

Regulated Structures Register & Operational Plans



Dams

Dam Name	Hazard Consequence	Design Cert Walls	Design Cert Spillway	Compliance with Criteria	Transitional Period
CDA	High	NO	NO	N/A	1/11/2015 - 1/11/2016
Worked Water Dam	low	N/A	N/A	N/A	N/A
Return Water Dam	Low	N/A	N/A	N/A	N/A
100 Meg Dam	Low	N/A	N/A	N/A	N/A
Product Stockpile Dam	Low	N/A	N/A	N/A	N/A
Turkeys Next	Low	N/A	N/A	N/A	N/A
Creek Pit	Low	N/A	N/A	N/A	N/A

Levees

Levee name	Hazard Consequence	Certified	Current AEP Protection	Compliance with Criteria	Transitional Period
North Arm Levee	Significant	No	<1:20	19%	5 Years
Creek Pit Levee	Significant	No	<1:20	14%	5 Years
Johnson Pit Levee	Significant	No	>1:100	60%	7 Years
JP Haul Road Levee	Significant	No	>1:100	58%	7 Years
Worked water dam Levee	Significant	No	~1:1000	0%	5 Years
Return water dam Levee	Significant	No	<1:50	38%	5 Years

Document Owner

Document Approver

Environmental Superintendent

General Manager

Version

Approval Date

Approver Signature

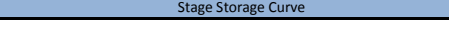
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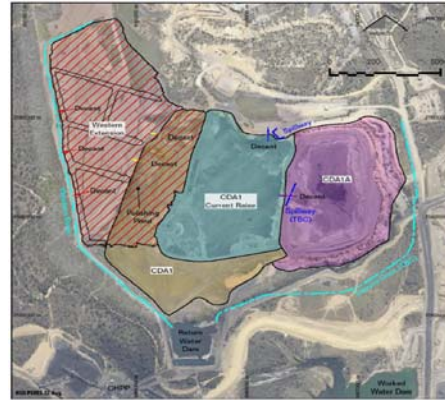
21/Apr/15

Jason Economidis

General Description of Changes from Previous Version

Update on Action Status; Revision of DSA requirement based on Consequence Category Assessment

