Site Registration Date November 2023 Complete the following fields prior to calculating the Security Deposit. Mine Name: Marulan South Limestone Mine ML 1857, CML16 (part of) Lease(s): Title Holder: **Boral Cement Limited** Boral Cement Limited Mine Operator: Term of RCE: Estimated total disturbance over SSD7009 approval term until 31/08/2051 **Current Security:** \$26,814,000 Date of last Security Deposit review May, 2024 Jamie Wittaker Mine Contact: Site Manager Position: Hume Street Marulan South NSW 2576 Address: Phone: 0401 895 212 Email: Jamie.Whittaker1@boral.com.au

Site Description The following site specific information is requested to provide background information in the context of calculating the Security Deposit. **Summary of Mine Activities Environmental Sensitivities** Total annual production (tonnes): 4,200,000 Surrounding land use (tick all that apply): ☐ Cropping Mine lease area (ha): 763.6 ▼ Pasture 172.2 Area of extraction (ha): ▼ Forest Area of disturbance (ha): 521.8 Undisturbed habitat Urban 67.3 Rehabilitation in progress (ha): 0 Environmental Issues affecting site (tick all that apply) Rehabilitation complete (ha): Achieved ecosystem sustainability ▼ Threatened flora Forward Program/MOP Utilised: SSD 7009, 19/08/2021 ▼ Threatened fauna Reference no. version and date ✓ Cultural heritage items ▼ Natural heritage features 1 Rehab Strat. rev3 30/08/2022 Forward Program/MOP Plan Utilised: Reference Plan no. version and date ☐ Mine subsidence 2 RMP (draft) ▼ Surface water pollution ☑Plan(s) attached ✓ Ground water pollution ▼ Hydrocarbon contamination ■ Methane drainage/venting □ Spontaneous combustion Acid Mine Drainage ✓ Within drinking water catchment Other (describe below) Ensure rehabilitation cost estimation reflects all environmental issues affecting the lease. Contingencies should be allocated where costs have not been MLs adjoin Bungonia and Morton NPs incorporated elswhere in the estimation. MLarea = ML1857(688.5ha) + CML16(75.1ha) Area of extraction = mine void + mine backfill Area of disturbance includes remnant areas of CML16(23.2ha). Undisturbed (51.9ha)

Rehab in progress = Eastern Batters (37.2ha)

Rehab previously complete now reclassified and included in rehab in progress

and WOE (30.1)



Open Cut Summary Rehabilitation Cost Estimation

Note: Sections of this page	are automatically filled in from the registration page		
Mine Name:	Marulan South Limestone Mine		
Lease(s):	ML 1857, CML16 (part of)		
Authorisation Owner:	Boral Cement Limited		
Mine Operator:	Boral Cement Limited		
Term of RCE:	Estimated total disturbance over SSD7009 approva	ıl tarm until 3	21/08/2051
Current Security:	\$26,814,000 Date of Last So	ecurity Dep	osit Review: May, 2024
Mine Contact:	Jamie Wittaker		
Position:	Site Manager		
Address:	Hume Street		
	Marulan South NSW 2576		
Phone:	0401 895 212 Email: Jamie.Whit	taker1@bo	oral.com.au
	Domain		Security Deposit
Domain 1: Infrastructure			\$10,493,156
Domain 2: Tailings & Re	ejects		\$353,488
Domain 3: Overburden 8	₹ Waste		\$4,936,870
Domain 4: Active Mine 8	k Voids		\$3,460,260
Domain 5: Management	Activities		\$1,382,390
Subtotal (Domains and	Sundry Items)		\$20,626,164
Contingency	Canaly nome,	10%	\$2,062,104
Post Closure Environme	ental Monitoring	10%	\$2,062,616
Project Management an		10%	\$2,062,616
			. , .
Total Security Dep	oosit for the Mining Project (excl. of GST	Γ)	\$26,814,013
Note: GST is not included	d in the above calculation or as part of rehabilitation se	curity donos	ite required by the Department
_	made to unit prices within this spreadsheet. (Attach a sep		
_	, , , , , , , , , , , , , , , , , , , ,		- · ·
	tation design is generally consistent with the development		
inis Registration Form,	Summary Report and calculation pages are to be printe	a and attach	ed as an appendix the AEMR or MOP.
This mine security calculati	on has been estimated using the best available information	at the time.	
It is a true and accurate ref	lection of the total rehabilitation liability held by this mine.		
Jamie Whittaker			28/08/2024
Company Resprese	ntative's Name		Date
F 7			
Production Manager Company Represen	tative's Role / Responsibility		Signature
Company Nepresen	anto o Roio / Reopendibility		Oignature

