

WERD 2000 - Authorisation - Production

File View Action Letters Reports Help

Context

Client

31590F

SOUTH BLACKWATER COAL LIMITED

Authorisation

52629F

Licence to Interfere by Impounding Flow

Office

EME

Status

Repealed

Delegation

☐

Expiry Date

30 Sep 1994

Ready to Issue

☐

Renewal

15 Jul 1994

Reinstate

Past Expiry

Management

Group

HAZDAM

HAZARDOUS WASTE DAM

Subgroup

HZISI

HAZARDOUS INSTREAM IMPOUNDMENTS

Authority

RM

File

EME-1462

Comments

Activity

Charges

Water Code	Water Name	From AMTD	Add. Location Descript
130.01.31.09	SIRIUS CREEK		

prattb

ROC

Group 7W

1

23/11/2006

12:46 PM

**NATURAL RESOURCES and MINES
OFFICE MEMO**

Your Ref.:

Author: s.73

Our Ref.: 50-1462

Telephone: (07) 4938 4647 **Facsimile:** (07) 4927 3079

DATE: 22 Nov 2006

FROM: s.73, Natural Resource Officer, Rockhampton

TO: s.73 Manager, WM&U Rockhampton

SUBJECT: Repeal of Licence 52629

Recommendation

Repeal or cancel licence 52629

Background

This licence authorised a 7.7m high disused tailing dam on an u/t of Sirius Creek. It is not located on a watercourse. It appears it was licensed under the Referable Dam provision of the Water Resources Act 1989. the licence was issued 07/10/91 and expired in 30/09/1994.

No renewal applications have been received since this time

It appears plans to decommission the dam were underway in 1993.

A report dated 10 Nov 1994 states that rehabilitation of the dam was taking place at this time and that when complete the licence could be cancelled... It also recommended that the renewal of the licence be held until rehab is finalised. It also advised that Dam Safety approval would be required to cancel the licence.

Some information regarding the dam was submitted 12 Dec 1994 which indicates some rehab work was completed (may need checking).

There is no further action taken after this date

In any case it is likely the rehab work has been finalised and regardless of this fact, the dam would no longer require licensing under the amended referable dam provision in the Water Act 2000. As it is not on a watercourse this licence can be repealed (due to amended referable dam conditions or cancelled (licence not required after rehab).

s.73

**Natural Resource Officer
Water Management and Use
Rockhampton**

*Agree as in any case
Dam is Hazardous waste
and should be the responsibility
of BPA.*

s.73

s.73

s.73

s.73

G:\WATER\Water Management & Use\Mining_Water_Licensing\Individual_Mines\Repeal of STH
Blackwater Tailings dam Licence 22 Nov 2006.doc

MINE:- SOUTH BLACKWATER

SITE NAME:- "DISUSED TAILINGS DAM"

FILE No:- 50-1462

LICENCE No:-52629

EXPIRY DATE:-30-09-94

RENEWALS:

A	Have renewals been received?	Yes	No	
B	Renewal recorded on OPSDB?	Yes	No	
C	Have reports been received to comply with licence terms?	Yes	No	N/A
D	Is additional information or further work required?	Yes	No	N/A
E	Information supplied and/or work completed?	Yes	No	N/A
F	Do we require Dam Safety approval?	Yes	No	N/A
G	Approval received?	Yes	No	N/A
H	Do changes need to be made to the licence?	Yes	No	
I	Can renewal proceed?	Yes	No	
J	Licence renewed and issued?	Yes	No	
K	Databases updated?	Yes	No	

DATE, STATUS (A-K) & COMMENTS :- 20-12-94, E, VISUAL
INSPECTION REQUIRED TO CONFIRM REHABILITATION WORK
AS PER SPECIFICATION. M.

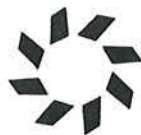
IF FURTHER COMMENTS ARE REQUIRED, ATTACH A SHEET.

If licence is renewed, update the OPSDB & REFERABLE DAM DATABASE if necessary.

If licence is not to be renewed now, then add a remark in the LICENCE STATUS FORM.

When all licences for this mine have been finalised run the ? routine in the OPSDB & place a printout on file along with this sheet.

COMPLETED YES NO



South
Blackwater

South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telephone (079) 82 5200

WATER\WRCRESP.2

12 December 1994



s.73

District Manager
Water Resources
Department of Primary Industries
PO Box 736
ROCKHAMPTON QLD 4700

s.73

Attention:

Dear Sir

RENEWAL OF WATERWORKS LICENCES

Further to my letter to you dated 28 November 1994 regarding SBCL's Waterworks Licence Renewals, the following additional information is hereby supplied.

ROCKHAMPTON	
File No.	50-4161
Location	
Area	
Owner	
Licensee	
License No.	
License Expiry	
License Fee	
License Conditions	
License Status	
License History	
License Notes	
License Attachments	
License Comments	
License Actions	
License Status	
License History	
License Notes	
License Attachments	
License Comments	
License Actions	

s.73

s.73

Licence No. 52629 - Disused Tailings Dam

Please find enclosed Drawing No. 081 which is an As Constructed Contour Map of the Disused Tailings Dam based on actual survey pick-up of the constructed landform. The dam spillway has not been altered.

PLACED IN FOLDER F4/C4

The bleeder pipe in the lower embankment is still in position. Some 20m³ of rock was placed around the upstream end of the pipe prior to the placement of the spoil cover.

The lower embankment of the dam was buttressed along the southern side. This is shown in the survey pick-up completed for this area on 16/94 and shown on Drawing No. 092.

I hope this above information is of assistance to you. Please advise if you require additional information or further clarification.

Yours faithfully

s.73

GENERAL MANAGER
SOUTH BLACKWATER COAL LIMITED

encl.

INE:- SOUTH BLACKWATER

SITE NAME:- "DISUSED TAILINGS DAM"

FILE No:- 50-1462

LICENCE No:-52629

EXPIRY DATE:-30-9-94

RENEWALS:

A	Have renewals been received?	Yes	No	
B	Renewal recorded on OPSDB?	Yes	No	
C	Have reports been received to comply with licence terms?	Yes	No	N/A
D	Is additional information or further work required?	Yes	No	N/A
E	Information supplied and/or work completed?	Yes	No	N/A
F	Do we require Dam Safety approval?	Yes	No	N/A
G	Approval received?	Yes	No	N/A
H	Do changes need to be made to the licence?	Yes	No	
I	Can renewal proceed?	Yes	No	
J	Licence renewed and issued?	Yes	No	
K	Databases updated?	Yes	No	

COMMENTS :-

DAM TO BE DECOMMISSIONED &
LICENCE CANCELLED.
AWAITING 'A' BAIT PLANS - BY 23rd Dec '94



IF FURTHER COMMENTS ARE REQUIRED, ATTACH A SHEET.

If licence is renewed, update the OPSDB & REFERABLE DAM DATABASE if necessary.

If licence is not to be renewed now, then add a remark in the LICENCE STATUS FORM.

When all licences for this mine have been finalised run the ? routine in the OPSDB & place a printout on file along with this sheet.

COMPLETED YES NO

Noted DB 8/12/94

M:\WATER\WRCRESP

28 November 1994

s.73

District Manager
Water Resources
Department of Primary Industries
PO Box 736
ROCKHAMPTON QLD 4700

Attention: s.73

Dear Sir

RENEWAL OF WATERWORKS LICENCES

I refer to your letter dated 10 November 1994. In response to your specific queries, the following advice/comment is supplied.

s73

South
Blackwater



South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telephone (079) 82 5200

Licence No. 52629 - Disused Tailings Dam

The rehabilitation of this dam, in accordance with the specifications previously submitted to you, has been completed. As built drawings will be supplied by 23 December 1994.

s73



I hope this above information is of assistance to you. I will forward the requested as built drawings to you once these have been completed.

Yours faithfully

s.73



GENERAL MANAGER
SOUTH BLACKWATER COAL LIMITED

encl.

17 November 1994

B/C

s.73

Dames & Moore
135 Wickham Terrace
BRISBANE, QLD 4004

s.73

Tick Hill Gold Mine
PMB 8
MT ISA, QLD 4825

B/C District Manager
Water Resources
LONGREACH

Dear Sir

For information

**TAILINGS DAM DECOMMISSIONING
TICK HILL GOLD MINE**

Manager, Dam Safety

Your final Plan Of Operation for the Tick Hill Mine submitted for review of the tailings dam decommissioning proposal refers.

The proposal was discussed by s.73 of Dames & Moore s.73 of the Department of Minerals and Energy and s.73 of Water Resources - Dam Safety at the DME offices on 31st August 1994. As a result of that meeting, some amendments to the sections relating to the tailings dam decommissioning were advised by Stuart Ritchie.

I would confirm that the current proposal, the Plan of Operations amended as appropriate by the Dames & Moore facsimile of 31 August 1994 meets the DPI - Water Resources requirement for an acceptable decommissioning plan for the licensed works and therefore approve its implementation.

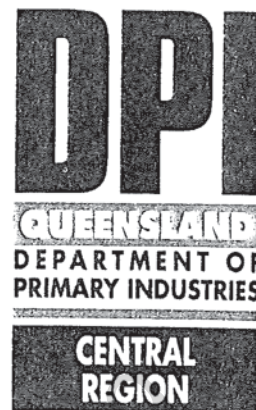
I would expect that consideration could be given to cancellation of the Waterworks Licence within two to three years if it can be demonstrated that the remnant works satisfy the requirements of not ponding water, not being susceptible to erosion, and that any seepage is of acceptable quality. You should advise the District Manager, Water Resources at Longreach when you consider such can be demonstrated.

Yours faithfully

for **EXECUTIVE DIRECTOR, WATER RESOURCES**

November 1994

Manager
South Blackwater Coal Limited
Private Mail Bag
BLACKWATER QLD 4717



Dear Sir

RENEWAL OF WATERWORKS LICENCES

We acknowledge receipt of renewal applications to renew a number of Waterworks Licences at South Blackwater Mine. We also acknowledge receipt of your consultants report on each of the licensed works.

We are currently processing a number of the renewals. However we require further information prior to processing the remainder of the renewals. The following is the situation in respect of each renewal application.

s73(2) - irrelevant



Waterworks Licence 52629

Disused Tailings Dam

The renewal of this application will not be processed. Upon completion of the rehabilitation and production of a final "As Built" rehabilitation plan an application will be made to the Manager Dam Safety to cancel the licence.

s.73

Summary

We will as advised be proceeding to deal with each application. Where we have requested "as built" plans these shall be provided in the same line form and scale as the existing drawings.

Should you wish to discuss these matters please contact this office on (079) 319600.

Yours faithfully

s.73

DISTRICT MANAGER

**DEPARTMENT OF PRIMARY INDUSTRIES
OFFICE MEMO**

Author: s.73

Telephone: (079) 319 595
Facsimile: (079) 273 079

DATE: 10 November 1994

REF NO: (Our Ref:50-0163)

FROM: Technical Officer (Stream Control), Water Resources,
ROCKHAMPTON

TO: District Manager, Water Resources, ROCKHAMPTON

SUBJECT: RENEWALS-SOUTH BLACKWATER COAL LIMITED

Applications have been received to renew the following Waterworks Licences which authorise various works at the South Blackwater Mine:-

s.73 52629 s.73

s.73

s.73

**52629 Disused Tailings Dam**

Rehabilitation of the dam is currently taking place. When complete the licence can probably be cancelled.

Hold renewal until rehabilitation has been completed.

Dam Safety approval to cancel the waterworks licence will be required.

s.73

**Summary**

It is proposed to proceed as above and to write to the company to address the outstanding issues.

s.73



**TECHNICAL OFFICER (STREAM CONTROL)
WATER RESOURCES (ROCKHAMPTON)**

M:\WATER\RENEWLIC



25 July 1994

123



South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telephone (079) 82 5200

Department of Primary Industries
Water Resources
Locked Mail Bag 6
EMERALD QLD 4720

Attention: s.73

Dear Sir

RENEWAL OF WATERWORKS LICENCES NO.S s.73 52629,
s.73

Please find attached applications for renewal of the above Waterworks Licences. A number of the Works have had some changes either to the structure itself or within the catchment area of the Works. These changes will be detailed in the Engineer's Inspection Report covering all the Licensed Works which will be submitted to the Department prior to the Expiry Date of the Licences (i.e. 30 September 1994).

Yours faithfully

s.73

GENERAL MANAGER
SOUTH BLACKWATER COAL LIMITED

encl.

In Rocky with
for renewal
25/8
sec

s.73

5.0 FINAL DESIGN

5.1 Existing Dams

5.1.1 Embankment Stability

No formal calculations have been made to determine embankment stability. However, application of the guidelines set out in the U.S.B.R. 'Manual for Design of Small Dams' for dams on solid foundations, indicate that a downstream slope of 1 vertical to 3 horizontal would have an adequate factor of safety (in the order of 1.4 to 1.5) against sliding.

Most of the dams have been constructed with wide crests and steep slopes. Due to the depth of stored water in many of the dams it will not be practicable to work on the upstream faces. It is considered that in such cases there will be sufficient crest width to cater for progressive slumping of the upstream face to a more stable slope, without detriment to the structure.

5.1.2 Spillway Capacities

Spillway capacities have been calculated from the broad crested weir formula, $Q = 1.5LH^{3/2}$ applied to the surveyed spillway and embankment crest for each dam.

Peak discharges for the various existing dams have been based on Table 9 of AGC Water Management Studies Report, adjusted according to the square root of the catchment area to provide an estimate of discharge at each dam site. The estimated flows are listed in Table 2.

Mimosa 'B' Dam

Based on runoff data provided in the AGC Water Management Studies Report (refer Table 2), the existing spillway is inadequate. A spillway 10 m wide by 1.2 m deep is required to pass the Q_{10} flood. In other respects, this dam will meet WRC licence requirements.

Disused Tailings Dam

Because the dam is currently storing water, the embankment is not stable. To address this problem and to avoid any remedial works on the embankment, a system to ensure that water is not stored in the dam is required. It is recommended that the tailings surface be contoured to allow free drainage to a point at the embankment where a 600 mm diameter concrete pipe will carry runoff through the embankment. The 20 m wide by 0.5 m deep spillway capable of passing the Q_{100} flow of $9.4 \text{ m}^3/\text{s}$ is also required. No remedial works are proposed for the embankment.

Red Dam

No remedial works are proposed for the embankment. To meet WRC licensing requirements, the spillway of the Red Dam needs to be increased to cater for a Q_{100} flow of 20 cumecs. This will necessitate widening the spillway to 7 metres. Leakage which occurs through the dam foundation will be retained in the proposed new Holding Dam downstream.

5.2 Proposed Holding Dam

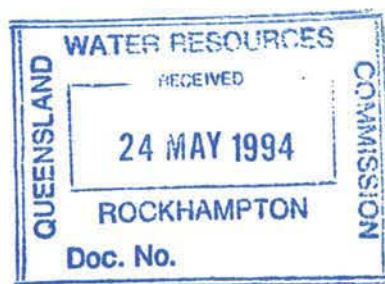
5.2.1 Results of Analysis

It is not considered feasible to construct a dam to store all surface runoff from the available

STRICTLY
CONFIDENTIAL

M:\WATER\TAILSREH.2

20 May 1994



**South
Blackwater**

South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telephone (079) 82 5200

s.73

District Manager
Water Resources
Department of Primary Industries
PO Box 736
ROCKHAMPTON QLD 7400

Attention: s.73

Dear Sir

**REHABILITATION DESIGN FOR THE DISUSED TAILINGS DAM HELD
UNDER WATERWORKS LICENCE NO. A 52629**

Further to my letter to you dated 10 January 1994 (Our Ref M:\WATER\TAILSREH) regarding the rehabilitation proposals for the Disused Tailings Dam and discussions with your s.73 on-site on 17 May 1994, please find enclosed additional information on the final rehabilitation design for the dam. The design philosophy outlined in the letter referred to above has remained unchanged.

Please advise if this information satisfies your requirements.

Your advice on benching/buttrressing requirements for the downhill slope on the southwest corner of the lower level dam embankment would be appreciated.

Yours faithfully

s.73

CHIEF MINING ENGINEER
SOUTH BLACKWATER COAL LIMITED

encl.

ROCKHAMPTON	
File No.	50-1462
Local File	
File Path	
Minister	
Action	
District	

s.73

DESIGN DRAWINGS

The following design drawings are enclosed for your information:

Drawing No. 025 - Laleham Areas Locality Map

This shows the location of the area at the dam to be rehabilitated, the source of the spoil cover material and the topsoil resource area.

Drawing No. 026 - Laleham Areas Existing Surface Features

This shows the existing surface features of the dam.

Drawing No. 027 - Laleham Areas Final Landforms

This shows the designed final rehabilitated dam landform at 0.5m contour intervals. Details shown on the map include:

- topsoil application area
- cut off drain to north of rehabilitated area
- sections of rock lined waterways
- special waterway sections
- bund wall on eastern slope above tailings area to direct water runoff into rocklined drain

Drawing No. 012 - Typical Cross section - Waterways with grades equal or less than 1.5%

This is the typical cross section for the "Special Waterways" shown on Drawing No. 027 in pencil.

Drawing No. 013 - Typical Cross section - Waterways with grades greater than 1.5%

This is the typical cross section for the rocklined waterway on the upper level of the dam.