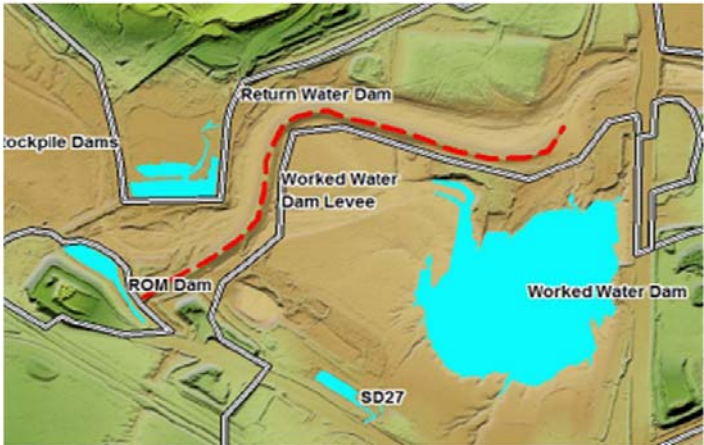
Dam Name		Co-Disposal Dam				Dam Name		Co-Disposal Dam																			
Project Area		CHPP				Project Area		CHPP																			
Water Class		Worked				Water Class		Worked																			
Regulated		High				Regulated		High																			
Dam Register												Site Map															
Date Of Entry				26/02/2015																							
Purpose				Worked Water Storage, Fill Point, CHPP Feed																							
Consequence Category				Seepage		Significant		Containment		Low														Dam-Break		High	
Design Certification				Date		Feb-15																					
				Name		Design plan for CDA inc West Ext																					
				Document		Link to CDA Design Plan																					
				SQEP		Sue Henderson																					
Construction Certification				Date																							
				Name		Existing Structure																					
				Document		To be updated upon upgrade																					
				SQEP																							
Transitional Arrangement				Eastern Buttress		1-Nov-15																					
				Spillway		1-Nov-16																					
Supporting Documentation				Consequence Category Assessment				Link to CDA Consequence																			
				Dam Op Plan				Link to CDA Ops Plan																			
Dam Composition Details				Dam Metrics																							
Lining		Earthen		Operational Rules				RL		SA (ha)														Vol (ML)			
Easting		607304.4		Max Op Level				249.3		22.73														NA			
Northing		7581925.43		MRL				NA		NA														NA			
Dam Spillway Details				Spillway crest level				250		24.60		NA															
Width		46m		Crest level				250		24.60		NA															
Lining		Earthen		DSA				N/A		N/A		N/A															
Design Certification		N/A		DSA Volume at Nov 1				N/A		N/A		N/A															
Monitoring Requirements																											
Annual Dams Inspection				Link to Annual Inspection																							
Monitoring Requirements				Link to Monitoring Schedule																							
Emergency Response																											
Emergency Response				Link to COP-SH-MAN 02.16.04 MAN01																							
Annual Inspection Actions																											
Action						Due Date																					
Fill the Gully and Tunnel eroded through the bund across the end of the spillway, cut exit drain on Creek Pit End of bund						Complete during spillway upgrade and Eastern buttress construction Q3/Q4 (30/11/2015)																					
Extend the decant pipe from CDA1 moving its outlet so it does not wet the eastern wall or area close to its base						Complete during spillway upgrade and Eastern buttress construction Q3/Q4 (30/11/2015)																					
Amend the operational plan to accept the existing four pipes decanting for CDA1A to CDA1						Completed																					
Ensure the decant pond level remains at least 0.7m below the minimum spillway level at all times; Max Op level 249.3 RL						Ongoing																					
Move the outlets of the decant pipes from the North West pond area to the western Drain; Close safety bund around inside crest around polishing pond						30/04/2015																					
Extend down drain in S/W corner of CDA (New structure) to directly discharge into WWD (not into Western Toe Drain)						31/08/2015																					
Construct the eastern wall buttress included in the draft design plan						Complete during spillway upgrade and Eastern buttress construction Q3/Q4 (30/11/2015)																					
Upgrade the CDA1 spillway to carry design discharge away from dam without the risk of undercutting the dam. (Re direct and Rock line spillway - Part of the Eastern Buttress works)						Complete during spillway upgrade and Eastern buttress construction Q3/Q4 (30/11/2015)																					
Design and Construct a spillway from CDA1A to CDA1 to the standard appropriate for the Consequence Category						1/11/2016																					
Document																											



Stage Storage Curve

Stage Storage Curve Table

<table border="1"> <tr> <td>Dam Name</td> <td>Worked Water Dam</td> </tr> <tr> <td>Project Area</td> <td>Mining</td> </tr> <tr> <td>Water Class</td> <td>Surface</td> </tr> <tr> <td>Regulated</td> <td>Significant</td> </tr> </table>		Dam Name	Worked Water Dam	Project Area	Mining	Water Class	Surface	Regulated	Significant		
Dam Name	Worked Water Dam										
Project Area	Mining										
Water Class	Surface										
Regulated	Significant										
Dam Register											
Date Of Entry	24/02/2015										
Purpose	Earthfill embankment that prevents raw water ingress into the Worked Water Dam										
Consequence Category	Significant										
Design Certification	Date										
	Name	NA - Existing Structure									
	Document										
	SQEP										
Construction Certification	Date										
	Name	NA - Existing Structure									
	Document										
	SQEP										
Compliance with Criteria/ Transitional Arrangement	Date	Feb-15									
	Risk of Flooding	~ 1/1,000 AEP									
	Compliance %	0% (Uncertified Structure)									
	Band	<50%									
	Transitional Period	5 Years (2020)									
Supporting Documentation	Consequence Category	Link to Haz Consequence									
	Performance	Link to Levee Performance									
Dam Composition Details		Dam Metrics									
Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)						
Easting	646852.23	Max Op Level	NA	NA	NA						
Northing	7581874.02	MRL	NA	NA	NA						
Dam Spillway Details		Spillway crest level	NA	NA	NA						
Width	NA	Crest level	NA	NA	NA						
Lining	NA	DSA	NA	NA	NA						
Design Certification	NA	DSA Volume at Nov 1	NA	NA	NA						
Monitoring Requirements											
Annual Dams Inspection	Link to Annual Inspection										
Link to Monitoring Schedule	Link to Monitoring Schedule										
Emergency Response											
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01										
Annual Inspection Actions											
Action			Due Date								
Repair and place either a 100mm gravel layer or topsoil & seed over the finished crest to protect it from erosion damage			Completed								
Certify existing structure			2020								
Stage Storage Curve Table											
Document											