Domain 1a: Infrastructure

Total Cost for Infrastructure Domain

\$10,493,156

Refer to Plan 1 - 30 Conceptual Final Landform Plan_231130_v1v and 2019 EIS - Figure 2.1 / SSD7009 - APPENDIX 6	Key Rehabilitation Area Data for Domain	Enter data below manually
Assume 50% of NOE (37.3ha) = 18.6ha added to Infrastructure domain of 18.1ha for a total of 36.7ha	Total Landform Establishment:	36.70
	Total Growth Media Development:	36.70
	Total Ecosystem Establishment:	36.70

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Termination of Services and Demolition Works	Disconnect and terminate all services (Water, electricity, gas etc at point of attachment to site)	Y	1	allow	\$35,000		\$35,000	Covers Electricity water and gas	For disconnection of all services, at building boundaries, physical cut at the point of attachment or distribution location. If infrastructure is not consolidated (i.e., administration, camp and workshops are in separate places), consider multiple disconnection fees.
	Disconnect and terminate services at remote areas (i.e. pump stations, remote workshops, sewage treatment plant etc.)	Y	4	allow	\$5,850		\$23,400	Gyrotary, Kiln, Surge bin, Offices	Used for infrastructure remote from primary connection. Can also be used for small mines / quarries that do not have dedicated supplies from supply authorities such as steel lattice power lines.
	Removal of low/medium voltage powerlines including disconnection, rolling up the wires and removing the poles - does not include the removal of substations	Υ	2.4	km	\$15,000		\$36,000	primary crusher 0.79 km, to processing plant, offices and store 1.53 Km, sand plant	Applies to power lines on stobie, concrete or similar poles.
	Demolish and/or remove substations (assumes they are in a closed building). Dispose of waste material on-site/locally	Y	140	m2	\$100.00		\$14,000	Primary and sec crushing, surge bin, kiln	Simple structure to demolish mechanically (no labour required), assumes single story building with no asbestos and segregation of contents for scrap as applicable.
	Demolish and remove switchyard. Dispose of waste material on-site/locally	Y	160	m2	\$75.00		\$12,000	Primary and sec crushing, surge bin, kiln	Includes demolition and removal of all switchgear and transformers etc. and segregation of contents for scrap as applicable.
	Demolish and remove demountable structures on concrete stumps. Assumes not being re-used	Y	220	m2	\$40.00		\$8,800	crusher control room, production cribhut	Crib huts, temporary offices and other 'non permanent' structures. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove small buildings/tanks (admin buildings, single story accommodation etc) and disposal on-site/locally	Υ	2600	m2	\$61.00		\$158,600	Hub, Admin Building, security gate house, Managers office, carpark offices, electrical offices, kin control offices, lime amenities	Simple structure to demolish, assumes no greater than 2 stories high. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove light industrial buildings and disposal on-site/locally	Υ	1190	m2/floor	\$90.00		\$107,100	laboratory, store	Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m) - does not include transport to regional disposal facility or equivalent. Assumes asbestos free and mechanically demolished.
	Demolish and remove industrial buildings (workshops tyre change and servicing area etc not CHPP/process plant) and disposal on-site/locally	Y	2250	m2/floor	\$130.00		\$292,500	Limestone workshop, lime workshop	Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Demolish and remove CHPP/process plant (include the area of each floor of the structure) and disposal on-site/locally	Y	6830	m2/floor	\$225.00		\$1,536,750	Transfer/Screen House, trommels / transfer, tertiary screening, tertiary screening, rotary kiln,hydration/ dispatch,storage, kilnstone handling, sand plant screening, sand plant classifiers	Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove washery, crushers, hoppers, mills, furnaces, agglomeration, electrowinning, floatation, sizing stations, rotary breakers, etc (include the area of each floor of the structure) and disposal on-site/locally	Υ	840	m2/floor	\$225.00		\$189,000	Primary Crusher, Secondary Crusher, tertiary crushing, sand plant crushing building	Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, Cut and Remove rail loading bins and disposal on-site/locally	Υ	8	allow	\$65,000		\$520,000	bin 1, 2, 3, 4, 5, 6, 7, 8	Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove onground conveyors, transfer stations & gantries (scrap only – does not include dismantling for reuse at another site) and disposal on-site/locally	Y	720	m	\$185.00		\$133,200	2, 4D, 5, 6, 25, 37, 16, 22	Estimate for on-ground conveyor including anything up to 10 m off the ground. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove overhead conveyors, transfer stations & gantrites (scrap only, does not include dismantling for reuse at another site) and disposal on-site/locally. This may include small scale fixed material stacking infrastructure	Υ	2200	m	\$850		\$1,870,000	1, 3, 4a, 4b, 4c, 7, 27, 10, 11, 12, 13, 14, 17, 19, 21, 26, 27, 28, 29, 30, 34, 38, 39, 50, 51, 52, 53, 54, 55, 56, 57, 58	Estimate for overhead conveyor including conveyors that are >10 m off the ground that require a crane to remove. Does not include transport to regional disposal facility or equivalent.
	Remove and demolish conveyor from reclaim tunnel (Does not include excavation and demolition of reclaim tunnel roof)	Y	140	m	\$150.00		\$21,000	Kiln reclaim tunnel, jaw crusher conveyor 1 bottom end	Due to no canopy or infrastructure attached.
	Demolition of reclaim tunnel concrete (Assumes complete removal and dumping in mine pit void)	Υ	140	m	\$950.00		\$133,000	Kiln reclaim tunnel, jaw crusher conveyor 1 bottom end	Assumes this area will be used for another land-use that requires the structure to be dug up and re-buried somewhere else.
	Demolish and remove small tank clean (Thickener etc 3 - 9 m diameter) and disposal on-site/locally	Y	4	allow	\$10,000		\$40,000	SandPlant, bore tank, site square water tank, site round water tank	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
	Removal of UG tank <5000 L - including pipes, bunds etc. and disposal on-site/locally	Y	1	allow	\$21,000		\$21,000	Petrol tank decomissioned	Assume tank is clean (contents removed), does not include transport to regional disposal facility or equivalent.
	Remove small underground pipe and disposal on- site/locally	Y	1600	m	\$25.00		\$40,000	air,water and sewerage	For example: 300 mm pipes - 0.5 m deep, does not include transport to regional disposal facility or equivalent.