Drawing No. 014 - Typical Cross Section - Waterway between Lower and Upper Levels

EXTRACTS FROM TECHNICAL SPECIFICATIONS

The following extracts from the Technical Specification application to the Disused tailings Dam are listed below:

EARTHWORKS SPECIFICATIONS

11.00 SPOIL PLACEMENT ON LALEHAM DISUSED TAILINGS DAM

- 11.01 Spoil placement on the Laleham Disused tailings Dam shall be in accordance with the design drawings to achieve the design slopes and gradients. A minimum spoil cover of 1m is required over the tailings unless otherwise specified or approved by the Superintendent.
- 11.02 The source of spoil cover for the Disused Tailings Dam is the western side of the box cut spoil pile at Laleham Ramp 11 North. The design drawings and final landform for Laleham Ramp 11 North have incorporated the removal of sufficient spoil from the western side of the box cut spoil pile for covering the Laleham Disused Tailings Dam to the design levels.
- 11.03 The spoil shall be placed over the tailings in layers not exceeding 500mm and compacted by at least four passes of earthmoving machinery traffic in such a manner that all parts are equally compacted unless otherwise approved or specified by the Superintendent.
- 11.04 Prior to the fill placement over the existing bleeder pipe, the inlet of the pipe shall be covered with 25m³ of rockfill material which meets the requirements of Clause 23 of this Specification. The placement of the rockfill shall be as directed and approved by the Superintendent.

12.00 TOPSOILING

- 12.01 The rehabilitation works areas are to be topsoiled (as shown on the final landform plans).
- 12.03 Topsoil placement shall only proceed once the final landform and major drainage works (i.e. graded banks and waterways) have been completed.
- 12.04 Topsoil is to be applied to 150mm thickness minimum in all areas, the Contractor should allow for checking topsoil is applied evenly and to design thickness.

15.00 DEEP RIPPING

- 15.03 Shallow deep ripping to 300-400mm will be undertaken on the Laleham Disused Tailings Dam. The Contractor should make allowance for adjustments to the rippers and air seeder as instructed by the Superintendent.

16.00 SEEDING

16.01 An air seeder is to be mounted on the ripper bar of the dozer which undertakes deep ripping (D8N or equivalent). Seeding will be carried out at the same time as ripping i.e. seeding and ripping are a combined one pass operation.

18.00 MAJOR WATERWAYS

18.01 Major waterways are to be constructed strictly according to design drawings.

18.02 These waterways are located on the final landform plans for the various areas.

18.06 The base width of the entire length of the major drain on the Laleham Disused Tailings Dam, including the rock-lined sections, is 5m, except for the section between the upper and lower levels of the dam where the invert is 3m wide..

18.07 The rock-lined sections of the main drain on the Laleham Disused Tailings Dam shall have a depth of rock of 0.6m. Rock lining shall extend for 3m up the design slope on either side of the invert of the drain. The invert level of the rock-lined sections of the drain shall be level with adjoining unlined sections of drain whilst maintaining the gradients on the design drawings.

19.00 SPECIAL WATERWAYS - DISUSED TAILINGS DAM

19.01 Special waterways are to be constructed in the Laleham Disused Tailings Dam rehabilitation area. Construction details of these waterways are shown in Drawing 012.

19.02 The base of special waterways is to be compacted in the same manner as for major waterways.

19.03 The invert and batters of special waterways are to be topsoiled, and seeded.

23.00 ROCKFILL IN WATERWAY PROTECTION

23.02 Material suitable for rockfill in waterways and drop structures shall consist of hard, clean, durable rock fragments, 90% of which have minimum dimensions of 300mm and with at least 50 percent larger than 500 mm and a maximum dimension of 700mm. To meet this specification the rock will require screening.

23.03 Before placing rockfill bank protection, the surfaces to be protected shall be excavated or trimmed to neat lines as shown on the drawings or directed by the Superintendent and shall be covered with geotextile in accordance with Clause 26 of this specification.

32.00 AMELIORANTS

32.01 Upon completion of bulk pushing of each area, the Superintendent may elect to spread lime, gypsum or similar ameliorants. Prior to spoil placement over the Laleham Disused Tailings Dam, the Superintendent may elect to spread lime over the tailings surface at a rate of 10 tonnes per hectare to prevent acid rising into the spoil.

**N.B. SBCL will be spreading lime on the Disused Tailings Dam but after a layer of spoil, say 0.5m, has been placed over the tailings. The lime will be spread at 10 tonnes per hectare and incorporated into the spoil by grader ripping. This will provide a barrier to capillary rise of acid liquor.*

REVEGETATION SPECIFICATIONS

3.0 SEEDING

3.10 Overall Rates

The overall minimum rates which are to be utilized for the contract are:

- (i) Native Seed 6kg/ha (0.6gm/m²) plus cover crop rate of 3kg/ha (0.3gm/m²)
- (ii) Pasture Seed 20kg/ha (2gms/m²)

3.12 Method of Application

Native and pasture seeds are to be sown by the air seeder on the contour in alternating bands. Such bands are to be continuous. The contractor is to ensure that all deep ripped areas are treated in this fashion and that as far as practicable, pasture species are prevented from drifting into strips which have been laid to native species.

8.0 FERTILIZER APPLICATION

8.1 Specifications

The Contractor is to arrange for the supply and application of granulated fertilizer manufactured to the following specification.

6N:14P:7K plus
1.5%Cu, 1.5% Zn, 1.5% Mg, 1.5% Bo, 0.025% Mo and 0.025% Co.

8.4 Application Rate

The fertilizer is to be applied at a rate of 200kg/ha.

8.5 Method of Application

The fertilizer is to be applied by crop duster.

8.6 Timing of Application

The fertilizer is to be applied within 14 days of the completion of all ripping and seeding work.

WATER\TAILSREH

10 January 1994



South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telephone (079) 82 5200

s.73

District Manager
Water Resources
Department of Primary Industries
PO Box 736
ROCKHAMPTON QLD 7400

Attention: s.73

File No.	50-1462
Date	
File Reported	
Ministerial Dept.	
Action Completed	
District Engineer	
<i>Manley</i>	

Dear Sir

REHABILITATION PROPOSAL FOR THE DISUSED TAILINGS DAM HELD UNDER WATERWORKS LICENCE NO. A 52629

South Blackwater Coal has completed preliminary design work on the rehabilitation of the Disused Tailings Dam which will be undertaken in the second half of 1994. Our preliminary rehabilitation proposal and supporting information for the decommissioning of these works is submitted in accordance with Specification 8 of Waterworks Licence No. A 52629 for your approval. It is not envisaged, at this stage, that the final design will differ significantly from the preliminary plan.

Figure 1 shows the current landform for the Disused Tailings Dam. The area to be rehabilitated consists of an upper and lower level each with an associated embankment. Figure 1 also shows the location of the low level bleeder pipe and the spillway.

Figure 2 shows the proposed final rehabilitated landform for the both levels of the dams. The design involves the placement of 1 to 1.5m of spoil over the tailings so that all water runoff from the new surface will flow out the existing spillway without any ponding on the surface. Some minor reshaping of the tailings may be required to achieve a minimum 1m spoil cover. A 1m cover is also required to permit machinery access over the dam surface. The spoil will come from the adjacent Ramp 11 North box cut spoil pile which will be rehabilitated at the same time.

The design involves a diversion bank/channel above the upper level of the dam to divert water runoff from above away from the dam. All surface runoff is directed into a central channel which flows from the upper end of the upper level through the entire length of the upper level, through a rock lined waterway then along the northern part of the lower level and out the spillway.

Maybe all Drains should be rock-lined

On the lower level there is a second drain which drains the southern and eastern part of the lower level into the first drain and out the spillway. These drains have a gradient of 1 to 1.5% (the same as the graded banks on our rehabilitation areas). Any section where the gradient is more than 1.5% will be rock-lined.

The remainder of the dam surface is designed such that there is a fall of 2 to 5% from any point into the two main drains. The drainage patterns are illustrated on Figure 2. It is proposed to leave the bleeder pipe in place to act as a sub-surface drain to intercept water which may seep through the spoil. Any seepage discharge from the bleeder pipe will collect in a pond some 50m downslope from the pipe. This pond is quite large. Significant rainfall in the catchment area of the pond would be required before it would overflow to Sirius Creek (i.e. There was still over 2m freeboard in the pond after 122mm of rain fell in November 1993). A large dilution capacity is, therefore, available.

2m freeboard was required more information

3m with up to 3m flattening of the batter

This would be with Sirius Creek after the two pits

The embankment of the lower level of the dam will remain in place. The embankment is stable and the downstream face has been topsoiled. The embankment on the upper level of the dam is narrow and steep and will be buttressed with spoil on the downhill side to create a 1:6 slope (our standard rehabilitation slope angle). The small cut batter along the northern side of the lower level of the dam will be pushed down to 1:6 slopes. Thus the tailings will remain contained as they are now.

?

Following spoil placement and reshaping to achieve the design gradients, topsoil will be spread over the entire area to a depth of 150mm. Shallow ripping/scarification of the topsoil will be carried out to aid plant establishment. Some additional feeder drains may then be constructed on the dam surface to feed runoff into the main channels at a grade of 1 to 1.5%. Revegetation will involve direct seeding with pasture grasses and low growing, shallow rooted natives.

Given the spoil cover of 1 to 1.5m over the tailings and the shaping of the surface such that no ponding occurs and all runoff is directed off the dam surface through the spillway, the tailings should be effectively sealed from water and oxygen. Slopes are designed at very flat gradients such that erosion will be minimal and water discharged through the spillway will be solely surface stormwater runoff.

Given that we are now into the rehabilitation design phase, your advice on whether this proposal is acceptable to the Commissioner for Water Resources would be appreciated.

I look forward to hearing from you shortly.

Yours faithfully,

s.73

CHIEF MINING ENGINEER
SOUTH BLACKWATER COAL LIMITED

encl.

l Tailings Dam
at head fork

685500

685593

7351000

7350750

Spillway

Bleeder
Pipe

7350512

685500

out of lower level

R
G

lowest
Area

266.00

2- Dissolved Tailings Dam Proposed Rehabilitated Landform

685500

685605

Source
of fill
for
covering
Dam
surface

Rock
lined
Waterway
between
Upper and
lower
levels

Dive
Bun
cho

7350750

Ke-
Red lo
Green

7350517

685500

Locked Mail Bag 6
EMERALD QLD 4720

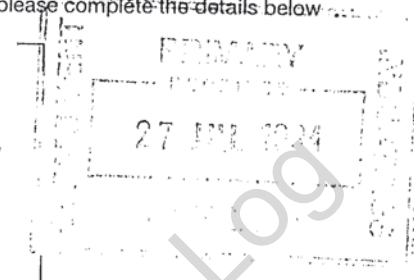
EXPIRY NOTICE - WATERWORKS LICENCE

the Licensee/s:

You are advised that your licence expires on the date shown hereunder. If application for renewal is not received by that date the licence will lapse and an application for new licence for the works may be required. If renewal or cancellation is required please complete the details below and forward to the above address.

Please indicate any change
of ownership or address

SOUTH BLACKWATER COAL LIMITED
PRIVATE MAIL BAG
BLACKWATER QLD 4717



Licence Number **G-52629** Expiry Date **30/9/1994** File Number **1462**

Description of Works

1	TO (S)
2	TO (S)
3	TO (S)
4	TO (S)
5	TO (S)
6	TO (S)
7	TO (S)
8	TO (S)
9	TO (S)
10	TO (S)

CANCELLATION WORKS Description **ML1767 (DISUSED TAILINGS DAM)**
Parish **KENMARE** County **HUMBOLT**

SUPPLY Watercourse **SIRIUS CREEK**

PROPOSE OF WORKS

RENEWAL NOTED ON DB
RECOMMENDED

s.73

APPLICATION FOR RENEWAL/REQUEST FOR CANCELLATION *

Renewal of licence YES ☒ NO ☐
(If NO, give reason)
Cancellation:- On surrender of a Licence the Chief Executive may require the licensee to remove all works constructed or used under the authority of the Licence.
Works installed YES ☒ NO ☐
(If NO, give reason)

For Office Use Only

RENEW TO

/ /

REG. YES / NO

MET. YES / NO

ha.

ML.

TERMS

APPROVED

RENEWED

ALTERATION TO DESCRIPTION AND/OR LOCATION OF WORKS:

se advise of any **Dam currently being rehabilitated**
ges to details **- to be detailed in Engineer's Inspection Report**
l above. **to be submitted prior to 30/9/94**

s to be irrigated
y one growing
on.

CROPS	AREA (ha)	METHOD

Signature..... Date.....

DEPARTMENT OF MINERALS AND ENERGY

FACSIMILE TRANSMISSION

GPO BOX 194
BRISBANE QLD 4001

QUEENSLAND MINERALS AND ENERGY CENTRE
61 MARY STREET
BRISBANE QLD 4000

FACSIMILE NO.: (07) 234 9942



TO:

FROM:

ATTENTION: s.73
ORGANISATION: WATER RESOURCES COMMISSION
FAX NO.: (079) 273 079

NAME: s.73
POSITION: SENIOR ENVIRONMENTAL OFFICER
PHONE NO.: (07) 235 4061

PRIORITY: **NO. OF PAGES INCL. THIS ONE:** 2 **DATE:** 15/02/94

s.73

**SOUTH BLACKWATER TAILINGS DAM DECOMMISSIONING
LICENCE NO. A 52629**

As discussed and in response to your fax of 11 February 1994, the preliminary decommissioning proposal for tailings dam licence No. a 52629, forwarded to the Water Resources Commission by South Blackwater, complies with the South Blackwater EMOS, Plan of Operations and Special Lease Conditions held by this Department.

The design details regarding capping of the tailings dam as outlined are acceptable to this Department. However, there is insufficient batters design detail to allow this Department to comment on their acceptability, to do so will require further information. In their EMOS and Plan of Operations, South Blackwater committed themselves to rehabilitating tailings dams to the following standards, to be achieved after 3 years;

- * A tree and shrub density greater than 50 stems/hectare,
- * Major rills and gullies are no longer active,
- * Drainage structures are competent,

PLEASE NOTE: The information contained in this facsimile message is **CONFIDENTIAL** and is intended only for the use of the addressee(s). If you receive the facsimile in error any use, distribution or copying of this facsimile is not permitted, and you are required to immediately inform us by telephone and return the facsimile by mail to us at the above address.

- * There is no seepage of acid leachates off lease, and
- * An adequate or increasing ground cover component is evident.

This Department requires that decommissioned tailings dams (in particular the batters) show long term stability, have acceptable rates of erosion, are vegetated to the agreed post mining landuse and runoff from which does not impact on downstream water quality.

I would like to take this opportunity to thank you for consulting with this Department on this issue.

Please contact s.73 Senior Environmental Officer (Energy) on the above number if you require any further information.

Regards

s.73

ROCKHAMPTON	
File No.	
Loose Leaf	
File Reference	
Min	
Action	
Disposal	

PLEASE NOTE: The information contained in this facsimile message is **CONFIDENTIAL** and is intended only for the use of the addressee(s). If you receive the facsimile in error any use, distribution or copying of this facsimile is not permitted, and you are required to immediately inform us by telephone and return the facsimile by mail to us at the above address.

Water Resources
212 Quay Street
PO Box 736
ROCKHAMPTON QLD 4700

TELEPHONE: (079) 319 600
FACSIMILE: (079) 273 079



FACSIMILE TRANSMISSION

DATE: 11/02/94 FACSIMILE NO: (07) 234 9942

TO: [REDACTED]

ATTENTION: DME.

YOUR REF: [REDACTED] OUR REF: 50-1462

FROM: [REDACTED]

NO. OF PAGES (INCLUDING COVER): 3

MESSAGE SEP BLACKWATER - REHAB OF DISUSED TAILINGS DAM
WATERWORKS LICENSE No - 52629

Following is a copy of Sep Blackwaters letter of 10/1/94.
Your comments would be appreciated.

- 1/ Treatment of batters - If you can give us your
thoughts on proposals and the right word to ensure
cross departmental consistency.
- 2/ Treatment of capping

The mine is anxious to keep the waste moving so I
would appreciate your thoughts as soon as practicable

This will be the first in Down Basin in recent times at least
so would like to make sure we do it the right
way the first time
Regards

S.73 [REDACTED]

M:\WATER\TAILSREH

10 January 1994



South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telephone (079) 82 5200

s.73

District Manager
Water Resources
Department of Primary Industries
PO Box 736
ROCKHAMPTON QLD 7400

Attention: s.73

s.73

Dear Sir

**REHABILITATION PROPOSAL FOR THE DISUSED TAILINGS DAM HELD
UNDER WATERWORKS LICENCE NO. A 52629**

South Blackwater Coal has completed preliminary design work on the rehabilitation of the Disused Tailings Dam which will be undertaken in the second half of 1994. Our preliminary rehabilitation proposal and supporting information for the decommissioning of these works is submitted in accordance with Specification 8 of Waterworks Licence No. A 52629 for your approval. It is not envisaged, at this stage, that the final design will differ significantly from the preliminary plan.

Figure 1 shows the current landform for the Disused Tailings Dam. The area to be rehabilitated consists of an upper and lower level each with an associated embankment. Figure 1 also shows the location of the low level bleeder pipe and the spillway.

Figure 2 shows the proposed final rehabilitated landform for the both levels of the dams. The design involves the placement of 1 to 1.5m of spoil over the tailings so that all water runoff from the new surface will flow out the existing spillway without any ponding on the surface. Some minor reshaping of the tailings may be required to achieve a minimum 1m spoil cover. A 1m cover is also required to permit machinery access over the dam surface. The spoil will come from the adjacent Ramp 11 North box cut spoil pile which will be rehabilitated at the same time.

The design involves a diversion bank/channel above the upper level of the dam to divert water runoff from above away from the dam. All surface runoff is directed into a central channel which flows from the upper end of the upper level through the entire length of the upper level, through a rock lined waterway then along the northern part of the lower level and out the spillway.

*Mauro, I have taken this to
Brisbane with me and will
draft reply after discussions
with*

On the lower level there is a second drain which drains the southern and eastern part of the lower level into the first drain and out the spillway. These drains have a gradient of 1 to 1.5% (the same as the graded banks on our rehabilitation areas). Any section where the gradient is more than 1.5% will be rock-lined.

