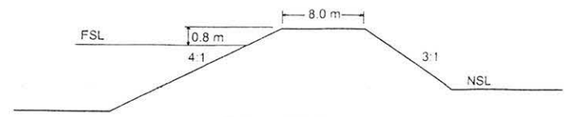
17000
16500
16000
15750
15500
15000
14500
14000
13500
13000
12500
12000
11500
11000
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6500
7000
7500
8000
8500

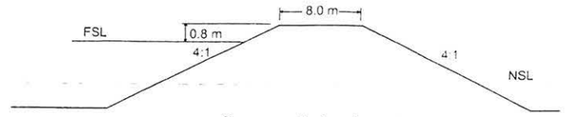
Beltana Storage

RTI DL RELEASE - DNRM

Typical Sections



External Embankment



Common Embankment

Beltana Storage

Cubbie Station, Dirranbandi

13-061

File A

Date 24.04.06

Scale 1:20 000

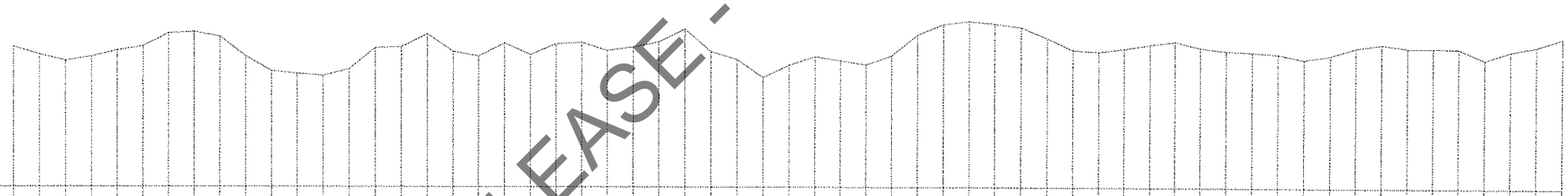
RTI DL RELEASE - DNRM

Datum RL = 161.500

Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	163.20	163.11	163.17	163.12	163.25	163.33	163.27	163.15	163.11	163.12	163.14	163.16	163.19	163.06	163.13	163.10	163.19	163.31	163.28	163.25	163.16	163.13	163.20	163.23	163.24	163.28	163.37	163.31	163.22	163.11	163.17	163.25	163.18	163.08	163.08	163.03	162.99	163.03	163.15	163.19	163.18	163.11	163.13	163.19	163.10	163.10	163.17	163.06	163.04	163.14	163.10	163.11	162.99	163.07	163.15	163.00	162.97	163.06	163.25	163.33	163.36

Beltana Storage Crest Levels Chainage 00 - 3000m

RTI DL RELEASE - DNRM

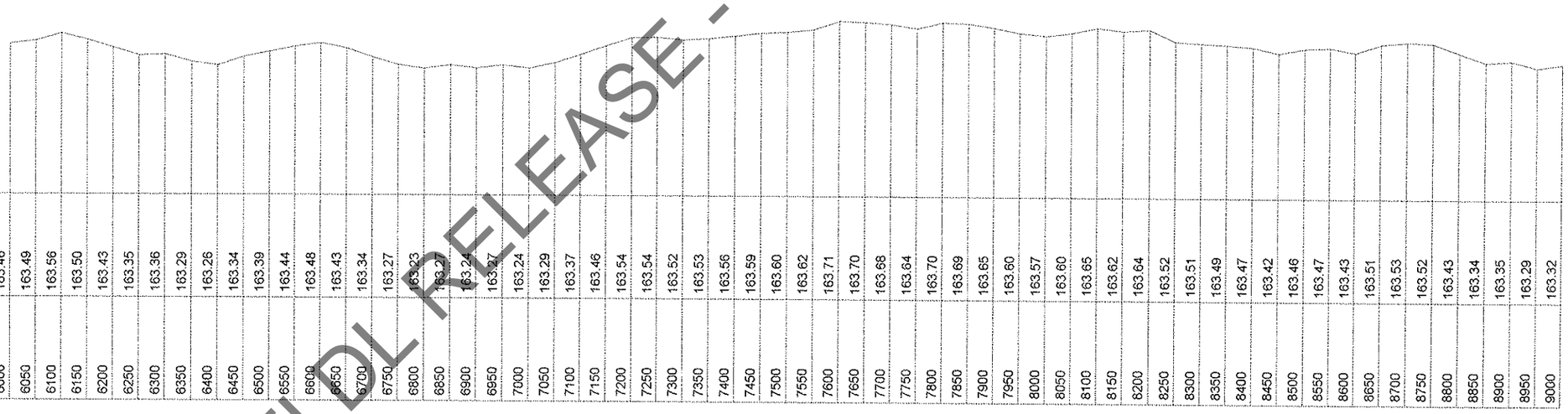


Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	163.36	163.29	163.23	163.27	163.33	163.37	163.49	163.51	163.46	163.27	163.13	163.10	163.08	163.15	163.35	163.36	163.49	163.52	163.43	163.40	163.29	163.39	163.41	163.33	163.36	163.41	163.54	163.32	163.24	163.07	163.19	163.27	163.23	163.19	163.28	163.48	163.59	163.62	163.59	163.56	163.45	163.34	163.32	163.35	163.39	163.42	163.36	163.33	163.32	163.30	163.25	163.29	163.37	163.40	163.37	163.37	163.36	163.26	163.34	163.38	163.46

Beltana Storage Crest Levels Chainage 3000 - 6000m

PTI DL RELEASE - DNRM

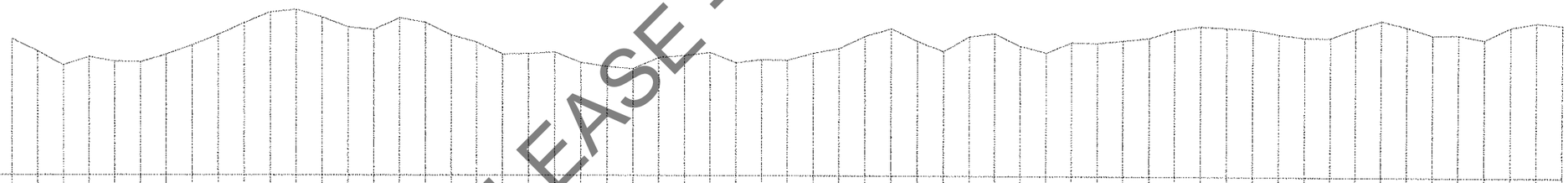


Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000
Height (m) AHD	163.46	163.49	163.56	163.50	163.43	163.35	163.36	163.29	163.26	163.34	163.39	163.44	163.48	163.43	163.34	163.27	163.23	163.27	163.24	163.27	163.24	163.29	163.37	163.46	163.54	163.54	163.52	163.53	163.56	163.59	163.60	163.62	163.71	163.70	163.68	163.64	163.70	163.69	163.65	163.60	163.57	163.60	163.65	163.62	163.64	163.52	163.51	163.49	163.47	163.42	163.46	163.47	163.43	163.51	163.53	163.52	163.43	163.34	163.35	163.29	163.32

Beltana Storage Crest Levels Chainage 6000 - 9000m

Release



Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	9000	9050	9100	9150	9200	9250	9300	9350	9400	9450	9500	9550	9600	9650	9700	9750	9800	9850	9900	9950	10000	10050	10100	10150	10200	10250	10300	10350	10400	10450	10500	10550	10600	10650	10700	10750	10800	10850	10900	10950	11000	11050	11100	11150	11200	11250	11300	11350	11400	11450	11500	11550	11600	11650	11700	11750	11800	11850	11900	11950	12000
Height (m) AHD	163.32	163.20	163.07	163.15	163.10	163.10	163.17	163.26	163.36	163.48	163.58	163.61	163.53	163.44	163.41	163.53	163.48	163.36	163.28	163.18	163.18	163.20	163.10	163.06	163.04	163.15	163.17	163.20	163.10	163.13	163.12	163.19	163.24	163.36	163.43	163.31	163.21	163.36	163.39	163.27	163.20	163.30	163.30	163.32	163.35	163.43	163.46	163.45	163.43	163.39	163.36	163.36	163.45	163.52	163.46	163.38	163.39	163.34	163.46	163.51	163.48

Beltana Storage Crest Levels Chainage 9000 - 12000m

PTI DL RELEASE - DNRM

Release

RTI DL RELEASE - DNRM

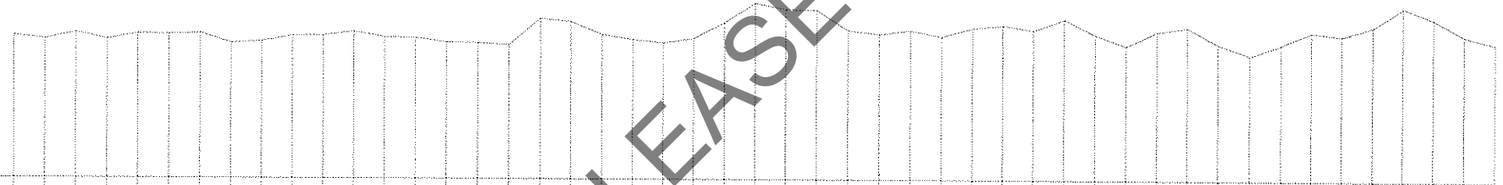
Datum RL = 161.500

Chainage (m) HS 1:10000 VS 1:50	12000	12050	12100	12150	12200	12250	12300	12350	12400	12450	12500	12550	12600	12650	12700	12750	12800	12850	12900	12950	13000	13050	13100	13150	13200	13250	13300	13350	13400	13450	13500	13550	13600	13650	13700	13750	13800	13850	13900	13950	14000	14050	14100	14150	14200	14250	14300	14350	14400	14450	14500	14550	14600	14650	14700	14750	14800	14850	14900	14950	15000
Height (m) AHD	163.48	163.42	163.33	163.38	163.46	163.52	163.44	163.63	163.80	163.79	163.79	163.72	163.52	163.24	163.09	163.07	163.07	163.28	163.25	163.20	163.29	163.21	163.21	163.22	163.20	163.12	163.02	162.96	162.99	162.97	163.01	163.02	163.01	163.12	163.09	163.03	163.05	163.17	163.46	163.23	163.15	163.18	163.16	163.17	163.10	163.13	163.15	163.12	163.15	163.20	163.19	163.10	163.18	163.19	163.12	163.15	163.19	163.12	163.15	163.11	163.16

Beltana Storage Crest Levels Chainage 12000 - 15000m

Release

RTI DL RELEASE - DNRM



Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
15000	163.16
15050	163.13
15100	163.19
15150	163.13
15200	163.18
15250	163.17
15300	163.18
15350	163.10
15400	163.12
15450	163.16
15500	163.17
15550	163.20
15600	163.15
15650	163.15
15700	163.11
15750	163.11
15800	163.09
15850	163.31
15900	163.28
15950	163.48
16000	163.14
16050	163.11
16100	163.15
16150	163.28
16200	163.44
16250	163.39
16300	163.38
16350	163.22
16400	163.19
16450	163.22
16500	163.17
16550	163.24
16600	163.26
16650	163.22
16700	163.31
16750	163.19
16800	163.10
16850	163.21
16900	163.25
16950	163.11
17000	163.02
17050	163.11
17100	163.21
17150	163.18
17200	163.26
17250	163.42
17300	163.32
17350	163.19
17400	163.12

Beltana Storage Crest Levels Chainage 15000 - 17445m

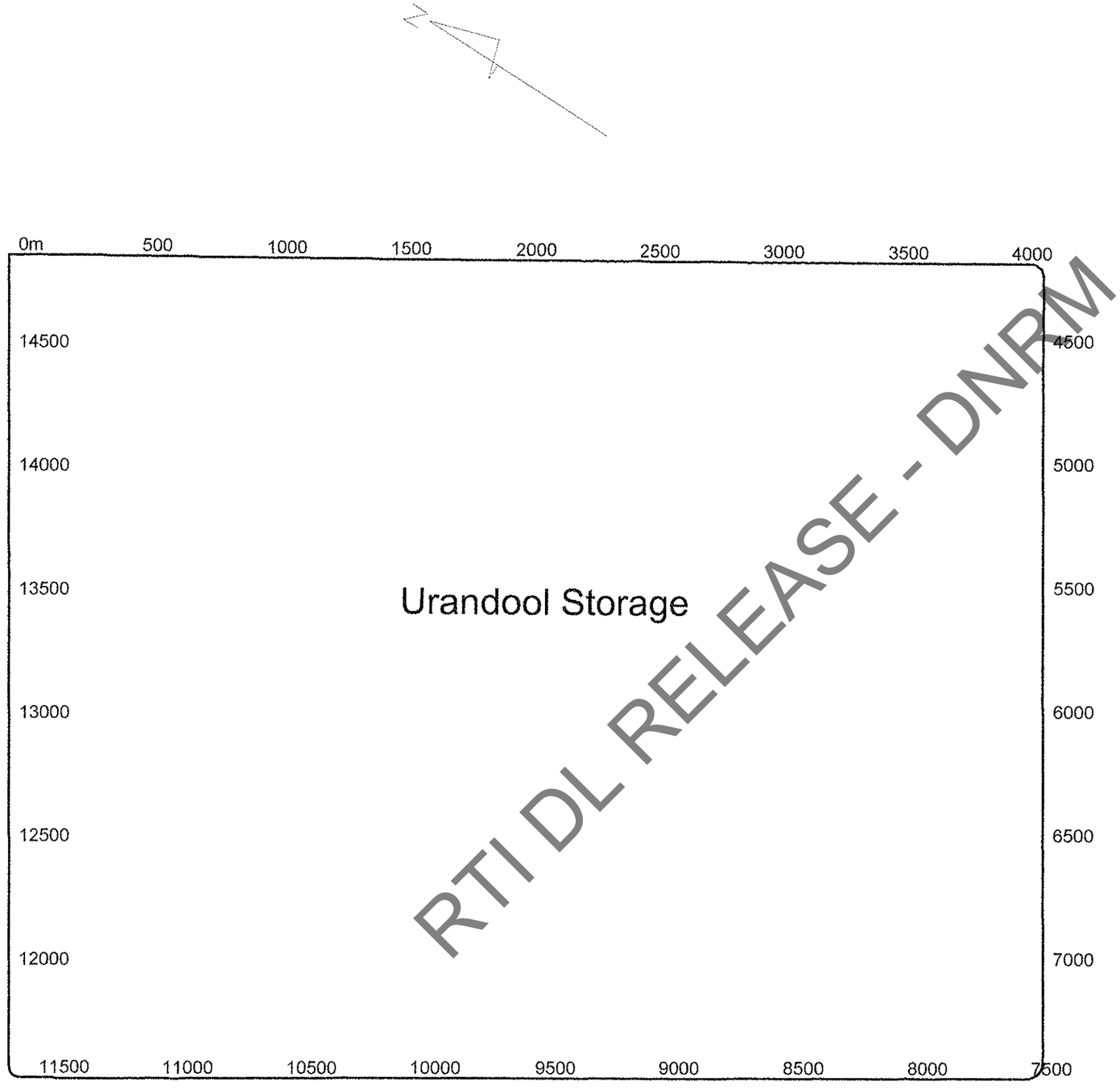
Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Urandool - Ring Tank
Lot on Plan	-	Lot 1 on Plan SP 118239
Capacity at FSL	ML	82440
FSL RL	m AHD	161.40
Crest RL	m AHD	162.20
Maximum Embankment Height above NS	m	8.0
Surface Area at FSL	ha	1370
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	152.80
Inlet Pipe Invert RL	m AHD	154.40
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #6;#7)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

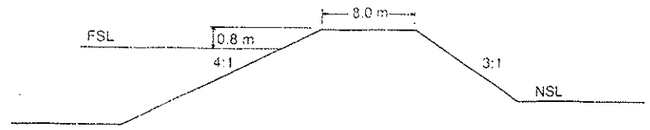
RTI DL RELEASE - DNRM

Release

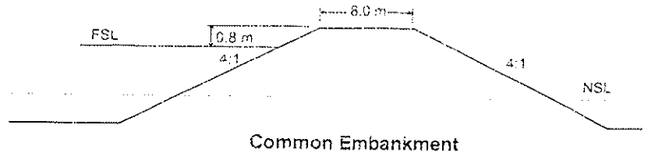


RTI DL RELEASE - DNRM

Typical Sections



External Embankment



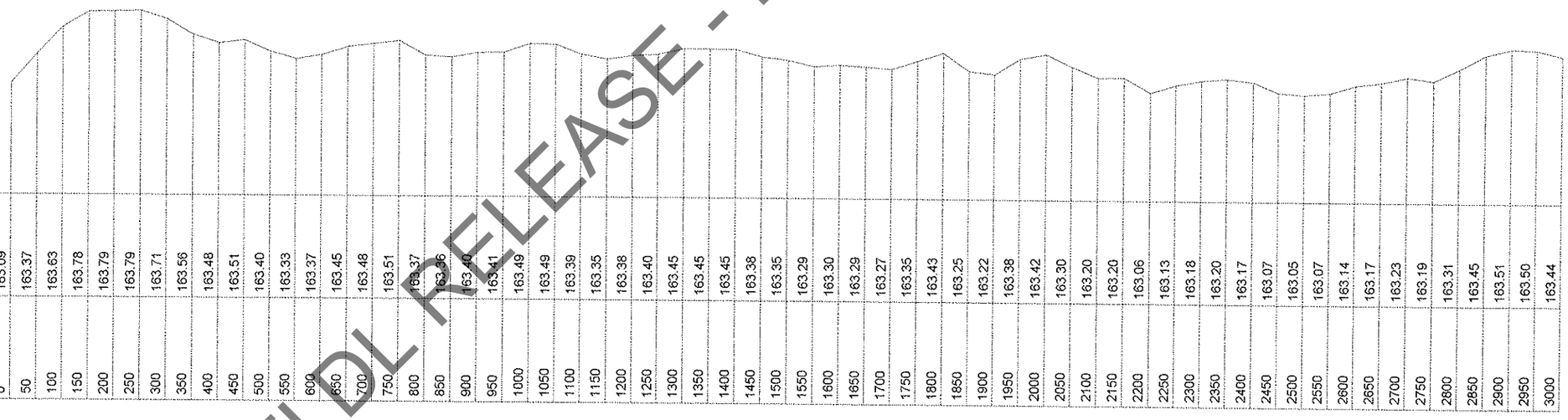
Common Embankment

Urandool Storage

Cubbie Station, Dirranbandi

Date 24.04.06 Scale 1 : 20 000

RTI DL RELEASE - DNRM



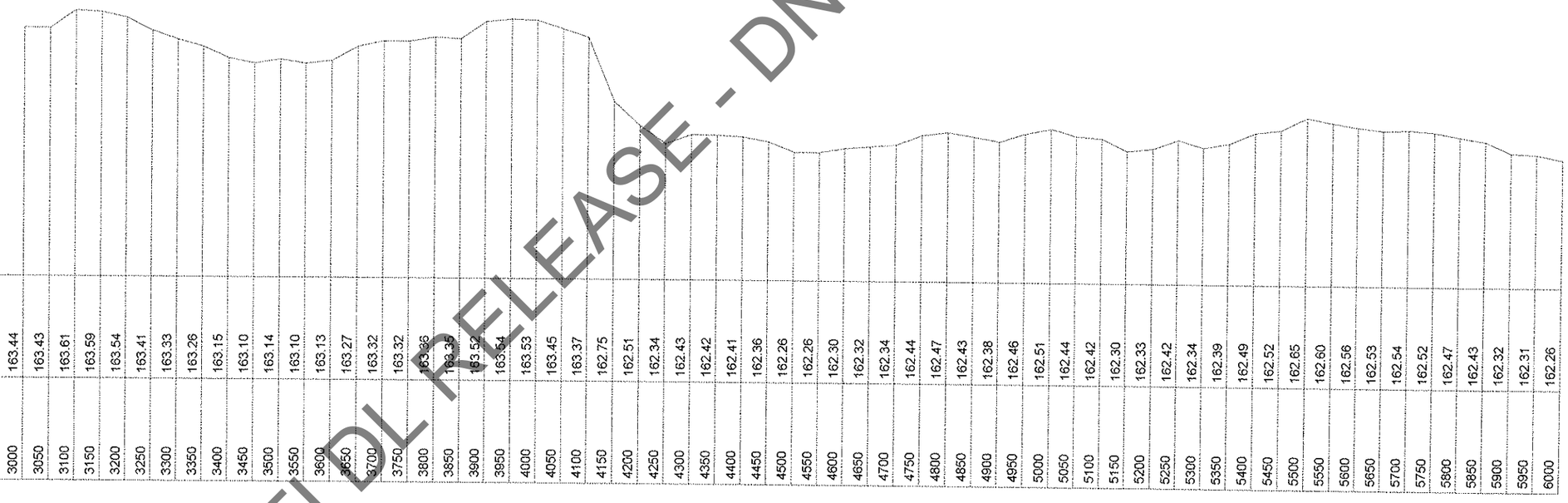
Datum RL = 162.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
0	163.09
50	163.37
100	163.63
150	163.78
200	163.79
250	163.79
300	163.71
350	163.56
400	163.48
450	163.51
500	163.40
550	163.33
600	163.37
650	163.45
700	163.48
750	163.51
800	163.37
850	163.36
900	163.40
950	163.41
1000	163.49
1050	163.49
1100	163.39
1150	163.35
1200	163.38
1250	163.40
1300	163.45
1350	163.45
1400	163.45
1450	163.38
1500	163.35
1550	163.29
1600	163.30
1650	163.29
1700	163.27
1750	163.35
1800	163.43
1850	163.25
1900	163.22
1950	163.38
2000	163.42
2050	163.30
2100	163.20
2150	163.20
2200	163.06
2250	163.13
2300	163.18
2350	163.20
2400	163.17
2450	163.07
2500	163.05
2550	163.07
2600	163.14
2650	163.17
2700	163.23
2750	163.19
2800	163.31
2850	163.45
2900	163.51
2950	163.50
3000	163.44

Urandool Storage Crest Levels Chainage 00 - 3000m

Release

RTI DL RELEASE - DNRM



Datum RL = 161.000

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	163.44	163.43	163.61	163.59	163.54	163.41	163.33	163.26	163.15	163.10	163.14	163.10	163.13	163.27	163.32	163.32	163.36	163.35	163.52	163.54	163.53	163.45	163.37	162.75	162.51	162.34	162.43	162.42	162.41	162.36	162.26	162.26	162.30	162.32	162.34	162.44	162.47	162.43	162.38	162.46	162.51	162.44	162.42	162.30	162.33	162.42	162.34	162.39	162.49	162.52	162.65	162.60	162.56	162.53	162.54	162.52	162.47	162.43	162.32	162.31	162.26

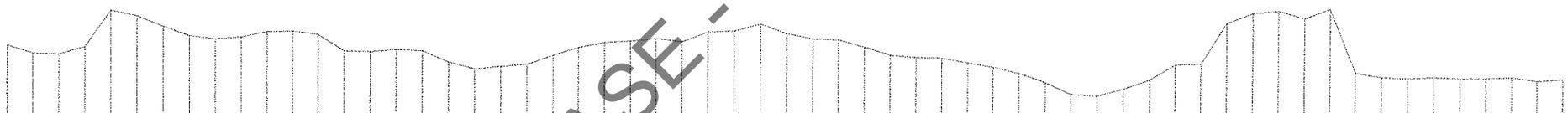
Urandool Storage Crest Levels Chainage 3000 - 6000m

RTI DL RELEASE - DNRM

Datum RL = 161.000

Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000
Height (m) AHD	162.26	162.23	162.31	162.28	162.33	162.37	162.37	162.40	162.49	162.49	162.49	162.56	162.56	162.69	162.65	162.56	162.47	162.34	162.37	162.37	162.43	162.46	162.42	162.46	162.43	162.44	162.51	162.48	162.41	162.53	162.60	162.75	162.77	162.82	162.91	162.98	163.00	162.91	162.85	162.79	162.75	162.82	162.85	162.90	162.99	163.08	162.99	162.90	162.90	162.99	162.83	162.77	162.78	162.77	162.72	162.66	162.73	162.80	162.79	162.83	162.48

Urandool Storage Crest Levels Chainage 6000 - 9000m



Datum RL = 161.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
9000	162.48
9050	162.40
9100	162.39
9150	162.46
9200	162.82
9250	162.76
9300	162.66
9350	162.57
9400	162.54
9450	162.56
9500	162.61
9550	162.62
9600	162.59
9650	162.43
9700	162.42
9750	162.44
9800	162.43
9850	162.32
9900	162.26
9950	162.28
10000	162.30
10050	162.39
10100	162.47
10150	162.52
10200	162.53
10250	162.56
10300	162.53
10350	162.62
10400	162.63
10450	162.70
10500	162.61
10550	162.56
10600	162.55
10650	162.48
10700	162.41
10750	162.39
10800	162.38
10850	162.34
10900	162.30
10950	162.24
11000	162.15
11050	162.04
11100	162.02
11150	162.09
11200	162.18
11250	162.33
11300	162.34
11350	162.74
11400	162.84
11450	162.86
11500	162.79
11550	162.89
11600	162.27
11650	162.23
11700	162.22
11750	162.23
11800	162.22
11850	162.23
11900	162.24
11950	162.20
12000	162.22

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Urandool Storage Crest Levels Chainage 9000 - 12000m

RTI DL RELEASE - DNRM



Datum RL = 161.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
12000	162.22
12050	162.24
12100	162.20
12150	162.21
12200	162.20
12250	162.22
12300	162.20
12350	162.18
12400	162.17
12450	162.16
12500	162.16
12550	162.16
12600	162.17
12650	162.12
12700	162.13
12750	162.16
12800	162.15
12850	162.18
12900	162.16
12950	162.15
13000	162.12
13050	162.11
13100	162.11
13150	162.12
13200	162.13
13250	162.14
13300	162.13
13350	162.11
13400	162.18
13450	162.16
13500	162.19
13550	162.18
13600	162.21
13650	162.17
13700	162.18
13750	162.20
13800	162.20
13850	162.21
13900	162.21
13950	162.17
14000	162.18
14050	162.20
14100	162.21
14150	162.22
14200	162.23
14250	162.21
14300	162.22
14350	162.26
14400	162.46
14450	162.59
14500	162.63
14550	162.63
14600	162.64
14650	162.65
14700	162.65
14750	162.69
14800	162.65
14850	162.73

Urandool Storage Crest Levels Chainage 12000 - 14850m

Release

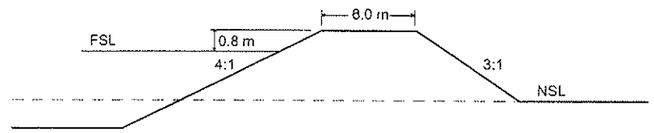
Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	M1/2 - Ring Tank
Lot on Plan	-	Lot 1 on Plan SP 118239
Capacity at FSL	ML	67924
FSL RL	m AHD	160.60
Crest RL	m AHD	161.40
Maximum Embankment Height above NS	m	8.0
Surface Area at FSL	ha	1000
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	151.50
Inlet Pipe Invert RL	m AHD	153.40
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #6;#7)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

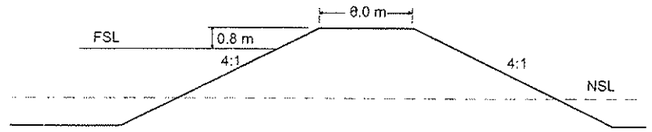
RTI DL RELEASE - DNRM

Release

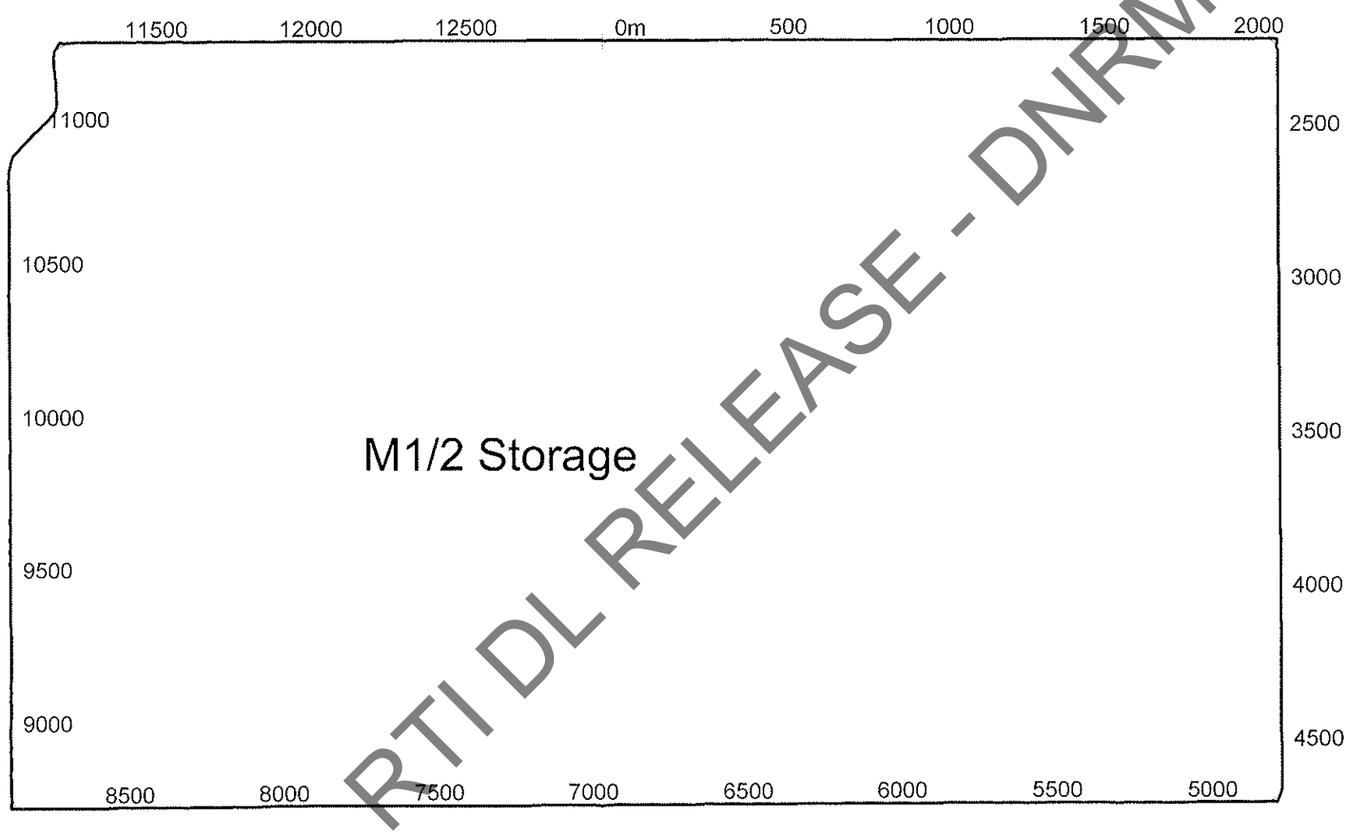
Typical Sections



External Embankment



Common Embankment



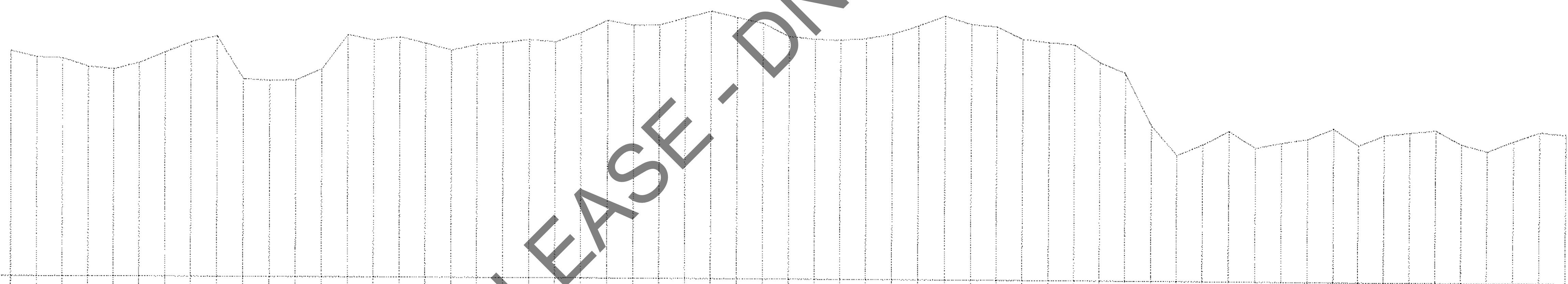
RTI DL RELEASE - DNRM

M1/2 Storage

Cubbie Station, Dirranbandi

13-061 File A Date 24.04.06 Scale 1:20 000

Release



Datum RL = 160.500

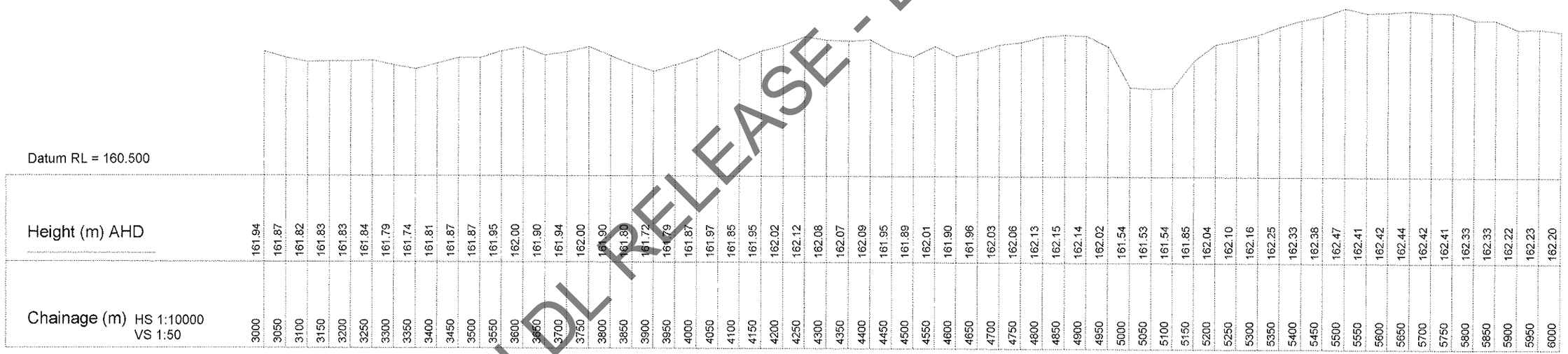
Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950
Height (m) AHD	162.68	162.62	162.61	162.53	162.50	162.57	162.67	162.77	162.83	162.41	162.40	162.40	162.51	162.84	162.79	162.82	162.76	162.70	162.75	162.77