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Remove medium underground pipe and disposal on- site/locally	Y	290	m	\$60.00		\$17,400	back road storm water drainage, jaw crusher drain, kiln truckwash, kiln drainage to kiln dam, puddy dam, under rail line to kiln dam	For example: 500 mm pipes - 1 m deep does not include transport to regional disposal facility or equivalent.
Remove large underground pipe and disposal on- site/locally	Y	170	m	\$165.00		\$28,050	workshop stormwater drain	For example: 1 m pipes - 2 m deep.
Remove above ground pipe (supported) and disposal on-site/locally	Υ	4000	m	\$12.00		\$48,000	air and water through conveyors and buildings	~300 mm pipes and assumes pipes are in close proximity to infrastructure areas. Does not include transport to regional disposal facility or equivalent.
Remove surface pipelines (unsupported) and disposal on-site/locally	Y	490	m	\$15		\$7,350	not part of conveyor structure	~300 mm pipes and assumes pipes ar used for water transfer between pits (o similar) and remotely located. Does no include transport to regional disposal facility or equivalent.
Remove pump and pontoon from small lake or dam including pipes and electrical supply or diesel tank/s	Y	1	allow	\$20,000.00		\$20,000	kiln dam pontoon	Includes equipment for retrieval - boat etc. and labour. Does not include transport to regional disposal facility o equivalent.
Remove bitumen (car park and access roads) and dispose on-site/locally	Y	61300	m2	\$10.00		\$613,000	admin car park, mangers office car park, access roads	Scalp bitumen and stabilised material. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / k for transport.
Remove concrete pads & footings (<300 mm thickness) and disposal on-site/locally	Y	13200	m2	\$36.00		\$475,200	conc hardstand areas around workshops and buildings etc.Including the area carparks (or similar) for quarry, despatchand lime plant	Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / kr depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transpor
Remove concrete pads & footings (>300 mm thickness) and disposal on-site/locally	Y	14500	m2	\$75.00		\$1,087,500	Area under kiln, kiln back road,weighbridge,areas under and in front of workshop, jaw crusher slab	Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / ki depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transpo
Crush concrete to make road aggregate - 50 mm	Y	11200	tonne	\$13.00		\$145,600	allowance for	Does not include haulage of materials assumes crushing plant is readily available.
Remove fence (cyclone/wire fence) and disposal on- site/locally	Y	5000	m	\$20.00		\$100,000	Includes allowance for 5,000 metres of general fencing around site or site works	Roll up fence and remove posts.
Removal of small plastic tanks	Y	10	each	\$1,000.00		\$10,000	allowance for	Remove small poly tanks used for wat storage, etc.
Demolish and remove galvanised/corrugated light weight tanks	Y	2	each	\$500.00		\$1,000	allowance for bore water tanks	Demolish and remove small lightweigh metal tanks. No costs included for managing liquids, etc.
Demolish and remove communication towers	Y	1	each	\$5,000.00		\$5,000	allowance for	Cost includes demolition and removal tower only; separate costs required fo disconnection of services, demolition footings, etc.
Removal of UG services (power within main gate areas, etc.)	Y	1	allow	\$50,000.00		\$50,000	Covers Electricity water and gas	Assume service disconnection at the mine boundary is at surface level. This cost covers all fees and charges
Waste disposal to Council landfill (general waste) - haulage >25 km but <50 km	Y	500	tonne	\$12.50		\$6,250	allowance for	Rate accounts for round trip haulage t Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
Waste disposal to Council landfill (industrial demolition / concrete / scrap metal) - haulage >25 km but <50 km	Υ	200	allow	Use alternate rate cell	\$40.00	\$8,000	allowance for 200tonne @ \$40/tonne	Rate accounts for round trip haulage t Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
Waste disposal to Council landfill - fees (general waste)	Y	500	tonne	\$193.00		\$96,500	allowance for	Fee for waste disposal of general was to local Council landfill; transport rates separate. Please note that this is not applicable to operations with approval for building and demolition waste disposal on site.
Waste disposal to Council landfill - fees (industrial demolition / concrete / scrap metal)	Y	200	tonne	\$174.00		\$34,800	allowance for	Fee for waste disposal of industrial demolition / concrete / scrap metal waste to local Council landfill; transporrates separate. Rate does not assum material is recyclable. Please note this is not applicable to operations wit approval for building and demolition waste disposal on site.
	Tern	nination of Se	ervices and D	emolition Wo	rks Subtotal	\$7,945,000		Remove all materials to allow area to
	١.,	1500	m	\$60.00		\$90,000	allowance for rail not retained	Remove all materials to allow area to reshaped and rehabilitated - does not include transport to regional disposal facility or equivalent.
Remove rail loop and spur, ballast etc. and disposal on-site/locally	Y							
	Y	2000	m2	\$185.00		\$370,000	allwance for rail facilities not retained	
on-site/locally Remove train loading facilities and disposal on-		2000	m2	\$185.00 \$2,860		\$370,000 \$14,300		