The remainder of the dam surface is designed such that there is a fall of 2 to 5% from any point into the two main drains. The drainage patterns are illustrated on Figure 2. It is proposed to leave the bleeder pipe in place to act as a sub-surface drain to intercept water which may seep through the spoil. Any seepage discharge from the bleeder pipe will collect in a pond some 50m downslope from the pipe. This pond is quite large. Significant rainfall in the catchment area of the pond would be required before it would overflow to Sirius Creek (i.e. There was still over 2m freeboard in the pond after 122mm of rain fell in November 1993). A large dilution capacity is, therefore, available.

The embankment of the lower level of the dam will remain in place. The embankment is stable and the downstream face has been topsoiled. The embankment on the upper level of the dam is narrow and steep and will be buttressed with spoil on the downhill side to create a 1:6 slope (our standard rehabilitation slope angle). The small cut batter along the northern side of the lower level of the dam will be pushed down to 1:6 slopes. Thus the tailings will remain contained as they are now.

Following spoil placement and reshaping to achieve the design gradients, topsoil will be spread over the entire area to a depth of 150mm. Shallow ripping/scarification of the topsoil will be carried out to aid plant establishment. Some additional feeder drains may then be constructed on the dam surface to feed runoff into the main channels at a grade of 1 to 1.5%. Revegetation will involve direct seeding with pasture grasses and low growing, shallow rooted natives.

Given the spoil cover of 1 to 1.5m over the tailings and the shaping of the surface such that no ponding occurs and all runoff is directed off the dam surface through the spillway, the tailings should be effectively sealed from water and oxygen. Slopes are designed at very flat gradients such that erosion will be minimal and water discharged through the spillway will be solely surface stormwater runoff.

Given that we are now into the rehabilitation design phase, your advice on whether this proposal is acceptable to the Commissioner for Water Resources would be appreciated.

I look forward to hearing from you shortly.

Yours faithfully,

s.73

CHIEF MINING ENGINEER
SOUTH BLACKWATER COAL LIMITED

encl.

FILE 50-1462

7 June 1993

South Blackwater Coal Limited
Private Mail Bag
BLACKWATER QLD 4717

Dear Sir

This letter will confirm advice given to you during a recent inspection of the mine site by [REDACTED]
s.73 of this Department.

Disused Tailings Dam

We acknowledge your advice that it is planned to decommission this dam in 1994. It will be necessary for this Department to approve any decommissioning plans for the dam prior to any works taking place.

Ramp 1B Dam

There are a number of large scours on the downstream face of the dam and these should be repaired as a matter of urgency. Some works should also be undertaken to further limit the catchment which runs to the crest of the dam. This work will help to prevent further scouring of the downstream face in the future.

Mimosa B Dam

We have received an "as built" plan for the Mimosa B Dam and have some concerns as the plans show that the spillway located on the left bank is constructed and in place. Our inspection shows this not to be the case and therefore there is difficulty in accepting that the "as built" plan is a true record of what has been constructed.

We have noted that the original plan number 1370-03-1 Revision A also includes this left bank spillway and it may be that this spillway is necessary to ensure that the dam does not overtop.

Could you please have your consultants check what is required and advise further.

The original report refers to the widening of the right bank spillway but makes no mention of deleting the left bank spillway.

The Waterworks Licence 52626 refers to the above plan which includes the left bank spillway.

Your early advice particularly on the "as built" plan for Mimosa B Dam would be appreciated.

Yours faithfully

Signed 9.6.93.
s.73

DISTRICT MANAGER



PB:rmd:WWKSLIC

5th November, 1992.

s.73

District Manager,
Water Resources Commission,
P.O. Box 736,
ROCKHAMPTON. Q. 4700

Dear Sir,

ROCKHAMPTON	
16/11/92	
Required	
Project Rep.	
Complete	
Steel Engineer	

s.73

ACTION
COMPLETE


South
Blackwater

South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telex AA48162
Telephone (079) 82 5200

WATER RESOURCES
RECEIVED
10 NOV 1992
ROCKHAMPTON
Doc. No.

REPORT ON WATERWORKS LICENCE NOS.**52652; 52626; 52627; 52628;****52629; 52630 AND 52631****YOUR REFERENCE 50-0613:KM:DB**

Attached is our Consultant Engineer's inspection report on the current condition of all licensed structures.

In the engineers opinion all of the structures are in a stable condition and only minor maintenance/amelioration work is required to:

- (i) Ramp 1 Settlement Dam Licence No. 52627
- (ii) Sirius Creek Diversion Licence No. 52652

RAMP 1 SETTLEMENT DAM

In order to meet the Consultants recommendations existing vegetation, growing on the upstream face of this dam will be removed and the crest will be graded to infill minor gullies.

This work will be undertaken before the end of this calendar year.

SIRIUS CREEK DIVERSION

The partial slip in the diversion channel is of a minor nature. It is in the immediate vicinity of southern dragline walkway. This section of channel is infilled and excavated from time to time to allow the dragline to access the Laleham pit to the north.

Our current dragline schedule shows that in June 1993 and November 1994, this section of channel is to be infilled and excavated by the dragline. On both occasions South Blackwater Coal intends to ensure that the channel is properly excavated and in particular, on the second occasion, any work to the channel proper requiring major rectification by the dragline will be undertaken at that time as access to the Laleham pit may no longer be required.

I note and Thank you for your agreement to allow South Blackwater Coal to survey the Diversion Scheme on a triannual basis but that engineers annual inspections and reports are still required.

Finally, I advise that dam 2 (lower diversion pit) has not outflowed during the licence period to date - hence analyses of such an outflow event are not available.

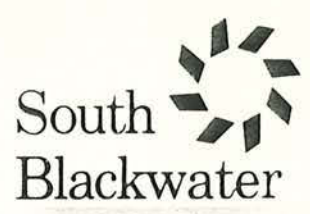
Yours faithfully,

s.73

CHIEF MINING ENGINEER
SOUTH BLACKWATER COAL LIMITED

Published on RDMW Disclosure Log
RTI Act 2009

B:rnd:WTRMGMLPN



South Blackwater Coal Limited
A.C.N. 011 026 154
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telex AA48162
Telephone (079) 82 5200

25th August, 1992.

s.73

District Manager,
Water Resources Commission,
ROCKHAMPTON. Q. 4700

s.73

Dear Sir,

ALTERATIONS TO WATER MANAGEMENT PLAN
YOUR REFERENCE 50-1463:KM:DB

In response to your requests contained in the correspondence referred to above, I wish to advise that the amendments which are attached hereto are to be placed within the front face of the existing Water Management Plan. These amendments include:

50-1461

(i) Confirmation that the bleeder pipe from the Standby Tailings Dam has been removed.

50-1462

(ii) Confirmation that inspections of the inlet and outlet structures of the bleeder pipe installation at the disused tailings dam are to be undertaken on a routine basis and that any damage will be attended to as soon as practicable.

50-1463

(iii) Advice that our engineers (s.73 PPK) are of the opinion that the structural integrity of the Ramp 1 Settlement Dam would be maintained in the event of a circular slip initiated by rapid drawdown, but that immediate repairs would be required. (A copy of their advice is attached).

(iv) Notification that an error regarding the use of cusecs has occurred and that the actual intended term is cumecs.

Also submitted to you are the results of detailed water analyses which we have undertaken to date. The outstanding analyses will be directed to you in due course. I have also attached two copies of drawing No. 1370-03-05 which depicts the as built arrangement of the Holding Dam. Note that Section A-A confirms that the clay core is continuous between the foundation and crest of wall.

I also refer to the discussion between our Environmental Officer and s.73 of your office regarding our proposal to amend the requirement for annual surveys of Sirius Creek Diversion Channel.



20.05.11

This channel is 3100 metres long and a full ground survey would be expensive and time consuming on an annual basis. We consider that survey on a less frequent basis say every three years, using aerial photogrammetry would be appropriate considering the size and topographical characteristics of the diversion. Such photogrammetry is currently being undertaken at a $\pm 0.3\text{m}$ accuracy in the horizontal and vertical planes on this site. I therefore request that you review the existing requirements and consider our proposal to undertake aerial photogrammetry and report to you on a triannual basis together with a commitment that should any deterioration of the channel be evident by routine inspection, that a detailed ground survey of the localized area, together with an engineers report be submitted to you.

s.73



CHIEF MINING ENGINEER
SOUTH BLACKWATER COAL LIMITED

50-1462

s.73

(079) 319 595

50-1463:KM:DB

4th June 1992

Manager
South Blackwater Coal Ltd
Private Mail Bag
BLACKWATER QLD 4717

ATT: s.73

Dear Sir,

Following on from our recent visit to the South Blackwater Coal Mine on Tuesday 26th May 1992 this letter will confirm the contents of our discussions with your Mr Darian Hielscher.

Holding Dam

You are to provide this Commission with a revised "as built" plan with amendments to the Section A on Plan 1370-03-5.

Comments are to be provided on why changes to the design were made from that originally approved.

At the next renewal we will amend the Waterworks Licence to reduce the capacity from 48 megalitres to 30 megalitres.

Red Dam & Holding Dam Monitoring

We confirm that the monitoring of waterlevels in both these Dams is currently being carried out satisfactorily and that information currently being collected would indicate that the Dams are currently being operated in accordance with your Water Management Plan.

Standby Tailings Dam

The Water Management Plan (page 29) needs to be amended to delete the reference to the installation of the Bleeder Pipe which is not installed and not shown on the approved plans.

Used Tailings Dam

The area of the Dam wall located at the inlet and outlet of the 600m Bleeder Pipe needs to be regularly inspected and action should be taken to repair the erosion caused when run off water discharges from the Dam.

Opportunities to drain further residual surface ponding should be taken.

Ramp 1 Dam

Further details are to be provided as to what methods can be put in place to prevent rapid drawdown of this Dam.

It may be possible to limit the capacity of the pump on this Dam and therefore limit the rate at which water can be withdrawn from the Dam.

Any limits set must be within the Design Parameters as defined by s.73 What s.73 considers to be rapid drawdown needs to be included in the Water Management Plan.

Sirius Creek Diversion

Your attention is brought to the terms of this Waterworks Licence and in particular Special terms 3 and 8. We acknowledge your commitment to provide the information required by the terms.

Water Management Plan

We confirm our advice that the Water Management Plan meets our requirements subject to the changes stated above.

We have also noted and some flows are quoted in "CUSECS" which is a imperial measurement. Would your please confirm that this is a typing error and that the figures quoted are in "CUMECS".

We look forward to receiving the information as requested above.

Yours faithfully,

s.73

DISTRICT MANAGER

s.73

5/6

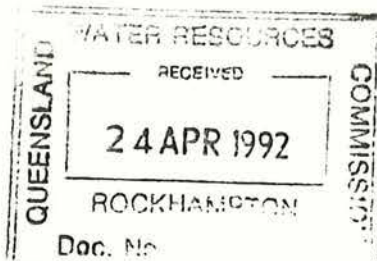
COPY ONLY


**South
Blackwater**

21st April, 1992.

South Blackwater Coal Limited
 (A Subsidiary of QCT Resources Limited)
 PMB Blackwater, **ACN 011 026 154**
 Queensland Australia 4717
 Facsimile (079) 86 1505
 Telex AA48162
 Telephone (079) 82 5200

The District Engineer,
 Water Resources Commission,
 P.O. Box 736,
 ROCKHAMPTON. Q. 4700

**ATTENTION:** s.73

Dear Sir,

WATER WORKS LICENSES

s.73

52629, s.73

DEVELOPMENTS

Further to our previous discussions regarding various amendments to management/operating plans for the various licensed structures, please find attached hereto our amended Water Management Plan which includes further detail on the management of various structures.

Copies of the Water Management Plan have been forwarded to the Department's of Resource Industries and Environment & Heritage.

Attached also for your record is a copy of letter from the Consulting Engineers, Blain Johnson-PPK which confirms that other than for minor variations, the works were constructed according to approved plans and specifications.

Two copies of the "as built" plans are also included with this correspondence. As built plans are provided for all of the licensed structures except for the Mimosa B dam which has yet to have its spillway modifications undertaken. The required work on that structure will be undertaken in this calendar year. Both the Ramp 3 B dam and abandoned dams have been de-commissioned.

Yours faithfully,

s.73

MANAGING DIRECTOR
SOUTH BLACKWATER COAL LIMITED

ROCKHAMPTON	
File No.	50-1462
Case Leaf	
File Required	
Ministerial Reg.	
Action Complete	
District Engineer	



s.73

PPK

A division of
PPK Consultants Pty Ltd
A.C.N. 007 732 407

Engineering, Planning and
Management Consultants

12th Floor, IBM Centre
348 Edward Street, Brisbane
Queensland 4000

Telephone (07) 831 6616
Facsimile (07) 831 4223

Our Ref: 1370-03:MAW/vk

Enquiries to: s.73

24 February 1992

The General Manager
South Blackwater Coal
PMB
BLACKWATER.QLD.4717

Attention: s.73

Dear Sir,

**CONSTRUCTION CERTIFICATION
WATERWORKS LICENCE NOS**

s.73 52629, s.73

s.73 prepared the approved plans and technical specifications for the works for the above listed works to be licensed.

Our supervisor, s.73 worked at South Blackwater on a full-time basis supervising the contract for these works and other concurrent earthworks on the mine site.

Some changes were made to the approved plans during construction to suit actual site conditions. You have sepia's of 'as built' drawings for forwarding to the Water Resources Commission.

A final inspection of the works was made by s.73 of this office. To the best of our knowledge, the works were constructed in accordance with the approved plans (now as-built drawings) and specifications. Our supervisor could not be at every site full-time during the construction, but to the best of his knowledge, the contractor Goldings followed the required specification.

There is one area where the specification was not met and that was in the sizing of rockfill for the standby tailings dam (52628). Undersized rockfill was used in the mattresses and gabions but an additional smaller wire mesh was used under the mattress wire. In the unlikely event of an overflow from this system, some damage to the mattresses is possible and some repair may be necessary.



2

South Blackwater Coal

1370-03

24 February 1992

We trust this letter fulfils your requirements.

Yours faithfully,

s.73

A large rectangular grey box redacting the signature of the Director.

Director

Published on RDMW Disclosure Log
RTI Act 2009

TO: District Engineer, Rockhampton	DATE: 8 10 91
FROM: General Manager, Development	FILE: . 18644
COPIES: .	AUTHOR: s.73
	PHONE: 224 7336

SUBJECT: Waterworks Licence Application
REF: E\McC\RM4

s.73

South Blackwater Coal Limited
TEXT:

I have examined the documentation and plans supplied by South Blackwater Coal Ltd. and their consultants, Blain Johnston Pty. Ltd in support of licence applications for referable dams at the mine. I am satisfied that the dams meet or will meet, once modified in accordance with the proposals of the consultants, the dam safety requirements of the Water Resources Act. The recommended hazard classifications are accepted also.

The structures are not exempt from any of the referable dam provisions and the terms described in the relevant appendices shall be attached to each licence as follows:-

Licence Application No.

Appendix

s.73

52629

- Disused Tailings Dam (50-1402) D

s.73

s.73

ROCKHAMPTON

File No.

File as above m9
GENERAL MANAGER, DEVELOPMENT DIVISION
**ACTION
COMPLETE**
SUBSEQUENT NOTIN

s.73

21/10/91

WATER RESOURCES
RECEIVED
17 OCT 1991
ROCKHAMPTON

Doc. No.

20-042

File A

4 of 99

APPENDIX A

s.73



Published on RDMW Disclosure Log
RTI Act 2009

s.73

Published on RDMW Disclosure Log
RTI Act 2009

APPENDIX B

s.73



Published on RDMW Disclosure Log
RTI Act 2009

s.73

Published on RDMW Disclosure Log
RTI Act 2009

APPENDIX C

s.73



Published on RDMW Disclosure Log
RTI Act 2009

s.73



Published on RDMW Disclosure Log
RTI Act 2009

APPENDIX D

DISUSED TAILINGS DAM Licence Application No. 52629

1. The works authorised by this licence are not exempt from the provisions of the Water Resources Act relating to referable dams and the licensee shall comply with any directions of the Commissioner issued in accordance with these provisions.
2. The works authorised by this licence include the construction of a 330 metre long embankment dam of 7.7 metre maximum height (minimum EL 266.19), a spillway to EL 265.70 metre and ancillary works as detailed in drawing 1370-03-4 - Revision B for the containment of tailings, runoff and erosion from South Blackwater Coal Mine, all of which form a referable dam. The ancillary works include the construction of runoff diversion bunds, drains and other works which control spillage or erosion within the catchment of the referable dam.
3. The works authorised by this licence shall be constructed in accordance with the plans and specifications prepared by Blain Johnson Pty Ltd, and as approved by the Commissioner.

The approved plans for the purpose of construction are Blain Johnson Pty Ltd Drawing:

1370-03-4 - Revision B - South Blackwater Coal

The specifications and other information are as detailed and attached to letter from South Blackwater Coal Limited dated 7th May 1991 and shall include reports prepared for South Blackwater Coal Limited by Blain Johnson Pty Ltd dated 18th January 1991 and 8th May 1991.

4. Any proposed amendments to the approved plans shall be submitted to the Commissioner for approval.
5. At the completion of construction of the licensed works, the licensee shall furnish the Commissioner with certification from Blain Johnson Pty Ltd that the works have been constructed in accordance with the approved plans and specifications and shall supply the Commissioner with two sets of "as built" plans of the constructed works.
6. The licensed works shall be inspected by a registered professional engineer (RPEQ), suitably qualified and experienced to the satisfaction of the Commissioner, at the following times:-
 - a. 12 months after the practical completion of construction (term 5);

- b. at the time of each application for renewal of licence;
- c. at any time if alarming, unusual or otherwise unsatisfactory conditions are observed

For each inspection, the engineer shall assess available storage, determine the hydraulic adequacy of diversion works and assess the adequacy of the works with respect to dam safety, including emission control.

For each inspection, two copies of the Engineer's report and any recommendations as to measures required to be taken to ensure the safety of the works shall be furnished to the Commissioner.

- 7. The licensee shall advise the Commissioner of any measures taken in an emergency or to be taken after approval, as a result of inspections required by term 6 above.
- 8. The works cannot be abandoned whilst licensed as a referable dam.

