

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

3

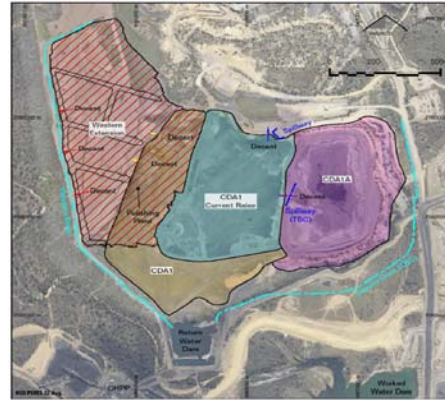
21/Apr/15

Jason Economidis

General Description of Changes from Previous Version

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

<table> <tr><td>Dam Name</td><td>Co-Disposal Dam</td></tr> <tr><td>Project Area</td><td>CHPP</td></tr> <tr><td>Water Class</td><td>Worked</td></tr> <tr><td>Regulated</td><td>High</td></tr> </table>		Dam Name	Co-Disposal Dam	Project Area	CHPP	Water Class	Worked	Regulated	High		
Dam Name	Co-Disposal Dam										
Project Area	CHPP										
Water Class	Worked										
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											
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



Dam Register						
Date Of Entry		24/02/2015				
Purpose		Earthfill embankment that prevents raw water ingress into the				
Consequence Category		Worked Water Dam				
		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			