Chainage (m) HS 1:10000 VS 1:50	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950
Height (m) AHD	162.80	162.78	162.87	162.99	162.95	162.95	163.02	163.09	163.03	162.97	162.85	162.82	162.81	162.83	162.88	162.96	163.05	162.97	162.95	162.83

Chainage (m) HS 1:10000 VS 1:50	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	162.80	162.78	162.61	162.51	162.01	161.72	161.83	161.96	161.80	161.85	161.89	161.99	161.83	161.93	161.95	161.98	161.84	161.78	161.88	161.96	161.94

M1/2 Storage Crest Levels Chainage 00 - 3000m

RTI DL RELEASE - DNRM



M1/2 Storage Crest Levels Chainage 3000 - 6000m

RTI DL RELEASE - DNRM

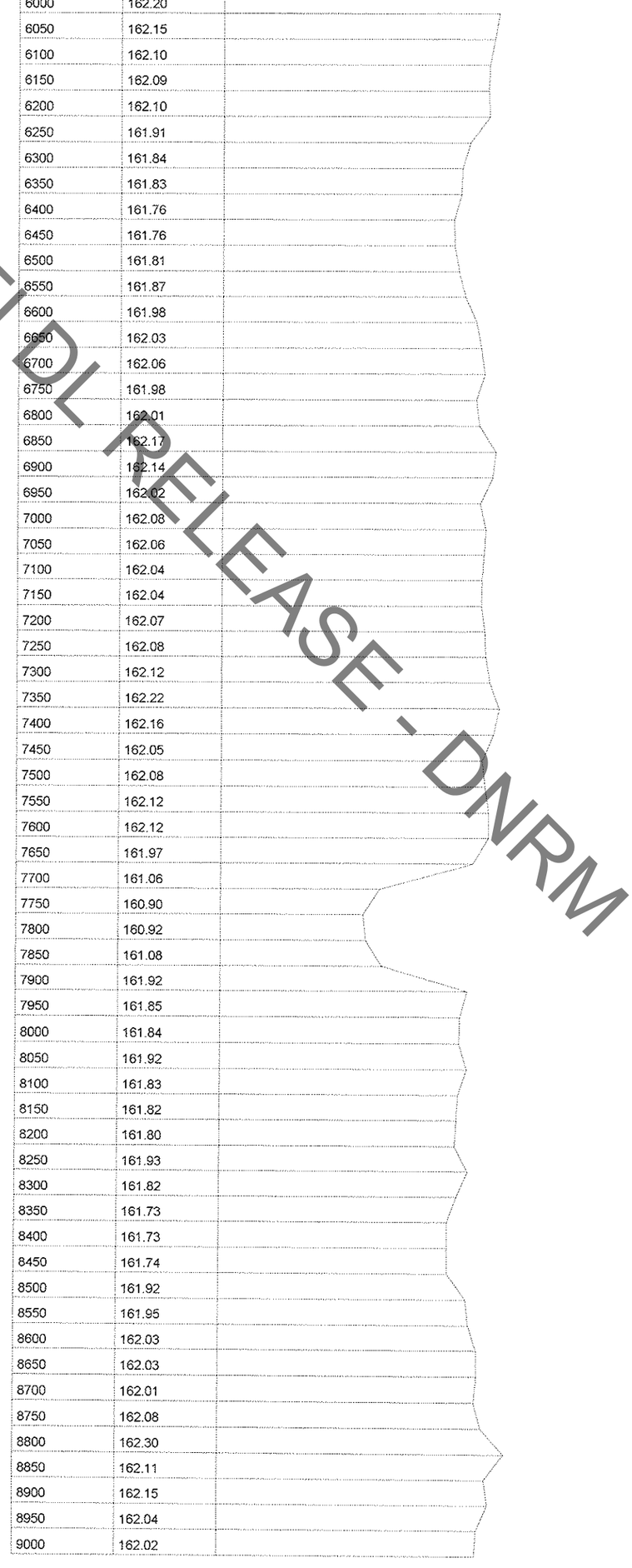
13-061

M1/2 Storage Crest Levels

Chainage 6000 - 9000m

Datum RL = 159.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
6000	162.20
6050	162.15
6100	162.10
6150	162.09
6200	162.10
6250	161.91
6300	161.84
6350	161.83
6400	161.76
6450	161.76
6500	161.81
6550	161.87
6600	161.98
6650	162.03
6700	162.06
6750	161.98
6800	162.01
6850	162.17
6900	162.14
6950	162.02
7000	162.08
7050	162.06
7100	162.04
7150	162.04
7200	162.07
7250	162.08
7300	162.12
7350	162.22
7400	162.16
7450	162.05
7500	162.08
7550	162.12
7600	162.12
7650	161.97
7700	161.06
7750	160.90
7800	160.92
7850	161.08
7900	161.92
7950	161.85
8000	161.84
8050	161.92
8100	161.83
8150	161.82
8200	161.80
8250	161.93
8300	161.82
8350	161.73
8400	161.73
8450	161.74
8500	161.92
8550	161.95
8600	162.03
8650	162.03
8700	162.01
8750	162.08
8800	162.30
8850	162.11
8900	162.15
8950	162.04
9000	162.02

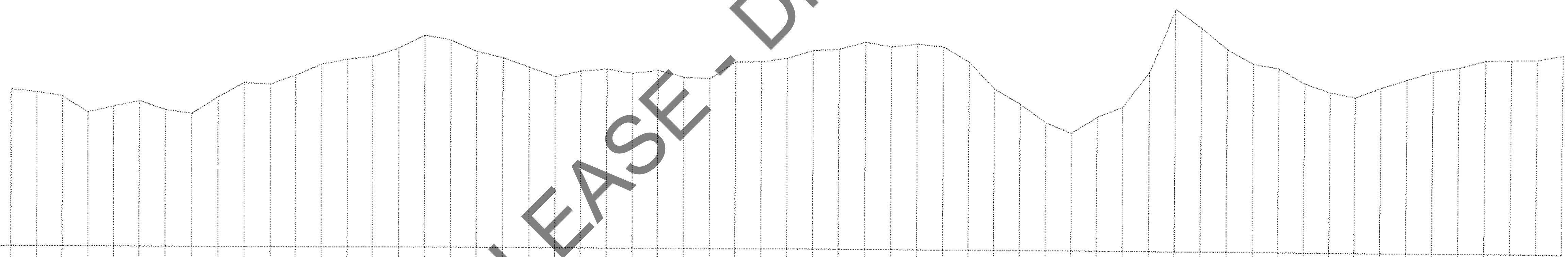


RTI RELEASE - DNRM

File A

Release

Release



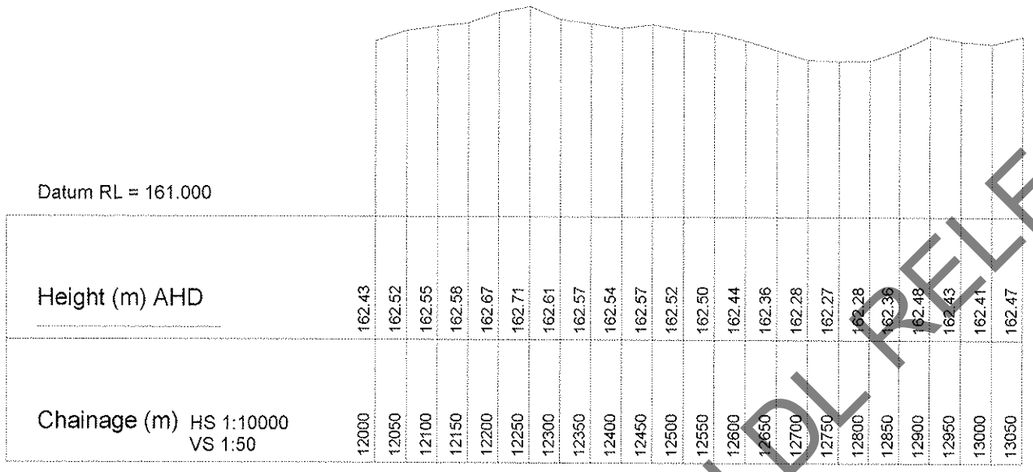
Datum RL = 160.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
9000	162.02
9050	162.00
9100	161.96
9150	161.80
9200	161.86
9250	161.91
9300	161.83
9350	161.79
9400	161.95
9450	162.09
9500	162.08
9550	162.17
9600	162.27
9650	162.32
9700	162.35
9750	162.43
9800	162.56
9850	162.51
9900	162.40
9950	162.34
10000	162.25
10050	162.16
10100	162.22
10150	162.24
10200	162.20
10250	162.23
10300	162.16
10350	162.15
10400	162.31
10450	162.32
10500	162.35
10550	162.43
10600	162.44
10650	162.51
10700	162.47
10750	162.50
10800	162.47
10850	162.33
10900	162.07
10950	161.92
11000	161.74
11050	161.64
11100	161.80
11150	161.90
11200	162.24
11250	162.85
11300	162.67
11350	162.47
11400	162.33
11450	162.29
11500	162.14
11550	162.06
11600	162.01
11650	162.11
11700	162.19
11750	162.27
11800	162.31
11850	162.38
11900	162.38
11950	162.39
12000	162.43

M1/2 Storage Crest Levels Chainage 9000 - 12000m

RTI DL RELEASE - DNRM

Release



Datum RL = 161.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
12000	162.43
12050	162.52
12100	162.55
12150	162.58
12200	162.67
12250	162.71
12300	162.61
12350	162.57
12400	162.54
12450	162.57
12500	162.52
12550	162.50
12600	162.44
12650	162.36
12700	162.28
12750	162.27
12800	162.28
12850	162.36
12900	162.48
12950	162.43
13000	162.41
13050	162.47

M1/2 Storage Crest Levels Chainage 12000 - 13084m

RTI DL RELEASE - DNRM

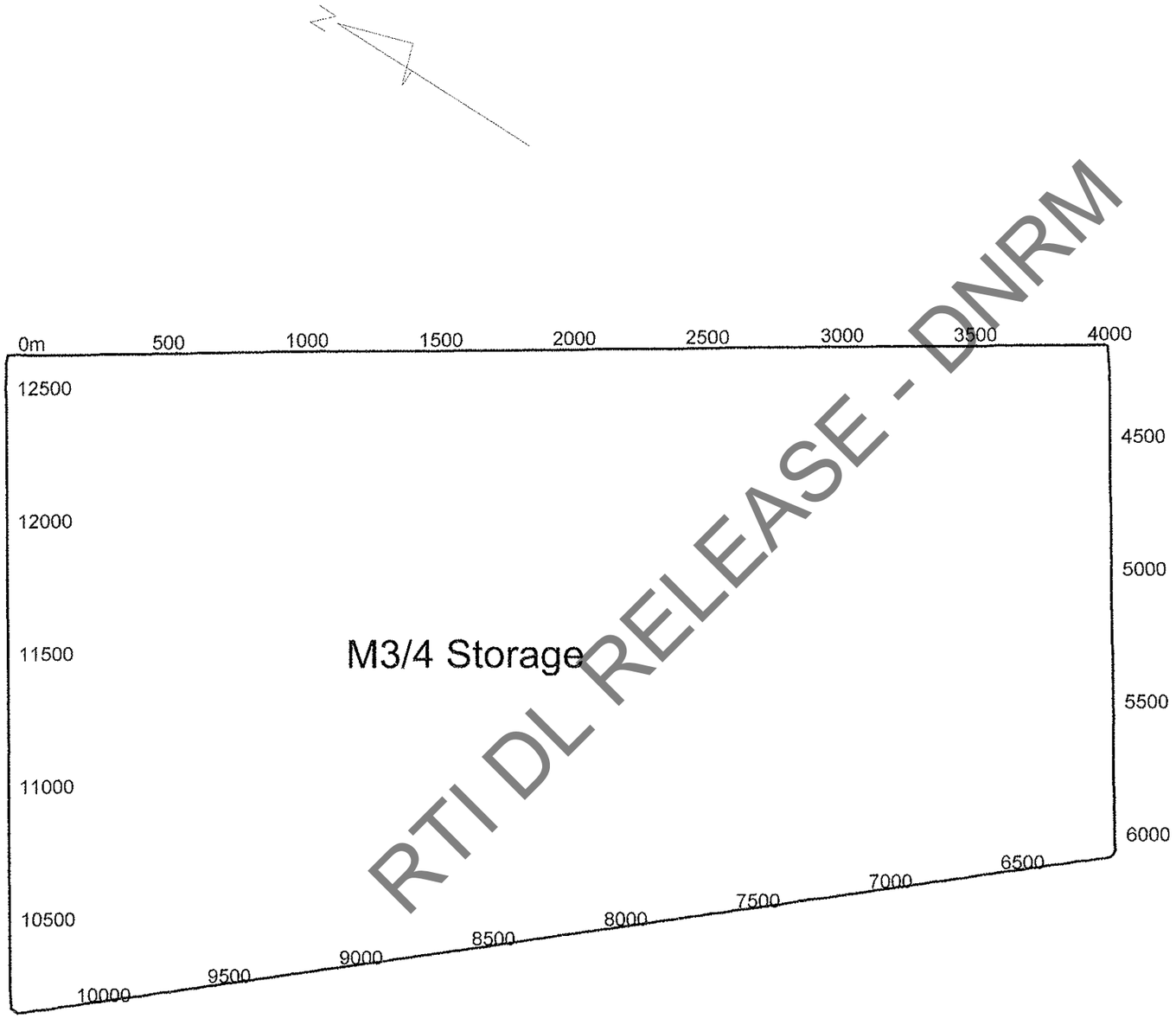
Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	M3/4 - Ring Tank
Lot on Plan	-	Lot 4 on Plan SP 132531
Capacity at FSL	ML	47130
FSL RL	m AHD	157.90
Crest RL	m AHD	158.70
Maximum Embankment Height above NS	m	6.5
Surface Area at FSL	ha	900
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	150.40
Inlet Pipe Invert RL	m AHD	152.20
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #6;#7)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

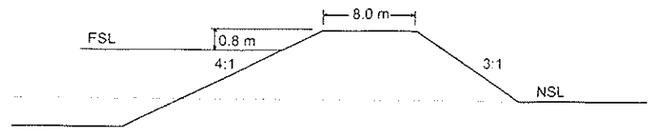
RTI DL RELEASE - DNRM

Release

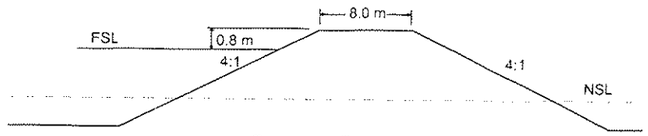


RTI DL RELEASE - DNRM

Typical Sections



External Embankment



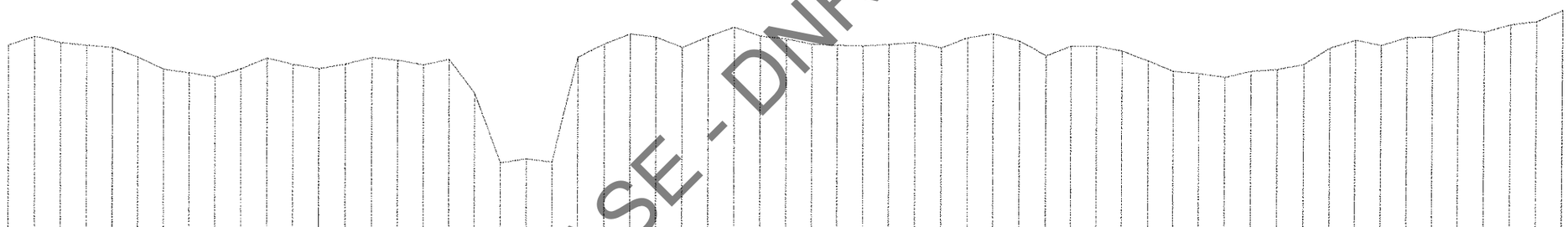
Common Embankment

M3/4 Storage

Cubbie Station, Dirranbandi

Date 24.04.06 Scale 1 : 20 000

Release

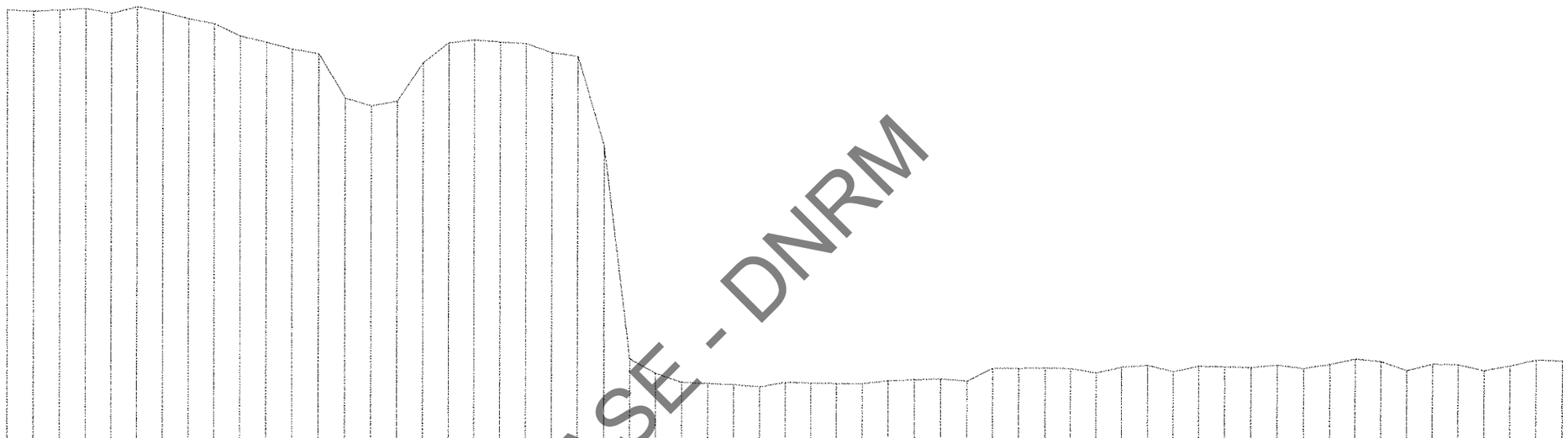


Datum RL = 159.500

Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	162.01	162.10	162.04	162.01	161.99	161.90	161.78	161.75	161.71	161.79	161.89	161.83	161.79	161.84	161.90	161.88	161.83	161.89	161.56	160.88	160.92	160.89	161.91	162.04	162.14	162.11	162.01	162.12	162.21	162.13	162.10	162.05	162.04	162.04	162.05	162.07	162.02	162.12	162.16	162.09	161.95	162.05	162.05	162.00	161.91	161.81	161.79	161.75	161.81	161.83	161.88	162.04	162.12	162.07	162.15	162.16	162.24	162.21	162.28	162.31	162.42

M3/4 Storage Crest Levels Chainage 00 - 3000m

RTI DL RELEASE - DNRM

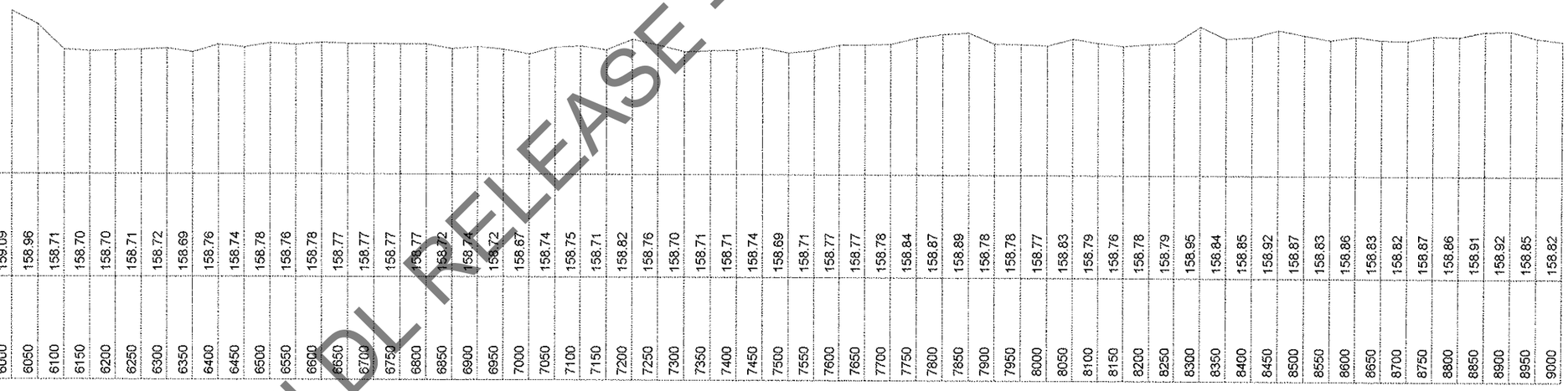


Datum RL = 157.500

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	162.42	162.41	162.42	162.44	162.39	162.46	162.41	162.34	162.30	162.18	162.12	162.05	162.01	161.58	161.50	161.55	161.92	162.12	162.15	162.13	162.11	162.03	161.99	161.13	159.06	158.92	158.84	158.83	158.82	158.80	158.84	158.84	158.83	158.83	158.86	158.87	158.88	158.86	158.99	158.99	158.99	158.99	158.95	159.00	159.02	158.96	159.02	159.01	159.01	159.03	159.00	159.04	159.10	159.07	158.99	159.05	159.05	158.99	159.04	159.10	159.09

RTI DL RELEASE - DNRM

M3/4 Storage Crest Levels Chainage 3000 - 6000m



Datum RL = 157.500

Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000
Height (m) AHD	159.09	158.96	158.71	158.70	158.70	158.71	158.72	158.69	158.76	158.74	158.78	158.76	158.78	158.77	158.77	158.77	158.77	158.72	158.74	158.72	158.67	158.74	158.75	158.71	158.82	158.76	158.70	158.71	158.71	158.74	158.69	158.71	158.77	158.77	158.78	158.84	158.87	158.89	158.78	158.78	158.77	158.83	158.79	158.76	158.78	158.79	158.95	158.84	158.85	158.92	158.87	158.83	158.86	158.83	158.82	158.87	158.86	158.91	158.92	158.85	158.82

M3/4 Storage Crest Levels Chainage 6000 - 9000m

RTI DL RELEASE - DNRM

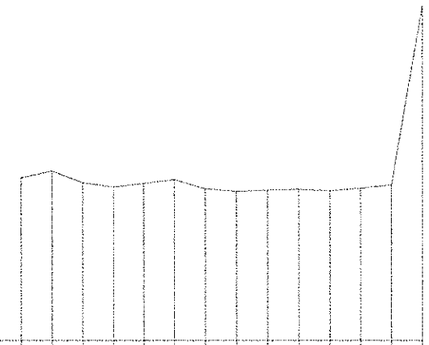
Release

RTI DL RELEASE - DNRM

Datum RL = 157.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
9000	158.82
9050	158.79
9100	158.90
9150	158.89
9200	158.91
9250	158.86
9300	158.87
9350	158.82
9400	158.81
9450	158.96
9500	158.91
9550	158.89
9600	158.81
9650	158.97
9700	158.97
9750	158.98
9800	159.00
9850	158.97
9900	159.00
9950	158.99
10000	158.98
10050	158.86
10100	159.03
10150	158.98
10200	158.94
10250	158.98
10300	158.94
10350	158.97
10400	158.98
10450	159.00
10500	159.05
10550	158.99
10600	158.98
10650	159.04
10700	158.93
10750	159.00
10800	158.94
10850	158.96
10900	158.99
10950	158.87
11000	158.86
11050	158.81
11100	158.87
11150	158.84
11200	158.91
11250	158.87
11300	158.87
11350	158.86
11400	158.87
11450	158.85
11500	158.88
11550	158.92
11600	158.89
11650	158.97
11700	158.99
11750	158.90
11800	158.92
11850	158.87
11900	158.86
11950	158.92
12000	158.83

M3/4 Storage Crest Levels Chainage 9000 - 12000m



Datum RL = 157.500

Height (m) AHD	158.83	158.88	158.79	158.75	158.78	158.81	158.74	158.72	158.73	158.73	158.72	158.74	158.77	160.23	
Chainage (m) HS 1:10000 VS 1:50	12000	12050	12100	12150	12200	12250	12300	12350	12400	12450	12500	12550	12600	12650	

M3/4 Storage Crest Levels Chainage 12000 - 12650m

PTI DL RELEASE - DNRM

Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Swamp - Ring Tank
Lot on Plan	-	Lot 2 & 3 on BEL5370
Capacity at FSL	ML	4450
FSL RL	m AHD	166.70
Crest RL	m AHD	167.50
Maximum Embankment Height above NS	m	3.7
Surface Area at FSL	ha	180
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	162.50
Inlet Pipe Invert RL	m AHD	163.00
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #1; #2 ;#4)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

RTI DL RELEASE - DNRM

Natural Resources and Mines

Recfind Action Sheet
New File Request

Requesting Officer: J MERLER

☑ New File Required

☐ File Part Required

Date Created: .....

Event Date 1: .....

Event Date 2: .....

Active Until Date: .....

Comments (if any)

FINAL ACTION

Return to Requesting Officer: ☐

File in Compactus: ☐

Other: .....

Date of Request: 18TH AUGUST 2006 Urgent ☐ Routine ☐

File Folder No:

Part No: 0475 ***Colour Code:***

Title: WATER PLANNING CONDAMINE BALONNE CERTIFICATION REPORT FOR INFRASTRUCTURE IN THE LOWER BALONNE CUBBIE STATION

Disposition No: 001 Active

File Type: TBD

Series: NR&M

Department: RID 1

Retention: 050P

Location: TB7

Trap Reason:

Old Series No.

Description: .....

.....

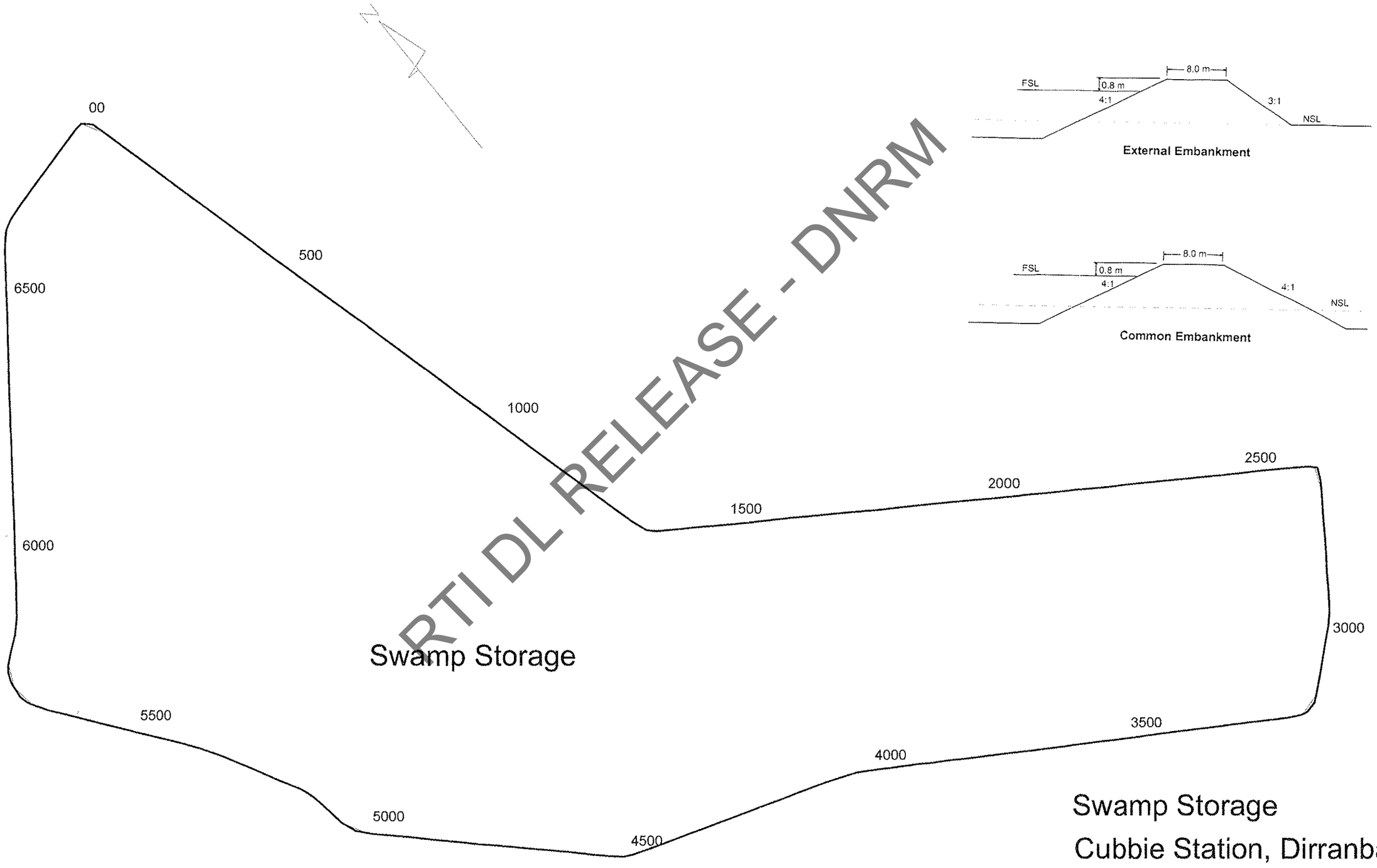
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Search Words: .....

.....