Prior to the cessation of mining operations, the licensee shall submit to the Commissioner a final rehabilitation plan for the decommissioning of the licensed works. When approved by the Commissioner, the dam can be decommissioned by reshaping the works such that water can no longer be stored, the works are not susceptible to erosion and any seepage is of acceptable quality, whereupon the licence will be cancelled.

Transfer of this licence can only be completed with the approval of the Commissioner.

- 9. The granting of this licence does not exempt the licensee from complying with other Government Legislation particularly that administered by Department of Resource Industries and Department of Environment and Heritage.
- 10. The licensee shall provide the Commission with an operational plan for the works authorised by this licence. This plan shall include procedures and recorded information to ensure that the dam is operated in accordance with the design criteria. Particular reference should be made to the surface drainage system.



s.73

Published on RDMW Disclosure Log
RTI Act 2009

s.73



Published on RDMW Disclosure Log
RTI Act 2009

s.73



Published on RDMW Disclosure Log
RTI Act 2009

s.73

Published on RDMW Disclosure Log
RTI Act 2009

To: District Engineer, EMERALD
From: District Engineer, ROCKHAMPTON

Date: 15 October 1991
File: 50-1460 - 50-1465
Author: s.73
Phone: (079) 319 595

Subject: Waterworks Licenses s.73 52629, s.73
South Blackwater Coal Ltd

Attached are the above licenses which have been issued from this office.

Would you please adjust the Emerald Data Base.

The Sirius Creek Diversion licence 52652 will be issued latter this week after the closing date for objections.

s.73

DISTRICT ENGINEER

B/C: Deputy General Manager
Development Division
Dam Safety Group
Attention: s.73

Copies of the above licenses
are attached.

DISTRICT ENGINEER



s.73

(079) 319 595

50-1460, 50-1461, 50-1462, 50-1463, 50-1464, 50-1465

8th October 1991

South Blackwater Coal Ltd
PMB
BLACKWATER QLD 4717

Dear Sir/Madam

WATERWORKS LICENCE Nos s.73 52629, s.73
DATE OF EXPIRATION: 30/04/91

Attached are the abovementioned Licences granted under the provisions of the Water Resources Act 1989 and your attention is drawn to the Schedule of Terms thereon.

Please note that the works are all Referable Dams within the meaning of the Water Resources Act 1989 and as such the works are subject to the Referable Dam provisions of the Act.

Waterworks licenses numbers 52627, 52628, 52629, 52630, 52631 all have a term which requires you to provide the Commissioner with an operational plan for the works. These operational plans are required to be given to the Commissioners District Engineer prior to the 30th November 1991.

Should you require further information in regard to the contents of the individual operation plans please contact the Commissions Rockhampton Office.

Your attention is also drawn to the need to provide "as built" plans for each of the works.

If the works are still constructed at the date of expiry, it will be necessary for you to apply to renew the Licences for a further period.

As your Licences are important documents, care should be taken to preserve them.

Yours faithfully

s.73

DISTRICT ENGINEER

TO: District Engineer, Rockhampton	DATE: 8 10 91
FROM: General Manager, Development	FILE: .
COPIES: .	AUTHOR: s.73
	PHONE: 224 7336

SUBJECT: Waterworks Licence Application
Nos 52626 to 52631
South Blackwater Coal Limited

REF: E\McC\RM4

TEXT:

I have examined the documentation and plans supplied by South Blackwater Coal Ltd. and their consultants, Blain Johnston Pty. Ltd in support of licence applications for referable dams at the mine. I am satisfied that the dams meet or will meet, once modified in accordance with the proposals of the consultants, the dam safety requirements of the Water Resources Act. The recommended hazard classifications are accepted also.

The structures are not exempt from any of the referable dam provisions and the terms described in the relevant appendices shall be attached to each licence as follows:-

Licence Application No.

s.73

52629

s.73

- MIMOSA B Dam
- Ramp 1 Dam
- Standby Tailings Dam
- Disused Tailings Dam
- Holding Dam
- Red Dam

Appendix

WATER RESOURCES	
RECEIVED	
- 8 OCT 1991	
ROCKHAMPTON	
Doc. No.	
APPENDIX	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49	
50	
51	
52	
53	
54	
55	
56	
57	
58	
59	
60	
61	
62	
63	
64	
65	
66	
67	
68	
69	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
80	
81	
82	
83	
84	
85	
86	
87	
88	
89	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
100	

GENERAL MANAGER, DEVELOPMENT DIVISION

SUBSEQUENT NOTING:

APPENDIX D

DISUSED TAILINGS DAM Licence Application No. 52629

1. The works authorised by this licence are not exempt from the provisions of the Water Resources Act relating to referable dams and the licensee shall comply with any directions of the Commissioner issued in accordance with these provisions.
2. The works authorised by this licence include the construction of a 330 metre long embankment dam of 7.7 metre maximum height (minimum EL 266.19), a spillway to EL 265.70 metre and ancillary works as detailed in drawing 1370-03-4 - Revision B for the containment of tailings, runoff and erosion from South Blackwater Coal Mine, all of which form a referable dam. The ancillary works include the construction of runoff diversion bunds, drains and other works which control spillage or erosion within the catchment of the referable dam.
3. The works authorised by this licence shall be constructed in accordance with the plans and specifications prepared by Blain Johnson Pty Ltd, and as approved by the Commissioner.

The approved plans for the purpose of construction are Blain Johnson Pty Ltd Drawing:

1370-03-4 - Revision B - South Blackwater Coal

The specifications and other information are as detailed and attached to letter from South Blackwater Coal Limited dated 7th May 1991 and shall include reports prepared for South Blackwater Coal Limited by Blain Johnson Pty Ltd dated 18th January 1991 and 8th May 1991.

4. Any proposed amendments to the approved plans shall be submitted to the Commissioner for approval.
5. At the completion of construction of the licensed works, the licensee shall furnish the Commissioner with certification from Blain Johnson Pty Ltd that the works have been constructed in accordance with the approved plans and specifications and shall supply the Commissioner with two sets of "as built" plans of the constructed works.
6. The licensed works shall be inspected by a registered professional engineer (RPEQ), suitably qualified and experienced to the satisfaction of the Commissioner, at the following times:-
 - a. 12 months after the practical completion of construction (term 5);

- b. at the time of each application for renewal of licence;
- c. at any time if alarming, unusual or otherwise unsatisfactory conditions are observed

For each inspection, the engineer shall assess available storage, determine the hydraulic adequacy of diversion works and assess the adequacy of the works with respect to dam safety, including emission control.

For each inspection, two copies of the Engineer's report and any recommendations as to measures required to be taken to ensure the safety of the works shall be furnished to the Commissioner.

- 7. The licensee shall advise the Commissioner of any measures taken in an emergency or to be taken after approval, as a result of inspections required by term 6 above.
- 8. The works cannot be abandoned whilst licensed as a referable dam.

Prior to the cessation of mining operations, the licensee shall submit to the Commissioner a final rehabilitation plan for the decommissioning of the licensed works. When approved by the Commissioner, the dam can be decommissioned by reshaping the works such that water can no longer be stored, the works are not susceptible to erosion and any seepage is of acceptable quality, whereupon the licence will be cancelled.

Transfer of this licence can only be completed with the approval of the Commissioner.

- 9. The granting of this licence does not exempt the licensee from complying with other Government Legislation particularly that administered by Department of Resource Industries and Department of Environment and Heritage.
- 10. The licensee shall provide the Commission with an operational plan for the works authorised by this licence. This plan shall include procedures and recorded information to ensure that the dam is operated in accordance with the design criteria. Particular reference should be made to the surface drainage system.

To: Deputy General Manager
Development Division
Dam Safety Group, BRISBANE
Attention: s.73 [REDACTED]
From: District Engineer, ROCKHAMPTON

Date: 27 September 1991
File: 50-1460 - 50-1465
Author: s.73 [REDACTED] DYH
Phone: (079) 319 595

Subject: Waterworks License Applications
South Blackwater Coal Limited

The above applications are to authorise various works which are located at the South Blackwater Mine.

The applications were all submitted after to current owners of the mine undertook to license what were previously unauthorised works at the mine.

This office has been involved in extensive discussion with mine personnel and their consultant Blain Johnson Pty Ltd in an endeavour to achieve the best result possible for the works.

The works have previously been discussed with s.73 [REDACTED] and the special terms have been formulated as a result of these discussions.

The works are discussed in detail in the Blain Johnson Report and the Blain Johnson Drawings. Copies of these are enclosed.

The owners of South Blackwater mine are currently involved in litigation proceedings against the former owners of the mine. I understand the proceedings involve confirmation for the cost of obtaining licenses for the various works on the mine site.

The company have advised us that the licenses are required prior to the 11th October.

We have recently given a assurance that this date can be achieved.

Would you please forward your approval to issue the license as a matter of urgency.

s.73 [REDACTED]
DISTRICT ENGINEER

B/C: District Engineer
EMERALD

For Your Information

DISTRICT [REDACTED]
s.73 [REDACTED]

**SOUTH BLACKWATER COAL LIMITED
DISUSED TAILINGS DAM**

1. The works authorised by this licence are not exempt from the provisions of the Water Resources Act relating to referable dams and the licensee shall comply with any directions of the Commissioner issued in accordance with these provisions.
2. The works authorised by this licence include the construction of a 330 metre long embankment dam of 7.7 metre maximum height (minimum EL 266.19), a spillway to EL 265.70 metre and ancillary works as detailed in drawing 1370-03-4 - Revision B for the containment of tailings, runoff and erosion from South Blackwater Coal Mine, all of which form a referable dam. The ancillary works include the construction of runoff diversion bunds, drains and other works which control spillage or erosion within the catchment of the referable dam.
3. The works authorised by this licence shall be constructed in accordance with the plans and specifications prepared by Blain Johnson Pty Ltd, and as approved by the Commissioner. ^{AND OPERATED}

The approved plans for the purpose of construction are Blain Johnson Pty Ltd Drawing:

1370-03-4 - Revision B - South Blackwater Coal

The specifications and other information are as detailed and attached to letter from South Blackwater Coal Limited dated 7th May 1991 and shall include reports prepared for South Blackwater Coal Limited by Blain Johnson Pty Ltd dated 18th January 1991 and 8th May 1991.

4. Any proposed amendments to the approved plans shall be submitted to the Commissioner for approval.
5. At the completion of construction of the licensed works, the licensee shall furnish the Commissioner with certification from Blain Johnson Pty Ltd that the works have been constructed in accordance with the approved plans and specifications and shall supply the Commissioner with two sets of "as built" plans of the constructed works.

6. The licensed works shall be inspected by a registered professional engineer (RPEQ), suitably qualified and experienced to the satisfaction of the Commissioner, at the following times:-

- a. 12 months after the practical completion of construction (term 5);
- b. at the time of each application for renewal of licence;
- c. at any time if alarming, unusual or otherwise unsatisfactory conditions are observed

For each inspection, the engineer shall assess available storage, determine the hydraulic adequacy of diversion works and assess the adequacy of the works with respect to dam safety, including emission control.

For each inspection, two copies of the Engineer's report and any recommendations as to measures required to be taken to ensure the safety of the works shall be furnished to the Commissioner.

7. The licensee shall advise the Commissioner of any measures taken in an emergency or to be taken after approval, as a result of inspections required by term 6 above.
8. The works cannot be abandoned whilst licensed as a referable dam.

Prior to the cessation of mining operations, the licensee shall submit to the Commissioner a final rehabilitation plan for the decommissioning of the licensed works. When approved by the Commissioner, the dam can be decommissioned by reshaping the works such that water can no longer be stored, the works are not susceptible to erosion and any seepage is of acceptable quality, whereupon the licence will be cancelled.

Transfer of this licence can only be completed with the approval of the Commissioner.

9. The granting of this licence does not exempt the licensee from complying with other Government Legislation particularly that administered by Department of Resource Industries and Department of Environment and Heritage.

10. Water stored by the works authorised by this licence shall not be discharged except in accordance with any authorisation granted under the provisions of the Clean Waters Act.

11. The licensee shall provide the Commission with an operational plan for the works authorised by this licence. This plan shall include procedures and recorded information to ensure that the dam is operated in accordance with the design criteria. Particular reference should be made to the surface drainage system.

DEH:rmd:WTRLIC

QUEENSLAND	WATER RESOURCES	COMMISSION
	RECEIVED	
	24 APR 1991	
	ROCKHAMPTON	
Doc. No.		



South Blackwater Coal Limited
 (A Subsidiary of QCT Resources Limited)
 PMB Blackwater,
 Queensland Australia 4717
 Facsimile (079) 86 1505
 Telex AA48162
 Telephone (079) 82 5200

23rd April, 1991.

The Regional Engineer
 Water Resources Commission
 P.O. Box 736
 ROCKHAMPTON. Q. 4701

ATTENTION:

s.73

Dear Sir,

ROCKHAMPTON	
File No.	
Loose Leaf	
File Required	
Ministerial Reg.	
Action Complete	
District Engineer	
<i>mk mawab</i>	

APPLICATIONS FOR WATERWORKS LICENSES - WATER MANAGEMENT DAMS

Further to your letter dated 9 April 1991, we advise as follows:-

- 1.0 **Mimosa 'B' Dam** (refer drawing 1370-03-1)
- 1.1 The excavation on the left bank was the original location for the spillway. This was subsequently relocated on the right bank.
- 1.2 The drawing has been amended to include appropriate details.
- 1.3 These are shown on the drawing.
- 1.4 The dam stores runoff from a catchment relatively undisturbed by mining activity. Based on recent water samples (August 1990), the expected quality of the stored water is:

. pH 5.87
 . TDS 600 mg/L
 . suspended solids 23.1 mg/L

- 2.0 **Ramp 1 Dam** (refer drawing 1370-03-2)

- 2.1/2.2 The drawing has been amended to show the dimensions noted.

- 2.3 The dam stores runoff from a catchment relatively undisturbed by mining activity. Based on recent water samples (August 1990), the expected quality of the stored water is:

. pH 7.06
 . TDS 240 mg/L
 . suspended solids 71.4mg/L

2.4 Slumping of the upstream face will only occur if the storage is rapidly emptied and pore pressures do not equalise. This is an extremely unlikely event. If slip failures do occur, they will be repaired so that the integrity of the dam wall is maintained.

3.0 **Disused Tailings Dam** (refer drawing 1370-03-4)

3.1 The drawing has been amended to include a typical section with the required dimensions shown.

3.2 The proposed surface drainage system has been better defined, with levels shown to indicate the requirements. These levels will need to be confirmed on site.

3.3 The spillway is designed to discharge a Q_{100} flow of $9.4\text{m}^3/\text{s}$ without overtopping the embankment. The spillway is to be excavated through rock on the left abutment. Dumped rock is provided to the outlet pipe through the embankment.

3.4 We confirm that the proposed works are of a temporary nature. At some time in the future SBC may elect to reprocess the tailings to recover product. Once this situation is clarified a decommissioning plan will be prepared.

3.5 The operation and management of Disused Tailings Dam is under the control of the Preparation Plant Superintendent who carries out regular checks on the structure and drainage works and undertakes remedial works in consultation with the Chief Mining Engineer.

4.0 **Standby Tailings Dam** (refer drawing 1370-03-3)

4.1 The survey provided is of the full length of embankment. The drawing has been amended to clarify this.

4.2 The drawing has been amended to show the various dimensions noted.

4.3 The limited data available for the dam shows the stored water will be of relatively poor quality. The measured pH is around 3.6. High TDS levels are expected, probably up to 20,000 mg/L. In view of the poor quality of water stored, the entire system has been designed to minimise the risk of the stored water being released to Sirius Creek.

4.4 It is intended to operate the storage to minimise the pondage of water above the tailings. This will be achieved by installing a water recovery system. Also, the method of discharge of tailings will be changed to locate the discharge point near the embankment. This will keep any ponded water away from the embankment.

During extreme rainfall events flow over the spillway will occur. This flow will contain some tailings. However, the Standby Tailings dam forms part of a system of four dams used for water supply to the coal prep plant. The operation of the total system is such that the risk of discharge from the system into Sirius Creek is minimised.

5.0 **Red Dam** (refer drawing 1370-03-6)

5.1 A new drawing has been prepared showing the relevant details.

5.2 The water stored in the dam is of relatively poor quality, with a pH of 2.5 and TDS of 9400 mg/L (October 1990). The Red Dam is part of the Holding Dam system and releases of this stored water will be into the Holding Dam.

6.0 **Holding Dam** (refer drawing 1370-03-5)

6.1 The performance of the dam has been analysed to assess the operational characteristics based on historical rainfall data for the site. A water balance model on a monthly basis was used to provide an estimate of the volume of water stored in the dam and the frequency and volume of overflows each month when the catchment is subjected to recorded hydrological events. The stored volume is calculated each month by adding monthly inflows of rainfall and runoff to the volume stored at the end of the previous month, subtracting losses by evaporation and calculating the volume of overflow if it occurs.

Total monthly catchment runoff for the Holding Dam and Sirius Creek catchments was estimated from the 102 years of available daily rainfall data for the Bureau of Meteorology station at Springsure. The United States Department of Agriculture, Soil Conservation Service (USDA-SCS) model was used for this purpose. This model predicts the fraction of rainfall occurring each day which will become runoff after considering the soil type, its runoff producing potential and the amount of rainfall in the previous 5 days. Estimated daily runoff is aggregated to provide an estimate of monthly runoff volumes.

Evaporation data from Springsure was used to estimate evaporation losses. The recorded pan evaporation data was reduced to 80% of the recorded value for the period September to April and 50% for the remainder of the year, based on work previously completed by ^{s.73} in Central Queensland. Storage volume - surface area data was estimated from topographic information presented on drawing 1370-03-5.