Dam Name	North Arm Creek Pit
Project Area	Levee
Water Class	Mining
Regulated	Surface
	Significant



Dam Name	North Arm Creek Pit
Project Area	Levee
Water Class	Mining
Regulated	Surface
	Significant



Dam Register

Date Of Entry	24/02/2015
Purpose	Earthfill embankment that directs creek flow into a diversion
Consequence Category	Significant

Design Certification	Date	
	Name	NA - Existing Structure
	Document	
	SQEP	

Construction Certification	Date	
	Name	NA - Existing Structure
	Document	
	SQEP	

Compliance with Criteria/ Transitional Arrangement	Date	Feb-15
	Risk of Flooding	<1:20 AEP
	Compliance %	19%
	Band	<=50%
	Transitional Period	February 2020 (Within 5 Years)

Supporting Documentation	Consequence	Link to Haz Consequence
	Performance	Link to Levee Performance

Dam Composition Details

		Dam Metrics			
Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	646904.6	Max Op Level	NA	NA	NA
Northing	7584796.69	MRL	NA	NA	NA

Dam Spillway Details		Spillway crest level	NA	NA	NA
Width	NA	Crest level	NA	NA	NA
Lining	NA	DSA	NA	NA	NA
Design Certification	NA	DSA Volume at Nov 1	NA	NA	NA

Monitoring Requirements

Annual Dams Inspection	Link to Annual Inspection
Link to Monitoring Schedule	Link to Monitoring Schedule

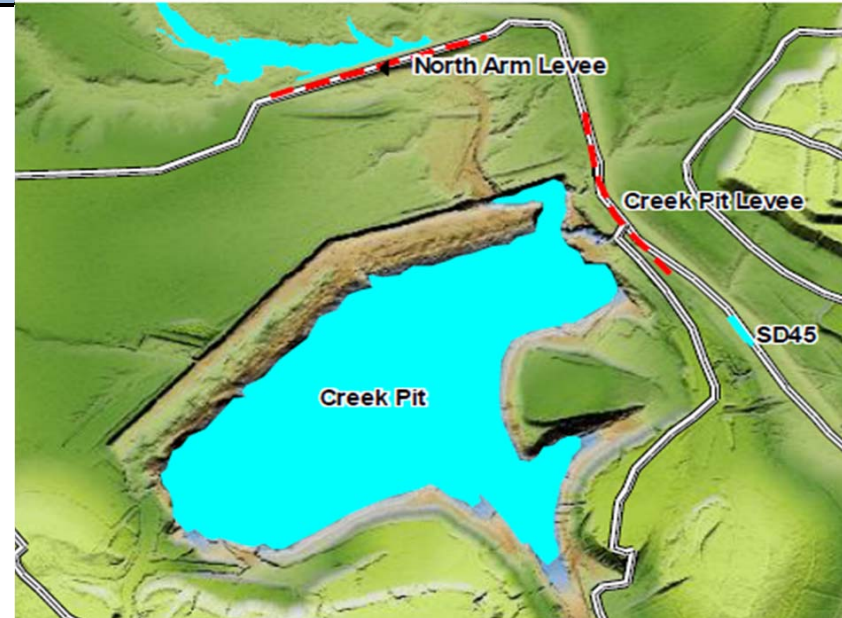
Emergency Response

Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01
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Annual Inspection Actions