Site Map

Stage Storage Curve

NA

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

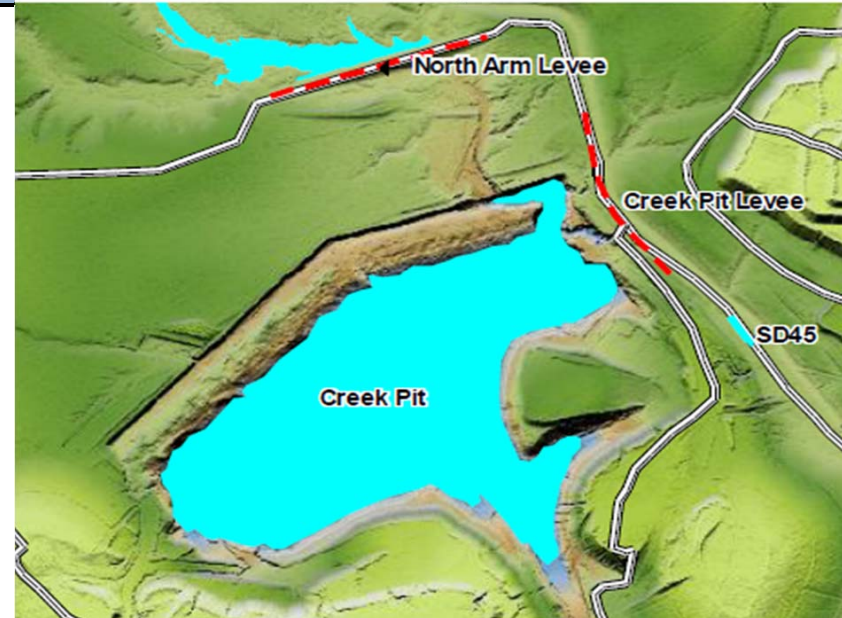
Emergency Response

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

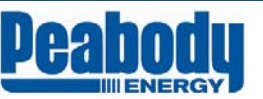


Stage Storage Curve

NA

Stage Storage Curve Table

Document

<table border="1"> <tr><td>Dam Name</td><td>Johnson Pit Levee</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	Johnson Pit Levee	Project Area	Mining	Water Class	Surface	Regulated	Significant	<table border="1"> <tr><td>Dam Name</td><td>Johnson Pit Levee</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	Johnson Pit Levee	Project Area	Mining	Water Class	Surface	Regulated	Significant
Dam Name	Johnson Pit Levee																		
Project Area	Mining																		
Water Class	Surface																		
Regulated	Significant																		
Dam Name	Johnson Pit Levee																		
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 Johnson Pit Consequence Category Significant Design Certification Date Name Document SQEP NA - Existing Structure Construction Certification Date Name Document SQEP NA - Existing Structure Compliance with Criteria/ Transitional Arrangement Date Risk of Flooding Compliance % Band Transitional Period Feb-15 >1:100 AEP 60% >50-<=70% February 2022 (Within 7 Years) Supporting Documentation Consequence Compliance Link to Haz Consequence Link to Levee Compliance Dam Composition Details Lining Earthen Operational Rules RL SA (ha) Vol (ML) Dam Metrics Easting 647708.44 Max Op Level NA NA NA Northing 7583308.68 MRL NA NA NA Dam Spillway Details Width NA Spillway crest level NA NA NA Lining NA Crest level NA NA NA Design Certification NA DSA NA NA NA Design Certification NA DSA Volume at Nov 1 NA NA NA				Site Map 															
Stage Storage Curve NA																			
Stage Storage Curve Table Document																			

Dam Name	JP Haul Road Levee
Project Area	Mining
Water Class	Surface
Regulated	Significant



Dam Name	JP Haul Road Levee
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 Johnson Pit	
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	>1:100 AEP
	Compliance %	60%
	Band	>50-<=70%
Supporting Documentation	Transitional Period	February 2022 (Within 7 Years)
	Consequence Performance	Link to Haz Consequence Link to Levee Performance

Dam Composition Details

Dam Metrics

Lining	Earthen	Operational Rules	RL	SA (ha)	Vol (ML)
Easting	647708.44	Max Op Level	NA	NA	NA
Northing	7583308.68	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	1/02/2022

Site Map



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 Document SQEP
Spillway Construction Certification	Date Name Document REPQ
Supporting Documentation	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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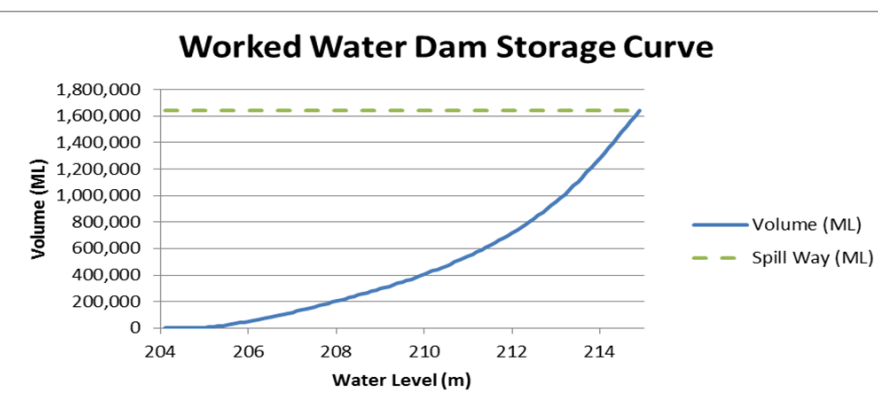
Annual Inspection Actions

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



Stage Storage Curve Table

Document [Link to Storage Curves](#)

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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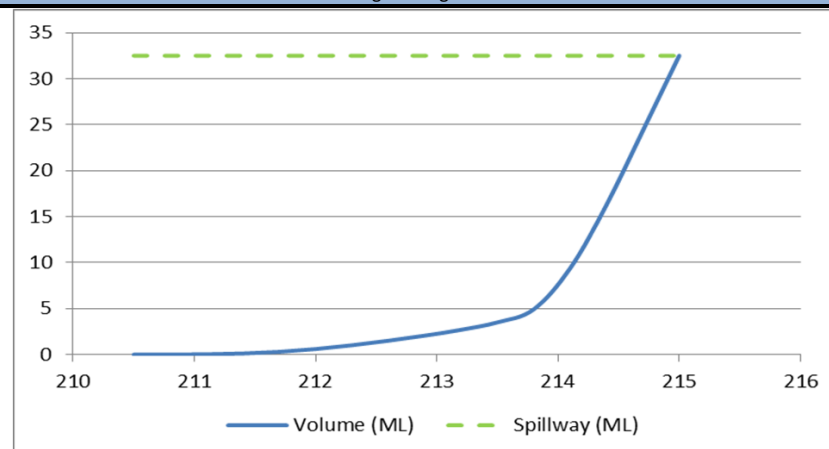
Annual Inspection Actions