The crest level of the spillway was determined by the storage behaviour analysis, then the spillway was sized to pass the 1 in 100 year flood flow without overtopping the embankment. The flow has been estimated using data presented in Table 9 of AGC's Report on Water Management Studies, November 1989. The new Holding Dam is designed to contain seepage and any overflows from the existing Red Dam upstream.

*Problem in
catchment
on catchment*

*SMK. 2005
T.M. 2005*

The behaviour analysis of the dam shows that on average overflow will occur approximately once every twelve years. The concept proposed includes a pumpout system at a rate of 100 ML/annum to pump from the proposed new dam into the water supply for the preparation plant. Figure 1 shows the predicted storage behaviour of the dam. Because the pumpout system maintains the dam near empty for most of the time, spill only occurs when a rainfall event causes runoff in excess of the dam's storage capacity. Figure 2 shows the volume of each overflow event which it is predicted will occur.

These overflow volumes have been compared with the estimated stream flow volumes in Sirius Creek downstream of the proposed new Holding Dam shown on Figure 3. The irregular flood overflows from the proposed new dam will be diluted by the larger Sirius Creek flood flows downstream. The minimum dilution rate is 1 in 200. — *GOOD SIRIUS CRK WATER DR WITH CONTAMINATED WATER.*

- 6.2 An overall strategic plan for the treatment of fine coal and tailings is under consideration. If the plan indicates that the tailings resource is economic, then measures will be taken to recover the tailings and rehabilitate the area. if economic recovery of tailings is not feasible then rehabilitation of tailings deposits will incorporate sealing with inert material and revegetating.

7.0 Other Dams

- 7.1 Attached is Table 1 which outlines the Dam characteristics for all dams located at South Blackwater.

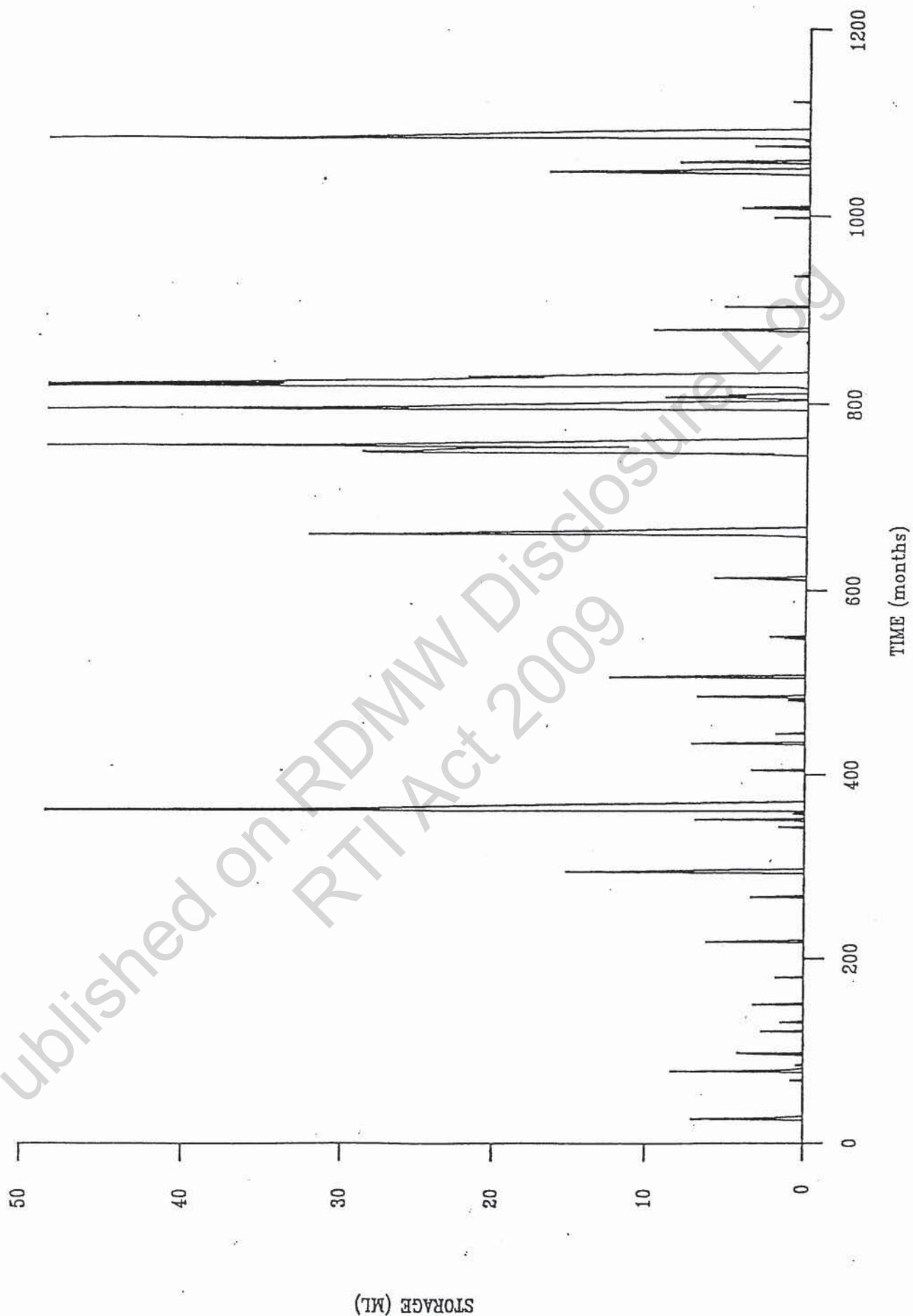
In addition to the existing dams and the proposed new holding dam for which license applications have been made, there are only two other existing dams for which licenses are required. These are Ramp 3B dam and the abandoned Dam. It is intended that both of these dams will be breached so that they can no longer store water.

If you have any further queries, please do not hesitate to contact us.

Yours faithfully,

s.73

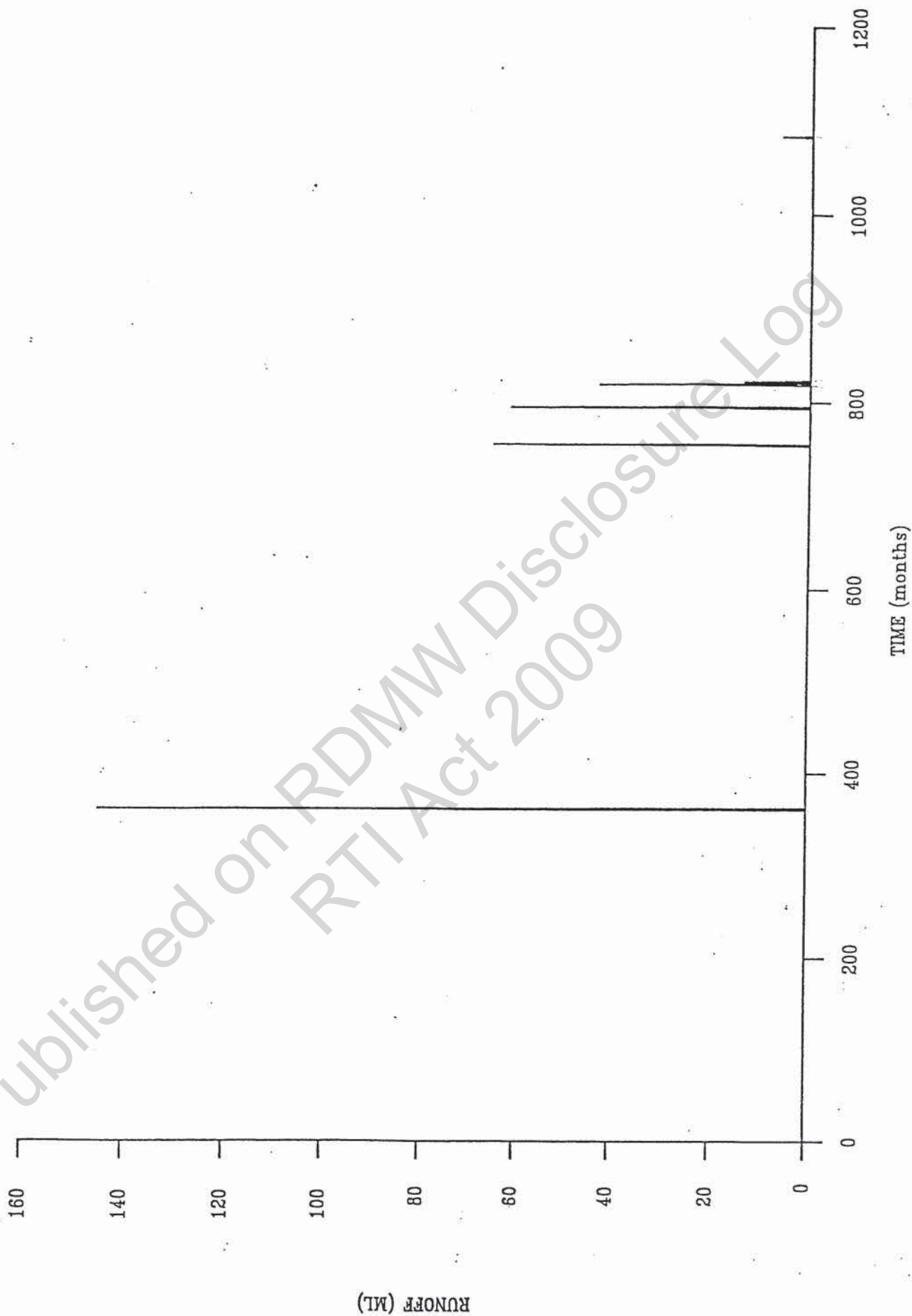
MANAGING DIRECTOR
SOUTH BLACKWATER COAL LIMITED



 BLAIN JOHNSON PTY. LTD. CONSULTING ENGINEERS <small>(INCORPORATED IN QUEENSLAND)</small>		
DESIGNED	20-042	APPROVED
DRAWN		DATE
CHECKED		

SOUTH BLACKWATER COAL WATER MANAGEMENT PROJECT STORAGE BEHAVIOUR OF DAM
--

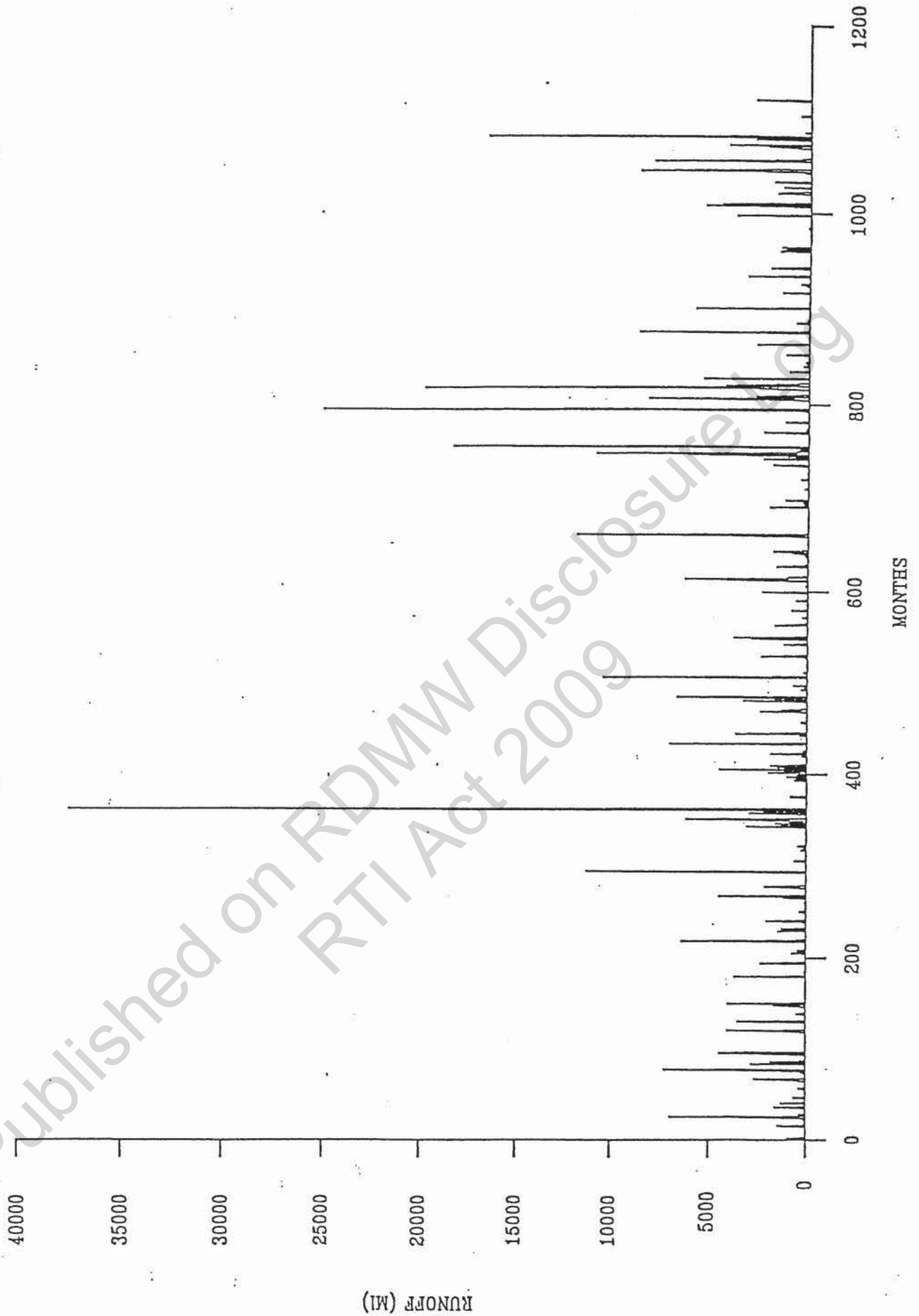
© COPYRIGHT BLAIN JOHNSON PTY. LTD. DRAWING NUMBER FIG 99 69 of 99 REV.



 BLAIN JOHNSON PTY. LTD. CONSULTING ENGINEERS <small>(INCORPORATED IN QUEENSLAND)</small>			
DESIGNED	20-042	APPROVED	
DRAWN		DATE	
CHECKED			

SOUTH BLACKWATER COAL
WATER MANAGEMENT PROJECT
VOLUME OF OVERFLOW

© COPYRIGHT BLAIN JOHNSON PTY. LTD.	
DRAWING NUMBER	
FIG 70 of 99	
REV.	



(ML) RUNOFF

 BLAIN JOHNSON PTY. LTD. CONSULTING ENGINEERS <small>(INCORPORATED IN QUEENSLAND)</small>		
DESIGNED		APPROVED
DRAWN	20-042	
CHECKED		
		DATE

SOUTH BLACKWATER COAL WATER MANAGEMENT PROJECT SIBBUS CREEK STREAMFLOW VOLUMES

© COPYRIGHT BLAIN JOHNSON PTY. LTD. DRAWING NUMBER FIG 3 71 of 99 REV.
--

TABLE 1
DAM CHARACTERISTICS

DAM	CATEGORY	CATCHMENT ¹ AREA (km) ²	STORAGE CAPACITY (ML)	MAX HT (m)	SPILLWAY CAPACITY (m ³ /sec)	DESIGN DISCHARGE ¹ (m ³ /sec)			DOWNSTREAM EMBANKMENT SLOPE
						Q ₁₀	Q ₅₀	Q ₁₀₀	
Mimosa 'A'	Settlement	8.20	181	4.4	8.3	60	140	-	1 in 3.3
Mimosa 'B'	Settlement	3.90	435	9.0	3.1	19	44	-	1 in 3
Ramp 6	Settlement	0.45	36	3.4	3.5	7	15	-	1 in 2
Ramp 5	Settlement	0.41	40	4.4	5.5	5.5	13	-	1 in 1.8
Ramp 3B	Settlement	0.58	745	11.9	6.6	4.8	12	-	1 in 2'
Ramp 3A	Settlement	0.25	35	3.2	1.7	3.1	7.9	-	1 in 2
Ramp 1	Settlement	0.63	78	11.7	14.5	6.9	15.7	-	1 in 1.7
Abandoned Dam	Leachate	0.16	195	14.0	-	-	-	14	1 in 1.4'
Red Dam ²	Leachate	0.72*	60	11.0	10.5	5.2+	-	20+	1 in 3
Holding Dam ²	Leachate	0.97*	48.5	3.8	-	-	-	25+	1 in 1.86
Standby Tailings Dam	Tailings	0.14	67	5.5	-	-	-	6.8+	1 in 2
Disused Tailings Dam	Tailings	0.22*	Unknown	7.7	-	1.6+	6.5+	9.4+	1 in 1.55
Ramp 14	Settlement	0.94	50	3.0	23	11.1	26.2	-	1 in 3
Ramp 15	Settlement	1.38	78	3.0	19	13.4	31.8	-	1 in 3

1. Data taken from 'Report on Water Management Studies', AGC 1989 except where noted (*)
2. Includes catchment of upstream storages
3. Design discharge calculated using data from "Report on Water Management Studies", AGC 1989 notes as (+)
- # Dams to be breached



Water Resources Commission

He copy

Your reference:
In reply please quote
our reference:
When enquiring
please ask for:
DYH

CQ
s.73
(319 595)

212 Quay Street, Rockhampton.
P.O. Box 736, Rockhampton, Q. 4701.
Facsimile (079) 27 3079
Telephone (079) ~~27 3079~~ 319600

9th April 1991

The Managing Director
South Blackwater Coal Ltd
PMB
BLACKWATER QLD 4717

Dear Sir,

APPLICATIONS FOR WATERWORKS LICENSES

We acknowledge receipt of your applications and report (by Blain & Johnson Pty Ltd) in respect to the licensing of several existing and proposed dams at the South Blackwater Mine Site.

The applications as submitted have been advertised and the objection period closed on 22/03/91.

Subject to the submission of additional acceptable information the proposals are in an acceptable form. The required information for each dam is outlined below.