Action	Due Date
Design and Construct a raise for the existing Levee	1/02/2020

Site Map



Stage Storage Curve

NA

Stage Storage Curve Table

Document

Dam Name	Creek Pit Levee	Peabody ENERGY
Project Area	Mining	
Water Class	Surface	
Regulated	Significant	

Dam Name	Creek Pit Levee	Peabody ENERGY
Project Area	Mining	
Water Class	Surface	
Regulated	Significant	

Dam Register

Date Of Entry	24/02/2015	
Purpose	Earthfill embankment that directs creek flow into a diversion	
Consequence Category	Significant	
Design Certification	Date	
	Name	NA - Existing Structure
	Document	
	SQEP	
Construction Certification	Date	
	Name	NA - Existing Structure
	Document	
	SQEP	
Compliance with Criteria/ Transitional Arrangement	Date	Feb-15
	Risk of Flooding	<1:20 AEP
	Compliance %	14%
	Band	<=50%
Supporting Documentation	Transitional Period	February 2020 (Within 5 Years)
	Consequence	Link to Haz Consequence
	Performance	Link to Levee Performance

Dam Composition Details		Dam Metrics			
Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	646904.6	Max Op Level	NA	NA	NA
Northing	7584796.69	MRL	NA	NA	NA
Dam Spillway Details		Spillway crest level	NA	NA	NA
Width	NA	Crest level	NA	NA	NA
Lining	NA	DSA	NA	NA	NA
Design Certification	NA	DSA Volume at Nov 1	NA	NA	NA

Monitoring Requirements	
Annual Dams Inspection	Link to Annual Inspection
Link to Monitoring Schedule	Link to Monitoring Schedule

Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

Annual Inspection Actions	
Action	Due Date
Monitor Cracking and washouts at the end wall of Creek Pit at least monthly.	Ongoing
Design and Construct a raise for the existing Levee	1/02/2020

Site Map



Stage Storage Curve

NA

Stage Storage Curve Table

Document



Site Map

Supporting Documentation	Consequence	Link to Haz Consequence
	Compliance	Link to Levee Compliance

Monitoring Requirements	
Annual Dams Inspection	Link to Annual Inspection
Link to Monitoring Schedule	Link to Monitoring Schedule

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Stage Storage Curve

NA

Stage Sorage Curve Table

Document



Site Map

This map shows the Johnson Pit area with several key features labeled: Johnson Pit Levee, Johnson Pit Haul Road Levee, Creek Pit Fill Point, and SD23/SD33. The map includes a red dashed line indicating a route or boundary, and a blue line indicating a water body or stream.

Dam Metrics

Stage Storage Curve

NA

Stage Storage Curve Table

Document

Dam Name	Worked Water Dam
Project Area	Mining
Water Class	Worked
Regulated	Low



Dam Name	Worked Water Dam
Project Area	Mining
Water Class	Worked
Regulated	Low



Dam Register

Date Of Entry	24/02/2015			
Purpose	Worked Water Storage, Fill Point, CHPP Feed			
Consequence Category	Containment	Low	Dam-Break	Low
Design Certification	Date			
	Name	NA - Existing Structure		
	Document			
	SQEP			
Spillway Construction Certification	Date	11/12/2014		
	Name	Worked Water Dam Construction Report		
	Document	Link to WWD Spillway Certificatio		
	REPQ	Iain Lonie		
Supporting Documentation	Consequence	Link to Haz Consequence		

Dam Composition Details

Dam Metrics

Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	607304.4	Max Op Level	211.00	17.21	624.22
Northing	7581925.43	MRL	NA	NA	NA
Dam Spillway Details		Spillway crest level	214.50	41.95	1642.33
Width	NA	Crest level	214.50	41.95	1642.33
Lining	Rock	DSA	N/A	N/A	N/A
Design Certification	NA	DSA Volume at Nov 1	N/A	N/A	N/A