Rail Infrastructure

Contaminated Materials									
	Undertake a preliminary site investigation (Phase 1). This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple studies may be required.	Y	2	Cluster	\$15,000		\$30,000	Mine Infrastructure and Processing Plant Areas	The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phass t assessment (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. A cluster may include: - Mine infrastructure (i.e., fuel / chemica store, workshop, vehicle wash-down, sewage treatment etc.) - Processing plants (i.e., ore and product storage, mine waste storage and disposal, rail load-out etc.) - Remote pit-top facilities (i.e., vehicle re fuel, sewage treatment, secondary workshop, chemical storage etc.)
	Undertake an intrusive site investigation on sites with small footprints to investigate e.g. £15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y	1	Cluster	\$44,000		\$44,000	Mine Infrastructure Area	The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (vii) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assumes site is easily accessible and a small area e.g. ~10-15 ha requires investigation and testing (test pits, observed) on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
	Undertake an intrusive site investigation on sites with large footprints to investigate e.g. >15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y	1	Cluster	\$106,000		\$106,000	Processing Plant Area	The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 398 (2) (vii)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks) upplies that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assume site has a history of contamination and/or a large area >15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
	Develop a Remediation Action Plan on sites with small footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Y	1	allow	\$35,000		\$35,000	allowance for	Develop remediation plan for approval including designs and detailed costs. Costs may increase if detailed designs required for construction.
	Removal and disposal of contaminated water from tanks, bunded areas and sumps	Y	40000	L	\$0.35		\$14,000	oil separator, jaw crusher sump, secondary screening sump, weigh bridge sump, lime plant sump	Cost for recent sump clean-up from resource activity - requires specialists to treat.
	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (haul distance >1 km but <2 km)	Y	1000	m3	\$5.63		\$5,630	> 1km but < = 2km allowance for plant spillage	Assumes 1 Excavator, 3 Trucks 16 M Grader (50% utilisation) and 1 D10 Dozer
	Load, cart and dispose of Hazardous classified contaminated material off site to a licensed landfill. Assumes cartage to a licensed landfill.	Υ	100	m3	\$800.00		\$80,000	allowance for	Includes load, haul and dump fees to a licensed facility.
	Load, cart and disposal of Restricted classified contaminated material off site to a licensed landfill. Add \$50/m3 for cartage from regional areas	Y	100	m4	\$660.00		\$66,000	allowance for	Includes load, haul and dump fees to a licensed facility.
	Load, cart and disposal of Low Level contaminated material off site to a licensed landfill. Add \$50/m3 for cartage to regional landfill	Y	100	m3	\$220.00		\$22,000	allowance for	Includes load, haul and dump fees to a licensed facility.
	Remove and dispose of asbestos (>750 m2)	Y	2100	m2	\$40		\$84,000	Estimate based on site asbestos register	Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Waste disposal to Council landfill - fees (asbestos)	Y	30	tonne	\$290	iala Cultura	\$8,700 \$495,330	Estimate assuming 70m2 of asbestos sheet approx 1 tonne	Landfill fees to regional landfill.
Vents, Shafts and Boreholes	Boreholes – grout (with concrete) cap and seal bore		1	Contan	ninated Mater	iais Subtotal	Ģ490,33 0		Includes multi skin sleaves to prevent