RTI DL RELEASE - DNRM

Release



Typical Sections

External Embankment

Common Embankment

RTI DL RELEASE - DNRM

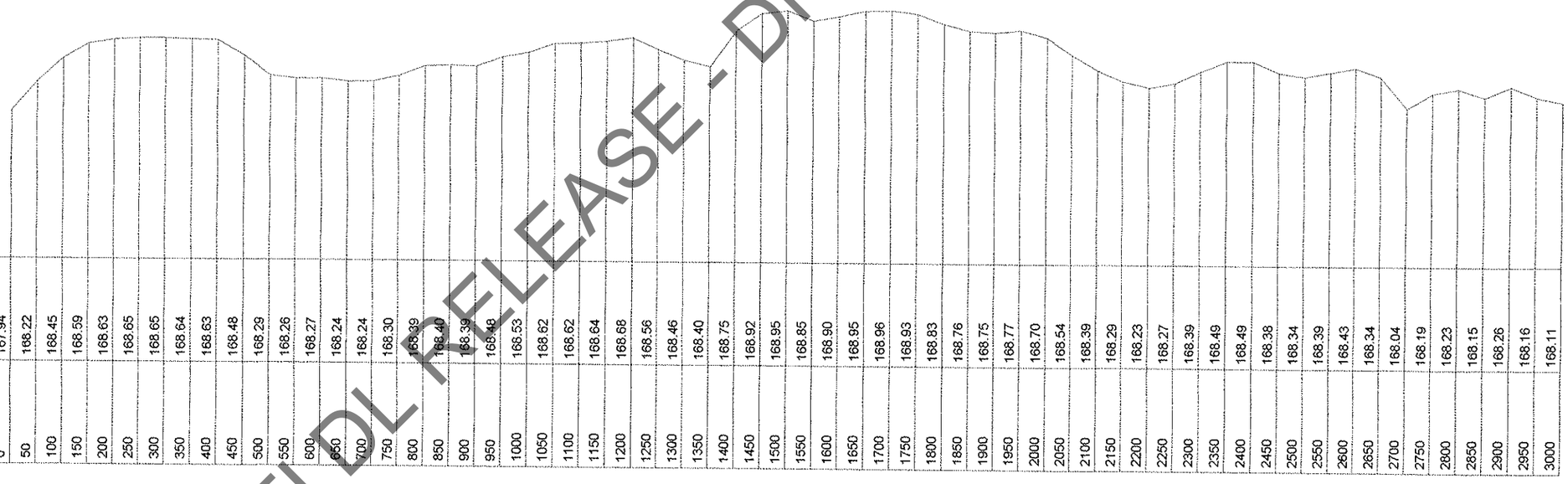
Swamp Storage
Cubbie Station, Dirranbandi

Date 24.04.06 Scale 1 : 7,500

13-061

File A

PTI DL RELEASE - DNRM

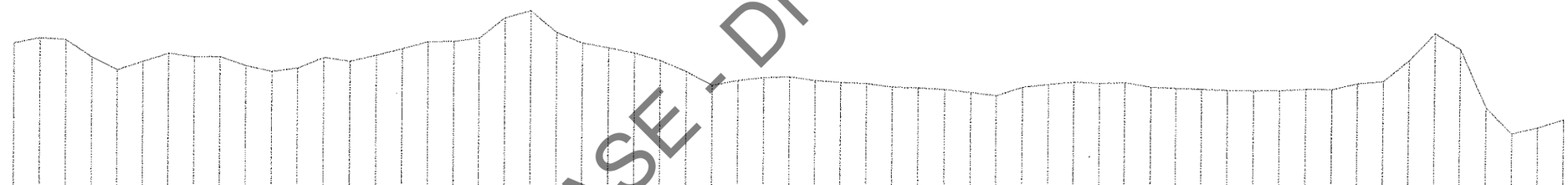


Datum RL = 166.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
0	167.94
50	168.22
100	168.45
150	168.59
200	168.63
250	168.65
300	168.65
350	168.64
400	168.63
450	168.48
500	168.29
550	168.26
600	168.27
650	168.24
700	168.24
750	168.30
800	168.39
850	168.40
900	168.39
950	168.48
1000	168.53
1050	168.62
1100	168.62
1150	168.64
1200	168.68
1250	168.56
1300	168.46
1350	168.40
1400	168.75
1450	168.92
1500	168.95
1550	168.85
1600	168.90
1650	168.95
1700	168.96
1750	168.93
1800	168.83
1850	168.76
1900	168.75
1950	168.77
2000	168.70
2050	168.54
2100	168.39
2150	168.29
2200	168.23
2250	168.27
2300	168.39
2350	168.49
2400	168.49
2450	168.38
2500	168.34
2550	168.39
2600	168.43
2650	168.34
2700	168.04
2750	168.19
2800	168.23
2850	168.15
2900	168.26
2950	168.16
3000	168.11

Swamp Storage Crest Levels Chainage 00 - 3000m

Release



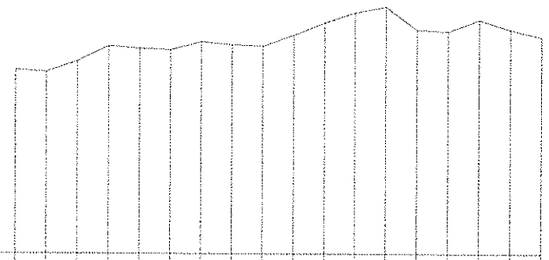
Datum RL = 166.000

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	168.11	168.16	168.14	167.98	167.85	167.94	168.02	167.98	167.99	167.90	167.85	167.88	167.99	167.95	168.01	168.08	168.15	168.05	168.15	168.39	168.46	168.25	168.15	168.10	168.05	167.98	167.88	167.75	167.80	167.83	167.84	167.80	167.79	167.78	167.75	167.74	167.73	167.70	167.67	167.76	167.79	167.81	167.80	167.81	167.77	167.76	167.76	167.75	167.75	167.75	167.77	167.77	167.83	167.85	168.06	168.32	168.17	167.61	167.36	167.42	167.50

Swamp Storage Crest Levels Chainage 3000 - 6000m

PTI DL RELEASE - DNRM

Release



Datum RL = 166.000

Height (m) AHD	167.50	167.48	167.57	167.69	167.67	167.66	167.73	167.70	167.69	167.78	167.88	167.97	168.01	167.83	167.81	167.91	167.83	167.77
Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850

Swamp Storage Crest Levels Chainage 6000 - 6850m

PTI DL RELEASE - DNRM

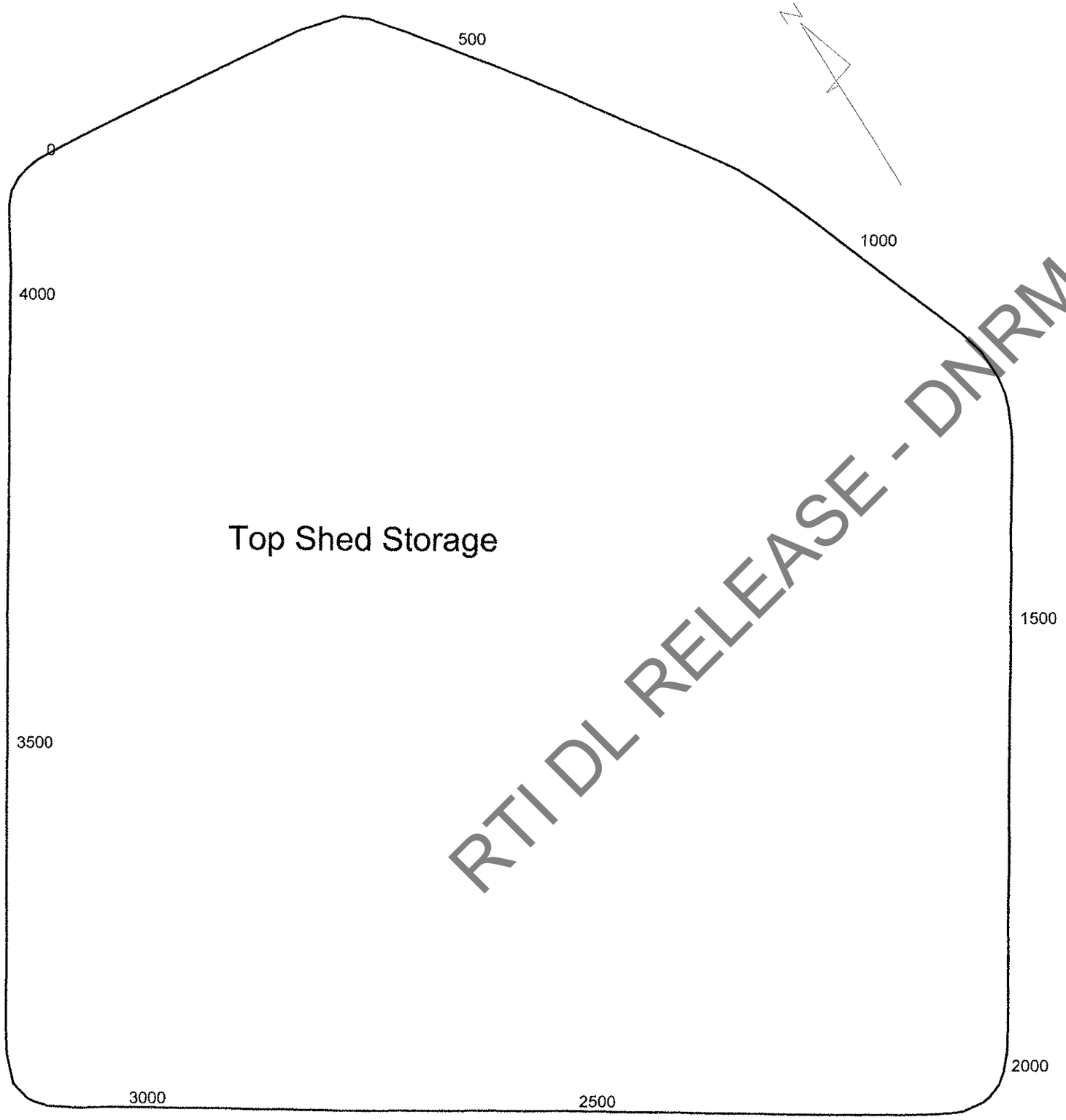
Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Top Shed - Ring Tank
Lot on Plan	-	Lot 3 & 4 on BEL5370
Capacity at FSL	ML	7002
FSL RL	m AHD	169.20
Crest RL	m AHD	170.70
Maximum Embankment Height above NS	m	9.0
Surface Area at FSL	ha	120
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	163.00
Inlet Pipe Invert RL	m AHD	163.00
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #1; #2 ;#4)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

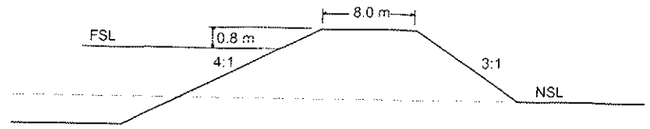
RTI DL RELEASE - DNRM

Release

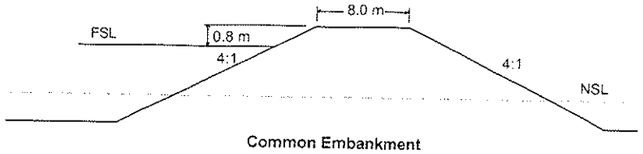


Top Shed Storage

Typical Sections



External Embankment



Common Embankment

RTI DL RELEASE - DNRM

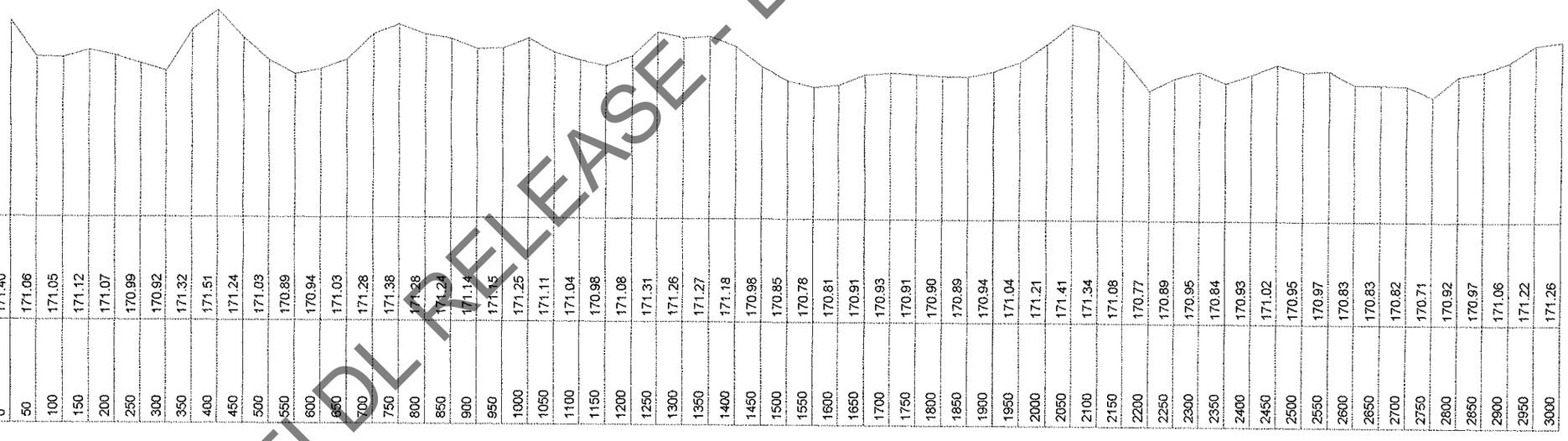
Top Shed Storage
Cubbie Station, Dirranbandi

13-061

File A

Date 24.04.06 Scale 1:5 000

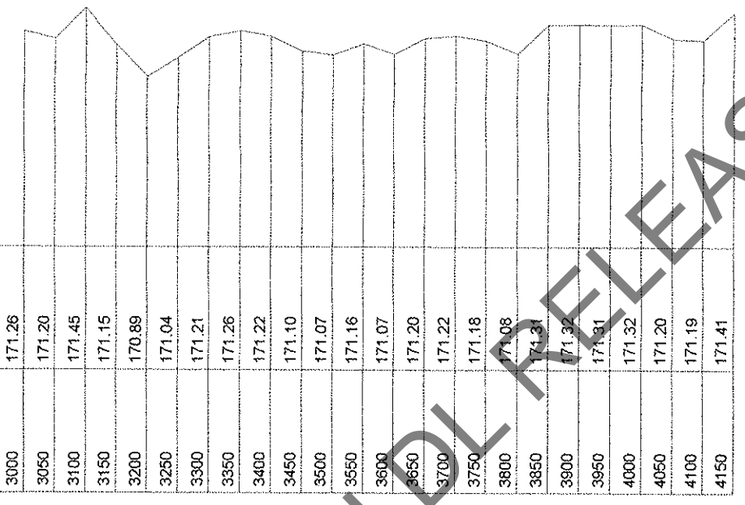
RTI DL RELEASE - DNRM



Datum RL = 169.500

Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	171.40	171.06	171.05	171.12	171.07	170.99	170.92	171.32	171.51	171.24	171.03	170.89	170.94	171.03	171.28	171.38	171.28	171.24	171.14	171.15	171.25	171.11	171.04	170.98	171.08	171.31	171.26	171.27	171.18	170.98	170.85	170.78	170.81	170.91	170.93	170.91	170.90	170.89	170.94	171.04	171.21	171.41	171.34	171.08	170.77	170.89	170.95	170.84	170.93	171.02	170.95	170.97	170.83	170.83	170.82	170.71	170.92	170.97	171.06	171.22	171.26

'Top Shed Storage' Crest Levels Chainage 00 - 3000m



Datum RL = 169.500

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150
Height (m) AHD	171.26	171.20	171.45	171.15	170.89	171.04	171.21	171.26	171.22	171.10	171.07	171.16	171.07	171.20	171.22	171.18	171.08	171.31	171.32	171.31	171.32	171.20	171.19	171.41

'Top Shed Storage' Crest Levels Chainage 3000 - 4171m

PTI DL RELEASE - DNRM

Release

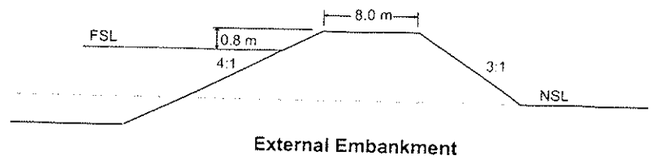
Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Corowa - Ring Tank
Lot on Plan	-	Lot 5 on BEL5370 & Lot 10 on Plan SP 13008
Capacity at FSL	ML	12084
FSL RL	m AHD	164.70
Crest RL	m AHD	165.50
Maximum Embankment Height above NS	m	4.5
Surface Area at FSL	ha	410
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	158.50
Inlet Pipe Invert RL	m AHD	160.60
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #1; #2 ;#4)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

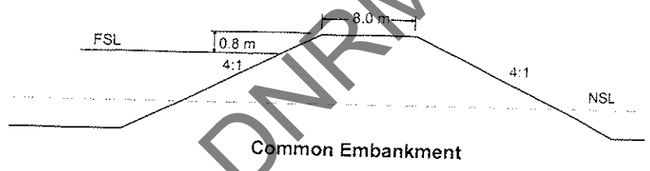
RTI DL RELEASE - DNRM

Release

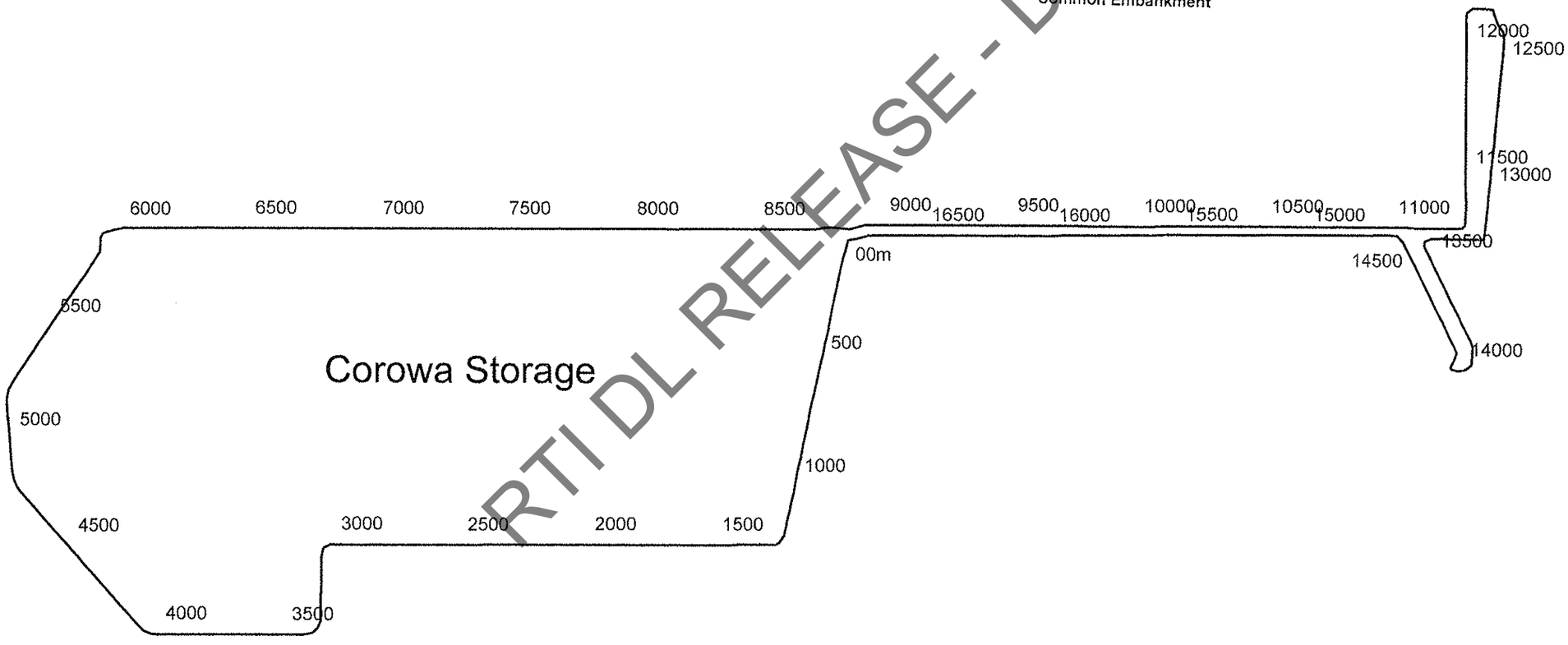
Typical Sections



External Embankment



Common Embankment

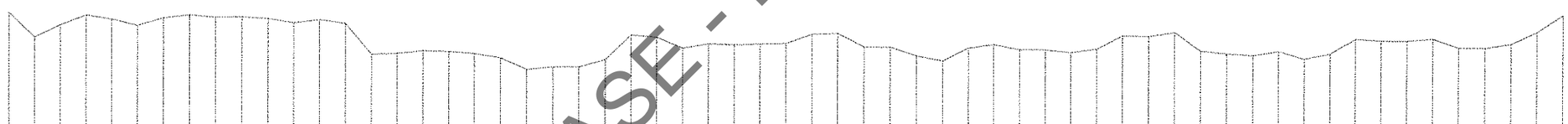


RTI DL RELEASE - DNRM

Corowa Storage

Cubbie Station, Dirranbandi

Date 24.04.06 Scale 1 : 20 000



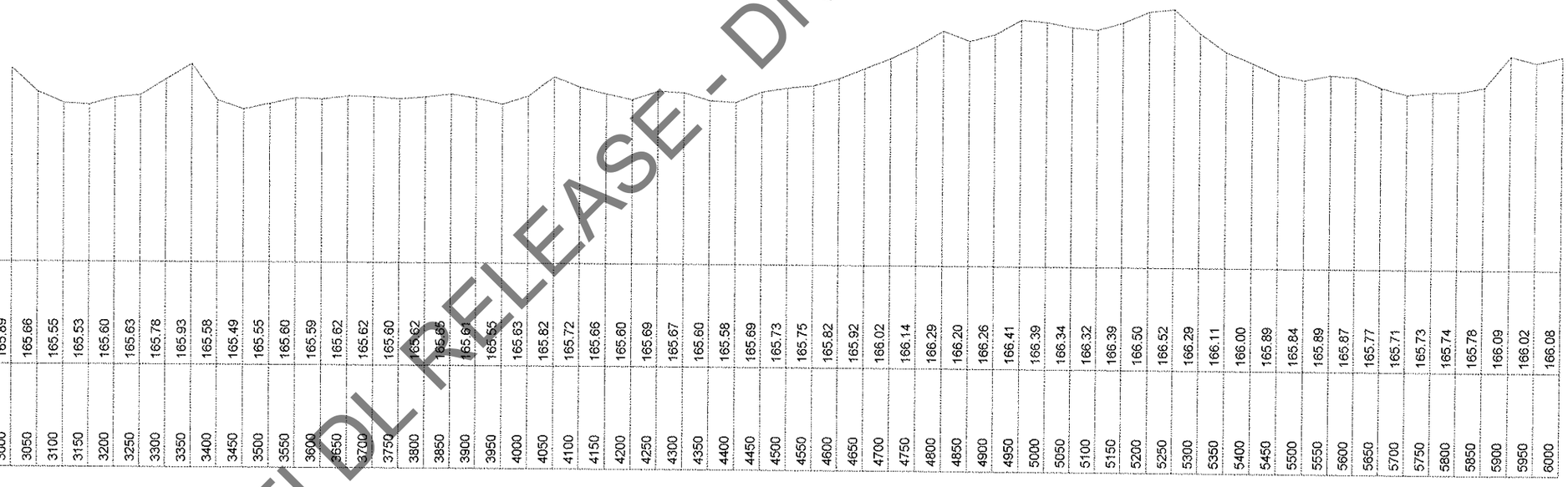
Datum RL = 164.000

Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	165.86	165.62	165.74	165.83	165.79	165.73	165.81	165.84	165.81	165.82	165.80	165.76	165.79	165.76	165.46	165.47	165.49	165.49	165.47	165.43	165.32	165.34	165.34	165.41	165.65	165.63	165.53	165.57	165.56	165.57	165.58	165.67	165.68	165.55	165.55	165.46	165.42	165.54	165.58	165.53	165.53	165.50	165.54	165.67	165.66	165.70	165.52	165.50	165.48	165.52	165.45	165.50	165.65	165.63	165.63	165.65	165.57	165.57	165.61	165.72	165.89

Corowa Storage Crest Levels Chainage 00 - 3000m

RTI DL RELEASE - DNRM

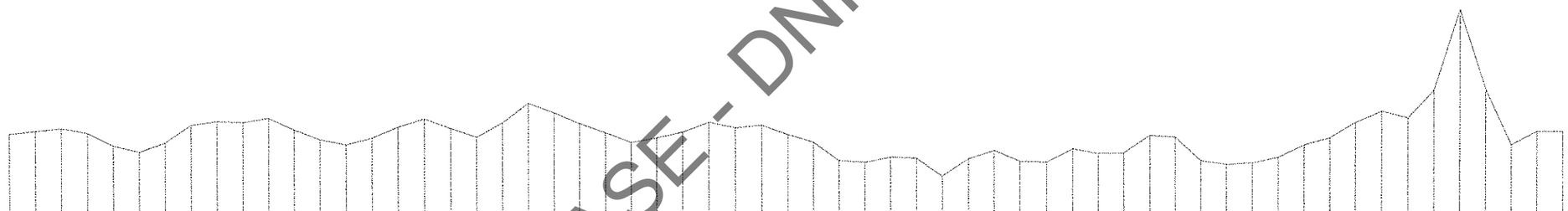
PTI DL RELEASE - DNRM



Datum RL = 164.000

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	165.89	165.66	165.55	165.53	165.60	165.63	165.78	165.93	165.58	165.49	165.55	165.60	165.59	165.62	165.62	165.60	165.62	165.65	165.64	165.55	165.63	165.82	165.72	165.66	165.60	165.69	165.67	165.60	165.58	165.69	165.73	165.75	165.82	165.92	166.02	166.14	166.29	166.20	166.26	166.41	166.39	166.34	166.32	166.39	166.50	166.52	166.29	166.11	166.00	165.89	165.84	165.89	165.87	165.77	165.71	165.73	165.74	165.78	166.09	166.02	166.08

Corowa Storage Crest Levels Chainage 3000 - 6000m



Datum RL = 164.500

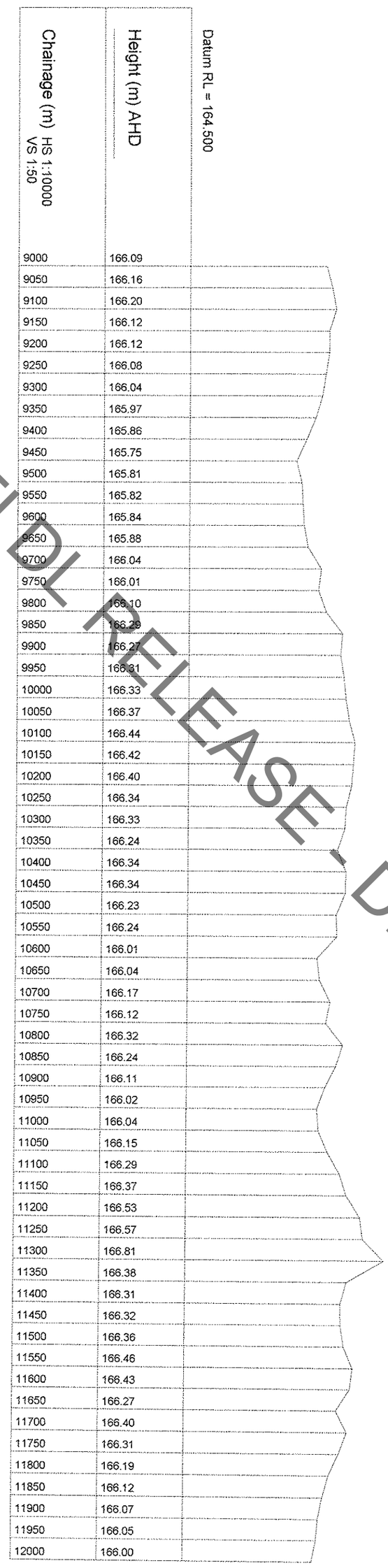
Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000
Height (m) AHD	166.08	166.11	166.13	166.09	165.96	165.90	165.99	166.16	166.20	166.19	166.23	166.11	166.02	165.97	166.03	166.14	166.22	166.12	166.04	166.18	166.37	166.27	166.17	166.08	165.98	166.03	166.08	166.18	166.12	166.15	166.06	165.98	165.80	165.79	165.84	165.83	165.65	165.82	165.90	165.80	165.79	165.92	165.87	165.88	166.05	166.03	165.80	165.77	165.78	165.84	165.96	166.03	166.18	166.29	166.22	166.49	167.28	166.50	165.96	166.09	166.09

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Corowa Storage Crest Levels Chainage 6000 - 9000m

Corowa Storage Crest Levels

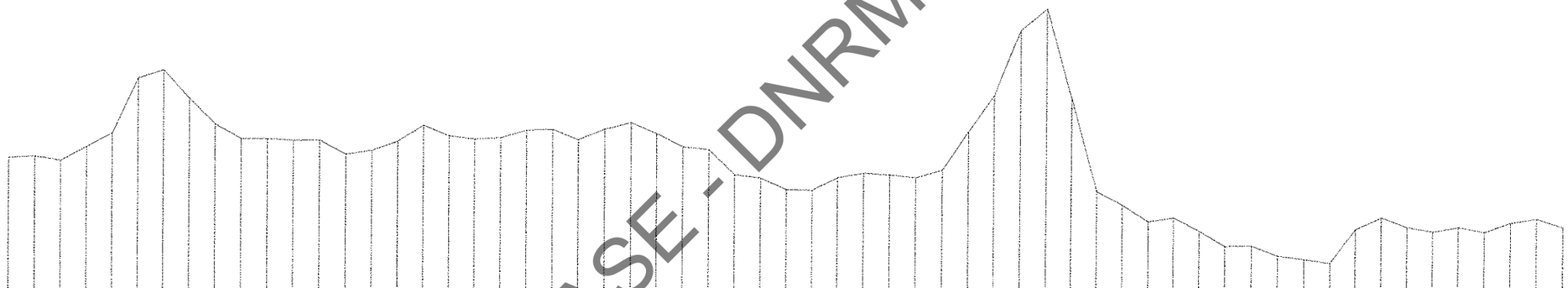
Chainage 9000 - 12000m



Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
9000	166.09
9050	166.16
9100	166.20
9150	166.12
9200	166.12
9250	166.08
9300	166.04
9350	165.97
9400	165.86
9450	165.75
9500	165.81
9550	165.82
9600	165.84
9650	165.88
9700	166.04
9750	166.01
9800	166.10
9850	166.26
9900	166.27
9950	166.31
10000	166.33
10050	166.37
10100	166.44
10150	166.42
10200	166.40
10250	166.34
10300	166.33
10350	166.24
10400	166.34
10450	166.34
10500	166.23
10550	166.24
10600	166.01
10650	166.04
10700	166.17
10750	166.12
10800	166.32
10850	166.24
10900	166.11
10950	166.02
11000	166.04
11050	166.15
11100	166.29
11150	166.37
11200	166.53
11250	166.57
11300	166.81
11350	166.38
11400	166.31
11450	166.32
11500	166.36
11550	166.46
11600	166.43
11650	166.27
11700	166.40
11750	166.31
11800	166.19
11850	166.12
11900	166.07
11950	166.05
12000	166.00

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Release

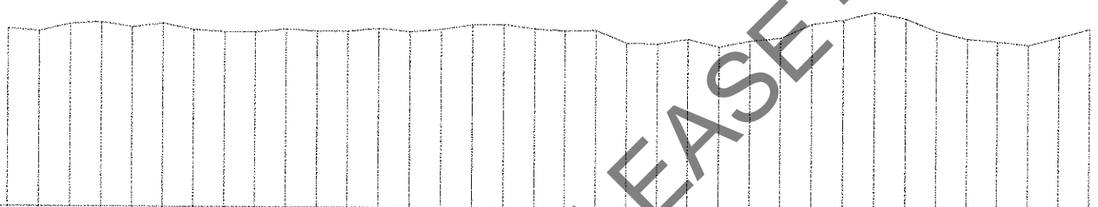


Datum RL = 164.000

Chainage (m) HS 1:10000 VS 1:50	12000	12050	12100	12150	12200	12250	12300	12350	12400	12450	12500	12550	12600	12650	12700	12750	12800	12850	12900	12950	13000	13050	13100	13150	13200	13250	13300	13350	13400	13450	13500	13550	13600	13650	13700	13750	13800	13850	13900	13950	14000	14050	14100	14150	14200	14250	14300	14350	14400	14450	14500	14550	14600	14650	14700	14750	14800	14850	14900	14950	15000
Height (m) AHD	166.00	166.02	165.98	166.11	166.25	166.78	166.86	166.59	166.34	166.20	166.20	166.19	166.19	166.06	166.10	166.19	166.34	166.24	166.21	166.23	166.30	166.31	166.21	166.32	166.38	166.28	166.15	166.13	165.89	165.86	165.75	165.74	165.87	165.91	165.90	165.87	165.95	166.32	166.68	167.31	167.52	166.65	165.76	165.63	165.47	165.51	165.38	165.24	165.24	165.15	165.12	165.08	165.41	165.53	165.44	165.40	165.44	165.40	165.49	165.53	165.45

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Corowa Storage Crest Levels Chainage 12000 - 15000m



Datum RL = 164.000

Chainage (m) HS 1:10000 VS 1:50	15000	15050	15100	15150	15200	15250	15300	15350	15400	15450	15500	15550	15600	15650	15700	15750	15800	15850	15900	15950	16000	16050	16100	16150	16200	16250	16300	16350	16400	16450	16500	16550	16600	16650	16700	16750
Height (m) AHD	165.45	165.43	165.49	165.50	165.46	165.49	165.44	165.43	165.43	165.45	165.44	165.44	165.46	165.44	165.46	165.50	165.50	165.47	165.45	165.46	165.36	165.35	165.39	165.33	165.38	165.41	165.52	165.56	165.62	165.57	165.47	165.41	165.39	165.37	165.43	165.50

Corowa Storage Crest Levels Chainage 15000 - 16750m

PTI DL RELEASE - DNRM

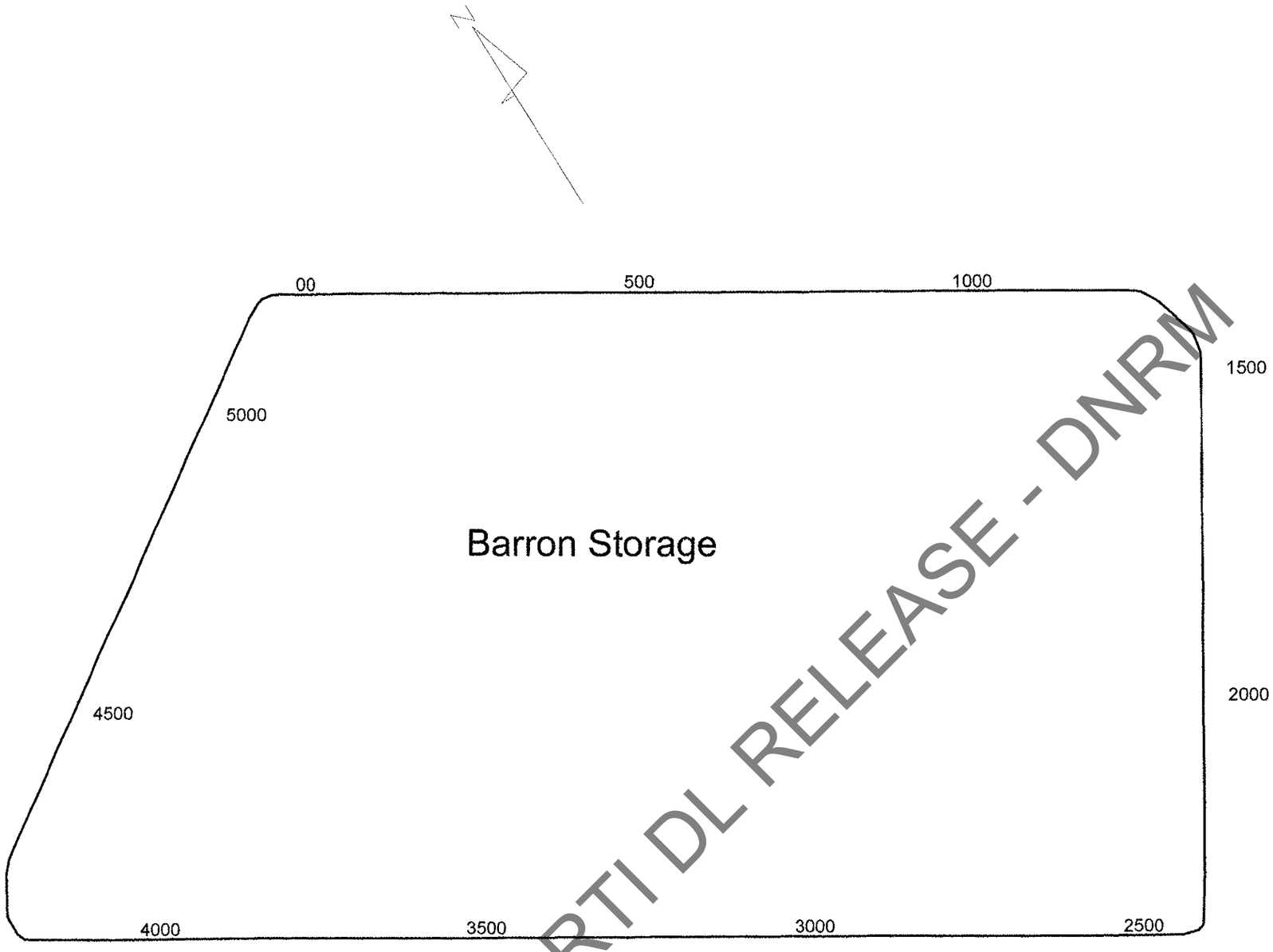
Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Barron - Ring Tank
Lot on Plan	-	Lot 4 & 5 on BEL5370
Capacity at FSL	ML	3789
FSL RL	m AHD	165.20
Crest RL	m AHD	166.00
Maximum Embankment Height above NS	m	3.6
Surface Area at FSL	ha	160
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	159.20
Inlet Pipe Invert RL	m AHD	160.20
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #1; #2 ;#4)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