Monitoring Requirements

Annual Dams Inspection	Link to Annual Inspection
Link to Monitoring Schedule	Link to Monitoring Schedule

Operational TARP

Operational TARP	Link to Dam Operational TARP
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Emergency Response

Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01
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Annual Inspection Actions

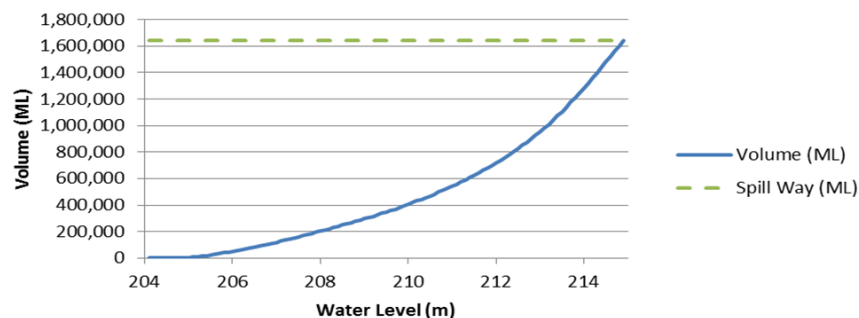
Action	Due Date
Replace the Creek Pit Haul Road Culverts on 30 Mile diversion with a low level crossing	Within Transitional Period of EA
Grade down the batter on the internal spillway wall, geofab and rock protection.	Completed
Rock protection on Worked Water Dam Spillway	Completed

Site Map



Stage Storage Curve

Worked Water Dam Storage Curve



Stage Storage Curve Table

Document	Link to Storage Curves
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Dam Name	Return Water Dam
Project Area	CHPP
Water Class	Worked
Regulated	No



Dam Name	Return Water Dam
Project Area	CHPP
Water Class	Worked
Regulated	No



Dam Register

Date Of Entry	21/11/2014			
Purpose	Worked water storage, CHPP feed			
Consequence Category	Containment	Low	Dam-Break	Low
Design Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Construction Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Supporting Documentation	Consequence	Link to Haz Consequence		

Dam Composition Details

Dam Metrics

Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	651992	Normal Op Level	214.7	2.72	24.35
Northing	7582549	Wet Weather Level	212.7	0.17	1.50
Spillway Details		MRL	NA	NA	NA
Width		Spillway crest level	215.6	3.97	46.02
Lining		Crest level	215.6	3.97	46.02
Design Certification		DSA	N/A	N/A	N/A
		DSA Volume at Nov 1	N/A	N/A	N/A

Monitoring Requirements

Annual Dams Inspection	Link to Annual Inspection (2013)
Link to Monitoring Schedule	Link to Monitoring Schedule

Operational TARP

Operational TARP	CHPP DAM TARPS
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Emergency Response

Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01
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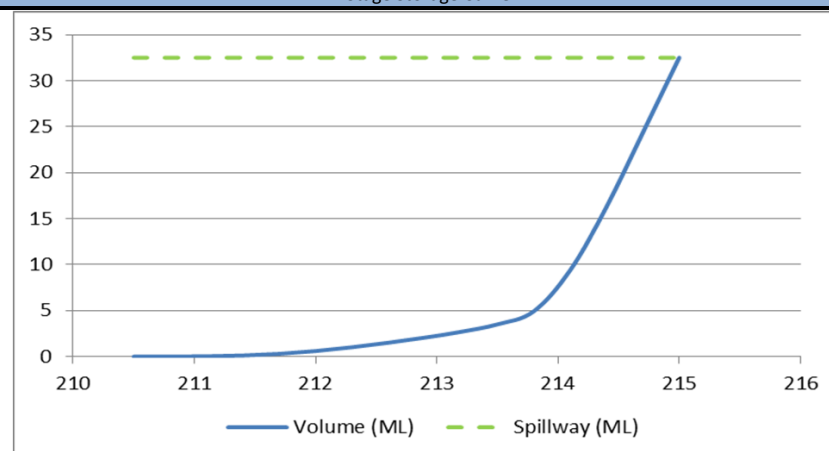
Annual Inspection Actions