	Option 5 - Mineral reverse circulation drill holes								
	Rehabilitation of reverse circulation drill holes and pad including sealing drill holes for mineral exploration	Y	50	Item	\$1,340		\$67,000	Allowance for RC exploration drill holes	Sealing required, but not complete filling with concrete/grout
Deads and Torolog				Vents, Shaft	s and Boreho	oles Subtotal	\$172,000		
Roads and Tracks	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y	10	ha	\$7,025		\$70,250	Allowance for rehab of roads not retained within infrsstructure domain	D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
				R	oads and Tra	acks Subtotal	\$70,250		
Earthworks / Structural Works (Landform Establishment)								> 50m - 100m < push	
,	Major bulk pushing to achieve grades nominated in the approval/permit – 50 m-75 m push length	Y	200000	m3	\$1.19		\$238,000	Allowance for bulk shaping in 18.1ha Infra. domain and 50% or 18.6ha of NOE	Assumes D11 dozer push @ 375 bcm/hr.
	Minor reshaping and pushing	Y	36.7	ha	\$3,900		\$143,130	Infra domain - 18.1ha and NOE 18.6 ha	D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Υ	36.7	ha	\$1,600		\$58,720	Infra domain - 18.1ha and NOE 18.6 ha	Combination of dozer and excavator work plus grader for ~4 hours each per ha.
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (haul distance <1 km)	Υ	5000	m3	\$3.90		\$19,488	<=1km minor allowance	Undertaken using a 623 scraper and D10 Dozer.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y	36.7	ha	\$1,130.00		\$41,471	Infra domain - 18.1ha and NOE 18.6 ha	Undertaken using D10 dozer and 16M grader.
	Deep rip hard stand / lay down areas	Y	36.7	ha	\$960.00		\$35,232	Infra domain - 18.1ha and NOE 18.6 ha	D10 deep ripping.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y	5000	m2	\$27.00		\$135,000	allowance for	Installation of on-site rock material (rip- rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.
	E	arthworks / S	tructural Wor	rks (Landforn	n Establishm	ent) Subtotal	\$671,041		
Land Preparation and								> 5km	
Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media - haul distance >5 km	Y	36700	m3	\$7.91		\$290,297	assume 10cm over 36.7ha	Undertaken with D10 dozer, excavator and trucks.
	Planting tube stock (<15 cm)	Y	12000	allow	\$6.60		\$79,200	Allow tube stock over 50%	4 m centres.
	Direct seeding / fertiliser (tree or native grass species)	Y	18	ha	\$4,135		\$74,430	Allow direct seeding over 50%	Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding). These rates have fluctuated over the
	Single application of fertiliser (trees)	Y	36.7	ha	\$140.00		\$5,138	Allowance for	last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Construct standard stock fence around rehabilitated areas	Υ	2500	m	\$13.00		\$32,500	Allowance for	Standard rate for standard stock fencing.
	Purchase and erect warning signs	Y	100	allow	\$250.00		\$25,000	Allowance for	Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Growth media supplementation with manure	Y	36.7	ha	\$747.50		\$27,433	Allowance for	Addition of manure to improve soil
	Land Preparation and Revegetation (Grov	vth Media De	velonment ar	nd Ecosysten	n Establishm	ent) Subtotal	\$533,998		quality.
Water Management	Clean water dams to be retained after decommissioning – make safe and minor					,	. ,		Provisional sum for earthworks and revegetation required to rehabilitate