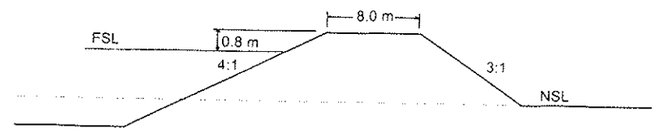
RTI DL RELEASE - DNRM

Release

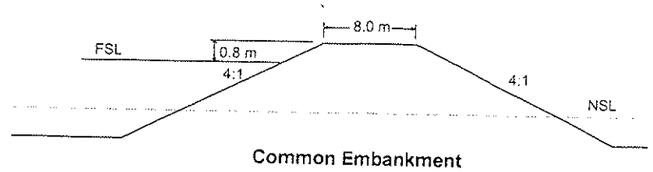


RTI DL RELEASE - DNRM

Typical Sections



External Embankment



Common Embankment

Barron Storage
Cubbie Station, Dirranbandi

13-061

File A

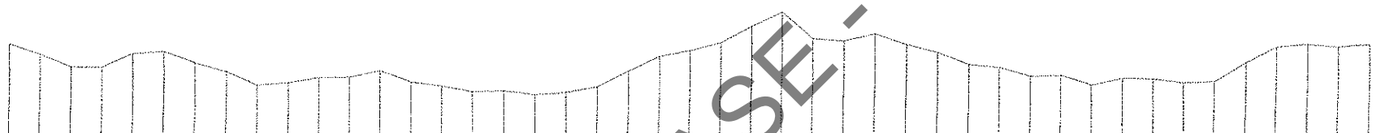
Date 24.04.06 Scale 1: 5 000

RTI DL RELEASE - DNRM

Datum RL = 165.000

Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	166.46	168.25	166.24	166.37	166.46	166.42	166.45	166.38	166.39	166.41	166.45	166.39	166.37	166.28	166.23	166.30	166.33	166.41	166.38	165.47	166.48	166.58	166.58	166.59	166.63	166.68	166.66	166.49	166.35	166.40	166.35	166.40	166.50	166.44	166.36	166.37	166.45	166.53	166.58	166.54	166.62	166.49	166.50	166.53	166.47	166.36	166.54	166.75	166.42	166.33	166.24	166.18	166.18	166.24	166.33	166.39	166.38	166.29	166.28	166.32	166.43

Barron Storage Crest Levels Chainage 00 - 3000m



Datum RL = 165.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
3000	166.43
3050	166.35
3100	166.25
3150	166.25
3200	166.36
3250	166.38
3300	166.29
3350	166.22
3400	166.11
3450	166.13
3500	166.18
3550	166.18
3600	166.24
3650	166.15
3700	166.12
3750	166.07
3800	166.08
3850	166.05
3900	166.07
3950	166.12
4000	166.25
4050	166.37
4100	166.42
4150	166.49
4200	166.62
4250	166.74
4300	166.53
4350	166.51
4400	166.57
4450	166.49
4500	166.43
4550	166.33
4600	166.31
4650	166.24
4700	166.25
4750	166.18
4800	166.23
4850	166.23
4900	166.20
4950	166.22
5000	166.37
5050	166.50
5100	166.53
5150	166.51
5200	166.53

Barron Storage Crest Levels Chainage 3000 - 5200m

RTI DL RELEASE - DNRM

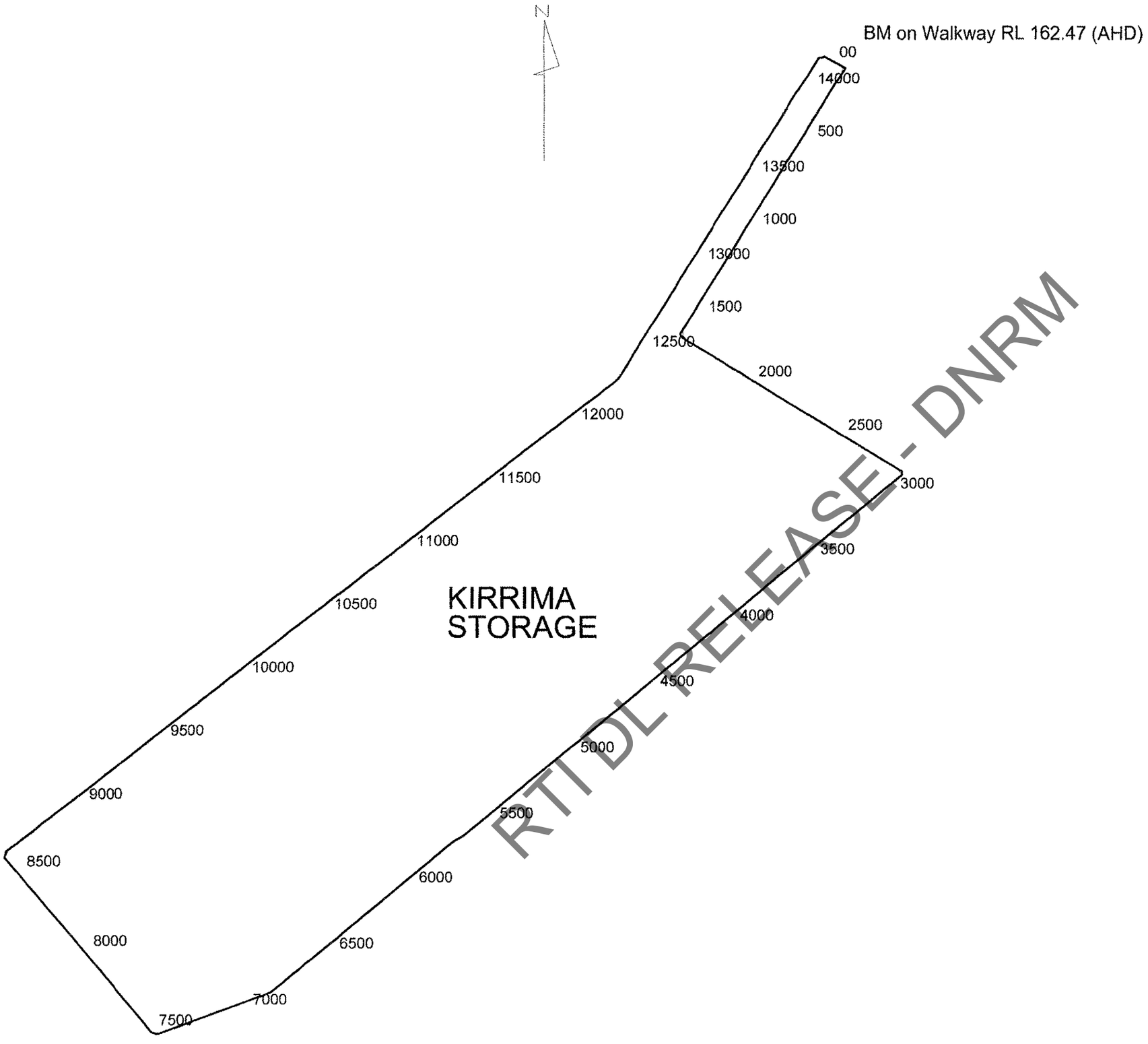
Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Kirrima - Ring Tank
Lot on Plan	-	Lot 10 on SP 13008 & Lot 67 on SP 129702
Capacity at FSL	ML	7730
FSL RL	m AHD	160.75
Crest RL	m AHD	161.55
Maximum Embankment Height above NS	m	6.1
Surface Area at FSL	ha	550
Internal Batter	1 in	4
Outlet Pipe Invert RL	m AHD	158.00
Inlet Pipe Invert RL	m AHD	n/a
Method of Calculation		0.5m contour intervals; Manual calculation
Source of water stored (licence number or OLF diversion works identifier):		Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #5)
Storage operating arrangements:		This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.
Map Showing location of storage on Lot and Plan attached.		Appendix 1
Data used in calculation of Storage Volume attached.		Yes

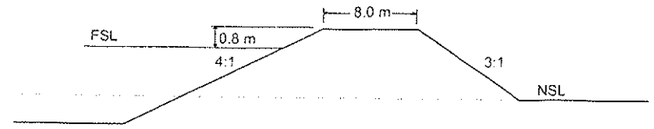
RTI DL RELEASE - DNRM

Release

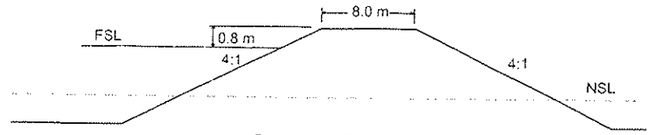


RTI DL RELEASE - DNRM

Typical Sections



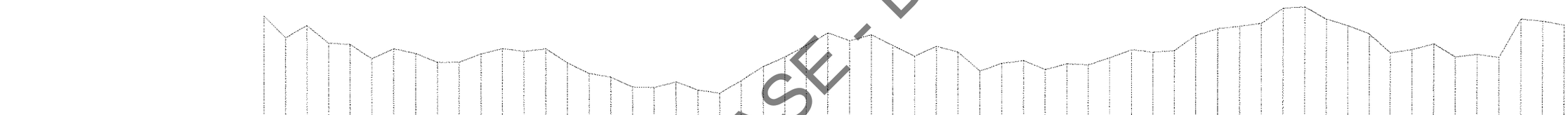
External Embankment



Common Embankment

Kirrima Storage
Cubbie Station, Dirranbandi

Date 24.04.06 Scale 1:20 000



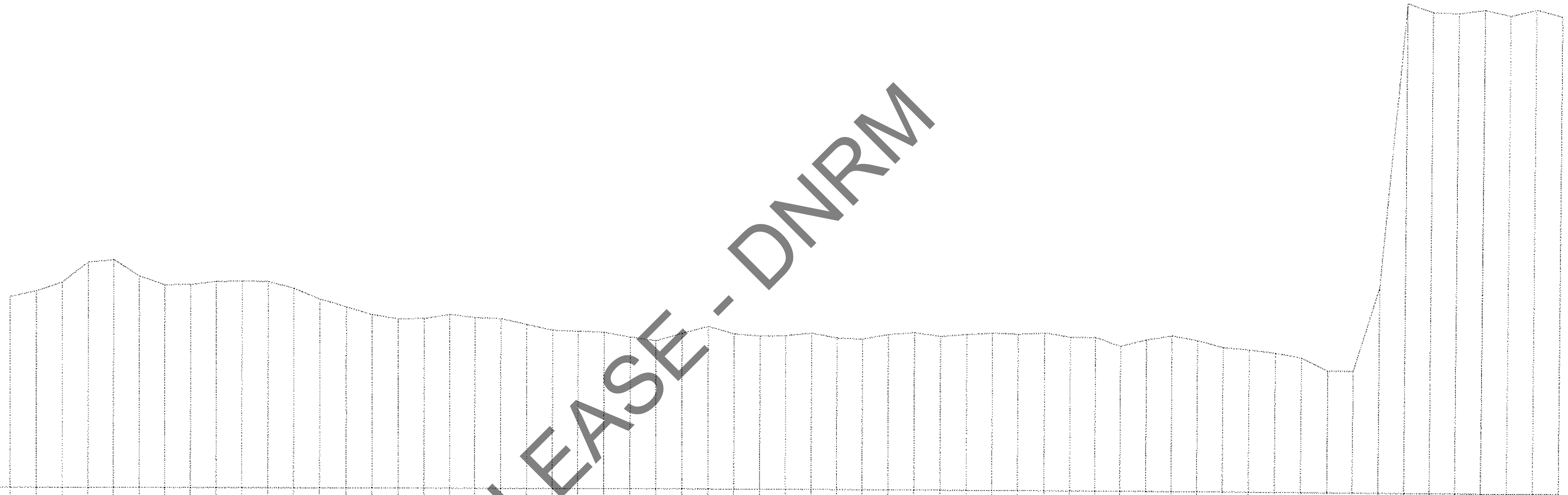
Datum RL = 160.500

Chainage (m) HS 1:10000 VS 1:50	0	50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450	1500	1550	1600	1650	1700	1750	1800	1850	1900	1950	2000	2050	2100	2150	2200	2250	2300	2350	2400	2450	2500	2550	2600	2650	2700	2750	2800	2850	2900	2950	3000
Height (m) AHD	162.45	162.20	162.34	162.13	162.12	161.95	162.07	162.01	161.91	161.91	162.01	162.07	162.04	162.07	161.90	161.78	161.74	161.62	161.62	161.68	161.59	161.55	161.70	161.86	161.97	162.11	162.25	162.16	162.23	162.11	161.98	162.10	162.03	161.81	161.90	161.93	161.83	161.90	161.89	161.97	162.06	162.03	162.05	162.23	162.31	162.34	162.37	162.55	162.56	162.42	162.35	162.25	162.03	162.07	162.14	161.99	162.02	161.98	162.43	162.40	162.36

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Kirrima Storage Crest Levels Chainage 00 - 3000m

Release



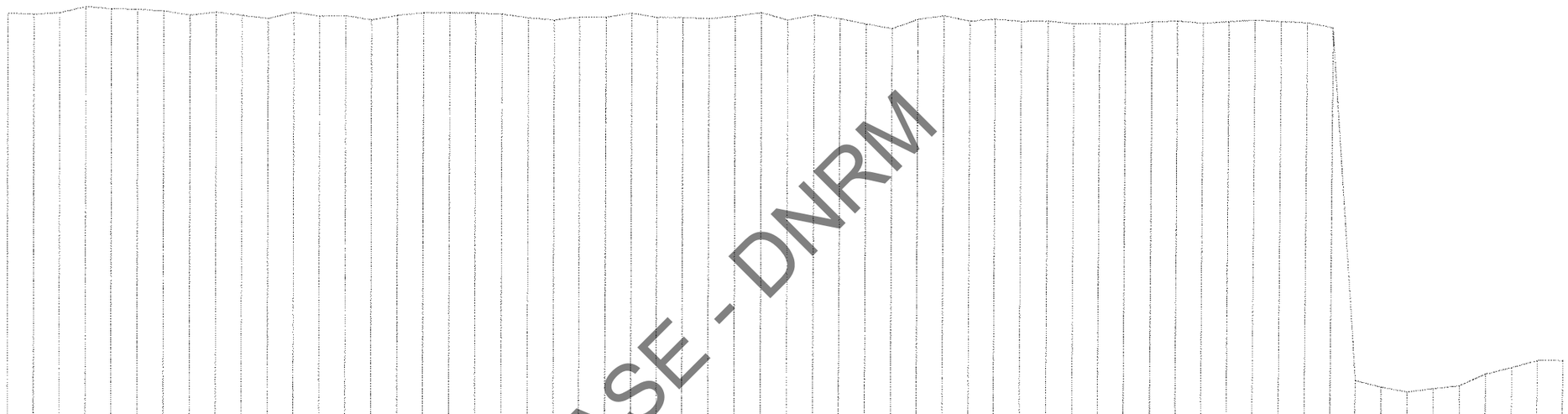
Datum RL = 160.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
3000	162.36
3050	162.41
3100	162.50
3150	162.69
3200	162.72
3250	162.56
3300	162.47
3350	162.48
3400	162.51
3450	162.51
3500	162.51
3550	162.44
3600	162.34
3650	162.26
3700	162.19
3750	162.15
3800	162.15
3850	162.19
3900	162.16
3950	162.15
4000	162.10
4050	162.04
4100	162.03
4150	162.02
4200	161.98
4250	161.94
4300	162.02
4350	162.08
4400	162.01
4450	161.99
4500	162.00
4550	162.02
4600	161.98
4650	161.97
4700	162.01
4750	162.03
4800	162.00
4850	162.02
4900	162.03
4950	162.02
5000	162.04
5050	162.00
5100	162.00
5150	161.91
5200	161.98
5250	162.02
5300	161.97
5350	161.91
5400	161.89
5450	161.86
5500	161.81
5550	161.69
5600	161.69
5650	162.50
5700	165.27
5750	165.18
5800	165.17
5850	165.21
5900	165.15
5950	165.21
6000	165.15

Kirrima Storage Crest Levels Chainage 3000 - 6000m

RTI DL RELEASE - DNRM

Release



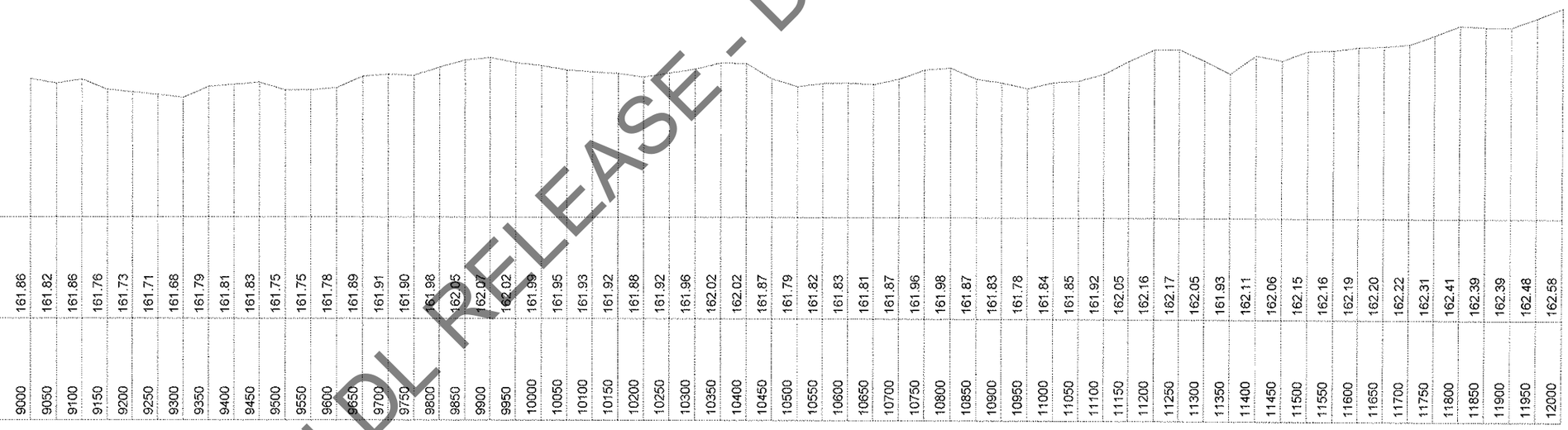
Datum RL = 160.500

Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500	6550	6600	6650	6700	6750	6800	6850	6900	6950	7000	7050	7100	7150	7200	7250	7300	7350	7400	7450	7500	7550	7600	7650	7700	7750	7800	7850	7900	7950	8000	8050	8100	8150	8200	8250	8300	8350	8400	8450	8500	8550	8600	8650	8700	8750	8800	8850	8900	8950	9000
Height (m) AHD	165.15	165.14	165.15	165.21	165.19	165.19	165.17	165.13	165.16	165.13	165.10	165.16	165.13	165.13	165.09	165.14	165.16	165.16	165.16	165.15	165.12	165.10	165.13	165.13	165.17	165.13	165.13	165.12	165.14	165.18	165.11	165.16	165.12	165.07	165.03	165.12	165.16	165.11	165.13	165.11	165.11	165.09	165.09	165.09	165.11	165.12	165.10	165.12	165.14	165.13	165.12	165.07	161.65	161.59	161.55	161.58	161.61	161.73	161.79	161.86	161.86

PTI DL RELEASE - DNRM

Kirrima Storage Crest Levels Chainage 6000 - 9000m

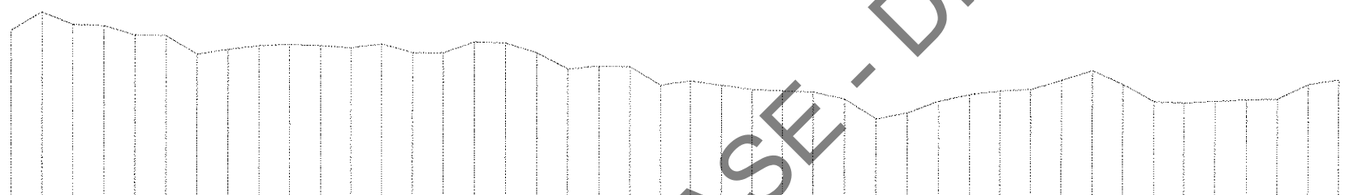
RTI DL RELEASE - DNRM



Datum RL = 160.500

Chainage (m) HS 1:10000 VS 1:50	9000	9050	9100	9150	9200	9250	9300	9350	9400	9450	9500	9550	9600	9650	9700	9750	9800	9850	9900	9950	10000	10050	10100	10150	10200	10250	10300	10350	10400	10450	10500	10550	10600	10650	10700	10750	10800	10850	10900	10950	11000	11050	11100	11150	11200	11250	11300	11350	11400	11450	11500	11550	11600	11650	11700	11750	11800	11850	11900	11950	12000
Height (m) AHD	161.86	161.82	161.86	161.76	161.73	161.71	161.68	161.79	161.81	161.83	161.75	161.75	161.78	161.89	161.91	161.90	161.98	162.05	162.07	162.02	161.99	161.95	161.93	161.92	161.88	161.92	161.96	162.02	162.02	161.87	161.79	161.82	161.83	161.81	161.87	161.96	161.98	161.87	161.83	161.78	161.84	161.85	161.92	162.05	162.16	162.17	162.05	161.93	162.11	162.06	162.15	162.16	162.19	162.20	162.22	162.31	162.41	162.39	162.39	162.48	162.58

Kirrima Storage Crest Levels Chainage 9000 - 12000m



Datum RL = 160.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
12000	162.58
12050	162.73
12100	162.63
12150	162.62
12200	162.54
12250	162.54
12300	162.39
12350	162.43
12400	162.46
12450	162.47
12500	162.46
12550	162.44
12600	162.47
12650	162.40
12700	162.40
12750	162.49
12800	162.48
12850	162.40
12900	162.27
12950	162.30
13000	162.29
13050	162.14
13100	162.18
13150	162.14
13200	162.11
13250	162.10
13300	162.09
13350	162.03
13400	161.87
13450	161.92
13500	162.02
13550	162.07
13600	162.10
13650	162.12
13700	162.19
13750	162.27
13800	162.16
13850	162.02
13900	162.01
13950	162.03
14000	162.04
14050	162.05
14100	162.17
14150	162.21

Kirrima Storage Crest Levels Chainage 12000 - 14150m

RTI DL RELEASE - DNRM

Release

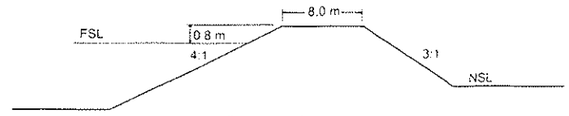
Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Claypan - Ring Tank
Lot on Plan	-	Lot 67 on SP 129702
Capacity at FSL	ML	1064
FSL RL	m AHD	160.20
Crest RL	m AHD	161.00
Maximum Embankment Height above NS	m	2.3
Surface Area at FSL	ha	210
Internal Batter	1 in	3
Outlet Pipe Invert RL	m AHD	157.00
Inlet Pipe Invert RL	m AHD	158.20
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #10; #11)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

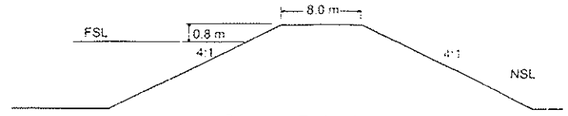
RTI DL RELEASE - DNRM

Release

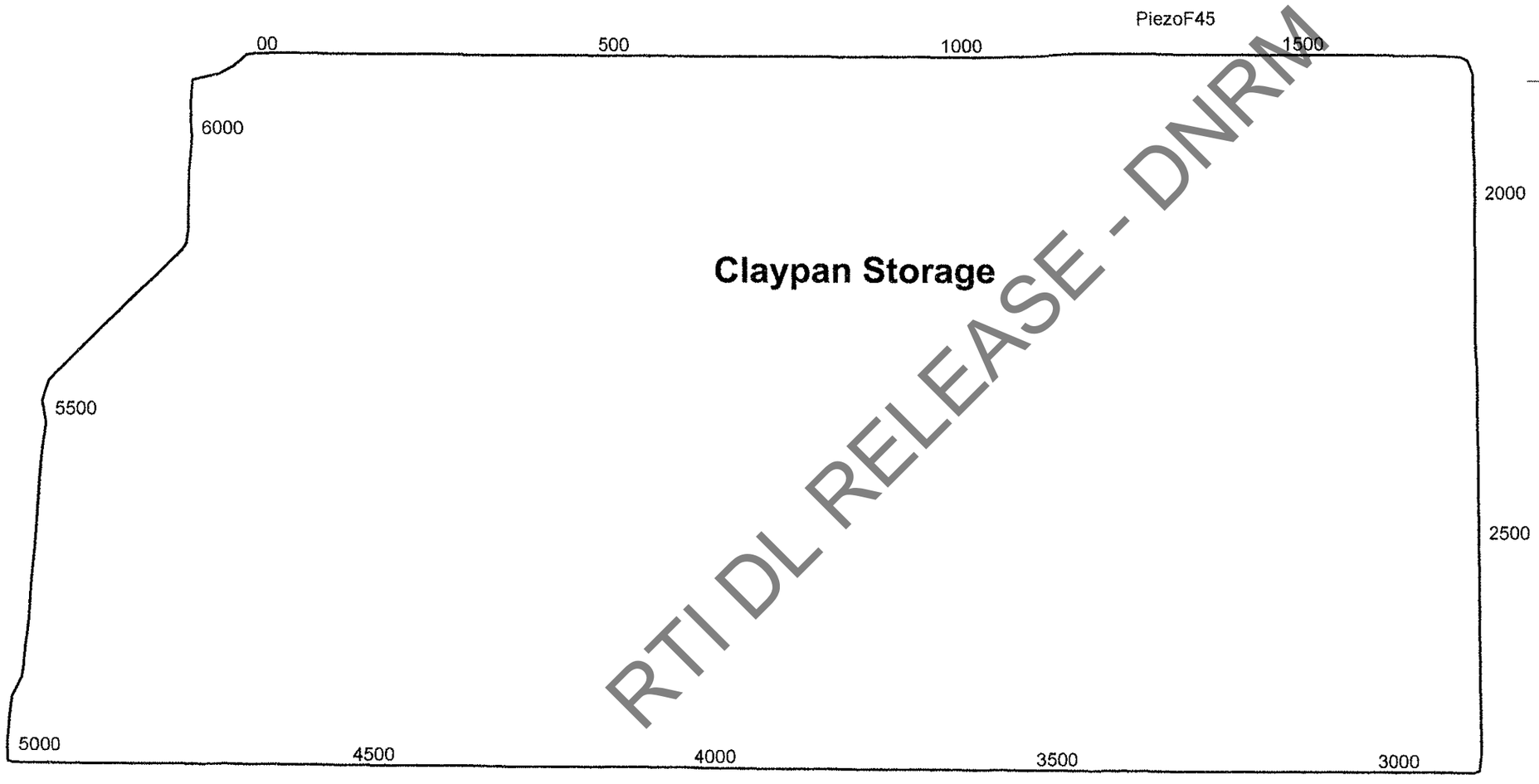
Typical Sections



External Embankment



Common Embankment



RTI DL RELEASE - DNRM

Claypan Storage

Cubbie Station, Dirranbandi

Date 24.04.06 Scale 1 : 7 500



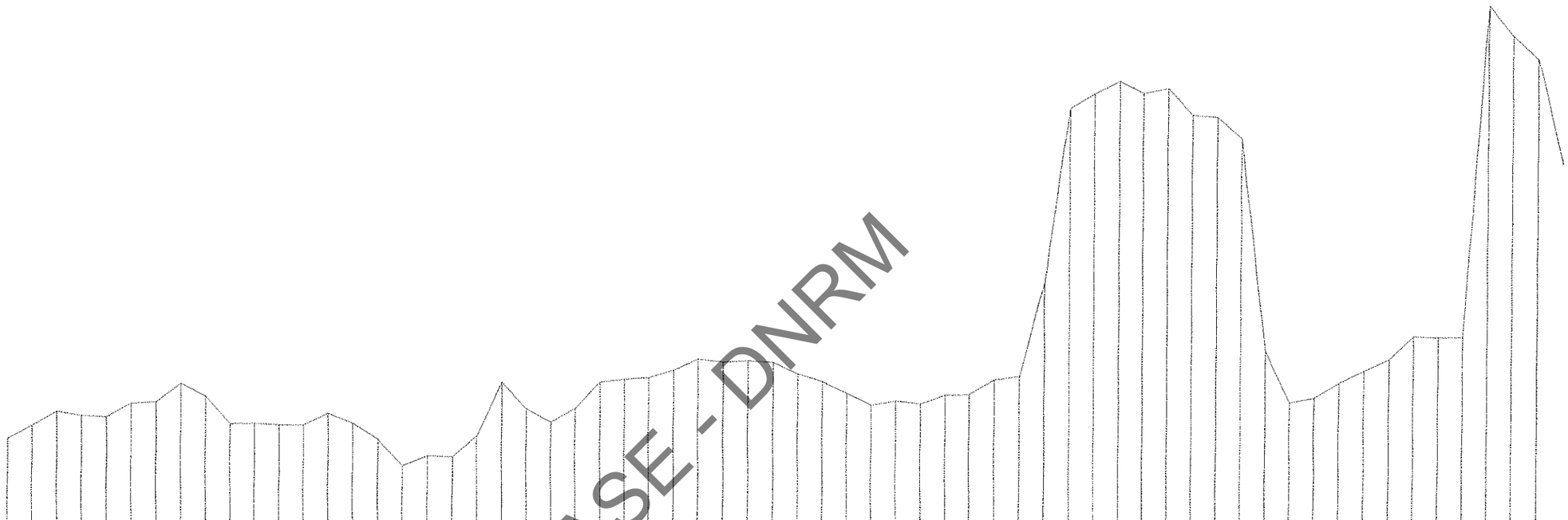
Datum RL = 160.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
0	163.53
50	163.29
100	163.28
150	163.17
200	163.23
250	163.23
300	163.21
350	163.20
400	163.05
450	163.07
500	163.21
550	163.15
600	163.19
650	163.10
700	163.14
750	163.18
800	163.19
850	163.22
900	163.27
950	163.20
1000	163.11
1050	163.13
1100	163.17
1150	163.20
1200	162.23
1250	162.01
1300	161.95
1350	161.87
1400	161.95
1450	161.91
1500	161.79
1550	161.58
1600	161.72
1650	161.78
1700	161.87
1750	162.15
1800	162.37
1850	161.53
1900	161.62
1950	161.58
2000	161.44
2050	161.58
2100	161.60
2150	161.52
2200	161.66
2250	161.60
2300	161.73
2350	161.81
2400	161.64
2450	161.55
2500	161.46
2550	161.43
2600	161.25
2650	161.18
2700	161.12
2750	161.10
2800	161.13
2850	161.14
2900	161.06
2950	161.07
3000	161.08

RTI DL RELEASE - DNRM

Claypan Storage Crest Levels Chainage 00 - 3000m

Release



Datum RL = 159.500

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
3000	161.08
3050	161.21
3100	161.36
3150	161.32
3200	161.30
3250	161.44
3300	161.46
3350	161.65
3400	161.52
3450	161.24
3500	161.24
3550	161.23
3600	161.23
3650	161.35
3700	161.25
3750	161.09
3800	160.82
3850	160.92
3900	160.91
3950	161.12
4000	161.67
4050	161.40
4100	161.27
4150	161.41
4200	161.68
4250	161.71
4300	161.73
4350	161.80
4400	161.92
4450	161.89
4500	161.90
4550	161.89
4600	161.77
4650	161.69
4700	161.58
4750	161.46
4800	161.50
4850	161.47
4900	161.56
4950	161.57
5000	161.72
5050	161.76
5100	162.71
5150	164.50
5200	164.65
5250	164.78
5300	164.66
5350	164.71
5400	164.44
5450	164.42
5500	164.20
5550	162.04
5600	161.51
5650	161.56
5700	161.71
5750	161.84
5800	161.96
5850	162.20
5900	162.19
5950	162.19
6000	165.57
6050	165.26
6100	165.03
6150	163.96