Action	Due Date

Site Map



Stage Storage Curve



Stage Storage Curve Table

Document	Link to Storage Curves
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Dam Name	EP 100ML Dam
Project Area	East Pit
Water Class	Worked
Regulated	No



Dam Name	EP 100ML Dam
Project Area	East Pit
Water Class	Worked
Regulated	No



Dam Register

Date Of Entry	21/11/2014			
Purpose	Worked water storage, fill point			
Consequence Category	Containment	Low	Dam-Break	Low
Design Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Construction Certification	Date	26/02/2014		
	Name	EP_TS_100MEG_DAM		
	Document	L Dam\Supporting information\EP_TS_100MEG_DAM		
	SQEP			
Supporting Documentation	Consequence	Link to Haz Consequence		

Dam Composition Details		Dam Metrics			
Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	651992	Max Op Level	222.6	0.8	76.1
Northing	7582549	MRL	NA	NA	NA
Dam Spillway Details		Spillway crest level	223	0.8	83.2
Width	NA	Crest level	223.2	0.8	86.5
Lining	NA	DSA	NA	NA	NA
Design Certification	NA	DSA Volume at Nov 1	NA	NA	NA

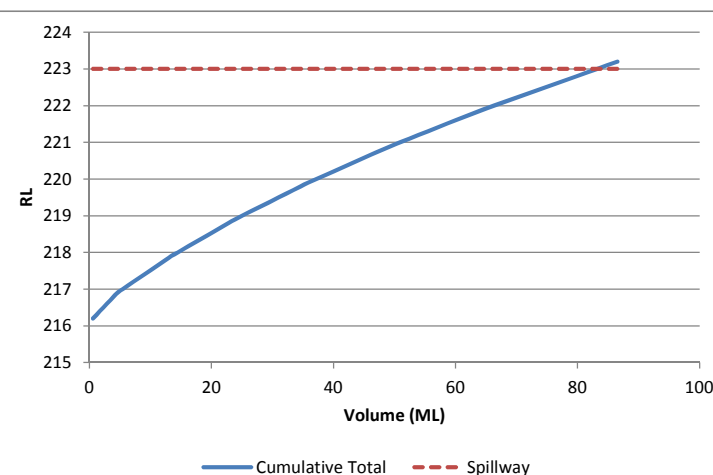
Monitoring Requirements	
Annual Dams Inspection	
WQ Sampling	Link to Monitoring Schedule
Operational Tarp	
Operational Tarp	Link to Dam Operational TARP
Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

Annual Inspection Actions	
Action	Due Date

Site Map



Stage Storage Curve



Dam Name	Product Stockpile Dam
Project Area	CHPP
Water Class	Worked
Regulated	No



Dam Name	Product Stockpile Dam
Project Area	CHPP
Water Class	Worked
Regulated	No



Dam Register

Date Of Entry	21/11/2014			
Purpose	Worked water storage			
Consequence Category	Containment	Low	Dam-Break	Low
Design Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Construction Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Supporting Documentation	Consequence	Link to Haz Consequence		

Dam Composition Details		Dam Metrics			
Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	651992	Max Op Level	214.2	0.03	0.04
Northing	7582549	MRL	NA	NA	NA
Dam Spillway Details		Spillway crest level	215.5	0.58	4.92
Width		Crest level	215.5	0.58	4.92
Lining		DSA	NA	NA	NA
Design Certification		DSA Volume at Nov 1	NA	NA	NA