1.0 Mimosa 'B' Dam (Refer drawing 1370-03-1)

- 1.1 Explanation of the purpose for the excavation in the left bank area. ✓
- 1.2 Details of the typical embankment cross section including minimum crest width dimensions, crest EL, batters, full supply level. ✓
- 1.3 Required minimum bywash dimensions and control levels. ✓
- 1.4 Comment on the predicted water quality being stored. ✓

-2-

2.0 Ramp 1 Dam (Refer Drawing No 1370-03-2)

- 2.1 Required minimum bywash dimensions and control levels. (Refer Section B).
- 2.2 Minimum crest width and bank crest elevations. (Refer Section A).
- 2.3 Comment on the predicted water quality being stored.
- 2.4 Comment on the operational strategy required to ensure any upstream batter slumping does not endanger the safety of the structure.

3.0 Disused Tailings Dam (Refer Drawing No 1370-03-4)

- 3.1 Details of the typical embankment cross sections including minimum crest width, elevation and batters.
- 3.2 Control for surface grading to ensure no surface pondage occurs in the dam including dimensions and control levels for the surface drain.
- 3.3 Comments on bywash outlet conditions and drain outfall protection to avoid erosion particularly to toe of the embankment.
- 3.4 Acknowledgement that the proposed drainage works are of a temporary nature and are not the final decommissioning of the dam.
- 3.5 Details of operational procedures to be implemented to ensure the drainage works are maintained and continue to operate as intended.

4.0 Standby Tailings Dam (Refer Drawing No 1370-03-3)

- 4.1 As built survey of the full length of the existing embankment.
- 4.2 Minimum requirements to be shown on typical cross sections eg minimum crest width and elevations.
- 4.3 Comments on the predicted water quality to be stored.
- 4.4 Details of operational procedures to be implemented for the storage and comments on the effects of bywash discharge.

-3-

5.0 Red Dam

- 5.1 Drawings required (no drawings submitted with application).
- 5.2 Similar details as outlined for other dams should be included.

6.0 Holding Dam

- 6.1 Details of operational procedures to be implemented for the storage operation and maintenance to include:
 - * pumping strategy, pump rates and control measures to ensure the stored water is maintained at a minimum level.
 - * maintenance procedures.
- 6.2 Details of any plans to rehabilitate the tailings disposal areas and so reduce the quantity of poor quality water to be discharged from the holding dam.

7.0 Other Dams

- 7.1 Details of intentions to breach other existing dams to prevent the storage of water and/or production of poor quality discharges.

This will be required to ensure there are no other existing licensable works on the mine site.

In particular we refer to:

- * Mimosa 'A' Dam
- * Ramp 6 Dam
- * Ramp 5 Dam
- * Ramp 3A Dam
- * Ramp 3B Dam
- * Abandoned Dam
- * Ramp 14 Dam
- * Ramp 15 Dam

-4-

8.0 Sirius Creek Diversion Proposal

8.1 This is currently under review and we will be in contact with you in the near future.

We look forward to receiving the above information. Please contact s.73 [REDACTED] or myself if you need to discuss these matters.

Yours faithfully

s.73 [REDACTED]

DISTRICT ENGINEER

CR

WATER RESOURCES COMMISSION**CONTACT:**

s.73

PHONE:

(079) 319 600

NEWSPAPER REQUESTED:Central Highlands Observer,
Emerald**DATE OF INSERTION:**

7th March 1991

NEWSPAPER REQUESTED:

C.Q. News, Emerald

DATE OF INSERTION:

8th March 1991

NO OF INSERTIONS:

1

SPACE:

Set Solid S/C

CLASSIFICATION:

Public Notices

EXPENDITURE CODE:

5815-26601-CE

**WATER RESOURCES COMMISSION
DEPARTMENT OF PRIMARY INDUSTRIES**

PO BOX 736, ROCKHAMPTON Q 4700

APPLICATION FOR LICENCE:

APPLICATION No's 52626 - 52631

SOUTH BLACKWATER COAL LTD

No. 52626

Existing 9 metre high earth dam located on
ML1862.

No. 52627

Existing 11.7 metre high earth dam located on
ML1773.

No. 52628

Existing 5.5 metre high earth dam located on
ML1767.

No. 52629

Existing 7.7 metre high earth dam located on
ML1767.

No. 52630

Existing 12 metre high earth dam located on
Terang Holding.

No. 52631

Existing 11 metre high earth dam located on
ML1772.

All applications are for Mining Purposes, not on a watercourse and are situated in the Parish of Kenmare. Further information is available from District Engineer, Rockhampton.

Written objections to the applications should be made to the District Engineer at the above address. Closing date for objections from landowners within a radius of eight (8) kilometres is March 29th, 1991.

Objectors must state their property description and their grounds for objection. Enquiries phone 079-319600.

Published on RDMW Disclosure Log
RTI Act 2009



QCT Resources Limited

(Incorporated in Queensland)

10th Floor, 307 Queen Street,
Brisbane, Queensland, 4000 Australia.
Telephone: (07) 229 9600 Int. - 617 229 9600
Facsimile: (07) 229 7240
Telex: QCTBNE AA 42783

QUEENSLAND	WATER RESOURCES	COMMISSION
	RECEIVED	
	27 FEB 1991	
	ROCKHAMPTON	
Doc. No.		

hk:bs1987

F A C S I M I L E M E S S A G E F O R M

TO: QUEENSLAND WATER RESOURCES COMMISSION
NO: 079 273 079

ATTENTION: s.73

FROM:

DATE: 27 February 1991

TOTAL NUMBER OF PAGES: 2 (Including this page)

Attached is a faxed reply to your letter of 26 February, 1991 to South Blackwater Coal Limited. The original reply is in the mail to you.

Yours faithfully,
QCT RESOURCES LIMITED

s.73

Secretary

Att.

W.R.C. — RTON

ACTION REQUIRED	INITIALS
Regional Engineer	
District Engineer	
Engineer-Ops	
Engineer-L.A.S.	
Reg Admin Officer	
Admin Officer	
Draining	
Hydrography	
Ground Water	
Stream Control	
Farm Advisory	
Soil Plant Subv.	
Surveying	
ALL STAFF	
Other	
COPIES TO	

**QCT Resources Limited**

(Incorporated in Queensland)

10th Floor, 307 Queen Street,
Brisbane, Queensland, 4000 Australia.
Telephone: (07) 229 9600 Int. + 617 229 9600
Facsimile: (07) 229 7240
Telex: QCTBNE AA 42733

HK:BS1987

Your ref: 50-0613
26.2.91

27 February 1991

The District Engineer,
Queensland Water Resources Commission
P O Box 736
ROCKHAMPTON QLD. 4701

ATTENTION:

s.73

Dear Sir,

WATERWORKS LICENSE APPLICATIONS

I refer to your letter of 26 February, 1991 and advise that South Blackwater Coal Limited is the registered owner of Mining Leases ML1772, ML1767, ML1773 and ML1862. South Blackwater Coal Limited is a wholly owned subsidiary of QCT Resources Limited.

Terang Pty. Limited is the registered owner of Terang Pastoral Holding. Terang Pty. Limited is a wholly owned subsidiary of QCT Resources Limited.

QCT Resources Limited as the parent company for Terang Pty. Limited nominates South Blackwater Coal Limited as its managing agent for the construction, maintenance and management of the proposed Holding Dam on Terang Pastoral Holding.

Please advise if further information is required.

Yours faithfully,
QCT RESOURCES LIMITED

s.73

Secretary

NEWSPAPER: Central Highlands Observer, Emerald
DATE: 7th March, 1991
NEWSPAPER: Central Queensland News, Emerald
DATE: 8th March, 1991
CLASSIFICATION: Public Notices
SPACE: Set Solid, S/C
LOCAL ORDER No. 42-001
EXPENDITURE CODE: 5815 26604 EM



WATER RESOURCES COMMISSION
DEPARTMENT OF PRIMARY INDUSTRIES

APPLICATION FOR LICENSE :

APPLICATION NO's 52626 - 52631

SOUTH BLACKWATER COAL LIMITED, BLACKWATER

s.73

NO.52629

Existing 7.7 metre high earth dam to supply ML1767.

s.73

All applications are for mining purposes not on a watercourse and are situated in the Parish of Kenmare. Further information is available from District Engineer, Rockhampton.

Written objections to the above applications are to be made to the District Engineer at PO Box 736 Rockhampton 4700.

Closing date for written objections from riparian landowners within a radius of eight kilometres is March 29th, 1991. Objectors must state their property description and their grounds for objection. Enquiries phone 079-319600.

(42-001)

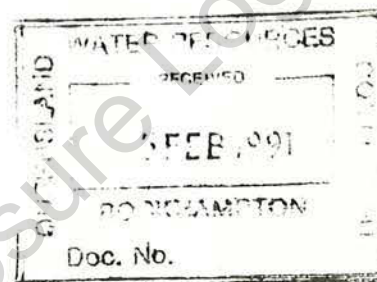
DEH:rmd



South Blackwater Coal Limited
(A Subsidiary of QCT Resources Limited)
PMB Blackwater,
Queensland Australia 4717
Facsimile (079) 86 1505
Telex AA48162
Telephone (079) 82 5200

14th February, 1991.

The Regional Engineer,
Qld. Water Resources Commission,
P.O. Box 736,
ROCKHAMPTON. Q. 4700



APPLICATION FOR WATERWORKS LICENSES

Dear Sir,

Attached please find six (6) Applications for Waterworks Licenses, associated plans and accompanying report prepared by Blain Johnson Pty. Ltd. for dams located at South Blackwater. The dams are referred to locally as, Mimosa Dam B, Ramp 1 Dam, Standby Tailings Dam, **Disused Tailings Dam**, Holding Dam and Red Dam.

These applications have been prepared following an on site inspection by officers from your department and their advice has been incorporated into the remedial works proposed by our consultant Blain Johnson Pty. Ltd. Please note that the plans referred to in the report are attached to each application.

A cheque for \$330 is attached to cover the costs of advertising.

Please advise if further information is required.

Yours faithfully,

s.73

MANAGING DIRECTOR
SOUTH BLACKWATER COAL LIMITED

ACTION REQUIRED		INITIALS
	Regional Engineer	
✓	District Engineer	
	Engineer-Others	
	Engineer-L.S.E.	
	Reg. Assoc. Engineer	
	Admin. Officer	
	Draughtsman	
	Hydrographer	
✓	Geographic Engineer	
✓	Surveyor General	
	Army Officer	
	Naval Officer	
	Police Officer	
	ALL STAFF	

PUMPING FROM A WATERCOURSE

Please complete this section if you intend to use a pump or a gravity diversion to take water from a watercourse (including regulated streams).

APPLICATION No.

Name of Watercourse

Work situated on

To supply water to

Parish

County

(Portion, Lot, RP etc)

Parish

County

(Portion, Lot, RP etc)

Work is now

Work is to replace/amend existing licence

☐ Existing

☐ Proposed

☐ No

☐ Yes

If Yes, supply existing Licence Number

Pump

Type

☐ Centrifugal

☐ Mixed Flow

☐ Helical Rotor

☐ Jet

☐ Submersible

☐ Axial Flow

☐ Turbine

☐ Piston

Other

(Specify Type and Size)

Pump Size

Intake/Bore mm x Outlet/Stroke mm

Duty Discharge litres/second Duty Head metres

Max. Depth metres Length metres

Top Width metres Bottom Width metres

Diameter mm Length metres

Gravity Diversion : Channel

or

Pipe

Purpose of Work

☐ Irrigation Crop type

Area ha

☐ Domestic

☐ Stockwater

☐ Waterharvesting

☐ Aquaculture

☐ Dairying

☐ Industrial

☐ Piggery

Breeding Sows

☐ Environmental Enhancement

☐ Feedlot Maximum Head

Other

Required Annual Allocation

megalitres from this source (For regulated Streams only)

STORAGES

Please complete this section if you wish to license a storage located on a watercourse and/or a referable dam.

APPLICATION No.

Name of Watercourse

Work situated on

DISUSED TAILINGS DAM

Unnamed Tributary on Sirius Creek

Mining Lease 1767

702278

(Portion, Lot, RP etc)

Parish

Kenmare

County

Humbolt

Work is now

Work is to replace/amend existing licence

☒ Existing

☐ Proposed

☒ No

☐ Yes

If Yes, supply existing Licence Number

Description of Work

☒ Dam

☐ Weir

☐ Excavation

Construction Material Earth and Rockfill

eg Earth, Concrete Rocks, Timber etc.

Length of Wall/Excavation Length 330 metres

Height of Wall/Depth of Excavation 7.7 metres

Height of Bywash or Spillway above bed level (H) 7.2 metres

Width of Bywash or Spillway 20 metres

Thickness at Crest (A) 6-10 metres

Base (B)/Excavation Width 30 metres

Diameter of outlet pipe (C) N/A mm

Distance of backup at Top Water Level 320 metres

Storage Capacity unknown megalitres (approx.)

Purpose of Work

☐ Irrigation

☐ Domestic

☐ Stockwater

☐ Waterharvesting

☐ Dairying

☐ Industrial

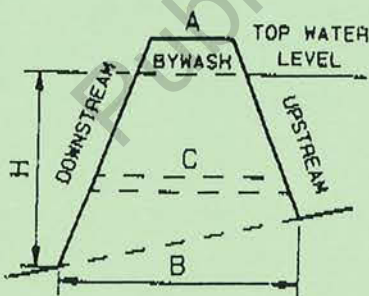
☐ Aquaculture

☐ Piggery

☐ Feedlot

☒ Environmental Enhancement

Other



- RELEVANT FEE MUST ACCOMPANY APPLICATION -



APPLICATION FEE
ADVERTISING

Please return to :

REGIONAL ENGINEER
WATER RESOURCES COMMISSION
P.O. BOX 736
ROCKHAMPTON, QLD. 4700

Received \$...55
Receipt No. D3234
Date 15-2-91
Received by S.73

APPLICATION FOR WATERWORKS LICENCE

TO THE COMMISSIONER OF WATER RESOURCES :

I/WE S.73 of SOUTH BLACKWATER COAL LIMITED
in the state of Queensland, being the owner/s (or lawful occupier/s) of land situated as described herein
and shown on the accompanying plan, upon which land it is proposed to construct (or is constructed) and use
the work described herein, do hereby apply for a licence in respect of the said works to be used for the
purpose/s as stated in this application.

Dated this Fourteenth day of February 19 91

Signature of Applicant(s)

S.73

MANAGING DIRECTOR

OWNERSHIP DETAILS :

Name(s) SOUTH BLACKWATER COAL LIMITED

Postal Address PMB, BLACKWATER
QUEENSLAND, AUSTRALIA 4717

Property Address

Telephone Home () Business () (079) 825200

(Tick the easiest contact number) *FAX 861505*

The onus is on the applicant to provide sufficient details including correct property descriptions. Failure to do so may render a subsequent licence invalid.

Km 13/7/93

s.73

Phone Call from [REDACTED] recently appointed
Environmental officer at South Blackwater.

Recommending Plans are being prepared for
Disused Barlings Dams

Wall would not need to be breached provided
all drainage is directed to spillway.

Low level flow pipe would need to
be sealed. ~~at~~

I told him this would be acceptable.

They are to submit decommissioning plans.

s.73

EXPIRY NOTICE - WATERWORKS LICENCE

To the Licensee/s

You are advised that your licence expires on the date shown hereunder. If application for renewal is not received by that date the licence will lapse and an application for new licence for the works may be required. If renewal or cancellation is required please complete the details below and forward to the above address.

Please indicate any change
of ownership or address

SOUTH BLACKWATER COAL LIMITED
PRIVATE MAIL BAG
BLACKWATER QLD 4717



Licence Number 6-52629 Expiry Date 30/9/1994 File Number 1462

Description of Works

LICENSING	INIT
5 AO (LICENSING)	
1 TO (MCM/ROOM)	
2 DM (WR)	
AO (DEBTORS)	
TO (OPNS)	

LOCATION
OF WORKS

Description
Parish

ML1767
KENMARE

(DISUSED TAILINGS DAM)

County

HUMBOLT

s.73

Watercourse

SIRIUS CREEK

PURPOSE OF WORKS

RENEWAL NOTED ON DB
RECOMMENDED

APPLICATION FOR RENEWAL/REQUEST FOR CANCELLATION *

renewal of licence YES ☒ NO ☐
 required? (If NO, give reason)
 Cancellation:- On surrender of a Licence the Chief Executive may require the licensee to remove all works constructed or used under the authority of the Licence.
 e works installed YES ☒ NO ☐
 present? (If NO, give reason)

ALTERATION TO DESCRIPTION AND/OR LOCATION OF WORKS:

ase advise of any Dam currently being rehabilitated
 anges to details - to be detailed in Engineer's Inspection Report
 ted above. to be submitted prior to 30/9/94

ops to be irrigated
 any one growing
 ason.

CROPS	AREA (ha)	METHOD

Signature..... Date.....

For Office Use Only

RENEW TO

/ /

REG. YES / NO

MET. YES / NO

ha.

ML.

TERMS

APPROVED

RENEWED

Please sign and date on completion of immediate function and deliver to next Port of Call.

Inits

Date _____

1. ADMIN Receive & receipt. Allocate
Appn No & complete PT4 form.
Draft Advertisement.

2. S/C Check application, PT4 form & advertisement.

3. ADMIN (a) Finalise Appn No Register & arrange advertising.

(b) Enter details on Database.

(c) Arrange B/U to Technical Officer

4. ADMIN Record objections on PT4 form
database. Letters to
applicant & objector.

5. S/C Arrange inspections, report & recommendations on PT4 form. Note if B/C's are required.

6. D/E To check and approve.

7. ADMIN (a) Input data & print licence.
(b) Check licence & prepare covering letters.

8. D.A.O. Sign licence & letters.

9. ADMIN Dispatch licence & letters.

OPERATIONS DATA BASE
WATERWORKS LICENCE SPECIAL CONDITIONS

LICENCE NO. _____

CONDITION

SERIAL

PARAMETER

SPECIAL CONDITIONS FOR COVERING LETTER OR NOT INCLUDED IN BOOKLET .