	earthworks	Υ	2	allow	\$2,500		\$5,000	Kiln Dam and Eastern Gully Dam	dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	earthworks Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Y	2	allow	\$2,500 \$10,500		\$5,000 \$21,000		an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks Remove sediments from the floor of the dam to enable it to be converted into clean water structure							Niin Dam and Eastern Gully Dam > 1km but < = 2km	an alternate land-user - D6 Dozer (or similar) ® ~\$200 per hour and pasture grass. Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks Remove sediments from the floor of the dam to	Y	2	allow m3	\$10,500 \$4.45		\$21,000 \$8,900	Dam Kiln Dam and Eastern Gully Dam	an alternate land-user - D6 Dozer (or similar) ® -\$200 per hour and pasture grass. Provisional sum for earthworks and revegetation required to rehabilitate dam batters et suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass. Undertaken with excavator, trucks, 16 N
Maintenance of Rehabilitated Areas	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks Remove sediments from the floor of the dam to enable it to be converted into clean water structure	Y	2	allow m3	\$10,500 \$4.45	nent Subtotal	\$21,000	Niin Dam and Eastern Gully Dam > 1km but < = 2km	an alternate land-user - D6 Dozer (or similar) ® -\$200 per hour and pasture grass. Provisional sum for earthworks and revegetation required to rehabilitate dam batters et suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass. Undertaken with excavator, trucks, 16 M
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks Remove sediments from the floor of the dam to enable it to be converted into clean water structure (haul distance >1km but <2km) Maintenance of areas that have been shaped and	Y	2 2000	allow m3	\$10,500 \$4.45 ater Managen	nent Subtotal	\$21,000 \$8,900 \$34,900	Niin Dam and Eastern Gully Dam > 1km but <= 2km Allowance for	an alternate land-user - D6 Dozer (or similar) ® -\$200 per hour and pasture grass. Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass. Undertaken with excavator, trucks, 16 M grader and D10 Dozer Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks Remove sediments from the floor of the dam to enable it to be converted into clean water structure (haul distance >1km but <2km) Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y	2 2000 36.7	allow m3 Wa ha	\$10,500 \$4.45 ster Managerr \$925	nent Subtotal	\$21,000 \$8,900 \$34,900 \$33,948	Kiln Dam and Eastern Gully Dam >1km but <= 2km Allowance for	an alternate land-user - D6 Dozer (or similar) ® -\$200 per hour and pasture grass. Provisional sum for earthworks and revegetation required to rehabilitate dam batters et suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass. Undertaken with excavator, trucks, 16 M grader and D10 Dozer Rehabilitation maintenance might include re-seeding, watering, lertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works. Areas requiring moderate repair - rills,
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks Remove sediments from the floor of the dam to enable it to be converted into clean water structure (haul distance >1km but <2km) Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y	2 2000 36.7	allow m3 Wa ha ha	\$10,500 \$4.45 ster Managen \$925 \$1,700		\$21,000 \$8,900 \$34,900 \$33,948 \$62,390	Kiln Dam and Eastern Gully Dam >1km but <= 2km Allowance for	an alternate land-user - D6 Dozer (or similar) ® -\$200 per hour and pasture grass. Provisional sum for earthworks and revegetation required to rehabilitate dam batters et suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass. Undertaken with excavator, trucks, 16 M grader and D10 Dozer Rehabilitation maintenance might include re-seeding, watering, lertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works. Areas requiring moderate repair - rills,