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

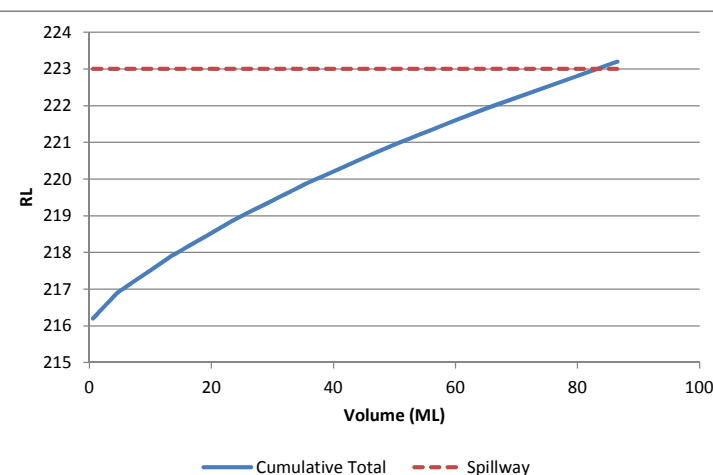
Monitoring Requirements	
Annual Dams Inspection	
WQ Sampling	Link to Monitoring Schedule
Operational Tarp	
Operational Tarp	Link to Dam Operational TARP
Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

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
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Emergency Response

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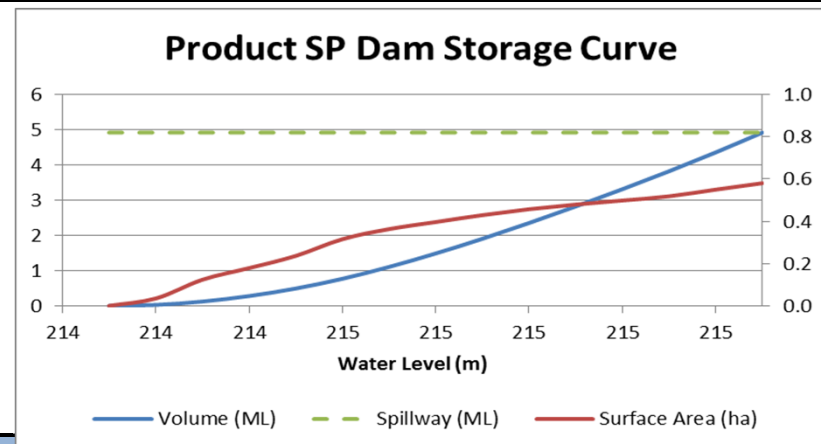
Annual Inspection Actions