PTI DL RELEASE - DNRM

Claypan Storage Crest Levels Chainage 3000 - 6150m

Release

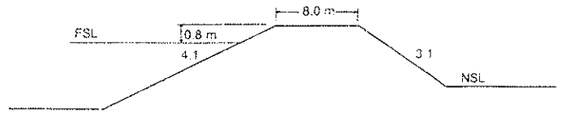
Cubbie Group_*Dirranbandi* - Storage Volume Table

Item	Units	Data
Storage Identifier	-	Pilgra - Ring Tank
Lot on Plan	-	Lot 67 on SP 129702 & Lot 1 on Sp 118239
Capacity at FSL	ML	2707
FSL RL	m AHD	156.60
Crest RL	m AHD	157.40
Maximum Embankment Height above NS	m	3.2
Surface Area at FSL	ha	220
Internal Batter	1 in	3
Outlet Pipe Invert RL	m AHD	154.50
Inlet Pipe Invert RL	m AHD	155.10
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (49273Q); Balonne Minor River (43357Q); Floodplain (Map Note #12)	
Storage operating arrangements:	This storage will contain river and floodplain water. Inflow and outflow is controlled by steel gate structures.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

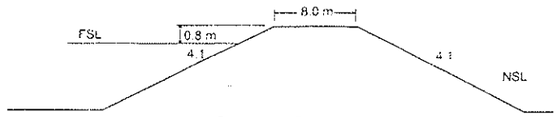
RTI DL RELEASE - DNRM

Release

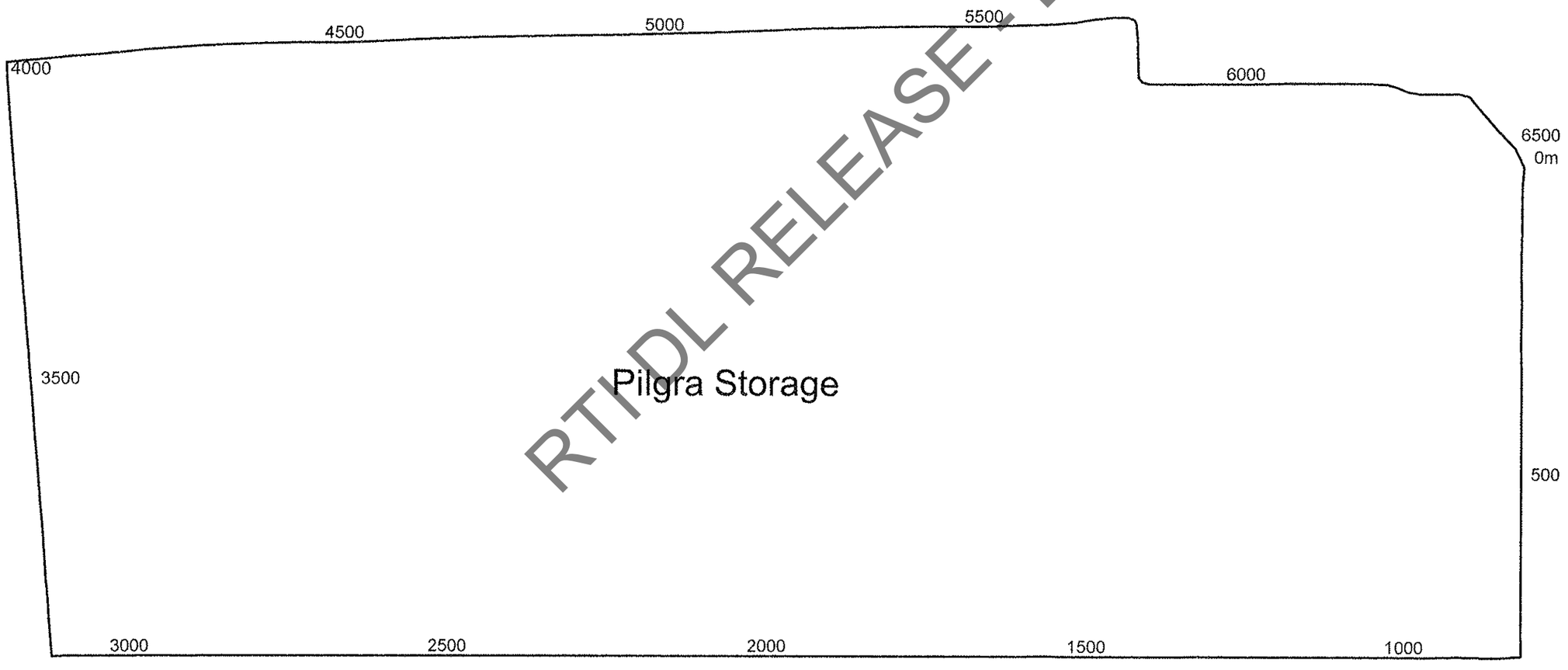
Typical Sections



External Embankment



Common Embankment



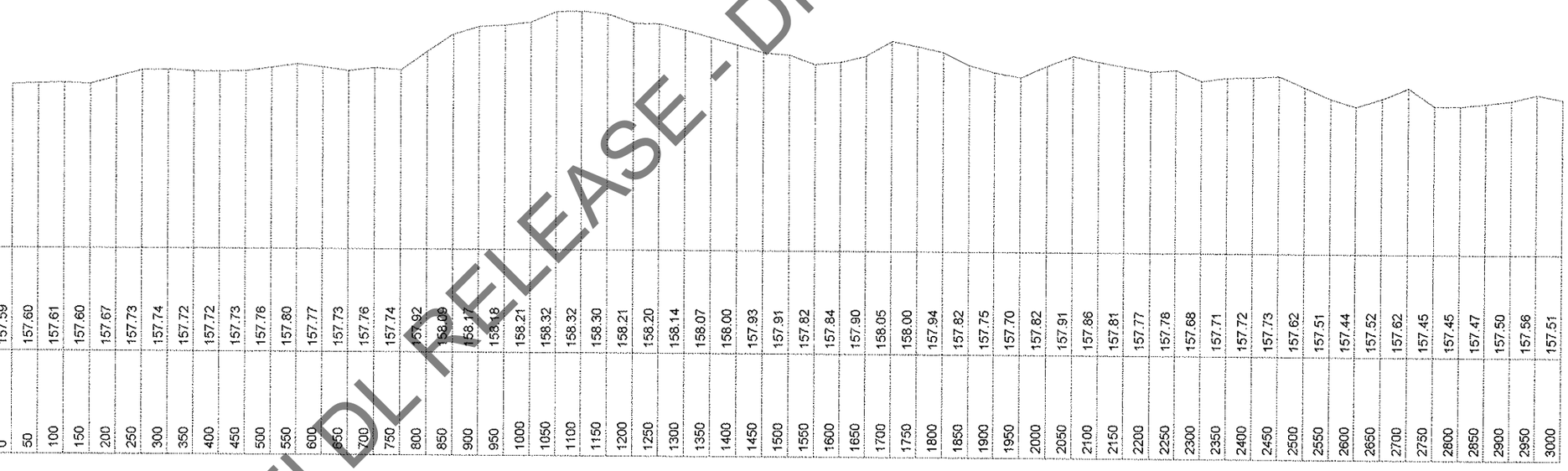
RTI DL RELEASE - DNRM

Pilgra Storage

Cubbie Station, Dirranbandi

13-061 File A Date 24.04.06 Scale 1 : 7 500

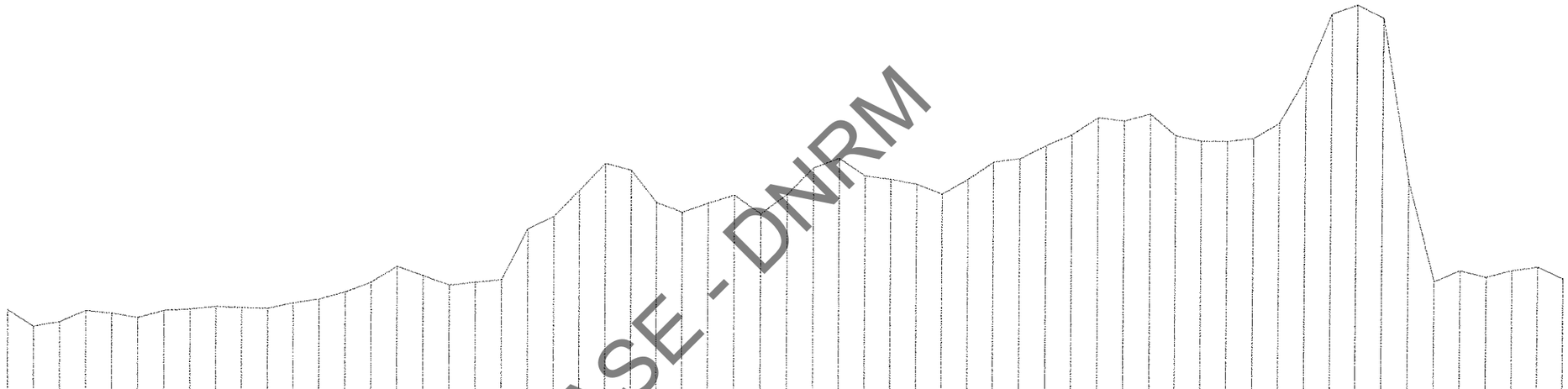
PTI DL RELEASE - DNRM



Datum RL = 156.000

Chainage (m) HS 1:10000 VS 1:50	Height (m) AHD
0	157.59
50	157.60
100	157.61
150	157.60
200	157.67
250	157.73
300	157.74
350	157.72
400	157.72
450	157.73
500	157.76
550	157.80
600	157.77
650	157.73
700	157.76
750	157.74
800	157.92
850	158.09
900	158.17
950	158.18
1000	158.21
1050	158.32
1100	158.32
1150	158.30
1200	158.21
1250	158.20
1300	158.14
1350	158.07
1400	158.00
1450	157.93
1500	157.91
1550	157.82
1600	157.84
1650	157.90
1700	158.05
1750	158.00
1800	157.94
1850	157.82
1900	157.75
1950	157.70
2000	157.82
2050	157.91
2100	157.86
2150	157.81
2200	157.77
2250	157.78
2300	157.68
2350	157.71
2400	157.72
2450	157.73
2500	157.62
2550	157.51
2600	157.44
2650	157.52
2700	157.62
2750	157.45
2800	157.45
2850	157.47
2900	157.50
2950	157.56
3000	157.51

Pilgra Storage Crest Levels Chainage 00 - 3000m

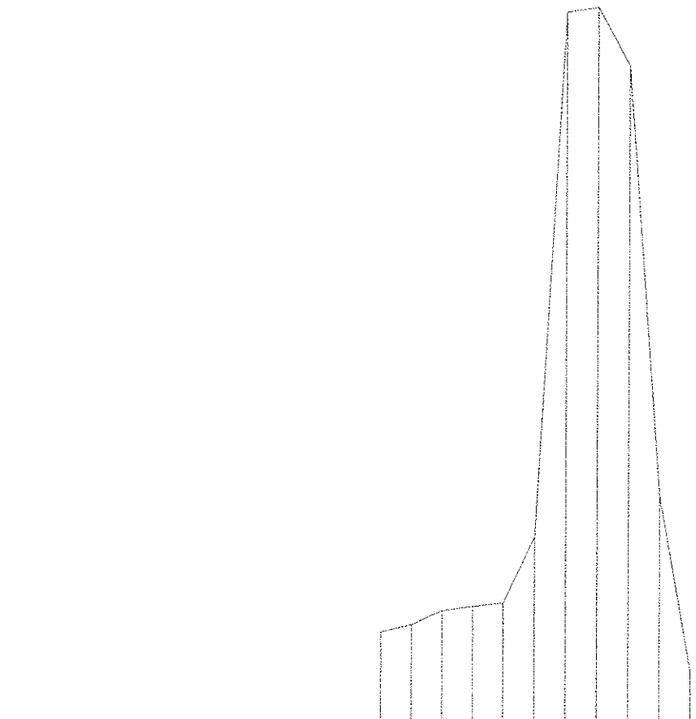


Datum RL = 156.000

Chainage (m) HS 1:10000 VS 1:50	3000	3050	3100	3150	3200	3250	3300	3350	3400	3450	3500	3550	3600	3650	3700	3750	3800	3850	3900	3950	4000	4050	4100	4150	4200	4250	4300	4350	4400	4450	4500	4550	4600	4650	4700	4750	4800	4850	4900	4950	5000	5050	5100	5150	5200	5250	5300	5350	5400	5450	5500	5550	5600	5650	5700	5750	5800	5850	5900	5950	6000
Height (m) AHD	157.51	157.35	157.40	157.51	157.48	157.44	157.51	157.53	157.55	157.54	157.54	157.59	157.63	157.70	157.80	157.95	157.86	157.77	157.80	157.83	158.32	158.44	158.70	158.96	158.90	158.58	158.49	158.58	158.66	158.48	158.67	158.93	159.03	158.86	158.83	158.78	158.69	158.83	159.00	159.04	159.17	159.27	159.44	159.41	159.48	159.27	159.22	159.22	159.25	159.40	159.85	160.47	160.56	160.43	158.85	157.88	157.99	157.93	157.99	158.03	157.92

RTI DL RELEASE - DNRM

Pilgra Storage Crest Levels Chainage 3000 - 6000m



Datum RL = 156.500

Chainage (m) HS 1:10000 VS 1:50	6000	6050	6100	6150	6200	6250	6300	6350	6400	6450	6500
Height (m) AHD	157.92	157.98	158.09	158.13	158.16	158.70	162.97	163.01	162.54	159.03	157.61

Pilgra Storage Crest Levels Chainage 6000 - 6540m

PTI DL RELEASE - DNRM

Release

Cubbie Group_*Dirranbandi* - Storage Volume Table

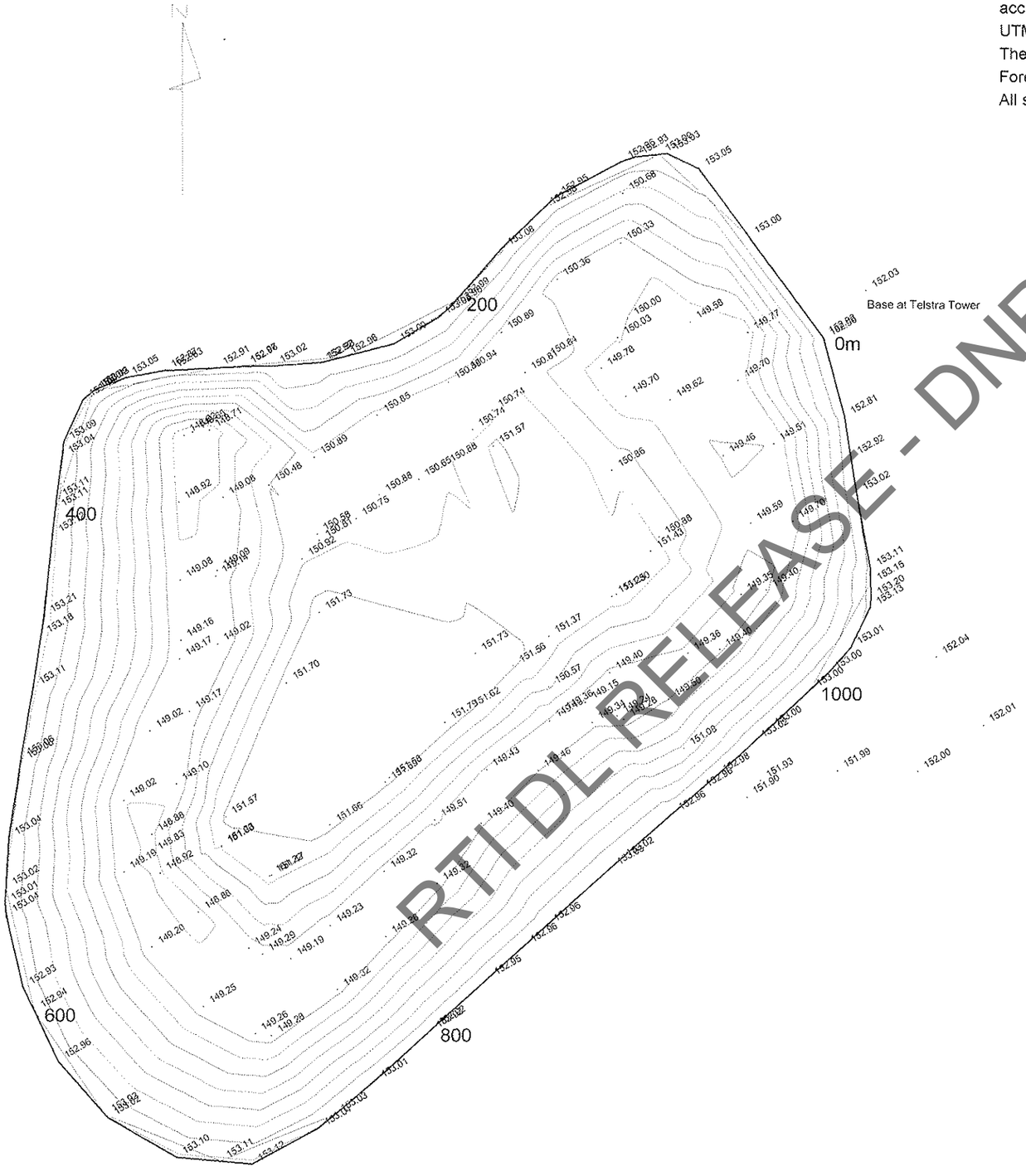
Item	Units	Data
Storage Identifier	-	Mugangulla - Ring Tank
Lot on Plan	-	Lot 6 on Plan SP 132531
Capacity at FSL	ML	100
FSL RL	m AHD	152.00
Crest RL	m AHD	152.90
Maximum Embankment Height above NS	m	1.5
Surface Area at FSL	ha	7.3
Internal Batter	1 in	3
Outlet Pipe Invert RL	m AHD	n/a
Inlet Pipe Invert RL	m AHD	n/a
Method of Calculation	0.5m contour intervals; Manual calculation	
Source of water stored (licence number or OLF diversion works identifier):	Culgoa River (54236Q)	
Storage operating arrangements:	This storage will contain river water. Inflow and outflow is controlled by pumping in and out over the bank.	
Map Showing location of storage on Lot and Plan attached.	Appendix 1	
Data used in calculation of Storage Volume attached.	Yes	

RTI DL RELEASE - DNRM

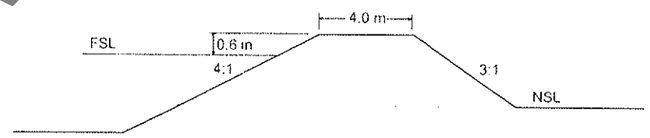
Release

Notes

Survey has be carried using a Novatel RTK dual frequency GPS system with vertical accuracy of 2-4 cm.
UTM output coordinates are in WGS84 and the vertical datum is AHD.
The data has been processed using a program called CDS Professional Solutions from Foresight Software at Broadmeadow NSW.
All survey and plotting has been carried out by GL Irrigation Pty Ltd, St George



Typical Section

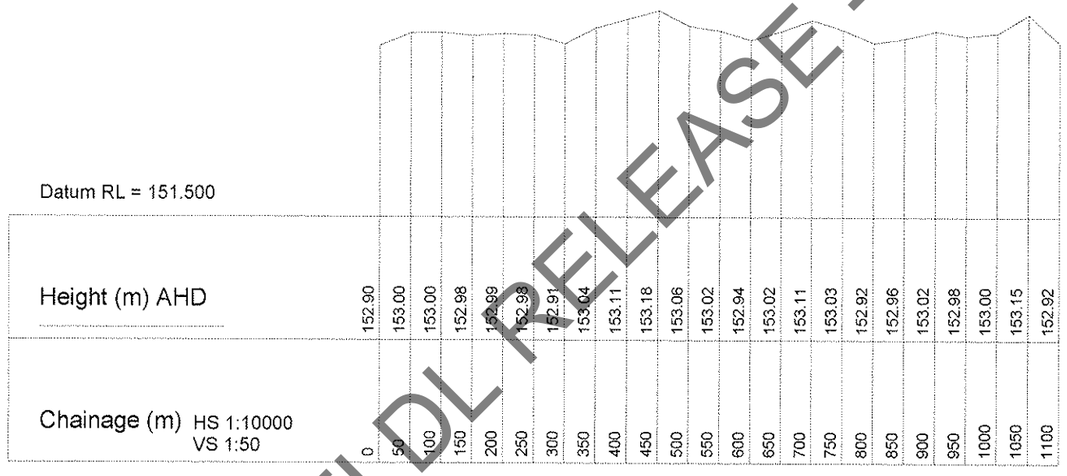


External Embankment

RTI DL RELEASE - DNRM

Capacity Survey Plot
Mugangulla Dam
Cubbie Station, Dirranbandi

13-061 File A Date 31.05.06 Scale 1: 2000



RTI DL RELEASE - DNRM

Mugangulla Dam Crest Levels Chainage 00 - 1143m

GUNATHABY STORAGE

Capacity Table

'Cubbie' Dirranbandi

Full Supply Level RL 163.00

BM Gaugeboard at 3000mm Inlet Pipe

Date: 12/04/2011

LEVEL	VOLUME	SURFACE AREA
RL 156.80	0.2 Ml	0.5 Ha
RL 156.90	1.0 Ml	1.2 Ha
RL 157.00	2.5 Ml	1.7 Ha
RL 157.10	4.5 Ml	2.3 Ha
RL 157.20	7.2 Ml	2.9 Ha
RL 157.30	10.2 Ml	3.3 Ha
RL 157.40	13.8 Ml	3.8 Ha
RL 157.50	17.8 Ml	4.4 Ha
RL 157.60	22.5 Ml	5.0 Ha
RL 157.70	27.8 Ml	5.8 Ha
RL 157.80	37.4 Ml	12.7 Ha
RL 157.90	50.4 Ml	13.4 Ha
RL 158.00	64.2 Ml	14.2 Ha
RL 158.10	78.7 Ml	15.0 Ha
RL 158.20	94.0 Ml	15.8 Ha
RL 158.30	110.1 Ml	16.8 Ha
RL 158.40	127.4 Ml	18.0 Ha
RL 158.50	145.8 Ml	19.0 Ha
RL 158.60	165.3 Ml	20.4 Ha
RL 158.70	186.2 Ml	22.0 Ha
RL 158.80	208.8 Ml	23.3 Ha
RL 158.90	232.3 Ml	24.3 Ha
RL 159.00	256.9 Ml	25.4 Ha
RL 159.10	282.6 Ml	26.6 Ha
RL 159.20	309.5 Ml	27.8 Ha
RL 159.30	337.5 Ml	29.0 Ha
RL 159.40	366.8 Ml	30.2 Ha
RL 159.50	397.0 Ml	31.2 Ha
RL 159.60	428.4 Ml	32.3 Ha
RL 159.70	462.2 Ml	40.6 Ha
RL 159.80	556.9 Ml	127.9 Ha
RL 159.90	719.3 Ml	204.3 Ha
RL 160.00	966.4 Ml	290.9 Ha
RL 160.10	1299.5 Ml	375.8 Ha
RL 160.20	1716.0 Ml	458.3 Ha
RL 160.30	2215.2 Ml	541.6 Ha
RL 160.40	2798.9 Ml	627.0 Ha
RL 160.50	3467.9 Ml	712.3 Ha
RL 160.60	4224.8 Ml	799.2 Ha
RL 160.70	5063.3 Ml	878.8 Ha
RL 160.80	5978.8 Ml	951.0 Ha
RL 160.90	6959.2 Ml	1009.8 Ha
RL 161.00	7993.3 Ml	1058.2 Ha
RL 161.10	9086.8 Ml	1136.5 Ha
RL 161.20	10262.8 Ml	1208.3 Ha
RL 161.30	11503.3 Ml	1271.9 Ha
RL 161.40	12797.3 Ml	1316.9 Ha
RL 161.50	14133.3 Ml	1357.3 Ha
RL 161.60	15517.3 Ml	1420.7 Ha
RL 161.70	16993.3 Ml	1515.7 Ha
RL 161.80	18528.9 Ml	1550.1 Ha
RL 161.90	20087.9 Ml	1569.4 Ha
RL 162.00	21665.1 Ml	1588.6 Ha
RL 162.10	23267.6 Ml	1619.8 Ha
RL 162.20	24901.4 Ml	1647.4 Ha
RL 162.30	26555.0 Ml	1659.5 Ha
RL 162.40	28216.0 Ml	1663.5 Ha
RL 162.50	29878.8 Ml	1664.5 Ha
RL 162.60	31542.6 Ml	1665.5 Ha
RL 162.70	33207.3 Ml	1666.4 Ha
RL 162.80	34873.0 Ml	1667.4 Ha
RL 162.90	36539.7 Ml	1668.4 Ha
RL 163.00	38207.2 Ml	1669.4 Ha

Level	Area	Surface	Area	Volume
156.8	5343.006	5345.075	194.477	
156.9	11621.73	11633.93	1048.726	
157	17382.55	17413.06	2499.018	
157.1	23367.79	23424.46	4534.136	
157.2	28536.77	28626.89	7150.863	
157.3	33077.18	33205.83	10230.05	
157.4	37798.58	37970.57	13772.33	
157.5	43317.82	43538.24	17813.3	
157.6	49526.39	49801.66	22453.54	
157.7	57327.24	57664.67	27771.13	
157.8	126654.8	127105.4	37420.21	
157.9	133680.9	134279.2	50438.09	
158	141154.2	141902.4	64168.24	
158.1	149060.2	149961.6	78678.71	
158.2	156996.6	158055	93981.3	
158.3	166933.1	168155.1	110145.2	
158.4	178402	179803.3	127404.1	
158.5	188864.4	190460	145802.5	
158.6	201804.3	203605.1	165257.1	
158.7	217989	220014.1	186241.2	
158.8	230753.8	233021.3	208761.4	
158.9	240709.2	243227.3	232333.2	
159	251293.1	254068.6	256921.5	
159.1	262612.6	265652.1	282613.1	
159.2	274379.2	277689.2	309458.9	
159.3	286593	290179.9	337503.8	
159.4	297813	301682.4	366752	
159.5	308098	312249.3	397046.8	
159.6	318452.3	322884.5	428373.8	
159.7	401461.8	406173.9	462223.1	
159.8	1274340	1279324	556904	
159.9	2037667	2042902	719348.3	
160	2903814	2909294	966368.1	
160.1	3752025	3757745	1299464	
160.2	4577203	4583165	1716003	
160.3	5409860	5416066	2215155	
160.4	6263702	6270154	2798869	
160.5	7116482	7123193	3467936	
160.6	7985114	7992092	4224775	
160.7	8780664	8787911	5063346	
160.8	9502511	9510025	5978774	
160.9	10090104	10097894	6959223	
161	10573868	10581942	7993290	
161.1	11356556	11364917	9086759	
161.2	12074192	12082836	10262819	
161.3	12710506	12719426	11503302	
161.4	13159403	13168598	12797317	
161.5	13563253	13572583	14133258	
161.6	14197056	14206795	15517302	
161.7	15147100	15157099	16993264	
161.8	15490266	15500518	18528901	
161.9	15683270	15693771	20087922	
162	15875326	15886073	21665073	
162.1	16187146	16198138	23267551	
162.2	16463183	16474419	24901402	
162.3	16583639	16595115	26554983	
162.4	16623602	16635313	28215983	
162.5	16633091	16645036	29878818	
162.6	16642584	16654763	31542602	
162.7	16652082	16664494	33207335	
162.8	16661582	16674228	34873018	
162.9	16671084	16683964	36539651	
163	16680587	16693700	38207235	

NOT DL RELEASE - DNRM

CUBBIE GROUP ST GEORGE PTY LTD
(Subject to Deed of Company Arrangement)
PO Box 608
ST GEORGE QLD 4487
Ph: (07) 4625 1100
Fax: (07) 4625 1099
stgeorgeadmin@cubbie.com.au

CUBBIE GROUP DIRRANBANDI
(Subject to Deed of Company Arrangement)
PO Box 7
DIRRANBANDI QLD 4486
Ph: (07) 4625 8366
Fax: (07) 4625 8399
dirranadmin@cubbie.com.au



CUBBIE GROUP LTD

(Subject to Deed of Company Arrangement)
www.cubbie.com.au



Cubbie Group Dirranbandi

Certification of 'Gunathaby' Storage

Submitted to DERM St George

Date: 13 June 2011

RTI DL RELEASE - DNRM

The information contained within this document is true and correct.

……
Russell McKeowen – Registered Professional Engineer

……
Paul Brimblecombe – Cubbie Group Ltd

Cubbie Group Dirranbandi Waterharvesting

Culgoa River Gravity Diversion

1800mm Diversion Structure



RTI DL RELEASE - DNRM

License No: 49273Q
WGS 84 GPS Location: S 28°36'59.2"
E 148°00'18.3"

Invert Level: 159.50 AHD
Pipe Size: 1 x 1800mm
Pipe Length: 32m
Max Flow Rate: 500ML/Day

Diversion takes place from the Culgoa River when releases from Jack Taylor Weir reach 3000ML/Day. Maximum diversion from the Culgoa occurs when Jack Taylor Weir reaches 60,000ML/Day. Waterharvesting thresholds for both the Culgoa River and the Balonne Minor River are listed in Table 1.

In order to waterharvest into 'Gunathaby' the earth block is removed and 'Gunathaby' then rises with storage 'B2' as water harvested through the main diversion structure water flows down the diversion channel. Waterharvest water also enters 'Gunathaby' under gravity from the metered 1800mm Diversion Structure into the Cross Floodplain Channel. A branch of the CFC then carries the water to the 3000mm Inlet Pipe.
Floodplain waters are also diverted through the 3000mm Inlet.

Water stored in Gunathaby is released when required by opening the removable earth block and water flows under gravity into Cell B2. It can also be released back through the 3000mm Inlet Pipe into the Cross Floodplain Channel for transfer to pump stations.