N.B. See booklet for condition and serial numbers.

Make sure parameters are filled out in full.

IMPORTANT

ANY AMENDMENTS TO THIS FORM
ARE TO BE MADE IN RED

Appn No 52629
Client No 31590
D/O File 50063
501462

NAME South Blackwater Coal Limited T/A
ADDRESS PMB
Blackwater Q 4717 PHONE (079) 825200
WORK LOCATION ML 1767
TO SUPPLY ML 1767
PARISH Kenmare COUNTY Humbolt

PUMP Type _____ Outlet Diameter _____ mm

DAM/WEIR Type Earth Dam
Maximum height of wall above bed level 7.7 m

LEVEE BANK Maximum height _____ m Total length _____ m

DIVERSION Length _____ m Depth _____ m If pipe, diameter _____ mm

OTHER E.g. stream-bank protection, pump-chase etc. Please
indicate type of works including some basic details.

PROJECT/SUB-PROJECT _____ / _____

STREAM NAME U/T Sirius Creek CLASSIFICATION 130-01-31-09

BANK (L/R) _____ RIPARIAN (Y/N) _____ AMTD _____ km MAP NO 8650

STATUS OF WORK: ☐ PROPOSED ☒ EXISTING ☐ REPLACE LIC NO _____

PURPOSE OF WORK Environmental Enhancement No/TYpe OF STOCK _____

ANNUAL NOMINAL WATER ALLOCATION REQUIRED _____ ml

AREA IRRIGATED _____ ha

AGREEMENTS/PERMITS _____

REMARKS Disused Tailings Dam

ADVERTISING

Date Recd	Recpt No	Newspaper	Date Advert
15-02-91	D32314	CH Observer	28-02-91
R'ton Office		CO News	01-03-91

Objections		Date	
Date Closed	Received From	Received	Acknowledged
22.03.91 20-042			

PT4

REPORT ON ISSUE OF LICENSE NO. _____

COVERING LETTER: _____

AREA: _____ hectares VOLUME: _____ Megalitres

PUMP & MOTOR DETAILS

Pump Type: _____
Make: _____
Pump Model: _____
Year Made: _____
Inlet/Bore Size: _____ mm
Outlet/Stroke Size: _____
Duty Head: _____ m
Duty Discharge: _____ l/s
R.P.M.: _____
Motor Type: _____
Make: _____
Motor Model: _____
Year Made: _____
Power Rating: _____ kw

STORAGE DETAILS

Type: _____
Construction: _____
Height/Depth: _____ m
Crest Width: _____ m
Crest/Excav. Length: _____ m
Base/Excav. Width: _____ m
Outlet Pipe Diam: _____ mm
Bywash Height: _____ m
Bywash Width: _____ m
Backup Distance: _____ m
Storage Capacity: _____ m
Referable?: _____

DIVERSION DETAILS

Type: STREAM/WATER Method: PIPE/CHANNEL
CHANNEL DETAILS PIPELINE DETAILS
Max Depth: _____ m Type: _____
Top Width: _____ m Diameter: _____ mm
Bottom Width: _____ m Length: _____ m
Length: _____ m

LEVEE DETAILS

Max Height: _____ m Length: _____ m
Min Height: _____ m Levee Opposite?: _____
Av Height: _____ m

RECOMMENDATION BY: _____ DATE: ____/____/____

EXPIRY DATE

____/____/____

APPROVAL is requested to:

(1) ISSUE Licence as per details above. _____ D/E

CANCEL Replaced Licence No. _____ D/E

(2) REFUSE application _____ D/E

Right of Appeal: YES/NO _____ R/E

DATE: ____/____/____

PT4



IMPORTANT

ANY AMENDMENTS TO THIS FORM
ARE TO BE MADE IN RED

Appn No 52629
Client No 31570
D/O File 500613
501462

NAME South Blackwater Coal Limited T/A
ADDRESS PMB
Blackwater Q 4717 PHONE (019) 825200
WORK LOCATION ML 1767
TO SUPPLY ML 1767
PARISH Kenmare COUNTY Humbolt

PUMP Type _____ Outlet Diameter _____ mm
DAM/WEIR Type Earth Dam
Maximum height of wall above bed level 7.7 m
LEVEE BANK Maximum height _____ m Total length _____ m
DIVERSION Length _____ m Depth _____ m If pipe, diameter _____ mm
OTHER E.g. stream-bank protection, pump-chase etc. Please indicate type of works including some basic details.

PROJECT/SUB-PROJECT NOT ON A WATERLOUSE
STREAM NAME U/T SIVUS Creek CLASSIFICATION 130-01-31-09
BANK (L/R) _____ RIPARIAN (Y/N) _____ AMTD _____ km MAP NO 8650
STATUS OF WORK: ☐ PROPOSED ☒ EXISTING ☐ REPLACE LIC NO _____
PURPOSE OF WORK Environmental Enhancement No/TYPE OF STOCK _____
ANNUAL NOMINAL WATER ALLOCATION REQUIRED _____ ml
AREA IRRIGATED _____ ha
AGREEMENTS/PERMITS _____
REMARKS Disused Tailings Dam

ADVERTISING

Date Recd	Recpt No	Newspaper	Date Advert
15-02-91	D32314	CH Observer	28-02-91
R'tn Office		CO News	01-03-91

Objections		Date	
Date Closed	Received From	Received	Acknowledged
20.03.91			
20-042			

PT4

REPORT ON ISSUE OF LICENCE NO. 52629
COVERING LETTER: STH + Replicable Dams
AREA: _____ hectares VOLUME: _____ Megalitres

PUMP & MOTOR DETAILS

Pump Type: _____
Make: _____
Pump Model: _____
Year Made: _____
Inlet/Bore Size: _____ mm
Outlet/Stroke Size: _____
Duty Head: _____ m
Duty Discharge: _____ l/s
R.P.M.: _____
Motor Type: _____
Make: _____
Motor Model: _____
Year Made: _____
Power Rating: _____ kw

STORAGE DETAILS

Type: Dam
Construction: EARTH + ROCKFILL
Height/Depth: 7.7 m
Crest Width: 10 m
Crest/Excav. Length: 330 m
Base/Excav. Width: 30 m
Outlet Pipe Diam: _____ mm
Bywash Height: 7.2 m
Bywash Width: 20 m
Backup Distance 520 m
Storage Capacity _____ m
Referable?: YES

DIVERSION DETAILS

Type: STREAM/WATER
CHANNEL DETAILS
Max Depth: _____ m
Top Width: _____ m
Bottom Width: _____ m
Length: _____ m
Method: PIPE/CHANNEL
PIPELINE DETAILS
Type: _____
Diameter: _____ mm
Length: _____ m

LEVEE DETAILS

Max Height: _____ m Length: _____ m
Min Height: _____ m Levee Opposite?: _____
Av Height: _____ m

(1) ISSUE Licence with details as above and

RECOMMENDATION BY: s.73
CHECKED BY: _____
APPROVED BY: s.73
DATE: 7/10/91
DATE: _____
DATE: 21/04/91

(2) Your Approval to REFUSE Appl. Right of Appeal: YES/NO
REFUSAL APPROVED BY: _____ DATE: _____
LICENSEE ☐ OBJECTOR ☐

(3) Your Approval to CANCEL Replaced Licence No. _____
CANCELLATION APPROVED BY: _____ DATE: _____

OPERATIONS DATA BASE INPUT SHEET
WATERWORKS LICENCE TERMS

LICENCE NO. 52629.

1. ADMIN (a) Receive & receipt. (refer checklist)
(b) Record in Inward Mail System.
(c) Allocate Registered Number.
(d) Complete Page 1, PT2 form, and draft advertisement.



2. S/C Check application, PT2 form & advertisement.

3. ADMIN Arrange advertisement and record in register.



- ```
4. ADMIN Enter details on Database.
```

5. ADMIN Record objections on PT2 form & database. Prepare letters to applicant & objector/s.

6. S/C Objection letters to be sighted by Technical Officer.

7. S/C Arrange inspections, report &  
(T/O-a) recommendations on PT2 form.  
Prepare draft correspondence.

8. S/C Final check on details & conditions. Check draft correspondence.

9. ADMIN (a) Input data & print licences.  
(b) Type correspondence.

10. D/E Approve licences and sign letters.

11. ADMIN Dispatch licences & letters.

12. ADMIN Notify licensee that period of Appeal is completed (WHERE APPLICABLE).

[illegible]

N.B. See booklet for condition and serial numbers.

Make sure parameters are filled out in full and correct.

Figure 2- Dissed Tailings Dam  
Proposed Rehabilitated Landform

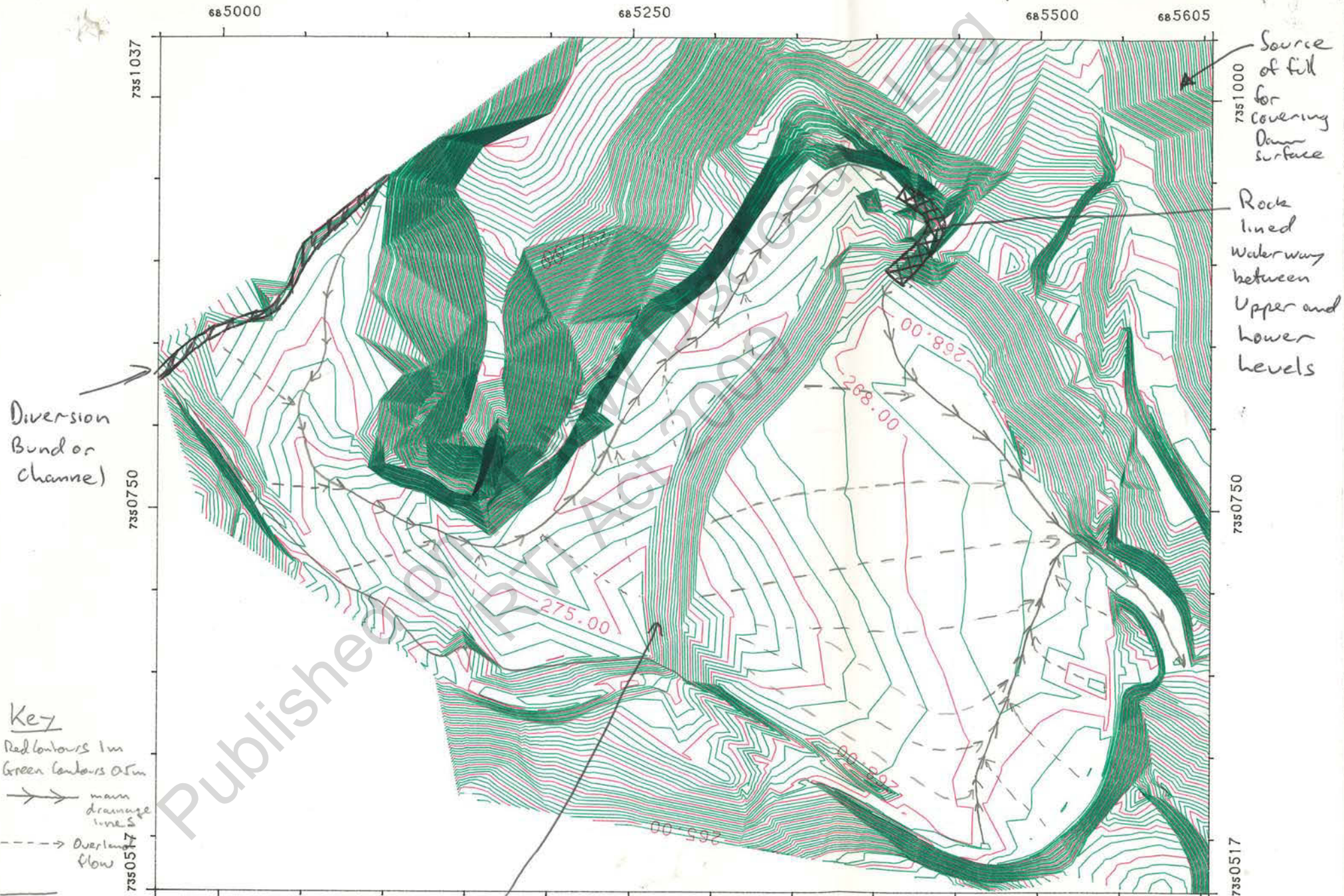
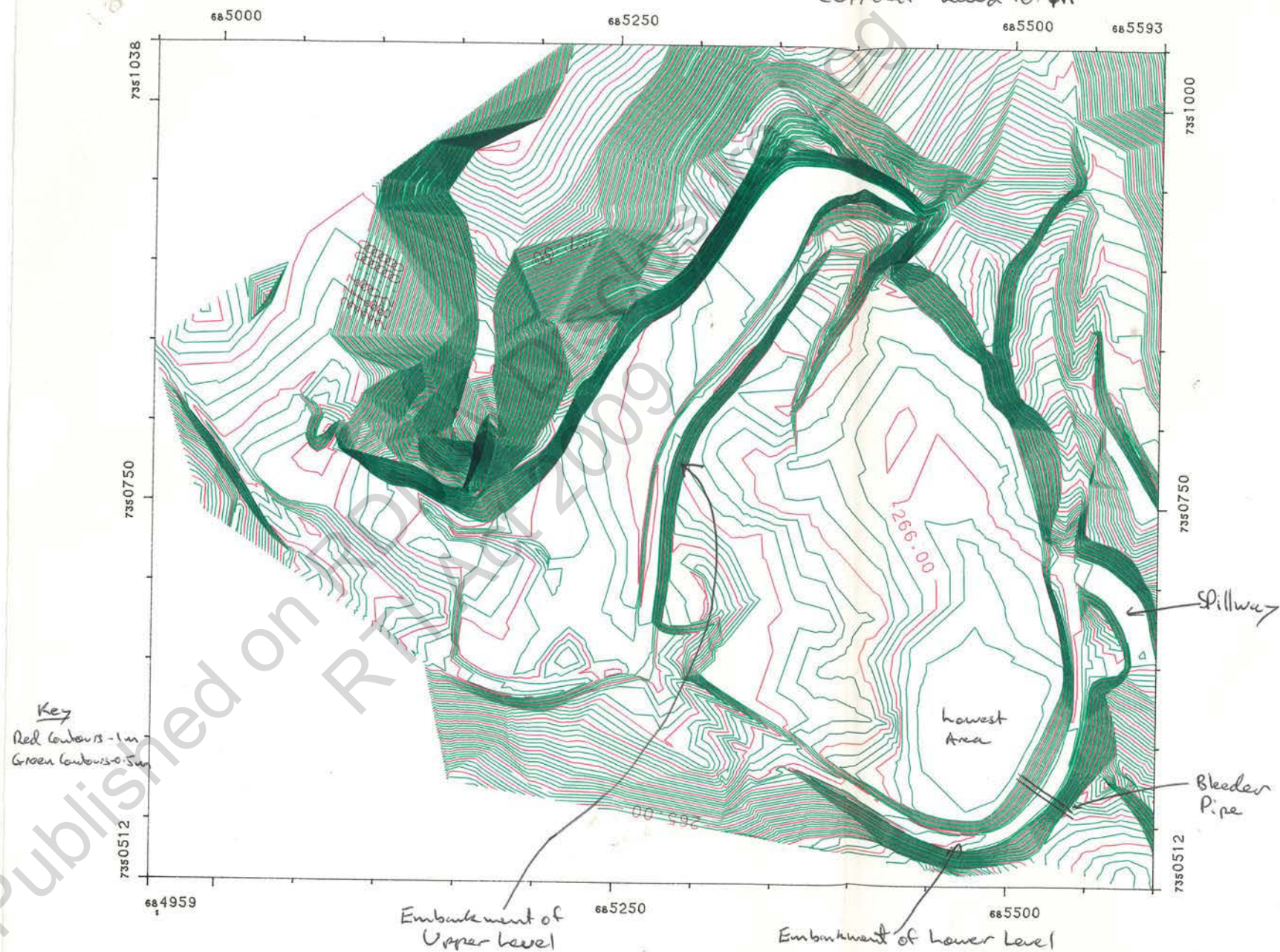


Figure 1- Disused Tailings Dam  
Current hand for



## Name and Address of Licensee

SOUTH BLACKWATER COAL LIMITED  
PRIVATE MAIL BAG  
BLACKWATER QLD 4717

License Number A 52629 Expiry Date 30/9/1994 File Number 1462

## Description of Works

AN EARTH DAM WITH THE FOLLOWING DIMENSIONS:

|                  |        |                  |        |
|------------------|--------|------------------|--------|
| HEIGHT TO TOP... | 7.7 m  | BYWASH HEIGHT... | 7.2 m  |
| BASE WIDTH....   | 30.0 m | BYWASH WIDTH...  | 20.0 m |
| CREST WIDTH...   | 10.0 m | OUTLET DIAM...   | mm     |
| CREST LENGTH..   | 330 m  | CAPACITY.....    | ML     |

## Location of Works

Description ML1767 (DISUSED TAILINGS DAM)  
Parish KENMARE  
County HUMBOLDT

## Supply

Name of Watercourse NOT ON A WATERCOURSE

Purpose of Works MINING

Date of Original Issue 7/10/1991

It is the licensee's responsibility to apply for renewal of this Licence before it expires,  
in respect of the Commissioner sending an expiry notice.

This Licence is issued under the Water Resources Act 1989 -1990 and is subject to the terms  
endorsed hereon or attached hereto.