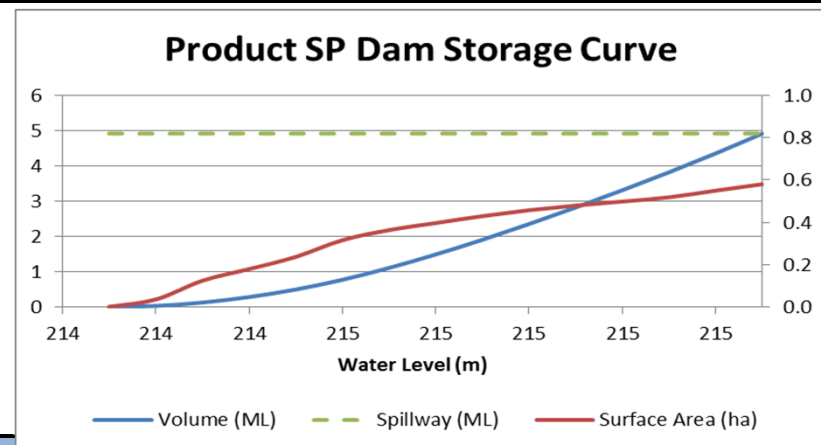
Monitoring Requirements	
Annual Dams Inspection	Link to Annual Inspection (2013)
WQ Sampling	Link to Monitoring Schedule
Operational Tarp	
TARP	CHPP DAM TARPS
Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

Annual Inspection Actions	
Action	Due Date

Site Map



Stage Storage Curve



Document [Link to Storage Curves](#)



Document	Link to Storage Curves
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Dam Name	Turkeys Nest
Project Area	CHPP
Water Class	Worked
Regulated	No



Dam Name	Turkeys Nest
Project Area	CHPP
Water Class	Worked
Regulated	No



Dam Register

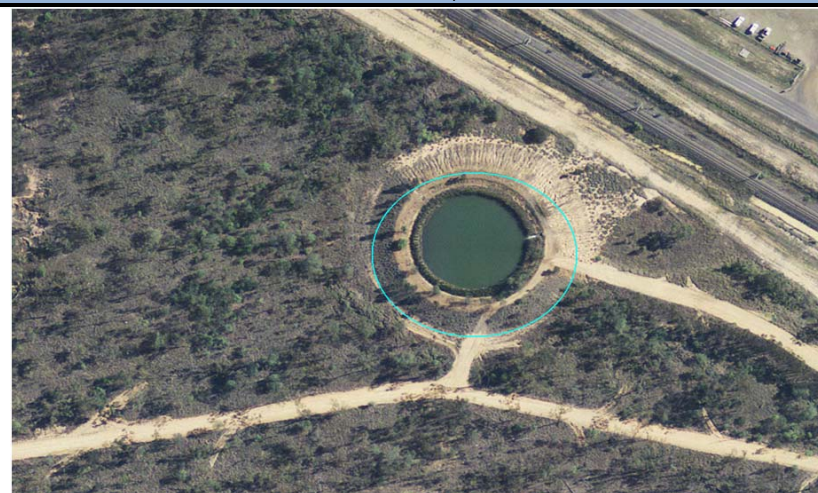
Date Of Entry	21/11/2014			
Purpose	Worked water storage, CHPP feed			
Consequence Category	Containment	Low	Dam-Break	Low
Design Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Construction Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Supporting Documentation	Consequence	Link to Haz Consequence		

Dam Composition Details		Dam Metrics			
Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	651992	Max Op Level	227.8	0.024	5.1
Northing	7582549	MRL	NA	NA	NA
Dam Spillway Details		Spillway crest level	228	0.026	5.6
Width		Crest level	228	0.026	5.6
Lining		DSA	NA	NA	NA
Design Certification		DSA Volume at Nov 1	NA	NA	NA