Table 1 – Cubbie's River Diversion Entitlements

CUBBIE RIVER DIVERSION SCHEDULE

JTW RELEASES	CULGOA	B MINOR	TOTAL
3000	490	82	572
4000	654	82	736
5000	654	163	817
6000	980	163	1143
7000	1062	163	1225
8000	2124	219	2343
10000	2594	247	2841
12000	2964	276	3240
14000	3572	304	3876
16000	4028	342	4370
18000	4484	437	4921
20000	4940	532	5472
22000	5244	627	5871
24000	5548	722	6270
26000	5852	817	6669
28000	6156	912	7068
30000	6256	1007	7263
32000	6569	1112	7681
34000	6569	1216	7785
36000	6940	1330	8270
38000	6940	1435	8375
40000	7187	1539	8726
42000	7187	1615	8802
44000	7557	1691	9248
46000	7557	1758	9315
48000	7804	1758	9562
52000	8051	1758	9809
56000	8298	1758	10056
60000	8545	1758	10303

Note: Above Releases and Entitlements are in ML/day

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Table 2 – Cubbie's Floodplain Diversion Entitlements

FLOODPLAIN WATER DIVERSION SCHEDULE

JTW RELEASES	Kelso	Cubbie	Combined
20000		950	950
24000	143		1095
26000	162		1110
28000	181		1130
30000	200	2375	2580
32000	219		2600
34000	238		2620
36000	257		2640
40000		3325	3590
48000		4085	4355
52000		4275	4545
60000		5225	5500
70000		6175	6450
80000		7125	7400
90000		8075	8355

Note: Above Releases and Entitlements are in ML/day

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Storage Volume Table

Item	Data(Units)
Storage Identifier	Gunathaby
Lot on Plan	4&5 on BEL5370 10 on SP133008
Capacity at FSL	38 207 Ml
FSL RL	163.00 m AHD
Crest RL	163.80 m AHD
Maximum Embankment Height above Natural Surface	4.6 m
Surface Area at FSL	1669 Ha
Internal Batter	4 :1
Outlet Pipe invert RL	N/A
Inlet Pipe Invert RL	N/A
Method of Calculation: **RTK survey** **Storage tables developed using CDS Solutions**	
Source of water stored (license number or OLF diversion works identifier): **Culgoa R. under the authority of License Nos. 43346Q etc.** **Overland flow from floodplain under License No. 602017**	
Storage operating arrangements: **This storage stores water from river and floodplain waterharvesting.**	
[X] Map showing location of storage on Lot on Plan attached [X] Data used in calculation of Storage Volume attached	

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Looking SW at Inlet Pipe into 'Gunathaby'

WGS 84 GPS Location:	Easting	594 410
	Northing	6 830 124

RTI DL RELEASE - DNRM



Looking West to Removable Earth Block from 'Gunathaby'

WGS 84 GPS Location: Easting 589 277
Northing 6 829 951

RTI DL RELEASE - DNRM

GUNATHABY STORAGE
Capacity Table
'Cubbie' Dirranbandi

Full Supply Level RL 163.00
BM Gaugeboard at 3000mm Inlet Pipe
Date: 12/04/2011

LEVEL	VOLUME	SURFACE AREA
RL 156.80	0.2 Ml	0.5 Ha
RL 156.90	1.0 Ml	1.2 Ha
RL 157.00	2.5 Ml	1.7 Ha
RL 157.10	4.5 Ml	2.3 Ha
RL 157.20	7.2 Ml	2.9 Ha
RL 157.30	10.2 Ml	3.3 Ha
RL 157.40	13.8 Ml	3.8 Ha
RL 157.50	17.8 Ml	4.4 Ha
RL 157.60	22.5 Ml	5.0 Ha
RL 157.70	27.8 Ml	5.8 Ha
RL 157.80	37.4 Ml	12.7 Ha
RL 157.90	50.4 Ml	13.4 Ha
RL 158.00	64.2 Ml	14.2 Ha
RL 158.10	78.7 Ml	15.0 Ha
RL 158.20	94.0 Ml	15.8 Ha
RL 158.30	110.1 Ml	16.8 Ha
RL 158.40	127.4 Ml	18.0 Ha
RL 158.50	145.8 Ml	19.0 Ha
RL 158.60	165.3 Ml	20.4 Ha
RL 158.70	186.2 Ml	22.0 Ha
RL 158.80	208.8 Ml	23.3 Ha
RL 158.90	232.3 Ml	24.3 Ha
RL 159.00	256.9 Ml	25.4 Ha
RL 159.10	282.6 Ml	26.6 Ha
RL 159.20	309.5 Ml	27.8 Ha
RL 159.30	337.5 Ml	29.0 Ha
RL 159.40	366.8 Ml	30.2 Ha
RL 159.50	397.0 Ml	31.2 Ha
RL 159.60	428.4 Ml	32.3 Ha
RL 159.70	462.2 Ml	40.6 Ha
RL 159.80	556.8 Ml	127.9 Ha
RL 159.90	719.3 Ml	204.3 Ha
RL 160.00	966.4 Ml	290.9 Ha
RL 160.10	1299.5 Ml	375.8 Ha
RL 160.20	1716.0 Ml	458.3 Ha
RL 160.30	2215.2 Ml	541.6 Ha
RL 160.40	2798.9 Ml	627.0 Ha
RL 160.50	3467.9 Ml	712.3 Ha
RL 160.60	4224.8 Ml	799.2 Ha
RL 160.70	5063.3 Ml	878.8 Ha
RL 160.80	5978.8 Ml	951.0 Ha
RL 160.90	6959.2 Ml	1009.8 Ha
RL 161.00	7993.3 Ml	1058.2 Ha
RL 161.10	9086.8 Ml	1136.5 Ha
RL 161.20	10262.8 Ml	1208.3 Ha
RL 161.30	11503.3 Ml	1271.9 Ha
RL 161.40	12797.3 Ml	1316.9 Ha
RL 161.50	14133.3 Ml	1357.3 Ha
RL 161.60	15517.3 Ml	1420.7 Ha
RL 161.70	16993.3 Ml	1515.7 Ha
RL 161.80	18528.9 Ml	1550.1 Ha
RL 161.90	20087.9 Ml	1569.4 Ha
RL 162.00	21665.1 Ml	1588.6 Ha
RL 162.10	23267.6 Ml	1619.8 Ha
RL 162.20	24901.4 Ml	1647.4 Ha
RL 162.30	26555.0 Ml	1659.5 Ha
RL 162.40	28216.0 Ml	1663.5 Ha
RL 162.50	29878.8 Ml	1664.5 Ha
RL 162.60	31542.6 Ml	1665.5 Ha
RL 162.70	33207.3 Ml	1666.4 Ha
RL 162.80	34873.0 Ml	1667.4 Ha
RL 162.90	36539.7 Ml	1668.4 Ha
RL 163.00	38207.2 Ml	1669.4 Ha

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Full Supply Level = RL 163.00 & Full Supply Volume = 38,207 ML

Attachments

1. **Cubbie Group Dirranbandi Property Plan**
2. **Gunathaby Storage Survey Plot**
3. **Gunathaby Storage Embankment Chainage**
4. **Gunathaby Crest Levels – Chainage 0 – 20 677 m**

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CUBBIE GROUP DIRRANBANDI

DATE RECEIVED
ST. GEORGE 01 FEB 2006 ST. GEORGE
DEPT NATURAL RESOURCES & MINES

30th January 2006

The Chief Executive
Department of Natural Resources & Mines
PO Box 310
ST GEORGE QLD 4487

Dept Natural Resources & Mines
13 MAR 2006
TOOWOOMBA

Dear Sir,

RE: Notification of Existing Overland Flow Works

Further to our letter dated 17th January 2006, please find attached further information with regard to Floodplain Extraction works for Cubbie Group Dirranbandi.

The attached schedule 'Floodplain Pumping Points' are additional floodplain diversion works not already notified. All supply channel and drainage channels on Cubbie Station are also able to store floodplain extractions. Estimated capacity of these systems is 10,000 ML.

RTI DL RELEASE - DNRM

PROPERTY NAME	DESCRIPTION	OWNER
Cubbie Station	Lots 1,2,3,4,5 on BEL5370, Lot 10 on SP 133008, Lots 12,13,14,15,16 on BEL 5373 Parish of Cubbie, Lots 20,23 on BEL 53164 Parish of Tootherang	Cubbie Dirranbandi 1 Pty Ltd
Barneedoo	Lot 7 on SP 133008 Parish of Codernah	Cubbie Dirranbandi 2 Pty Ltd Cubbie Dirranbandi 3 Pty Ltd as Tennants in Common
Beltana	Lot 8 on SP 133008 Parish of Codernah	
Urandool	Lot 1 on SP 118239 Parish of Codernah	
Mundah	Lot 4 on SP 132531 Parish of Briarie	
Mugangulla	Lot 6 on SP 132531 Parish of Briarie	
Clarkes	Lot 2 on SP 132531 Parish of Briarie	
Woolerbilla	Lots 1, 3 on SP 132531 Parish of Briarie	
Corowa	Lot 67 on SP 129702 Parish of Euraba/Codernah	
Kelso	Lot 2 on BLM 262, Lot 5 on BLM 368, Lot 4 on BLM 695 Parish of Codernah	LR & LE Boully
Dunolly	Lot 3 on BLM 963 Parish of Codernah	LR Boully

BUSINESS ADDRESS: "CUBBIE STATION"
POSTAL ADDRESS: PO BOX 7
DIRRANBANDI QLD 4486
PHONE: (07) 4625 8366 FAX: (07) 4625 8399

Would you please acknowledge that Cubbie Group Dirranbandi and LR & LE Boully have satisfied the Department's requirements for "Notification of Existing Overland Flow Works".

Signed for and on behalf of

Cubbie Dirranbandi 1 Pty Ltd

sch4p4(6)
Personal
information

John Grabbe & Paul Brimblecombe
Joint Managing Directors

Cubbie Dirranbandi 2 Pty Ltd

sch4p4(6)
Personal
information

John Grabbe & Paul Brimblecombe
Joint Managing Directors

Cubbie Group 3 Pty Ltd

sch4p4(6)
Personal
information

John Grabbe & Paul Brimblecombe
Joint Managing Directors

All signatures witnessed by:

Kirsten Murphy
JP(Qual) 76250

Release

Cubbie Group Dirranbandi Overland Flow Notification

FLOODPLAIN DIVERSIONS

MAP NOTE	FARM LOCATION	FLOODPLAIN SOURCE	DESTINATION (Storage/Irrigation)	DIVERSION METHOD (Gravity/Pumping)	PUMP/PIPE SIZE (ie. 26", 1800mm)	MAX PHYSICAL DIVERSION (ML/Day)
#1	Dry Cell	Bore Creek	Storage System B & Irrigation	Gravity	1 x 1500mm; 1 x 1350mm	1460
#2	FD 17	Bore Creek	Storage System B & Irrigation	Pump	1 x 1200mm	130
#3	FD 20	Doctors Creek	Storage System B & Irrigation	Gravity	1 x 1800mm; 1 x 1200mm	1310
#4	Cross-Floodplain	Doctors Creek	Storage System B & Irrigation	Pump	1 x 1800mm	480
#5	Kirrima	Doctors Creek	Storage (Kirrima)	Gravity	1 x 1800mm	750
#6	B1 Inlet	Chinaman	Storage System A & Irrigation	Gravity	2 x 3000mm + 1 x 1800mm	7350
#7	B2 Inlet	Chinaman	Storage System A & Irrigation	Gravity	1 x 3000mm	3300
#8	Butch & Harry	Chinaman	Surge Area & Irrigation	Pump	1 x 1200mm	390
#9	Gooragully Farm	Chinaman	Irrigation	Pump	1 x 1800mm	530
#10	Gooragully Twin Pipes	Chinaman	Irrigation	Gravity	2 x 1800mm	1000
#11	Claypan CFC 2 East	Chinaman	Claypan Storage & Irrigation	Pump	3 x 1800mm	1400
#12	Pilgra	Chinaman	Pilgra Storage & Irrigation	Pump	3 x 1800mm	1200
#13	Urandool/Clarkes	Chinaman	Storage System A & Irrigation	Gravity/Pump	2 x 1800mm	1500

STORAGE SYSTEM A	STORAGE SYSTEM B
B1	Swamp
B2	Top Shed
Beltana	Corowa
Urandool	Barron
M1	
M2	
M3/4	

FLOODPLAIN WATER DIVERSION SCHEDULE

JTW Flow	Cubbie Ent.
20000	1000
30000	2500
40000	3500
48000	4300
52000	4500
60000	5500
70000	6500
80000	7500
90000	8500

FLOODPLAIN WATER DIVERSION SCHEDULE (RANKED)

JTW Flow	Cubbie Ent.
20000	1000
22000	1300
24000	1600
26000	1900
28000	2200
30000	2500
32000	2700
34000	2900
36000	3100
38000	3300
40000	3500
42000	3700
44000	3900
46000	4100
48000	4300
50000	4400
52000	4500
54000	4750
56000	5000
58000	5250
60000	5500
62000	5700
64000	5900
66000	6100
68000	6300
70000	6500
72000	6700
74000	6900
76000	7100
78000	7300
80000	7500
82000	7700
84000	7900
86000	8100
88000	8300
90000	8500

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Release

Cubbie Group Dirranbandi Overland Flow Notification

FLOODPLAIN PUMPING POINTS

MAP NOTE	FARM LOCATION	PUMP SIZE	MAX PHYSICAL DIVERSION (ML/Day)	Location
#14	Corowa Tailwater Pumps	4 x 26"; 1 x 32"	700	Lot 10 on SP 133008 Parish of Cubbie
#15	Field 17 Pump	1 x 26"	130	Lot 3 on BEL5370
#16	Butch & Harry	3 x 26"	390	Lot 3 on BEL5370
#17	Gooragully	2 x 32'; 1 x 26"	490	Lot 10 on SP 133008 Parish of Cubbie
#18	Claypan	7 x 32"	1260	Lot 67 on SP 129702 Parish of Euraba/Codernah
#19	Pilgra	6 x 32"	1080	Lot 67 on SP 129702 Parish of Euraba/Codernah
#20	Urandool	5 x 32"	900	Lot 1 on SP 118239 Parish of Codernah

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Release

Cubbie Group Dirranbandi

PART G Details of Major Works

Storage Number	Storage Name	Gravity Fed Overland Flow	Pumped Overland Flow	Water-course	Under-ground	Type of Storage	Maximum depth @ F.S.L. (D)	Height to top (H)	Maximum Volume (ML)	Maximum Surface Area (Ha)	Freeboard (F)	Bywash	Construct-ion Date	Purpose of Storage	Location	
															Lot	Plan
1	B1	Yes	Yes	Yes	No	Ring Tank	4.7	5.5	44200	1130	0.8	No	Nov-96	Irrigation	7	SP 133008
2	B2	Yes	No	Yes	No	Ring Tank	5.6	6.4	79100	1850	0.8	No	Feb-98	Irrigation	7	SP 133008
3	BELTANA	Yes	No	Yes	No	Ring Tank	6.9	7.9	110400	1880	1.0	No	Feb-98	Irrigation	7 & 8	SP 133008
4	URANDOOL	Yes	No	Yes	No	Ring Tank	6.8	8.0	79700	1370	1.2	No	Aug-98	Irrigation	1	SP 118239
5	M1	Yes	Yes	Yes	No	Ring Tank	7.2	8.0	32920	480	0.8	No	Jul-99	Irrigation	1	SP 118239
6	M2	Yes	No	Yes	No	Ring Tank	7.2	8.0	32920	480	0.8	No	Jul-99	Irrigation	1	SP 118239
7	M3/4	Yes	No	Yes	No	Ring Tank	6.1	7.1	50730	900	1.0	No	Jul-99	Irrigation	4	SP 132531
8	SWAMP	No	Yes	Yes	No	Ring Tank	2.8	3.7	4690	190	0.9	No	1987	Irrigation	2 & 3	BEL5370
9	TOP SHED	No	Yes	Yes	No	Ring Tank	6.7	8.5	9000	120	1.8	No	1988	Irrigation	3 & 4	BEL5370
10	COROWA	No	Yes	Yes	No	Ring Tank	3.7	4.5	12080	410	0.8	No	1987	Irrigation	5 & (10)	BEL5370 & (SP 133008)
11	BARRON	No	Yes	Yes	No	Ring Tank	2.8	3.6	3780	160	0.8	No	1996	Irrigation	4 & 5	BEL5370
12	KIRRIMA	Yes	No	Yes	No	Ring Tank	2.2	3.2	6310	540	1.0	No	2000	Irrigation	10 & (67)	SP 133008 & (SP 129702)
15	CLAYPAN SURGE	No	Yes	Yes	No	Ring Tank	2.2	3.0	1770	200	0.8	No	1999	Irrigation	67	SP 129702
16	PILGRA SURGE	No	Yes	Yes	No	Ring Tank	2.2	3.0	1800	200	0.8	No	2000	Irrigation	67 & (1)	SP 129702 & (SP118239)

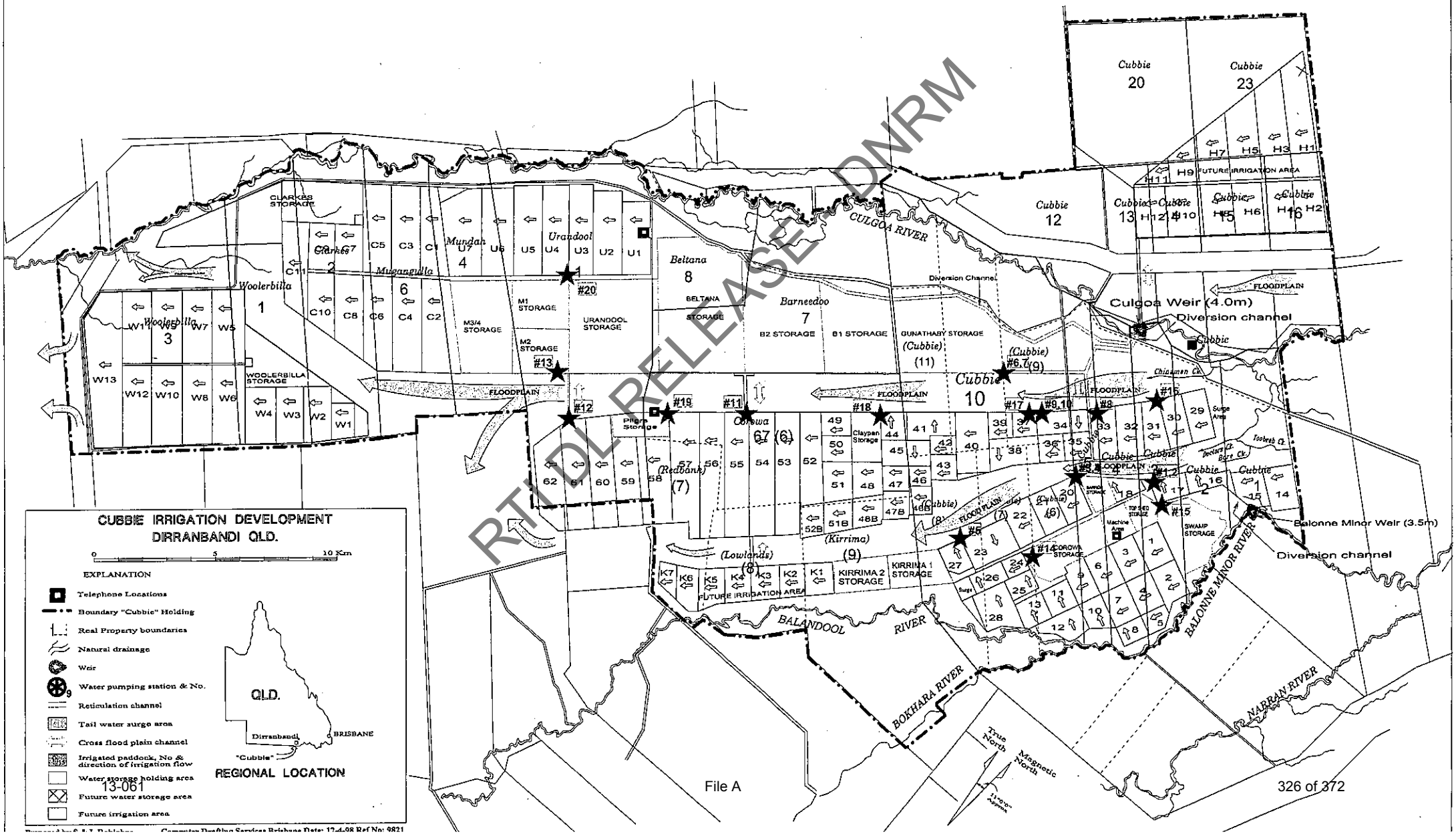
Total **469400 ML**

Cubbie	Kelso	Total
462400	7000	**469400**

RTI DL RELEASE - DNRM

Release

"CUBBIE GROUP DIRRANBANDI" PROPERTY PLAN



RTI DL RELEASE - DNRM

CUBBIE GROUP DIRRANBANDI

17th January 2006

DATE RECEIVED
ST. GEORGE
18 JAN 2006
ST. GEORGE
DEPT NATURAL RESOURCES & MINES

The Chief Executive
Department of Natural Resources & Mines
PO Box 310
ST GEORGE QLD 4487

Dept Natural Resources & Mines
24 JAN 2006
TOOWOOMBA

Dear Sir,

RE: Notification of Existing Overland Flow Works

Further to our letter dated 3rd August 2005, please find attached further information with regard to Floodplain Extraction works for Cubbie Group Dirranbandi. These include (1) detailed storage information table (2) list of floodplain extraction points and (3) amended cadastral property plan.

Please note the storage capacity of 469400ML is the amalgamated capacity of *"Cubbie Group Dirranbandi"* 462400ML and *"Kelso"* 7000ML.. Also note the *"Kelso"* floodplain diversion entitlement has always been diverted through the floodplain diversion works located on "Cubbie" as per attached schedule and as nominated in the letter dated 3rd August 2005.

Kelso Floodplain Diversion Schedule

JTW Flow	Kelso Ent. (ML/day)
24000	150
26000	170
28000	190
30000	210
32000	230
34000	250
36000	270

RTI DL RELEASE - DNRM

BUSINESS ADDRESS: "CUBBIE STATION"
POSTAL ADDRESS: PO BOX 7
DIRRANBANDI QLD 4486
PHONE: (07) 4625 8366 FAX: (07) 4625 8399

Please also note the change of property ownership in the following table.

PROPERTY NAME	DESCRIPTION	OWNER
Cubbie Station	Lots 1,2,3,4,5 on BEL5370, Lot 10 on SP 133008, Lots 12,13,14,15,16 on BEL 5373 Parish of Cubbie, Lots 20,23 on BEL 53164 Parish of Tootherang	Cubbie Dirranbandi 1 Pty Ltd
Barneedoo	Lot 7 on SP 133008 Parish of Codernah	Cubbie Dirranbandi 2 Pty Ltd Cubbie Dirranbandi 3 Pty Ltd as Tennants in Common
Beltana	Lot 8 on SP 133008 Parish of Codernah	
Urandool	Lot 1 on SP 118239 Parish of Codernah	
Mundah	Lot 4 on SP 132531 Parish of Briarie	
Mugangulla	Lot 6 on SP 132531 Parish of Briarie	
Clarkes	Lot 2 on SP 132531 Parish of Briarie	
Woolerbilla	Lots 1, 3 on SP 132531 Parish of Briarie	
Corowa	Lot 67 on SP 129702 Parish of Euraba/Codernah	
Kelso	Lot 2 on BLM 262, Lot 5 on BLM 368, Lot 4 on BLM 695 Parish of Codernah	LR & LE Boully
Dunolly	Lot 3 on BLM 963 Parish of Codernah	LR Boully

Would you please acknowledge that Cubbie Group Dirranbandi and LR & LE Boully have satisfied the DNR&Ms requirements for "Notification of Existing Overland Flow Works".

Signed for and on behalf of

Cubbie Dirranbandi 1 Pty Ltd

sch4p4(6) Personal information

John Grabbe & Paul Brimblecombe
Joint Managing Directors

Cubbie Dirranbandi 2 Pty Ltd

sch4p4(6) Personal information

John Grabbe & Paul Brimblecombe
Joint Managing Directors

Cubbie Group 3 Pty Ltd

sch4p4(6) Personal information

....

John Grabbe & Paul Brimblecombe
Joint Managing Directors

LR & LE Boully

sch4p4(6) Personal information

LR Boully LE Boully

LR Boully

sch4p4(6) Personal information

.....

LR Boully

All signatures witnessed by:

sch4p4(6) Personal information

.....

Leisa Maree McGahan
JP(Qual) 68453

Release

Cubbie Group Dirranbandi

PART G Details of Major Works

Storage Number	Storage Name	Gravity Fed Overland Flow	Pumped Overland Flow	Water-course	Under-ground	Type of Storage	Maximum depth @ F.S.L. (D)	Height to top (H)	Maximum Volume (ML)	Maximum Surface Area (Ha)	Freeboard (F)	Bywash	Construct-ion Date	Purpose of Storage	Location	
															Lot	Plan
1	B1	Yes	Yes	Yes	No	Ring Tank	4.7	5.5	44200	1130	0.8	No	Nov-96	Irrigation	7	SP 133008
2	B2	Yes	No	Yes	No	Ring Tank	5.6	6.4	79100	1850	0.8	No	Feb-98	Irrigation	7	SP 133008
3	BELTANA	Yes	No	Yes	No	Ring Tank	6.9	7.9	110400	1880	1.0	No	Feb-98	Irrigation	7 & 8	SP 133008
4	URANDOOL	Yes	No	Yes	No	Ring Tank	6.8	8.0	79700	1370	1.2	No	Aug-98	Irrigation	1	SP 118239
5	M1	Yes	Yes	Yes	No	Ring Tank	7.2	8.0	32920	480	0.8	No	Jul-99	Irrigation	1	SP 118239
6	M2	Yes	No	Yes	No	Ring Tank	7.2	8.0	32920	480	0.8	No	Jul-99	Irrigation	1	SP 118239
7	M3/4	Yes	No	Yes	No	Ring Tank	6.1	7.1	50730	900	1.0	No	Jul-99	Irrigation	4	SP 132531
8	SWAMP	No	Yes	Yes	No	Ring Tank	2.8	3.7	4690	190	0.9	No	1987	Irrigation	2 & 3	BEL5370
9	TOP SHED	No	Yes	Yes	No	Ring Tank	6.7	8.5	9000	120	1.8	No	1988	Irrigation	3 & 4	BEL5370
10	COROWA	No	Yes	Yes	No	Ring Tank	3.7	4.5	12080	410	0.8	No	1987	Irrigation	5 & (10)	BEL5370 & (SP 133008)
11	BARRON	No	Yes	Yes	No	Ring Tank	2.8	3.6	3780	160	0.8	No	1996	Irrigation	4 & 5	BEL5370
12	KIRRIMA	Yes	No	Yes	No	Ring Tank	2.2	3.2	6310	540	1.0	No	2000	Irrigation	10 & (67)	SP 133008 & (SP 129702)
15	CLAYPAN SURGE	No	Yes	Yes	No	Ring Tank	2.2	3.0	1770	200	0.8	No	1999	Irrigation	67	SP 129702
16	PILGRA SURGE	No	Yes	Yes	No	Ring Tank	2.2	3.0	1800	200	0.8	No	2000	Irrigation	67 & (1)	SP 129702 & (SP118239)

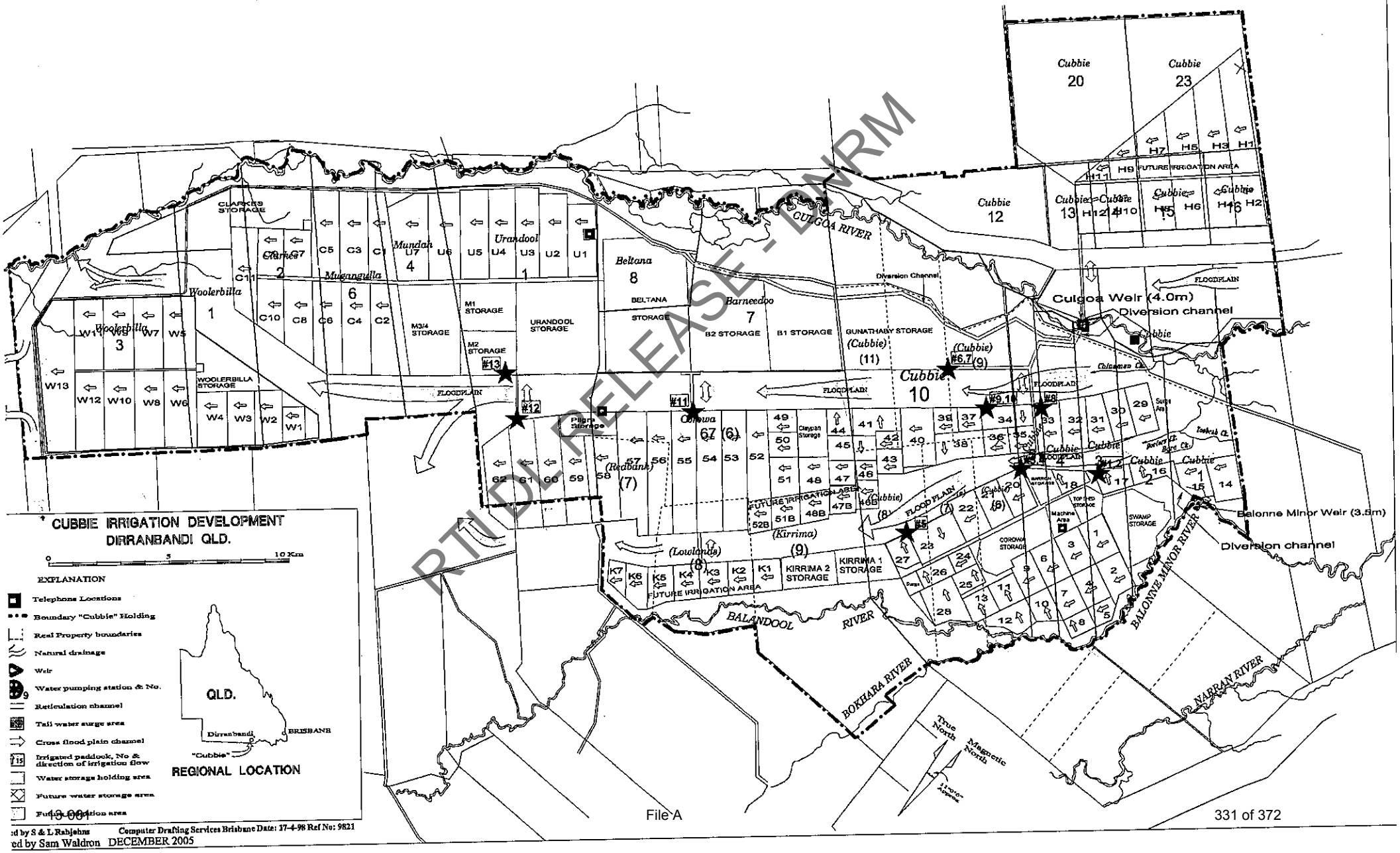
Total **469400 ML**

Cubbie	Kelso	Total
462400	7000	**469400**

RTI DL RELEASE - DNRM

Release

"CUBBIE GROUP DIRRANBANDI" PROPERTY PLAN



RTIDL RELEASE - DNRM

19.004

d by S & L Rabjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
ed by Sam Waldron DECEMBER 2005

BRISBANE—
Telephone: (07) 3255 5933
Facsimile: (07) 3255 5966

BRISBANE OFFICE:
2/121 KERRY ROAD, ARCHERFIELD, Q. 4108

DIRRANBANDI—
Telephone: (07) 4625 8366
Facsimile: (07) 4625 8399

"CUBBIE STATION"

Postal Address —
P.O. BOX 169,
ARCHERFIELD, Q. 4108

Postal Address —
P.O. BOX 7,
DIRRANBANDI, Q. 4486

CUB. ST.

3rd August 2005

The Chief Executive
Department of Natural Resources & Mines
PO Box 310
ST GEORGE QLD 4487

DATE RECEIVED
ST. GEORGE
05 AUG 2005
ST. GEORGE
DEPT NATURAL RESOURCES & MINES

RTI DL RELEASE - DNRM

Dear Sir

RE: **Section 46 (2) (b) of the Water Resource (Condamine and Balonne) Plan 2004 Notice**

The purpose of this letter is to give you notice as provided for in Section 46 (2) (b) of the Water Resource (Condamine and Balonne) Plan 2004 as owners of the land as detailed below.

PROPERTY NAME	DESCRIPTION	OWNER
Cubbie Station	Lots 1,2,3,4,5 on BEL5370, Lot 10 on SP 133008, Lots 12,13,14,15,16 on BEL 5373 Parish of Cubbie, Lots 20,23 on BEL 53164 Parish of Tootherang	Stevenson Finance Corporation Pty Ltd
Barneedoo	Lot 7 on SP 133008 Parish of Codernah	John Friedrich Grabbe Harold Thomas Siddins & Kenneth Scott Finlayson as Personal Representatives under Instrument 704440109
Beltana	Lot 8 on SP 133008 Parish of Codernah	
Urandool	Lot 1 on SP 118239 Parish of Codernah	
Mundah	Lot 4 on SP 132531 Parish of Briarie	
Mugangulla	Lot 6 on SP 132531 Parish of Briarie	
Clarkes	Lot 2 on SP 132531 Parish of Briarie	
Woolerbilla	Lots 1, 3 on SP 132531 Parish of Briarie	
Corowa	Lot 67 on SP 129702 Parish of Euraba/Codernah	

Existing works and works that –

i. are a reconfiguration of existing works; and

ii. do not increase the average annual volume of water taken above the average annual volume taken using the existing works

are as per the attached list.

We understand that the Department has finalised the processes and frameworks regarding notification of existing works (see penultimate paragraph of information attached to Mark Bartlem's letter to John Grabbe) (copy attached for ease of reference).

We do note however that when we enquired recently no form has yet been approved for the giving of this notice.