Issued at ROCKHAMPTON this SEVENTH day of

OCTOBER 1991

s.73

for COMMISSIONER OF WATER RESOURCES

**SCHEDULE OF TERMS FOR LICENCE NUMBER A 52629****EXPIRY DATE 30/9/1994**

- 01 The licensee shall construct the work for which the licence is granted within two (2) years from the date of grant of the licence.
- 02 The licensee shall carry out construction and maintenance of the work to the satisfaction of the Commissioner.
- 03 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.
- 04 The licensee shall notify the Commissioner 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.
- 07 The holder of this licence shall pay such fees and charges as are determined by the Commissioner from time to time. Such fees and charges being payable at any place specified by the Commissioner, on the due date and must be paid within 30 days of the date of issue of the invoice.
- C1 The works authorised by this licence are not exempt from the provisions of the Water Resources Act relating to referable dams and the licensee shall comply with any directions of the Commissioner issued in accordance with these provisions.
- C2 The works authorised by this licence include the construction of a 330 metre long embankment dam of 7.7 metre maximum height (minimum EL 266.19), a 20 metre wide spillway to EL 265.70 and ancillary works as detailed in drawing 1370-03-4 - Revision B for the containment of tailings, runoff and erosion from South Blackwater Coal Mine, all of which form a referable dam. The ancillary works include the construction of runoff diversion bunds, drains and other works which control spillage or erosion within the catchment of the referable dam.
- C3 The works authorised by this licence shall be constructed and operated in accordance with the plans and specifications prepared by Blain Johnson Pty Ltd, and as approved by the Commissioner.

The approved plans for the purpose of construction are Blain Johnson Pty Ltd Drawing:

1370-03-4 - Revision B - South Blackwater Coal

**COPY ONLY**

The specifications and other information are as detailed and attached to letter from South Blackwater Coal Limited dated 7th May 1991 and shall include reports prepared for South Blackwater Coal Limited by Blain Johnson Pty Ltd dated 18th January 1991 and 8th May 1991.

- C4 Any proposed amendments to the approved plans shall be submitted to the Commissioner for approval.

**EXPLANATORY NOTES**

The following notes set out some of the provisions of the Water Resources Act which apply to your Licence.

- The Commissioner may issue a Licence with all terms which he considers necessary and may amend, revoke or add to the terms of a Licence at any time.
- A Licence is issued for the lands described thereon. The property descriptions are based on information supplied by the Licensee which, if found to be incorrect could result in cancellation of the Licence.
- A Licence operates for the benefit of the owner of the land on which the work is constructed or is proposed to be constructed or of the person whose proposal it is. On sale of the land, application must be made to the Commissioner for transfer of the Licence. Transfer of a Licence may be subject to prior acceptance by the Transferee of the terms of the Licence.
- If a Licensee contravenes or fails to carry out any terms of a Licence he may be liable to a penalty and the Licence may be cancelled.
- Where the Commissioner is satisfied that a Licensee has failed to complete the licensed work within the time stated on the Licence he may require the Licensee to show cause why the Commissioner should not cancel the Licence.
- In the case of works to enable the taking of water, if the Commissioner is satisfied that the Licensee has failed to make beneficial use of the water to which he is entitled the Licensee may be required to show cause why the Commissioner should not reduce the amount of water entitled to be used or reduce the area of land which may be irrigated or cancel the Licence.

**BORES**

- A sub-surface bore includes a well, shaft, bore, spear or any artificial excavation from which water does not flow naturally to the surface. An artesian bore is one from which water flows or has flowed naturally to the surface.
- No alterations other than repairs or alterations necessary for the maintenance of the bore or on account of a sudden or unforeseen emergency shall be made in connection with the bore except that the Licensee may apply to the Commissioner for amendment of the Licence to allow alterations to the bore.
- If the Commissioner is of the opinion that water from the bore is being improperly used or is being wasted or is not being used to the best advantage he may direct that such action be taken as he deems necessary to prevent such improper or disadvantageous use.

**RESTRICTIONS ON WATER USE**

- Should the Commissioner consider it necessary, he may limit:
  - The times during which water may be taken during any period specified; or
  - The volume of water which may be taken during any year or in any other specified period; or
  - The area and type of crops that may be irrigated in any year or in any other specified period, by publishing a notice in the Government Gazette and in a newspaper circulating in the locality in question or by writing to a Licensee.
- Unless otherwise specified, any such restriction shall remain in force until revoked by the Commissioner.

Please Note: The wording in these notes does not follow exactly the wording in the Water Resources Act and reference should be made to the Act for precise details.

# SCHEDULE OF TERMS FOR LICENCE NUMBER

Page 3 of 3

EXPIRY DATE

A 52629

30/9/1994

SPEC5 At the completion of construction of the licensed works, the licensee shall furnish the Commissioner with certification from Blain Johnson Pty Ltd that the works have been constructed in accordance with the approved plans and specifications and shall supply the Commissioner with two sets of "as built" plans of the constructed works.

SPEC6 The licensed works shall be inspected by a registered professional engineer (RPEQ), suitably qualified and experienced to the satisfaction of the Commissioner, at the following times:-

- a. 12 months after the practical completion of construction (term 5);
- b. at the time of each application for renewal of licence;
- c. at any time if alarming, unusual or otherwise unsatisfactory conditions are observed.

For each inspection, the engineer shall assess available storage, determine the hydraulic adequacy of diversion works and assess the adequacy of the works with respect to dam safety, including emission control.

For each inspection, two copies of the Engineer's report and any recommendations as to measures required to be taken to ensure the safety of the works shall be furnished to the Commissioner.

SPEC7 The licensee shall advise the Commissioner of any measures taken in an emergency or to be taken after approval, as a result of inspections required by term 6 above.

SPEC8 The works cannot be abandoned whilst licensed as a referable dam. Prior to the cessation of mining operations, the licensee shall submit to the Commissioner a final rehabilitation plan for the decommissioning of the licensed works. When approved by the Commissioner, the dam can be decommissioned by reshaping the works such that water can no longer be stored, the works are not susceptible to erosion and any seepage is of acceptable quality, whereupon the licence will be cancelled. Transfer of this licence can only be completed with the approval of the Commissioner.

SPEC9 The granting of this licence does not exempt the licensee from complying with other Government Legislation particularly that administered by Department of Resource Industries and Department of Environment and Heritage.

SPEC10 The licensee shall provide the Commissioner with an operational plan for the works authorised by this licence. This plan shall include procedures and recorded information to ensure that the dam is operated in accordance with the design criteria. Particular reference should be made to the surface drainage system.

Figure 2- Dissolved Tailings Dam  
Proposed Rehabilitated landform

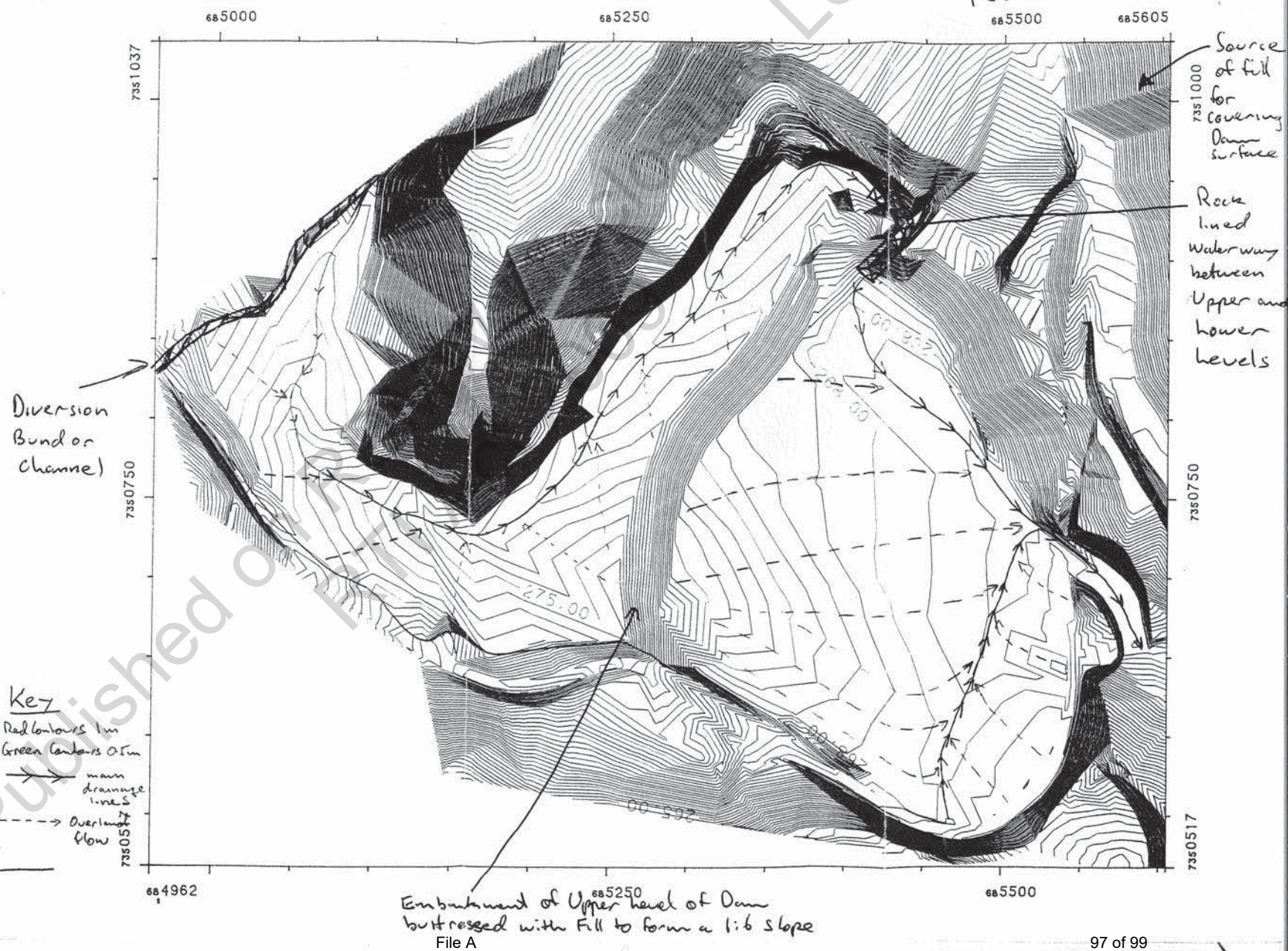
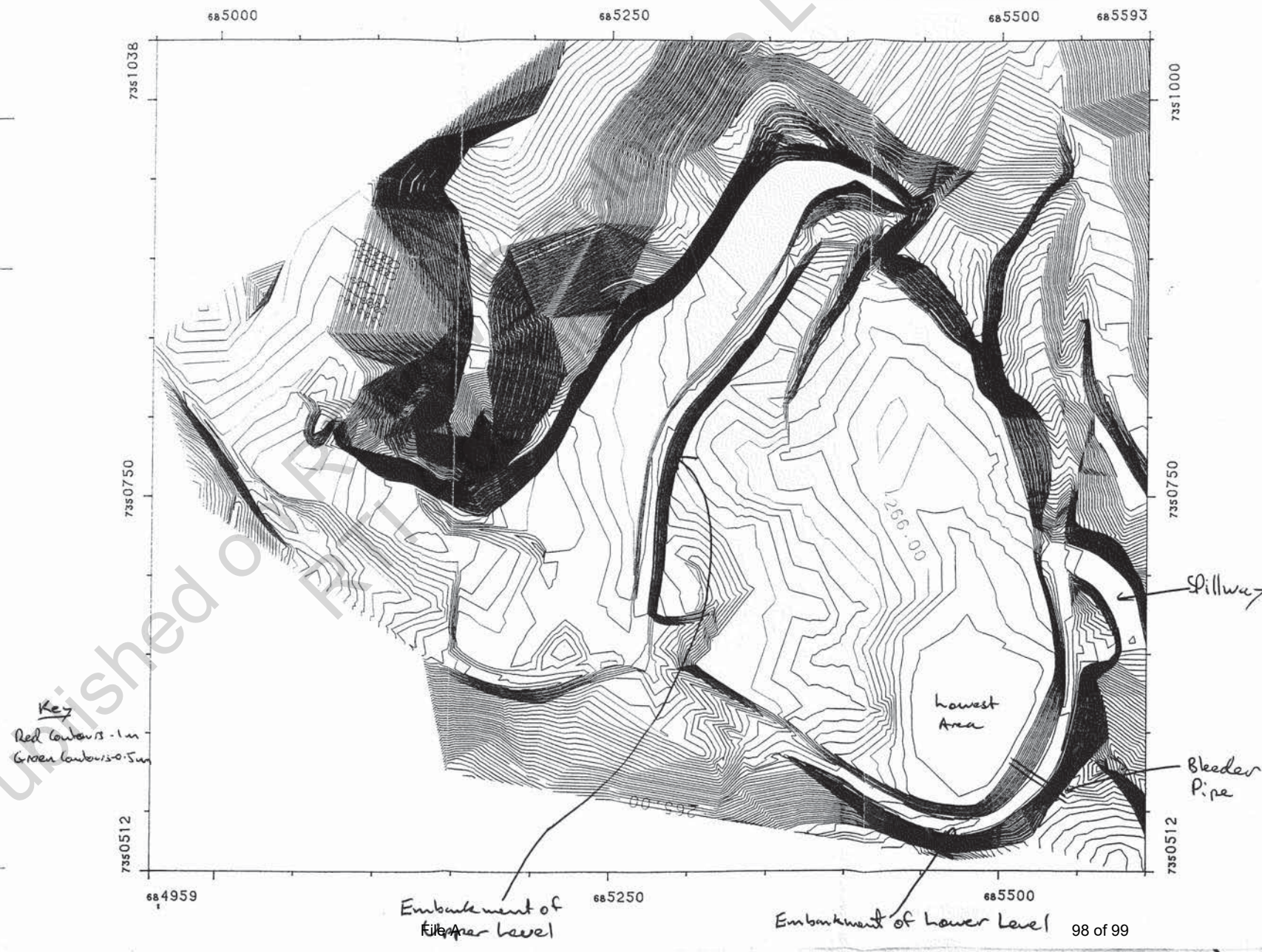
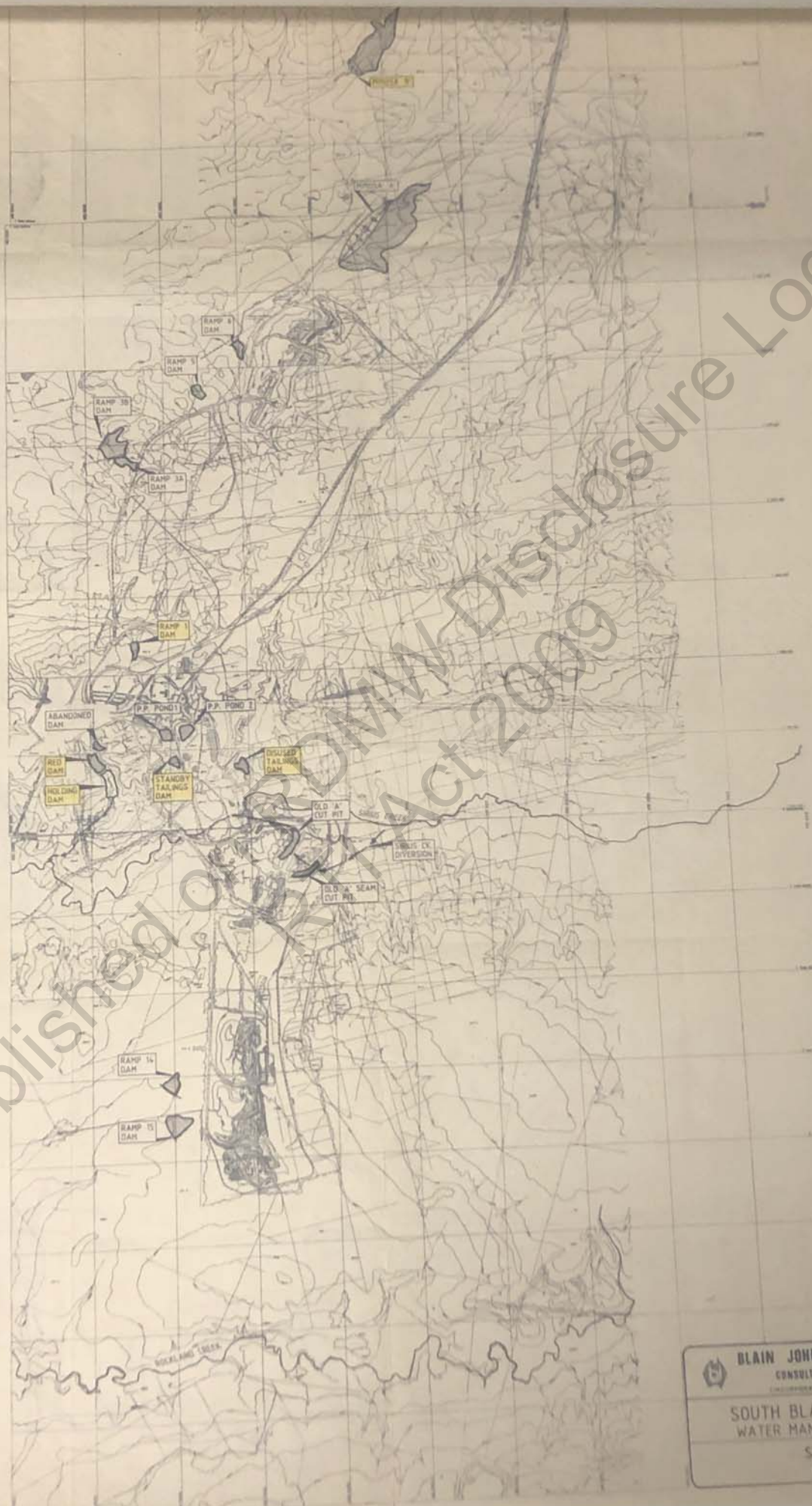


Figure 1- Disused Tailings Dam  
Current hand for



Published on the Open Works Disclosure Log



1:25000 UNRECORDED

**BLAIN JOHNSON PTY. LTD.**  
CONSULTING ENGINEERS  
INCORPORATED IN AUSTRALIA

**SOUTH BLACKWATER COAL  
WATER MANAGEMENT PROJECT**

**SITE PLAN**  
FIGURE 1