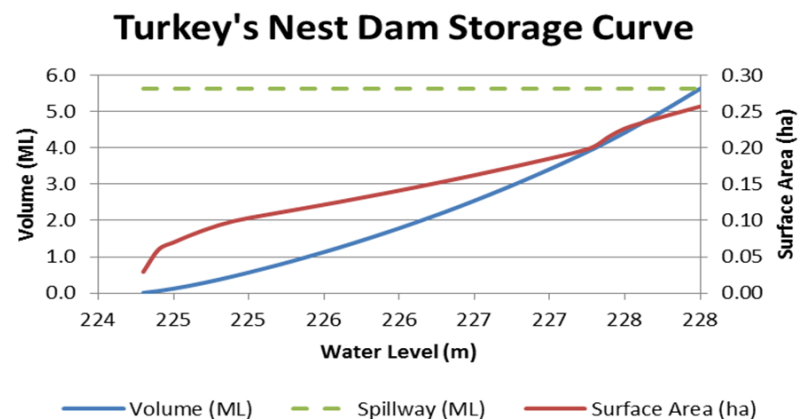
Monitoring Requirements	
Annual Dams Inspection	Link to Annual Inspection (2013)
WQ Sampling	Link to Monitoring Schedule
Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

Annual Inspection Actions	
Action	Due Date

Site Map



Stage Storage Curve



Document [Link to Storage Curves](#)

Dam Name	Creek Pit
Project Area	Creek Pit
Water Class	Worked
Regulated	No



Dam Name	Creek Pit
Project Area	Creek Pit
Water Class	Worked
Regulated	No



Dam Register

Date Of Entry	21/11/2014			
Purpose	Mass worked water storage, DSA Dam			
Consequence Category	Containment	Low	Dam-Break	Low
Design Certification	Date			
	Name	NA Flooded mining void		
	Document			
	SQEP			
Construction Certification	Date			
	Name	NA Flooded mining void		
	Document			
	SQEP			
Supporting Documentation	Consequence	Link to Haz Consequence		

Dam Composition Details		Dam Metrics			
Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	651992	Max Op Level	209	43.2	13.1
Northing	7582549	MRL	NA	NA	NA
Dam Spillway Details		Pit Low point	211	45.2	14025.3
Width		Crest level	NA	NA	NA
Lining		DSA	N/A	N/A	N/A
Design Certification		DSA Volume at Nov 1	N/A	N/A	N/A

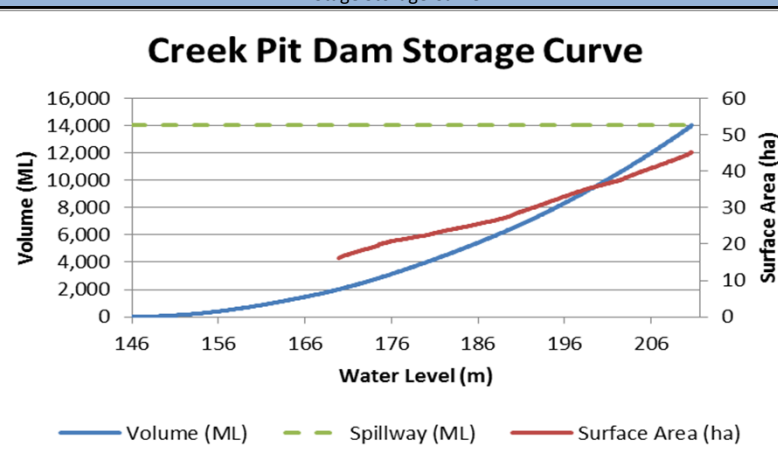
Monitoring Requirements	
Annual Dams Inspection	Link to Annual Inspection (2013)
WQ Sampling	Link to Monitoring Schedule
Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

Annual Inspection Actions	
Action	Due Date
Obtain a certified hazard category assessment for the dam. This is required under the current EA and is necessary to set appropriate hydraulic performance criteria	Complete
Stop allowing water to enter the pit as overflow from SD 45. Backfill the scour. This is required to prevent further scour compromising the bund between the endwall and North Arm Diversion.	Complete
Obtain flood analysis to assess whether the levee would be overtopped in a 1:100 AEP event. While 1:1000 AEP flood protection +0.5m is the current performance standard for a regulated levee, 1:100 AEP would be a minimum interim performance standard under transitional provisions in an EA	As soon as practicable

Site Map



Stage Storage Curve



Stage Storage Curve Table

Document [Link to Storage Curves](#)