Action	Due Date

Site Map



Stage Storage Curve



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

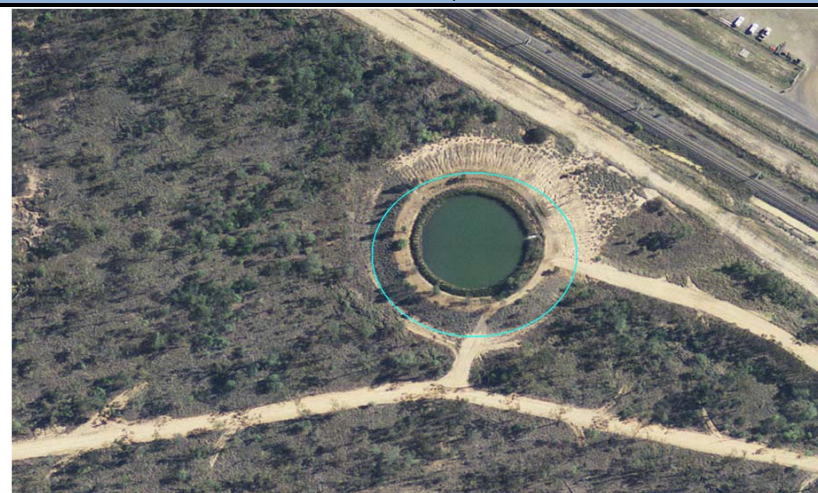
Date Of Entry	21/11/2014			
Purpose	Worked water storage, CHPP feed			
Consequence Category	Containment	Low	Dam-Break	Low
Design Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Construction Certification	Date			
	Name	NA Existing Structure		
	Document			
	SQEP			
Supporting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

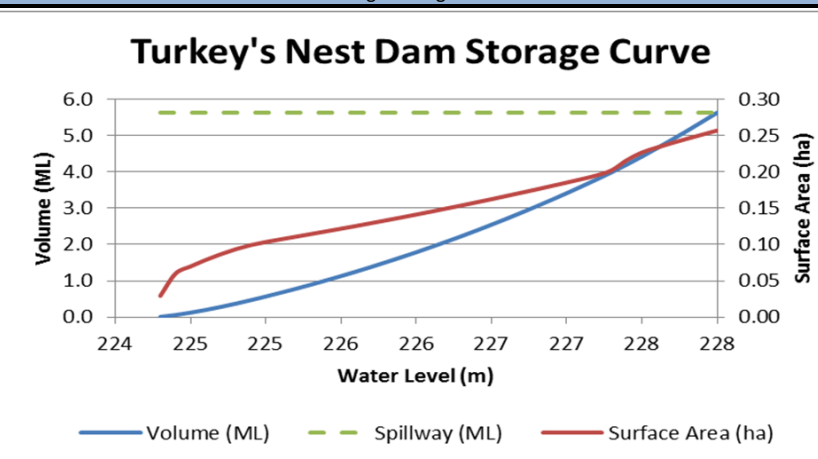
Monitoring Requirements	
Annual Dams Inspection	Link to Annual Inspection (2013)
WQ Sampling	Link to Monitoring Schedule
Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

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

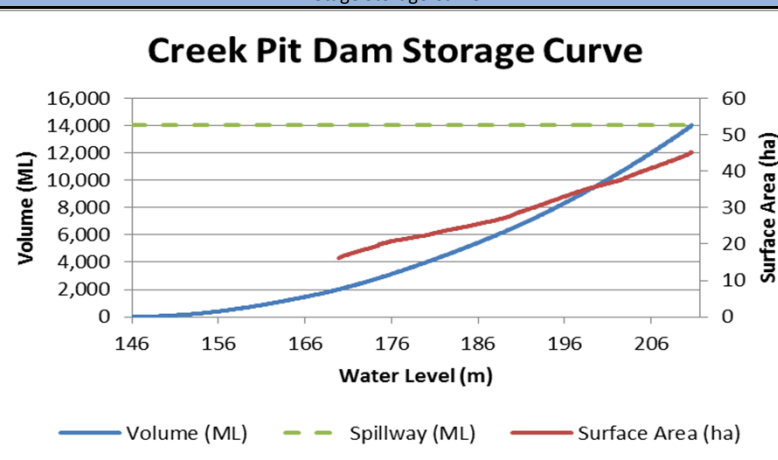
Monitoring Requirements	
Annual Dams Inspection	Link to Annual Inspection (2013)
WQ Sampling	Link to Monitoring Schedule
Emergency Response	
Emergency Response	Link to COP-SH-MAN 02.16.04 MAN01

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](#)