Yours faithfully

STEVENSON FINANCE CORPORATION PTY LTD

Per sch4p4(6) Personal information

John Grabbe – Director

Yours faithfully

H I D STEVENSON

Per sch4p4(6) Personal information

John Grabbe – for Personal Representatives

Release

CUBBIE STATION WATERHARVESTING - AUGUST 2005

FLOODPLAIN DIVERSIONS

MAP NOTE	FARM LOCATION	FLOODPLAIN SOURCE	DESTINATION (Storage/Irrigation)	DIVERSION METHOD (Gravity/Pumping)	PUMP/PIPE SIZE (ie. 26", 1800mm)	MAX PHYSICAL DIVERSION (ML/Day)
#1	Dry Cell	Bore Creek	Storage System B & Irrigation	Gravity	1 x 1500mm; 1 x 1350mm	1460
#2	FD 17	Bore Creek	Storage System B & Irrigation	Pump	1 x 1200mm	130
#3	FD 20	Doctors Creek	Storage System B & Irrigation	Gravity	1 x 1800mm; 1 x 1200mm	1310
#4	Cross-Floodplain	Doctors Creek	Storage System B & Irrigation	Pump	1 x 1800mm	480
#5	Kirrima	Doctors Creek	Storage (Kirrima)	Gravity	1 x 1800mm	750
#6	B1 Inlet	Chinaman	Storage System A & Irrigation	Gravity	2 x 3000mm + 1 x 1800mm	7350
#7	B2 Inlet	Chinaman	Storage System A & Irrigation	Gravity	1 x 3000mm	3300
#8	Butch & Harry	Chinaman	Surge Area & Irrigation	Pump	1 x 1200mm	390
#9	Gooragully Farm	Chinaman	Irrigation	Pump	1 x 1800mm	530
#10	Gooragully Twin Pipes	Chinaman	Irrigation	Gravity	2 x 1800mm	1000
#11	Claypan CFC 2 East	Chinaman	Claypan Storage & Irrigation	Pump	3 x 1800mm	1400
#12	Pilgra	Chinaman	Pilgra Storage & Irrigation	Pump	3 x 1800mm	1200
#13	Urandool/Clarkes	Chinaman	Storage System A & Irrigation	Gravity/Pump	2 x 1800mm	1500

STORAGE SYSTEM A	STORAGE SYSTEM B
B1	Swamp
B2	Top Shed
Beltana	Corowa
Urandool	Barron
M1	
M2	
M3/4	

FLOODPLAIN WATER DIVERSION SCHEDULE

JTW Flow	Cubbie Ent.
20000	1000
30000	2500
40000	3500
48000	4300
52000	4500
60000	5500
70000	6500
80000	7500
90000	8500

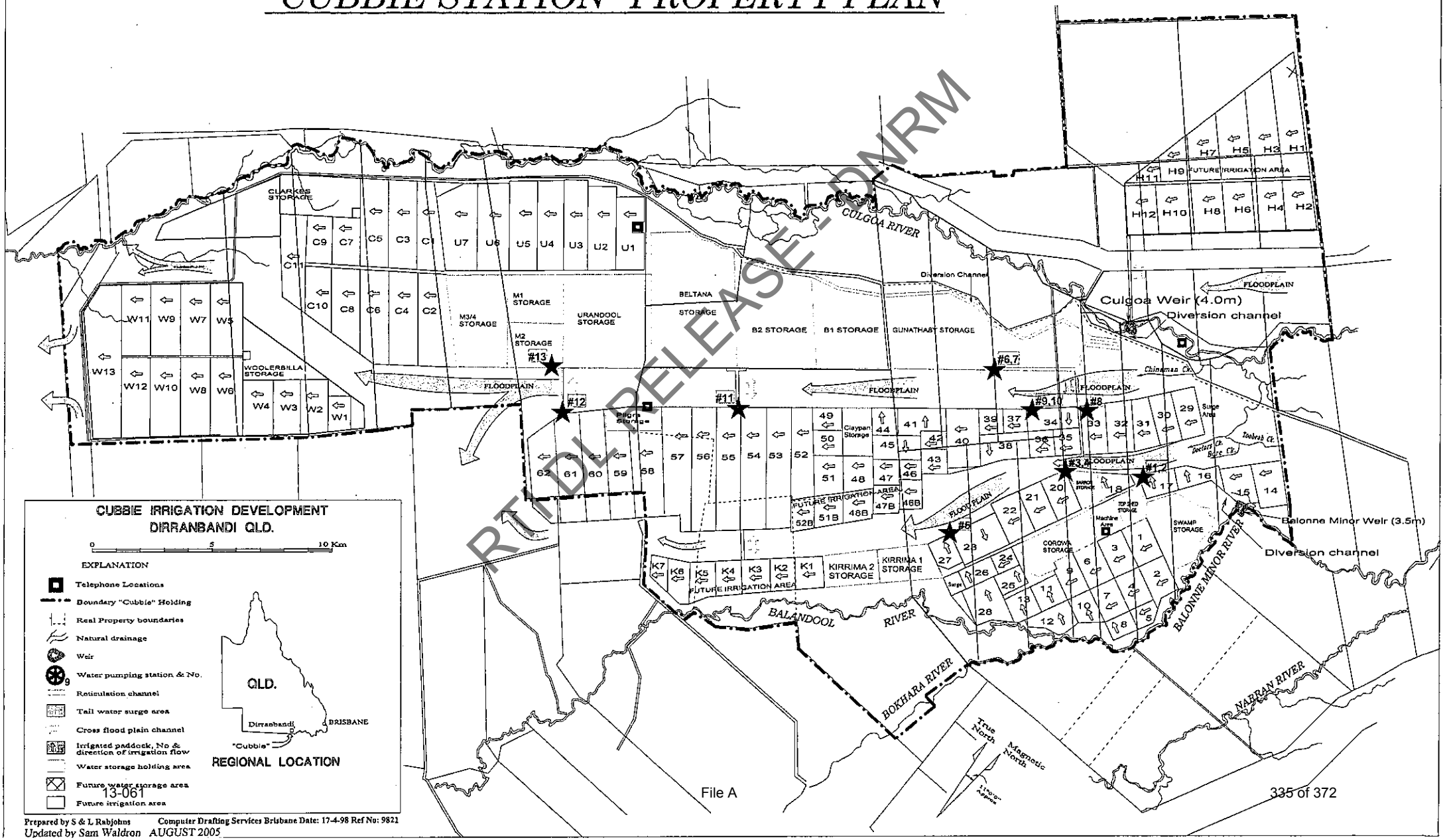
FLOODPLAIN WATER DIVERSION SCHEDULE (RANKED)

JTW Flow	Cubbie Ent.
20000	1000
22000	1300
24000	1600
26000	1900
28000	2200
30000	2500
32000	2700
34000	2900
36000	3100
38000	3300
40000	3500
42000	3700
44000	3900
46000	4100
48000	4300
50000	4400
52000	4500
54000	4750
56000	5000
58000	5250
60000	5500
62000	5700
64000	5900
66000	6100
68000	6300
70000	6500
72000	6700
74000	6900
76000	7100
78000	7300
80000	7500
82000	7700
84000	7900
86000	8100
88000	8300
90000	8500

RTI DL RELEASE - DNRM

Release

"CUBBIE STATION" PROPERTY PLAN



CUBBIE IRRIGATION DEVELOPMENT
DIRRANBANDI QLD.

0 5 10 Km

EXPLANATION

- Telephone Locations
- Boundary "Cubbie" Holding
- Real Property boundaries
- Natural drainage
- Weir
- Water pumping station & No.
- Reticulation channel
- Tail water surge area
- Cross flood plain channel
- Irrigated paddock, No & direction of irrigation flow
- Water storage holding area
- Future water storage area
- Future irrigation area

REGIONAL LOCATION

Prepared by S & L Rabjohns Computer Drafting Services Brisbane Date: 17-4-98 Ref No: 9821
Updated by Sam Waldron AUGUST 2005

RTIDL RELEASE - DNRM

Queensland Government
Natural Resources and Mines

John Grabbe
Cubbie Station
Dirranbandi, QLD 4486

Dear John,

RE: Overland flow water in the Lower Balonne under the Condamine and Balonne Catchment Water Resource Plan

Please find attached information about the notification and certification processes for overland flow in the Lower Balonne. This information has been distributed through Smartrivers and Sunwater (St George).

Yours sincerely

sch4p4(6) Personal Information

Mark Bartlem
A/ Senior Natural Resource Officer, St George

Overland flow water in the Lower Balonne under the Condamine and Balonne Catchment Water Resource Plan

In January the Minister for Natural Resources and Mines sent a general letter out to landowners in the Condamine Balonne Catchment to bring to their attention the new rules that apply to overland flow water in this catchment. The letter mentioned the Condamine Balonne Water Resource Plan provides for the licensing of overland flow works in the Lower Balonne.

In summary:

1. In general, all existing overland works are authorised to continue taking water subject to the requirements of the WRP.
2. There are 2 processes in the plan for the Department to obtain information about overland flow works: notification and certification.
3. Notification is a relatively simple process, involving a landholder completing a form using the best available information.
4. Certification is a more detailed process, requiring an engineer to provide information on the relevant works.
5. Landholders in the Lower Balonne are required to have all works (overland flow and waterharvesting) certified by an engineer.
6. Provided certification is done prior to 1 February 2006, notification will not be required.
7. The process for certification is still being developed, including the information required and the standards that must be applied by the engineer. The soon to be formed Lower Balonne Ministerial Water Resources Advisory Council will be consulted on the process. It is likely to be several months before this process is finalised and landholders are able to commence certification of their works.

124 Alfred ST. St George. Queensland 4487 Australia - Telephone 07 4625 3299 Facsimile 07 4625 3892
Website www.dnr.qld.gov.au

RTI DLRELEASE - DNRM

The Water Resource Plan describes a number of processes in relation to:

- The authorisation of take of overland flow water for existing works;
- The granting of Water Licenses under the Water Act 2000 for taking overland flow water in the Lower Balonne; and
- Volumetric limits for un-supplemented water in the Lower Balonne.

Authorisation of Existing Works

The Water Resource Plan authorise, under section 46, the owner of "existing works" to continue taking overland flow water for any purpose for 1 year after the commencement date, and from the time the owner gives the Department notice of the works in the approved form with any further information required. This means the existing works within the meaning of the Water Resource Plan are automatically authorised to take overland flow water for any purpose until 31 January 2006 for the Condamine Balonne Catchment.

To continue uninterrupted use of existing works after these dates NR&M must be notified of the works. NR&M will accept notifications for existing works after these dates. However on receipt of a notification NR&M may ask the owner to demonstrate the works comply with the definition of existing works in the Water Resource Plan.

It is important to note that if works are not notified by these dates, the water taken can ONLY be used for stock and domestic purposes until NR&M receive notification of the works. The unauthorised take of water is an offence under section 808 of the Water Act 2000 and penalties apply.

Water Licenses for taking overland flow water

The Water Resource Plan also states that water licences for taking overland flow are to be granted in the Lower Balonne to replace the authority provided under section 46, which includes notification. The Water Licenses are to be granted under the Resource Operations Plan (ROP). This means that the information required to grant the Water License must be gathered prior to the development of a draft ROP.

A Water License must include certain elements such as the maximum rate of take (ML/day), flow conditions for taking water, a volumetric limit, and the parcels of land under which water taken under the license may be stored.

The Water Resource Plan states as part of the process for gathering the information for rate of take and flow conditions; every authorisation holder MUST give the chief executive a certificate in the approved form (i.e. certification of works) from a registered professional engineer (s49) that addresses these elements. In deciding these Water Licenses, the chief executive of the Department of Natural Resources & Mines determines these important elements having regard to the lesser of information supplied for the infrastructure assessment or the actual rate and flow conditions under which the works can take water established in the certification of existing works.

In addition to the Water License for overland flow, authorisations with a volumetric limit for un-supplemented water in Lower Balonne must have the total capacity of the existing works for storing water on the property. To establish the total capacity the authorisation holder MUST give the chief executive a certificate in the approved from a registered professional engineer (s29).

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Certification of works

The provisions of the WRP therefore make the certification of existing works in the Lower Balonne a mandatory process for granting a Water Licenses for overland flow and for establishing the total capacity of existing water storages.

The mandatory requirement to provide accredited engineering evidence to confirm elements of the entitlements for water allocations and water licenses in the Lower Balonne was strongly emphasised by the Lower Balonne Community Reference Group. This was clearly intended to ensure the best available data is used to develop water users volumetric entitlements..

How is NR&M approaching these requirements?

Therefore the approach NR&M considers to be the most effective is to provide the opportunity for landowners to combine the notification and certification requirements into one (1) approved form thereby making the most efficient use of process and resources. Because there is a specific timeframe stated under section 46 a combined approach would mean that it would need to occur from 1 February 2005 to 31 January 2006. Landowners who believe they would not complete the certification process before 31 January 2006 then they would have the option to notify of their existing works by 31 January 2006 and then complete certification prior to the draft ROP being developed.

The Department of Natural Resources and Mines has finalised processes and frameworks dealing with the notification of existing works however have not yet finalised any processes for certification of works. The Department is planning to engage the expertise and viewpoint of engineers within the irrigation industry for standards on professionally accredited engineering evidence. The Department will also seek advice from the Lower Balonne Ministerial Water Resources Advisory Council in the course of developing this process. Therefore the finalisation of the certification process is expected to be a few months away.

In the meantime progress on the development of the Resource Operations Plan (ROP) can be obtained from Peter Moran on 0732247227 and Steve Goudie on telephone 0746881159 including updates on the certification process

RTI DL RELEASE - DNRM

Release

Department of Natural Resources and Mines

Development Details 146336

Compiled on 28-September-2005 at 9:44 PM

Queensland Government
Natural Resources and Mines

The information contained herein is a record of the works that were authorised by a licence or permit issued under the *Water Resources Act 1989.* This legislation has now been repealed and has been replaced by the *Water Act 2000.* Matters relating to works are now administered under the provisions of the *Integrated Planning Act 1997.*

Description of Works

Reference 146336

Description of Land On Lot 3 on BEL5370 and Lot 4 on BEL5370

Date Given 19/04/2002

Works Reference 492721Q
Earth Dam on BALONNE-CONDAMINE BASIN with the following dimensions:

Height to Top	9.0m	Length	4200m
Width	80.0m	Crest Width	6.0m
Capacity	9000.0 megalitres		

Located at Lot 3 on BEL5370 or at Lot 4 on BEL5370.
Works Installed.

RTI DL RELEASE - DNRM

Release

Department of Natural Resources and Mines

Development Details 146336

Compiled on 28-September-2005 at 9:44 PM

Queensland Government
Natural Resources and Mines

The information contained herein is a record of the works that were authorised by a licence or permit issued under the *Water Resources Act 1989.* This legislation has now been repealed and has been replaced by the *Water Act 2000.* Matters relating to works are now administered under the provisions of the *Integrated Planning Act 1997.*

Conditions: Schedule A

2-2.010
The works authorised by this licence shall be located in accordance with the plan(s) STG 30.

2-3.002A
The licensee shall carry out construction and maintenance of the work to the satisfaction of the Chief Executive.

2-3.003A
The works authorised by this licence shall not cause submergence of the property or works of any other landholder without the prior written approval of such landholder.

2-3.004A
The licensee shall notify the Chief Executive immediately of any change or divestment of interest in the land whereon the licensed work is constructed or proposed to be constructed or on which the water is used or proposed to be used.

2-3.006A
The licensee shall maintain at his own cost the bed and banks of the watercourse adjacent to the works to the satisfaction of the Chief Executive.

RTI DL RELEASE - DNRM

Release

Department of Natural Resources and Mines

Water Authorisation Details 49272Q

The information contained herein is NOT an OFFICIAL RECORD and its accuracy is NOT GUARANTEED. Data displayed at time of printing may not reflect "as Issued" Authorisation.

Compiled in the Water Entitlements Registration Database (WERD) on 17 July 2002 4:22PM

Queensland Government
Natural Resources and Mines

Licence	49272Q	**Current Status**	Under Renewal
Licensee	STEVENSON FINANCE CORPORATION	**Expiry Date**	31/10/2000
Date of Original Issue	23/08/1991	**Authorisation Type**	Referable dam Licence

Description of Works

Construction of an Earth Dam
with the following dimensions:

Height to Top	9m	Crest Length	4200m
Base Width	80m	Crest Width	6m
Capacity	9000 megalitres		

Location of Works 3/BEL5370 and 4/BEL5370

These works are licensed under the referable dam provisions of the Water Resources Act 1989.

Purpose of Works Irrigation

Last Issued at ST GEORGE **on the** TWENTY-THIRD **day of** AUGUST 1991

RTI DL RELEASE - DNRM

Release

Authorisation Details 49272Q

The information contained herein is NOT an OFFICIAL RECORD and its accuracy is NOT GUARANTEED. Data displayed at time of printing may not reflect "as Issued" Authorisation.

Compiled on 17 July 2002 4:22PM

Queensland Government
Natural Resources and Mines

Licence Terms Schedule A

2-2.010 The works authorised by this licence shall be located in accordance with the plan(s) STG 30.

2-3.002A The licensee shall carry out construction and maintenance of the work to the satisfaction of the Chief Executive.

2-3.003A The works authorised by this licence shall not cause submergence of the property or works of any other landholder without the prior written approval of such landholder.

2-3.004A The licensee shall notify the Chief Executive immediately of any change or divestment of interest in the land whereon the licensed work is constructed or proposed to be constructed or on which the water is used or proposed to be used.

2-3.006A The licensee shall maintain at his own cost the bed and banks of the watercourse adjacent to the works to the satisfaction of the Chief Executive.

End of Schedule A

RTI DL RELEASE - DNRM

LICENCE

(Water Resources Act 1989)

Queensland Government
Department of Natural Resources

Licence	36739Q	**Expiry Date**	31/10/2005

Licensee STEVENSON FINANCE CORPORATION

Date of Original Issue 16/10/1990

Description of Works

Takes water from CULGOA RIVER
by use of a 40mm CENTRIFUGAL PUMP
Location of Works 14/BEL5373

Purpose of Works Irrigation

Maximum Area Irrigated 10 Hectares

Land Supplied 14/BEL5373

This Licence is subject to the terms endorsed hereon or attached hereto. It is the licensee's responsibility to apply for renewal of this Licence before it expires.

Issued at ST GEORGE **this** TENTH **day of** MAY 2001

sch4p4(6) Personal information

Terry Hogan
DIRECTOR-GENERAL
DEPARTMENT OF NATURAL RESOURCES

RTI DL RELEASE - DNRM

Release

Queensland Government
Department of Natural Resources

Licence Terms Schedule A

1-1.10 The licensee shall notify the chief executive prior to any change or divestment of interest in the land whereon the licensed work is constructed or proposed to be constructed or on which the water is used or proposed to be used.

1-1.50 The licensee must, upon construction of the works with respect to which the licence is issued, beneficially use the water that the licensee is entitled to take or use under the licence to the satisfaction of the chief executive.

1-4.13 If required by the chief executive, a meter of a type approved by the chief executive to record the volume of water taken under this licence must be purchased and installed at the licensee's expense. Upon installation, the licensee must not, without the prior written approval of the chief executive, remove the water meter or interfere with the water meter in a way that would cause the meter to fail or incorrectly record the volume of water diverted from works associated with this licence.

1-8.10 The licensee must pay any fee or charge prescribed by regulation made under the Water Resources Act 1989.

End of Schedule A

RTI DL RELEASE - DNRM

Queensland Government
Department of Natural Resources

Licence Terms Schedule B

1.035
Diversion of water under the authority of this licence is permitted only when the surface flow St George Weir is more than 1200 cubic metres per second as indicated by the mark established or to be established by the Chief Executive, or by other means specified in the letter accompanying this licence or when there is no flow into the waterhole on which the licensed work is authorised to be installed. The mark may be altered from time to time by the Chief Executive to reflect more accurately the prescribed surface flow.

End of Schedule B

RTI DL RELEASE - DNRM

Bartlem Mark

From: Guppy Ron
Sent: Wednesday, 9 November 2005 9:17 AM
To: Bartlem Mark
Subject: Top Shed Dam, Cubbie Previously Licence 49272Q

Mark,

I assume you haven't got any ongoing issues with the old licence.

Top Shed Dam was part of the recent inspection program. While it appears from the report that failure of the dam would not put any population at risk, it seems the works are in fact in excess of the Water Act dimensions and thus the storage remains a referable dam for the time being. Its waterworks licence has been taken to be a development permit. Any dam safety conditions that had been included on the waterworks licence would have continued. However 49272Q had no safety conditions - so there are no conditions applying.

Regarding expiry (or lapsing) of the development permit, Top Shed Dam exists, so there is no need for its renewal - the permit was for construction of the referable dam and that has happened.

The next requirement of the owner is to submit a failure impact assessment for the dam by 19 April 2007 (s 1069 *Water Act 2000*). This will decide if the dam continues to be referable dam.

Ron Guppy
Principal Engineer, Dam Safety
Water Industry Regulation
Level 12, Mineral House
Department of Natural Resources and Mines
PO Box 2454
Brisbane, QLD 4001
Telephone: 3224 7215 Facsimile: 3224 7999

RTI DL RELEASE - DNRM

Release

Queensland Government
Natural Resources and Mines

File Number: STG/515/111(110); STG/515/111(140) and STG/515/111(150)
Your ref: 12191/12307/80032697
Telephone: (07) 4625 3299

11 October 2005

Paul Corbiere and David Lyons
Clayton Utz
Lawyers
GPO Box 55
BRISBANE QLD 4001

Dear Sirs,

RE: National Australia Bank Limited – Proposed syndicated finance to Cubbie Group
(Your ref: 12191/12307/80032697)

I refer to your facsimile dated 23 September 2005.

1. Cubbie Licences

1.1 The dam in respect of Water Licence 43223Q was originally licensed under section 43 of the *Water Resources Act 1989*. This dam is not on a watercourse and is not referable for the purposes section 1069 of the *Water Act 2000* and as such does not require a Water Licence under the *Water Act 2000*. This Water Licence 43223 is repealed.

1.2 Water Licence 39739 is Water Licence 36739Q.

1.3 Water Licence 43391Q is expired. As such no authorization exists.

1.4 The levee bank in respect of Water Licence 43364Q was originally licensed under *Water Resources Act 1989*. This levee bank is not on a watercourse and is not referable for the purposes section 1069 of the *Water Act 2000* and as such does not require a Water Licence under the *Water Act 2000*. This Water Licence 43364Q is repealed.

1.5 Water Licence 0.02259 is Water Licence 02259Q.

1.6 Water Licences 02259Q; 13847Q; 36739Q; 43346Q to 43348Q; 43356Q to 43374Q; 43386Q to 43390Q; 43392Q to 43396Q; 49163WQ to 49167WQ; 49236Q to 49240Q;

RTI DL RELEASE - DNRM

Natural Resources and Mines
126 Alfred Street
PO Box 310
ST GEORGE Q 4487
Telephone (07) 4625 3299
Facsimile (07) 4625 3892
Website www.nrm.qld.gov.au

49251WQ; 49252WQ; 49272Q; 49273Q; 54235Q and 54236Q are currently under renewal.

2. The Anchorage Licences

2.1 Water Licences 104697; 34737Q; 34740Q; 39206Q; 39207Q; 4022Q; 43340Q; 43400Q; 43401Q; 49145WQ; 54267Q and 61343Q are currently issued with Anchorage Farming Pty Ltd, ID & RM Todd as joint licensees.

2.2 Interim Water Allocations (IWA) SM122Q; SM123Q and SM125Q are currently issued with Blache Pty Ltd as licensee. Blache Pty Ltd is not the registered proprietor of the land to which these IWA's attach, as such the these IWA's are inconsistent with the *Water Act 2000* in their current issued state.

If you have any further queries please contact this office.

Yours faithfully,

sch4p4(6) Personal information

MARK BARTLEM
ACTING SENIOR NATURAL RESOURCE OFFICER
WATER MANAGEMENT AND USE
SOUTH WEST REGION
ST GEORGE

RTI DL RELEASE - DNRM

Release

Bartlem Mark

From: Kelly, Helen [HKelly@claytonutz.com]
Sent: Tuesday, 25 October 2005 2:00 PM
To: Bartlem Mark
Subject: Cubbie Group - Water Licences
Attachments: SCN_20051025134938_001.pdf

Hi Mark

A couple of weeks ago, I called you in relation to a few matters, including the renewal of the Cubbie Station water licences. You mentioned at that time that DNRM were having some difficulty in finding the renewal application for Licence No. 49272Q. Stevenson Finance Corporation, the licensee, has advised us that the renewal for this licence was made at the same time as their other applications. Please find **attached** a copy of the renewal application, for your reference.

Would you please advise if you this renewal application has been found, or if not, whether the **attached** will suffice (particularly in relation to any deadlines required to have been met for lodgment of the renewal)?

If you wish to discuss this, or my email from last Friday (21/10/05) in relation to the Anchorage Licences, please give me a call.

Many thanks

Helen Kelly | Solicitor | Corporate, Energy & Resources
Clayton Utz

Level 28 Riparian Plaza 71 Eagle Street, Brisbane QLD 4000 Australia | D +61 7 3292 7819 | F +61 7 3221 9669 | hkelly@claytonutz.com

www.claytonutz.com

<<SCN_20051025134938_001.pdf>>

RTI DL RELEASE - DNRM

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http://www.claytonutz.com
****

APPLICATION FOR RENEWAL OR SURRENDER OF LICENCE

(Water Resources Act 1989)

Queensland Government
Department of Natural Resources

Licence 49272Q Expiry Date 31/10/2000
Licensee STEVENSON FINANCE CORPORATION
Date of Original Issue 23/08/1991

Description of Works

Construction of an Earth Dam
with the following dimensions:

Height to Top	9m	Crest Length	4200m
Base Width	80m	Crest Width	6m
Capacity	9000 megalitres		

Location of Works 3/BEL5370 and 4/BEL5370

The works are licensed under the referable dam provisions of the Water Resources Act 1989.

Purpose of Works Irrigation

You must sign and date the section below for each licence to be renewed or surrendered

Declaration

☑ I/We hereby apply for renewal of this licence and declare that the information contained in this application is true and correct and accept the terms to which this licence is subject.

☐ I/We hereby apply to surrender this licence.

Complete and sign for ALL Licences

Name (please print)		Name (please print)	
Signature		Signature	
Date	/ /	Date	/ /

If the applicant is an incorporated company or association, please complete the section below:

Executed for and on behalf of STEVENSON FINANCE CORPORATION PTY LTD. (Company/~~Association~~) by the authority of the Board of Directors

by JOHN F CRABBE (Name) DIRECTOR. (Position)

Signature [redacted] Date 4/10/00

Witnessed by LEISA M M'GAHAN

Witness Signature [redacted] Date 4/10/00

Please also complete the reverse side of this page

RESOURCE MANAGEMENT USE ONLY	REGISTRATION APPROVED	ACTIONED	
	Signature	Signature	File
	Date	Date	Client
			Application

13-061

APPLICATION FOR RENEWAL OR SURRENDER OF LICENCE QUESTIONNAIRE

Licence 49272Q Expiry Date 31/10/2000
Licensee STEVENSON FINANCE CORPORATION

Please complete both sections below.

Licence Details

Are the details of your licence correct? ☑ Yes ☐ No
If No, specify changes to the licence (attach separate sheet if necessary).

Current status of the works

Are the works installed? ☑ Yes ☐ No
If No, give reason not installed.

Are the works now in use? ☑ Yes ☐ No
If No, specify current status of the works. ☐ Abandoned and not capable of being used
☐ Still capable of being used

Reported Water Use

Water used by the works (for irrigated crops use last season)	Type of crop irrigated or how water used	Area (Hectare)	Amount Applied (mm)	Volume Used (Megalitres)	Application Method (Spray/Flood/Trickle)	Pump Details (Type and Size)

and / or Stock Type _____ Number _____

Please provide us with your latest contact details or indicate if a change of licensee name has occurred. (You only need to do this once if a number of licences are to be renewed or surrendered)

Applicant Details

Name STEVENSON FINANCE CORPORATION PTY LTD.

Attention (Optional) (eg. Principal, Secretary, Managing Director, etc) JOHN CRABBE.

Mailing Address PO BOX 7
Town DIRRANBANDI
State QLD Postcode 4486 Country AUSTRALIA.

Telephone Contact Details

Title ☑ Mr ☐ Mrs ☐ Ms ☐ Miss ☐ Other (please specify)
Given Names JOHN
Surname CRABBE
Preferred Phone 07 4625 8366 Facsimile 07 4625 8399
Alternate Phone Email Address

Client No: 10336Q File No: STG-515/111(110)
126 Alfred Street, PO Box 310, ST GEORGE, 4487
Telephone: (07) 4625 3299 Facsimile: (07) 4625 3892

RTI DE-RELEASE - DNRM

APPLICATION FOR RENEWAL OF LICENCE

P O BOX 7
DIRRANBANDI QLD 4486

The Chief Executive
Department of Natural Resources
P O Box 310
ST GEORGE QLD 4487

Dear Sir

RE: **WATERWORKS LICENCE NO. A-49272**
LICENSEE – STEVENSON FINANCE CORPORATION PTY LTD

Stevenson Finance Corporation Pty Ltd (the Licensee) hereby applies for the renewal of Waterworks Licence No. A-49272.

The applicant seeks to have the Waterworks Licence renewed from expiry of the current period

- in perpetuity or
- such lesser period as is appropriate having regard to the installation of the works and substantial investment in infrastructure to enable the water taken to be beneficially used since issued / last renewed but not less than the current licence period.

SIGNED BY THE APPLICANT)
STEVENSON FINANCE)
CORPORATION PTY LTD)
this 3rd day of March 2000)

sch4p4(6) Personal information

sch4p4(6) Personal information

Bartlem Mark

From: Bartlem Mark
Sent: Wednesday, 9 November 2005 2:59 PM
To: 'Kelly, Helen'
Cc: Lyons, David; Bruton, Andrew
Subject: RE: Cubbie Station - Renewal of Water Licences
Attachments: Development Details 146336.pdf

Helen,

The dam in respect of Waterworks Licence 49272Q was last issued 23 August 1991 and was originally licensed under section 43 of the *Water Resources Act 1989* i.e. a referable dam licence. This licence has been taken to be a development permit (146336) under the current legislation. The permit was for construction of the referable dam and that has happened.

The works are in fact in excess of the *Water Act 2000* dimensions and thus the storage remains a referable dam for the time being. Any dam safety conditions that had been included on waterworks licence 49272Q have continued. However 49272Q had no safety conditions - so there are no safety conditions applying.

The next requirement of the owner is to submit a failure impact assessment for the dam by 19 April 2007 (s1069 *Water Act 2000*). This will decide if the dam continues to be referable dam.

So 49272Q won't be renewed as it is now Development Permit 146336. Any changed conditons to this permit are subject to the failure impact assessment.

regards,

Mark Bartlem
Natural Resources and Mines
A/Senior Natural Resource Officer - Water Services
PO Box 310, St George, Qld, 4487
Ph (07) 4625 3299 Mobile sch4p4(6) Personal information
Fax (07) 4625 3892
Email Mark.Bartlem@nrm.qld.gov.au

RTI DL RELEASE - DNRM

-----Original Message-----
From: Kelly, Helen [mailto:HKelly@claytonutz.com]
Sent: Tuesday, 8 November 2005 2:21 PM
To: Bartlem Mark
Cc: Lyons, David; Bruton, Andrew
Subject: RE: Cubbie Station - Renewal of Water Licences

Hi Mark,

In relation to my telephone call a little while ago, I have one question regarding the attached letter. You mention that it is the Department's intention to renew the water licences for a period of five years from their current date of expiry. For all but one licence, the new expiry date will be (if the renewal is effected in 2005) in 2008. However, water licence 49272Q has a current expiry date of 31 October 2000, therefore, a renewal from its expiry date would be 31 October 2005 (which has now passed).

Would you please advise what the Department's intention is in relation to this particular licence?

Regards

Helen Kelly | Solicitor | Corporate, Energy & Resources
Clayton Utz

Level 28 Riparian Plaza 71 Eagle Street, Brisbane QLD 4000 Australia | D +61 7 3292 7819 | F +61 7 3221 9669 | hkelly@claytonutz.com

www.claytonutz.com

-----Original Message-----
From: Bartlem Mark [mailto:Mark.Bartlem@nrm.qld.gov.au]
Sent: Tuesday, 8 November 2005 9:52 AM
To: Kelly, Helen
Cc: Lyons, David; Bruton, Andrew
Subject: RE: Cubbie Station - Renewal of Water Licences

Helen,

Please find attached respone letter to your enquiries.
If you have any queries, please give me a call.

Regards,

Mark Bartlem
Natural Resources and Mines
A/Senior Natural Resource Officer - Water Services
PO Box 310, St George, Qld, 4487
Ph (07) 4625 3299 Mobile sch4p4(6) Personal information
Fax (07) 4625 3892
Email Mark.Bartlem@nrm.qld.gov.au

> -----Original Message-----
> **From:** Kelly, Helen [mailto:HKelly@claytonutz.com]
> **Sent:** Monday, 7 November 2005 4:54 PM
> **To:** Bartlem Mark
> **Subject:** FW: Cubbie Station - Renewal of Water Licences
>
> Mark
>
> Would you please let me know if you are able to confirm the details below in the form of a letter, or if you have already done so and it is in the post? I've been asked to find out as soon as possible (as settlement of this transaction is due this Friday, 11 November 2005), so if you could get back to me today or early tomorrow morning that would be great.
>
> Many thanks
> Helen
> -----Original Message-----
> **From:** Kelly, Helen
> **Sent:** Friday, 4 November 2005 8:46 AM
> **To:** 'Bartlem Mark'
> **Subject:** RE: Cubbie Station - Renewal of Water Licences
>
> Mark
>
> Thank you for your prompt response.

Can I please impose upon you to do one more thing? Could you please confirm these details in a letter format, to our attention?

Also, could you please include in the letter whether or not DNRM intends to impose new or varied conditions on the renewed licences.

Thank you for all of your assistance so far. If you have any queries, please give me a call.

Regards

Helen Kelly | Solicitor | Corporate, Energy & Resources
Clayton Utz

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RTI DL RELEASE - DNRM

-----Original Message-----
From: Bartlem Mark [mailto:Mark.Bartlem@nrm.qld.gov.au]
Sent: Thursday, 3 November 2005 4:49 PM
To: Kelly, Helen
Cc: Lyons, David; Bruton, Andrew
Subject: RE: Cubbie Station - Renewal of Water Licences

Helen,
This email is to confirm the following,

All licences listed below are currently under renewal.

- 49272Q;
- 36739Q;
- 43346Q;
- 43347Q;
- 43348Q;
- 49236Q;
- 49237Q;
- 43359Q;
- 43360Q;
- 43361Q;
- 43362Q;
- 43363Q;
- 43365Q;
- 43366Q;
- 43367Q;
- 43368Q;
- 43369Q;
- 43370Q;
- 43371Q;
- 43372Q;
- 43373Q;
- 43374Q;
- 43386Q;
- 43387Q;
- 43388Q;
- 43389Q;

- 43390Q;
- 43392Q;
- 43393Q;
- 43394Q;
- 43395Q;
- 43396Q;
- 49163WQ;
- 49164WQ;
- 49165WQ;
- 49166WQ;
- 49167WQ;
- 49238Q;
- 49239WQ;
- 49240Q;
- 49251WQ;
- 49252WQ;
- 49273Q;
- 43356Q;
- 43357Q;
- 43358Q;
- 54235Q;
- 54236Q;
- 13847Q.

Whilst under renewal all remain in force. DNRM will be approving the renewal of all of the above water licences for a term of 5 years.
DNRM will not be reducing the licence holder's current benefits or entitlements upon this renewal.

Regards,

Mark Bartlem
Natural Resources and Mines
A/Senior Natural Resource Officer - Water Services
PO Box 310, St George, Qld, 4487
Ph (07) 4625 3299 Mobile sch4p4(6) Personal Information
Fax (07) 4625 3892
Email Mark.Bartlem@nrm.qld.gov.au

RTI DL RELEASE - DNRM

-----Original Message-----
From: Kelly, Helen [mailto:HKelly@claytonutz.com]
Sent: Thursday, 3 November 2005 4:26 PM
To: Bartlem Mark
Cc: Lyons, David; Bruton, Andrew
Subject: Cubbie Station - Renewal of Water Licences

Mark,

As discussed a short time ago, in relation to the Cubbie Station water licences currently under renewal, would you please confirm the following:

- in accordance with section 220 of the Water Act 2000 (Qld), the water licences listed below are currently under renewal and during this renewal stage they remain in force on the same terms and conditions:
  - 49272Q;

- 36739Q;
- 43346Q;
- 43347Q;
- 43348Q;
- 49236Q;
- 49237Q;
- 43359Q;
- 43360Q;
- 43361Q;
- 43362Q;
- 43363Q;
- 43365Q;
- 43366Q;
- 43367Q;
- 43368Q;
- 43369Q;
- 43370Q;
- 43371Q;
- 43372Q;
- 43373Q;
- 43374Q;
- 43386Q;
- 43387Q;
- 43388Q;
- 43389Q;
- 43390Q;
- 43392Q;
- 43393Q;
- 43394Q;
- 43395Q;
- 43396Q;
- 49163WQ;
- 49164WQ;
- 49165WQ;
- 49166WQ;
- 49167WQ;
- 49238Q;
- 49239WQ;
- 49240Q;
- 49251WQ;
- 49252WQ;
- 49273Q;
- 43356Q;
- 43357Q;
- 43358Q;
- 54235Q;
- 54236Q;
- 13847Q.

- DNRM will be approving the renewal of all of the above water licences for a term of 5 years; and
- DNRM will not be reducing the licence holder's current benefits or entitlements under the above water licences.

Thank you for your assistance Mark. I look forward to your written confirmation on the above issues.

RTI DE-RELEASE - DNRM

Kind regards

Helen Kelly | Solicitor | Corporate, Energy & Resources
Clayton Utz

Level 28 Riparian Plaza 71 Eagle Street, Brisbane QLD 4000 Australia | D +61 7 3292 7819 | F +61 7 3221 9669 | hkelly@claytonutz.com

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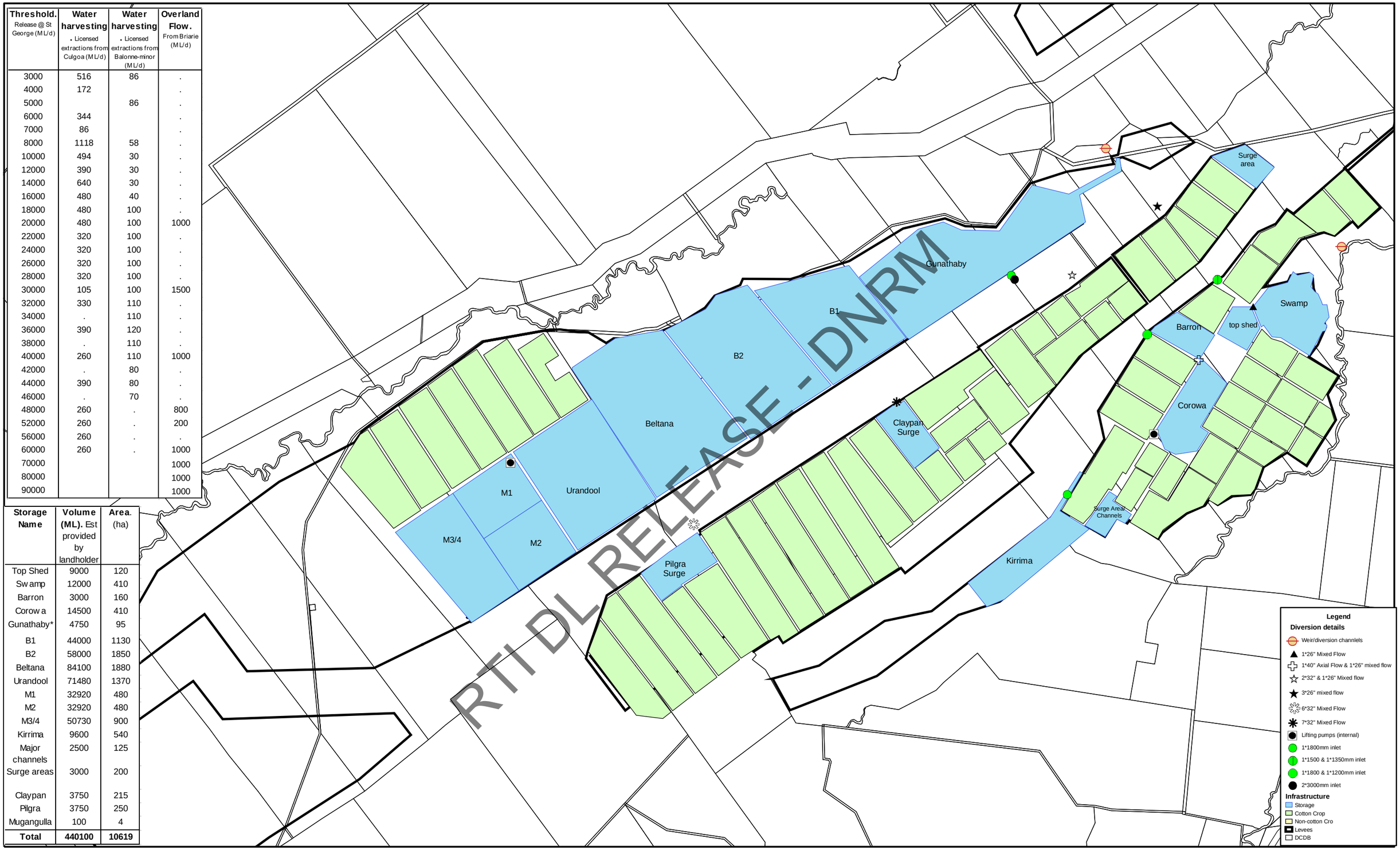
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Release

Threshold. Release @ St George (ML/d)	Water harvesting . Licensed extractions from Culgoa (ML/d)	Water harvesting . Licensed extractions from Balonne-minor (ML/d)	Overland Flow. From Briarie (ML/d)
3000	516	86	.
4000	172		.
5000		86	.
6000	344		.
7000	86		.
8000	1118	58	.
10000	494	30	.
12000	390	30	.
14000	640	30	.
16000	480	40	.
18000	480	100	.
20000	480	100	1000
22000	320	100	.
24000	320	100	.
26000	320	100	.
28000	320	100	.
30000	105	100	1500
32000	330	110	.
34000	.	110	.
36000	390	120	.
38000	.	110	.
40000	260	110	1000
42000	.	80	.
44000	390	80	.
46000	.	70	.
48000	260	.	800
52000	260	.	200
56000	260	.	.
60000	260	.	1000
70000			1000
80000			1000
90000			1000

Storage Name	Volume (ML). Est provided by landholder	Area. (ha)
Top Shed	9000	120
Swamp	12000	410
Barron	3000	160
Corowa	14500	410
Gunathaby*	4750	95
B1	44000	1130
B2	58000	1850
Beltana	84100	1880
Urandool	71480	1370
M1	32920	480
M2	32920	480
M3/4	50730	900
Kirrima	9600	540
Major channels	2500	125
Surge areas	3000	200
Claypan	3750	215
Pilgra	3750	250
Mugangulla	100	4
Total	**440100**	**10619**



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N
W E
S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Scale

0 0.35 0.7 1.4 2.1 2.8 3.5
Kilometers

Cubbie

Graphics produced by the Department of Natural Resources and Mines, Feb 2003. Based on the Landsat TM, 1999 & 2002, and the Digital Cadastre Database.
(c) NR&M 2003.

Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder/s.
*Volumes to be confirmed following ministerial response

Issues arising from Lower Balonne Interviews 11/02 & 2/03

Reconfiguration of storages (Cubbie; awaiting Ministers response)
Converting and decommissioning of low-level storages (Hoolavale, Cavillon)
Additional claims of OLF storages (Kelso, Euraba)
New low-level storage (Booligar, Euraba)
OLF thresholds and diversion rates (many)
Some minor storage volumes (Trafalgar, Wagaby, Anchorage)
Identifying TWR systems as additional storage (Euraba)
Infield storages (Wagaby, Booligar)
Storage volumes exceeding average ht of 4.5m built before 2000 (Clyde)
Capacity to pump from the river in excess of licensed extractions (many)
Confirmation of storage areas (minor; Wagaby, Anchorage)
Location of OLF take (pumps on the river identified as taking OLF)
Using surplus pump capacities to take additional water.
Average depths and volumes of storage (claiming less than 0.5m freeboard)
Logistics of using gravity to fill storages

Category

Moratorium issues
- Reconfiguring storages
- Converting and decommissioning storages
- Claiming TWR as additional storage
- Compliance to moratorium

Storage details issues
- Volumes
- Surface areas
- Full supply levels
- Infield storages
- Low-level storages
- Detailed farm layouts

Overland Flow issues
- Local thresholds and diversion rates
- Logistics of using gravity to fill storages
- Using surplus pump to capacity as OLF take (on and off river)
- Metering and reporting OLF take

Licensing issues
- Dam heights exceeding 5m built prior to Water Act 2000: Trafalgar, Clyde
- Adequate WH metering

Issue	**Property**
Moratorium	
Reconfiguring, converting and	Hoolavale, Cavillon, Cubbie, Booligar

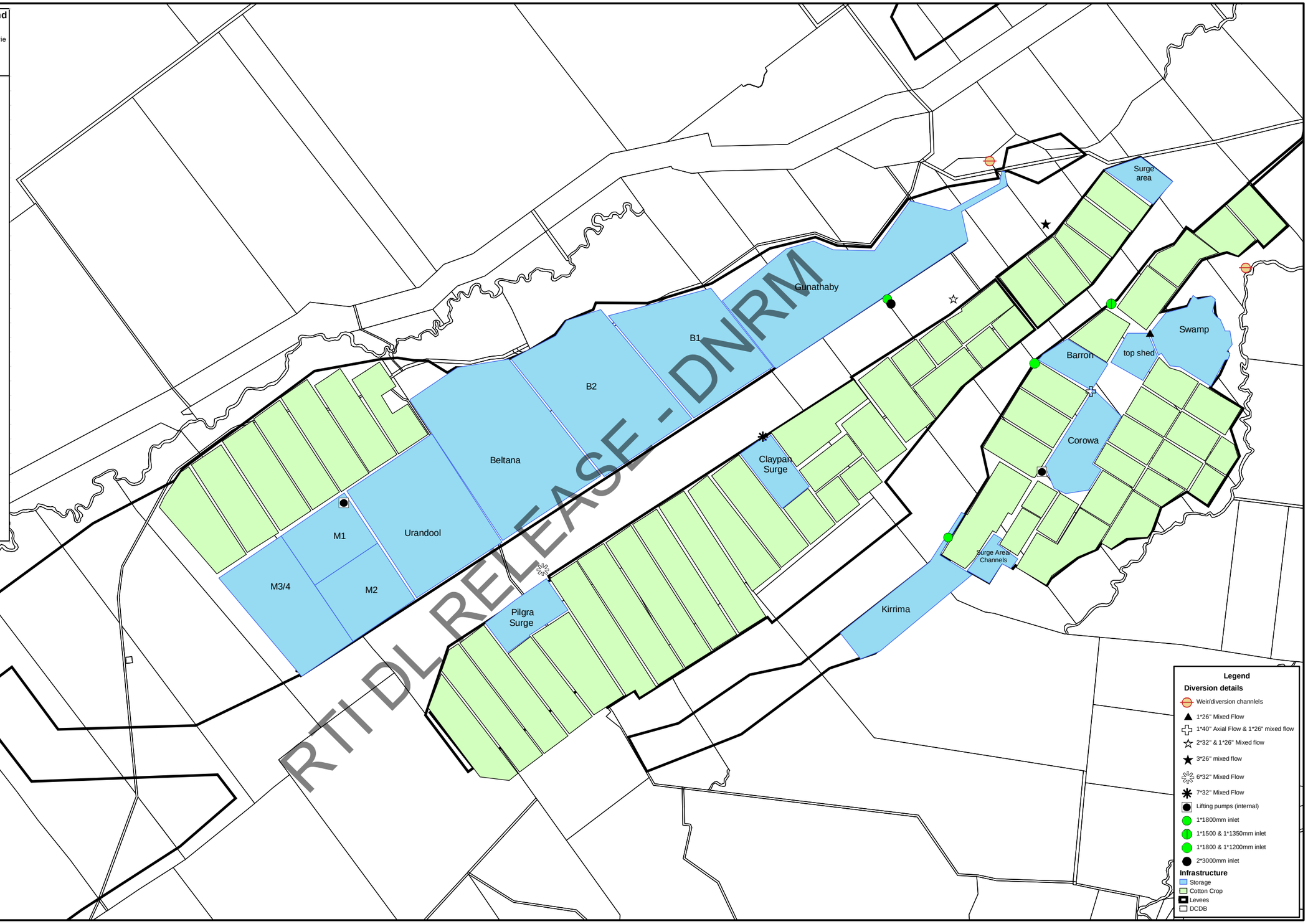
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decommissioning storages	
Claiming TWR as additional storage	Euraba,
Compliance to moratorium variation.	Eurobodalla, Kilcummin
Additional built storage	Tooroora, Kia Ora, Euraba
Infrastructure issues	
Changing Storage volumes	UT/Glendouglas, Wagaby, Anchorage, Euraba
Excess full supply levels	Wynella, Cubbie, Trafalgar,
Surface areas	Anchorage, Wagaby
Infield storage claims	Wagaby, Euraba, Booligar, Cavillon
Overland Flow Issues	
Local Thresholds and diversion rates	Kurray, Clyde, Ballandool, Cubbie, Kia Ora, Kilcummin
Logoistics of using gravity to fill storages	Hoolavale, Kilcummin, Tooroora, Ballandool
Using Surplus WH pump capacity to take OLF	Moorenbah, Hoolavale, Tooroora, Euraba, Kia Ora
Licensing issues	
Non-referrable Dams heights exceeding 5m, (built prior to water act)	Clyde, Trafalgar, Cubbie.

RTI DL RELEASE - DNRM

Threshold. Release @ St George (ML/d)	Water harvesting . Licensed extractions from Culgoa (ML/d)	Water harvesting . Licensed extractions from Balonne-minor (ML/d)	Overland Flow. From Briarie (ML/d)
3000	516	86	.
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10000	494	30	.
12000	390	30	.
14000	640	30	.
16000	480	40	.
18000	480	100	.
20000	480	100	1000
22000	320	100	.
24000	320	100	.
26000	320	100	.
28000	320	100	.
30000	105	100	1500
32000	330	110	.
34000	.	110	.
36000	390	120	.
38000	.	110	.
40000	260	110	1000
42000	.	80	.
44000	390	80	.
46000	.	70	.
48000	260	.	800
52000	260	.	200
56000	260	.	.
60000	260	.	1000
70000			1000
80000			1000
90000			1000

Storage Name	Volume (ML). Est provided by landholder	Area. (ha)
Top Shed	9000	120
Swamp	4000	410
Barron	3000	160
Corowa	11000	410
Gunathaby	12730	95
B1	44000	1130
B2	58000	1850
Beltana	110000	1880
Urandool	77000	1370
M1	32920	480
M2	32920	480
M3/4	50730	900
Kirrima	9600	540
Claypan	3750	215
Pilgra	3750	250
Mugangulla	100	4
Total	**462500**	**10294**



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N
W E
S

Tranverse Mercator
False Easting: 500000
False Northing: 10000000
Central Meridian: 147
Scale Factor: 0.9996

Scale

0 0.35 0.7 1.4 2.1 2.8 3.5 Kilometers

Cubbie

Graphics produced by the Department of Natural Resources and Mines, Feb 2003. Based on the Landsat TM, 1999 & 2002, and the Digital Cadastre Database. (c) NR&M 2003.

Disclaimer: Details of overland flow, infrastructure and diversions represent information provided by the relevant landholder/s.
*Volumes to be confirmed following ministerial response

NATURAL RESOURCES, MINES and WATER
OFFICE MEMO

Your Ref.: **Our Ref.:**
Author: Mark Wheeler **Telephone:** (07) 46881000 **Facsimile:** (07) 46881188

DATE: 17 August 2006

FROM: Mark Wheeler, Regional Coordinator, Water Administration and Management

TO: Saji Joseph, Director Water Planning, South West

CC: Lamond Graham, A/Regional Manager, Water Services, South West Region

SUBJECT: ASSESSMENT OF VOLUMETRIC LIMIT AND OVERLAND FLOW WATER TAKE – CUBBIE

Recommendations
Review of volumetric limit and overland flow water information from a Certified Report and the Infrastructure Assessment for the property "Cubbie" has been completed.

The information contained in this summary report and the attached worksheets can now be considered for decisions for the development of relevant schedules and granting of water entitlements as part of the draft Condamine/Balonne Catchment Resource Operations Plan.

This information has been assessed under sections 29 and 49 of the *Water Resource (Condamine and Balonne) Plan 2004*.

General Details

Certification Summary		
Property Name	Cubbie Station	
Owner/s	Cubbie Group comprising Cubbie Dirranbandi 1, Cubbie Dirranbandi 2 and Cubbie Dirranbandi 3	
Certified by:	Cyril John McDonald Best	
RPEQ No.	1572	
Date	26 June 2006	
Certified report received by:	Matthew Driver	
Date	30 June 2006	
Certified report reviewed by:	Matthew Driver	
Date	28 July 2006	
Certified report checked by:	Umapati Yadav	
Date	31 July 2006	

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Water Resource Plan Requirements

The following text is an extract from the *Water Resource (Condamine and Balonne) Plan 2004* that relates to water infrastructure and take of overland flow water requirements in the Lower Balonne.

Establishing a Volumetric Limit for un-supplemented water in the Lower Balonne (s29)
(1) The volumetric limit for taking water under an allocation for unsupplemented water in the Lower Balonne is—
(a) for an authorisation held by SunWater for water harvesting in the St George Water Supply Scheme— 35 000 ML a water year; and
(b) for other authorisations, the volumetric limit decided by the chief executive having regard to the lesser of—
(i) the total capacity of existing works for storing water on the property; and
(ii) the volume decided by the chief executive based on information supplied by the authorisation holder for the infrastructure assessment.

(2) To establish the total capacity for subsection (1)(b)(i), the authorisation holder must give the chief executive a certificate in the approved form from a registered professional engineer.

(3) However, the volumetric limit for an authorisation mentioned in schedule 4, column 2, held on the commencement of this plan by the entity mentioned opposite the authorisation in column 1, is the total of—
(a) the volumetric limit decided by the chief executive, for the authorisation, under subsection (1)(b); and
(b) the volumetric limit stated in schedule 4, column 3, for the authorisation.

(4) If more than 1 authorisation is mentioned in schedule 4, column 2 for an entity, the volumetric limit stated in column 3 is the total for the authorisations for the entity.

(5) An authorisation mentioned in subsection (3) includes another authorisation that replaces the authorisation before the resource operations plan is approved.

(6) Subsection (1)(b) does not limit the matters the chief executive may consider.

Determining Water Licences for taking overland flow water in the Lower Balonne (s49)
(1) A water licence for taking overland flow water in the Lower Balonne, granted to replace an authority under section 46, must include a maximum rate, in megalitres a day, and the flow conditions for taking the water, decided by the chief executive—
(a) having regard to the lesser of—
(i) the rate and flow conditions under which water can be taken using the works, decided by the chief executive based on information supplied by the authorisation holder for the infrastructure assessment; and
(ii) the actual rate and flow conditions under which the works can take water; and
(b) reduced by 5%.

(2) To establish the rate and flow conditions for subsection (1)(a)(ii), the authorisation holder must give the chief executive a certificate in the approved form from a registered professional engineer.

(3) A water licence mentioned in subsection (1) must also include a volumetric limit decided by the chief executive under section 29(1)(b), (2) and (3) as if the water licence were a water allocation for unsupplemented water.

(4) The chief executive must impose a condition on the water licence stating the parcels of land on which water taken under the licence may be stored.

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Determining Water Licences for taking overland flow water in the Lower Balonne (s49) (continued
(5) If levee banks constructed on the property reduce the amount of water that infiltrates the soil during flooding, the chief executive must impose a condition on the water licence to ensure there is no reduction in downstream flows if the levee banks are changed or removed or are, for any other reason, no longer fulfilling the purpose for which they were constructed.

(6) The water licence may include more than 1 maximum rate and flow conditions.

(7) A water licence mentioned in this section must be granted for the remainder of the period of time this plan is in force.

(8) Subsections (1) to (3) do not limit the matters the chief executive may consider.

Summary of Assessment (Certified Report and Infrastructure Assessment

General

The definition of Infrastructure Assessment under the *Water Resource (Condamine and Balonne) Plan 2004* means the infrastructure assessment conducted by the chief executive between November 2002 and April 2003 for the St. George and Lower Balonne area.

NOTE# - According to the *Water Resource (Condamine and Balonne) Plan 2004:* - Works that allow taking overland flow water include—
(a) storages, sumps, drains, embankments, channels, pipes and pumps for taking, or that can be used for taking, overland flow water; and
(b) storages that are connected to the works mentioned in paragraph (a); and
(c) works that make, or that can be used to make, the original connection between the storages mentioned in paragraph (b) and the works mentioned in paragraph (a).

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Volumetric limit for water storage

The certified report completed by Mr. Don Best for Cubbie Station identifies a capacity share arrangement for the water storages between the owners of Cubbie and Kelso.

Note# - The storage values used in the assessment of the certified report are the capacities that have been shown against the owners of Cubbie Station (i.e Cubbie Dirranbandi 1 and Cubbie Dirranbandi 2&3). The total storage capacity certified in the certified report is 7000 ML greater than the values shown in the table below.

The certified report identifies 14 water storages on Cubbie divided between land owned by Cubbie Dirranbandi 1 and Cubbie Dirranbandi 2&3. Storage capacity tables have been provided for all storages along with maps showing location. A storage volume table and associated drawings have been provided for individual storages.

Reduced Levels (RL's) have also been provided on Australian Height Datum (AHD) for all water storages for crest, full supply level, inlet and outlet pipes. (See the attached worksheets for details).

Results of assessment – Total Volume				
	Infrastructure Assessment		Certified Report 2006	Other Information (Post 2003)
	Infrastructure Assessment Folder 02/03	02/03 Other Information		
Cubbie Dirranbandi 1 Storages	27 000 ML	Nil known	27 325 ML	*Nil known regionally
Cubbie Dirranbandi 2 & 3 Storages	435 500 ML	Nil Known	444 699 ML	*Nil known regionally
Totals	***462 500 ML***		***472 024 ML***	

*Head Office will have information relevant to the Ministers allowance for the "completion date" of started works to be adjusted, this may include the extent to which works could be completed.

Overland flow water

As with the information on water storages, the certified report completed by Mr. Don Best for Cubbie Station identifies a capacity share arrangement for the take of overland flow water (includes works with rate of take and flow conditions) between the owners of Cubbie and Kelso.

Fourteen (14) points of take are identified on the property; eleven (11) on land owned by Cubbie Dirranbandi 1 and three (3) on land owned by Cubbie Dirranbandi 2&3. The works consist of either controlled take through pipes or pumps.

Digital photos have been provided for all points of take along with details of invert levels (AHD), works details and maximum rate of take.

The certified report states a maximum physical diversion rate of take. The rate of take in the Infrastructure Assessment refers to rates of take at flow conditions occurring at Jack Taylor Weir. This information was not divided into rates for Cubbie Dirranbandi 1,2 & 3.

See the attached worksheets for details.

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Results of assessment – Rate of take				
Location	Infrastructure Assessment		Certified Report 2006	Other Information (Post 2003)
	Infrastructure Assessment Folder 02/03	02/03 Other Information		
Cubbie Dirranbandi 1	***8500 ML/day***	Nil Known	15 820 ML/day	Nil Known
Cubbie Dirranbandi 2		Nil Known	5 100 ML/day	Nil Known
Totals	***8500 ML/day***		***20 920 ML/day***	

Flow conditions

Flow conditions for the take of overland flow water have been referenced to Jack Taylor Weir at St. George. Local flow conditions (i.e. at each point of take) relate to invert levels at points of take but refer only to a maximum rate of take as stated above. The Jack Taylor Weir information is the lesser than the local conditions therefore the table below is to be used for flow conditions.

Flow @ JTW (ML/day)	**Rate of Take (ML/Day)**
20000	1000
30000	1500
40000	1000
48000	800
52000	200
60000	1000
70000	1000
80000	1000
90000	1000
Total Rate of Take (ML/Day)	**8500**

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Issues and Options

Issue	**Options**
The certified report implies a capacity sharing arrangement for all water storages with the property Kelso	Refer to Summary Report for "Kelso"
The certified report implies a capacity sharing arrangement for all rate of take and flow conditions for overland flow water with the property Kelso	Refer to summary report for "Kelso"

Other matters

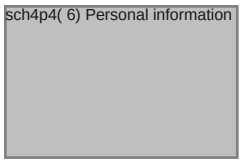
The information in this summary reflects information relating to the Infrastructure Assessment and the Certified Report known on the date of this report in South West Region. No further information related to matters under sections 29(6) and 49(8) of the *Water Resource (Condamine and Balonne) Plan 2004* is known within South West Region.

Should further information become available to be considered as other matters under sections 29(6) and 49(8), this information to be submitted using the appropriate documentation.

The Cubbie Station certified report implies a water sharing arrangement is in place between Kelso and Cubbie Station. The Department does not hold a copy of any formal arrangement between the owners of Kelso and Cubbie Station. It is recommended that a copy be obtained before a decision is made on the Volumetric Limit and a Water License for taking overland flow water.

Detail of Existing Water Entitlements

Cubbie Station has an extensive list of existing water entitlements relating to water harvesting and weirs on surrounding watercourses. For succinctness these entitlements are not listed in this report.



Mark Wheeler
Principal Training Officer
Water Services

Att: Four (4) Worksheets plus scanned documents

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1 GMH - FYI
2 Leanne FYI
3 DI - Filing
cc: RSD/SW at Toowoomba JM 28/7
Leanne down

Water Management & Use
Prepared by: Russ Robson / Leanne Barbeler
Acting Manager, Water Management
CHQ
Telephone: 322 47378
IRM/325/000(0159)
Classification: Seeking Information

Ref CTS 04764/03

17 JUL 2003

DOCUMENT RECEIVED BY DNR
06 AUG 2003
File No. IRM/325/000(0159)
File Location E.BREWIS 23/07/03.
Action By N.F.A.
Registered/N Doc. Code IR03/0640
MOVEMENT INSTRUCTIONS MUST BE SHOWN ON FRONT COVER.

FILE

Mr John Grabbe
General Manager
Cubbie Station
PO Box 7
Dirranbandi Qld 4486

Dear Mr Grabbe

I refer to the application made by Stevenson Finance Corporation Pty Ltd and the Estate of HID Stevenson dated 11 November 2001 to vary effect of moratorium notice.

I have made my decision on the application, the details of which follow:

Claypan and Pilgara Storages

- The application so far as it relates to the Claypan and Pilgara storages is refused.

I have made this decision on the basis that no work has been done on these works since May 2000; the works are not substantially complete; and that there were no exceptional circumstances that prevented the works from being constructed prior to the completion day specified in the Moratorium Notice.

Kirrima Storage

- The application so far as it relates to Kirrima Storage is approved in part.

You are granted until 1 July 2004 to complete the construction of the Kirrima Storage works to a maximum capacity of 32,000 megalitres.

- The application so far as it relates to the Kirrima Storage, in respect of the construction of further storage to contain the 43,000 megalitres that is the balance of the original proposed storage, is refused.

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I have made this decision on the basis that the Kirrima storage works that were "started" under the moratorium were redefined to 32,000 megalitres capacity. The provisions under which an application may be made to vary the effect of a moratorium notice do not include capacity for an application to be made that would reassign the capacity of works. Furthermore, the balance of the capacity of the originally proposed Kirrima works is not, in any event, assignable to increase the capacity of other works that were not "started" at the time the moratorium took effect. The reconfiguration of existing storage capacity may proceed only within the limit of available capacity that includes the redefined 32,000 megalitres associated with the Kirrima storage. Any storage established beyond this gross capacity would be contrary to the moratorium notice.

Should you have any further inquiries, please contact Mr Russ Robson, Acting Manager, Water Management of my Department on telephone 3224 7378.

Yours sincerely

SIGNED

COPY

STEPHEN ROBERTSON MP

RTI DL RELEASE - DNRM

CTS 04764/03

N/03/11952. 091

Department of Natural Resources and Mines
BRIEFING NOTE FOR APPROVAL

sch4p4(6) Personal information

Advisor ..... OK
Dated 17/6/03

Approved / not Approved
Further information required

sch4p4(6) Personal information

Minister .....
Dated 17/6/3

RECEIVED 16 JUL 2003 MINISTERIAL OFFICE

TO **The Honourable Minister**

SUBJECT **Recommendations of Referral Panel – Application by Cubbie Station**

PURPOSE

To provide the Minister with the recommendation of the referral panel by the owners of Cubbie Station to vary the effect of a Moratorium Notice & seek the Minister's decision on that application.

BACKGROUND

- Stevenson Finance Corporation Pty Ltd and the Estate of HID Stevenson ('Cubbie') made an application under section 42A of the *Water Act 2000* to vary the effect of the Moratorium Notice for the Condamine Balonne Basin.
- The referral panel has considered the application and has made its recommendation.
- The referral panel's recommendations have previously been documented under reference CTS 02050/02. This information was noted by Hon. Rod Welford on 1 July 2003 however approval was deferred.
- John Grabbe, General Manager for Cubbie Station is anxious for a decision on the application and has been waiting for advice in this regard.

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CURRENT ISSUES

The Application

Cubbie has applied for an extension in respect of three separate storages that were started under the Moratorium Notice.

Claypan storage – this is a 12,500 megalitre storage. Work on the storage commenced several years ago, but no work has been done on the storage since May 2000 (i.e. no work has been done during the moratorium period, even though the works were determined to be started). Work was stopped on the storage as a result of the applicant giving financial priority to other works (such as to channels and internal drainage systems) and because the applicant had decided to reduce the level of work done by external contractors. The works are, according to the applicant, approximately 30% complete. All four walls have been completed to a height of approximately two metres and the existing works are functional in their present state.

DOCUMENT RECEIVED BY DNR
06 AUG 2003
File No. IRM/325/000(0159)
File Location E. BREWIS 23/07/03.
Action By N.F.A.
Registered Y / N Doc. Code IR03/01639
MOVEMENT INSTRUCTIONS MUST BE SHOWN ON FRONT COVER.

Pilbara storage – the circumstances surrounding this storage, including its proposed size, its current state, and the reasons for its incompletion are almost identical to those for Claypan Storage.

Briefing Officer	Leanne Barbeler, A/Senior Project Officer (Regulatory Services]	Verbally Approved	G Milligan GM WM&U
Telephone	3224 7378	Date	16/7/03

Kirrima storage – this storage was originally designed to be a 75,000 megalitre storage. The Department notified the applicants that a storage of that size was recognised as started under the moratorium. Cubbie subsequently altered its plans for the storage such that the storage would be reduced to a 32,000 megalitre storage, but occupying part of the original site. The 32,000 megalitre storage is approximately 30% complete. The applicant claims work on the storage was not completed in time because of delays caused by changes to the vegetation clearing legislation.

Cubbie has noted in its application the intent to increase the capacity of some of its other existing storages by 43,000 megalitres by raising the walls on those storages from 5 metres to 8 metres – that being the capacity by which the Kirrima storage was reduced. The applicant asserts an ability to construct this additional capacitye on the basis that it was assessed as having started work on 100,000 megalitres of additional storage and therefore should be able to complete additional works of that capacity, even if that involves a change to the nature of the works. Work on raising those other storages had not started at the time the moratorium was introduced. However, Cubbie is presently raising a number of its storages on the speculation that it will be approved to increase its capacity . The applicant has advised that if approval is not granted for the additional 43,000 megalitres to be constructed then it will decommission an existing storage of that capacity. This arrangement was endorsed by the Department's St George Office.

Other Comments

Mr John Grabbe, on behalf of the applicant, met with the Panel and presented his case. A copy of the minutes (taken by the Panel) are included in the attached material.

The Panel's recommendation

The Panel has recommended that the application be refused so far as it relates to the Claypan and Pilgara storages. This is on the basis that no work has been done on the works since May 2000, the works are not substantially complete and that there were no exceptional circumstance that prevented the works from being constructed prior to the completion day.

The Panel has recommended the applicant be allowed a further 12 months to complete the 32,000 megalitre storage that constitutes Kirrima storage. This recommendation is on the basis that the changes to the vegetation clearing legislation amounted to an exceptional circumstance that prevented completion of the works. The Panel has expressed concern regarding the additional 43,000 megalitres to which the applicant lays claim in connection with the Kirrima Storage, and has recommended that the approval in relation to this storage should not in any way extend approval for the construction of 43,000 megalitres of additional storage.

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Minister's decision

Once the Panel provides its recommendation, the *Water Act 2000* requires the Minister to decide the application taking account of the Panel's recommendation. To assist in making that decision, attached are:

- a copy of the application;
- the recommendation of the referral panel;
- various supporting documentation, including correspondence between the Department and the applicant.

Section 12 of the Act also requires that a person performing a function or exercising a power under chapter 2 of the Act must do so in a way that advances sustainable management and efficient use of water and other resources. "Sustainable management" and "efficient use of water" are both defined in the Act.

RECOMMENDATION

It is recommended that the Minister:

- note the Referral Panel's recommendation to refuse the application so far as it relates to the Claypan and Pilgara storages;
- note the Referral Panel's recommendation to approve the application in part so far as it relates to the Kirrima storage, allowing a further 12 months to complete the 32000 megalitre storage.
- that the Minister consider the attached application and make a decision in accordance with the requirements of the *Water Act 2000*
- subject to the Minister's decision, sign the attached letter advising the applicant of the decision.

MINISTER'S COMMENTS

RTI DL RELEASE - DNRM

Briefing Officer	Leanne Barbeler, A/Senior Project Officer (Regulatory Services]	Verbally Approved	G Milligan GM WM&U
Telephone	3224 7378	Date	16/7/03