Domain 2a: Tailings & Rejects

Total Cost for Tailings & Rejects Domain

\$353,488

Refer to Plan 1 - 30 Conceptual Final Landform Plan_231130_v1v and 2019 EIS - Figure 2.1 / SSD7009 - APPENDIX 6	Key Rehabilitation Area Data for Domain	Enter data below manually
Allow additional investigation and treatment as required for up to 2ha of waste lime emplacement within overburden emplacement areas	Total Landform Establishment:	2.00
	Total Growth Media Development:	2.00
	Total Ecosystem Establishment:	2.00

Management Precinct Contaminated Materials Undertake a preliminary site invest This accounts for current and histo where areas of disturbance are clu are multiple cluster areas on site, r may be required.	tigation (Phase 1). prical locations sistered. If there	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes: The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase
Undertake a preliminary site invest This accounts for current and histo where areas of disturbance are clu are multiple cluster areas on site, f	orical locations estered. If there	•							include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site
			1	Cluster	\$15,000		\$15,000	Lime waste emplacement	Onsainstand (PA Act Section 399 (2) (iv)) or similar approved and recognised assessment method. A cluster may include: - Mine infrastructure (i.e., fuel / chemical store, workshop, vehicle wash-down, sewage treatment etc.) - Processing plants (i.e., ore and product storage, mine waste storage and disposal, rail load-out etc.) - Remote pit-top facilities (i.e., vehicle re fuel, sewage treatment, secondary workshop, chemical storage etc.)
Develop a Remediation Action Plan small footprints based on outcome investigation including strategies to contamination exceedances	s of intrusive	Y	1	allow	\$35,000		\$35,000	Allowance for Lime waste emplacement if required	Develop remediation plan for approval including designs and detailed costs. Costs may increase if detailed designs required for construction.
Removal and disposal of contamin tanks, bunded areas and sumps	nated water from	Y	5000	L	\$0.35		\$1,750	Allowance for lime plant sump cleanup	Cost for recent sump clean-up from resource activity - requires specialists to treat.
Remove material (carbonaceous / spillage or otherwise) from footprin facility (leach pads) / stockpile ares roads and dump in a void on-site (km but <2 km)	nt of the process a (ROM product) /	Y	5000	m3	\$5.63		\$28,150	> 1km but < = 2km Allowance for lime plant spillage clean up	Assumes 1 Excavator, 3 Trucks 16 M Grader (50% utilisation) and 1 D10 Dozer
	-				ninated Mater		\$79,900 \$0		
Earthworks / Structural Works (Landform Establishment) Major bulk pushing to achieve grad the approval/permit – 50 m push le	des nominated in	Y	60000	m3	so.80	ent) Subtotal	\$47,888	< 50m push Allowance for bulk fill of 2ha active waste lime emplacement area	Assumes D11 dozer push @ 400 bcm/hr.
Minor reshaping and pushing		Y	2	ha	\$3,900		\$7,800	Allowance for 2ha active waste lime emplacement area	D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
Structural works, banks, waterway drainage channels and other soil of measures	onservation	Y	2	ha	\$1,600		\$3,200	Allowance for 2ha active waste lime emplacement area	Combination of dozer and excavator work plus grader for ~4 hours each per ha.
Mine Waste	Ea	arthworks / S	tructural Wor	rks (Landforn	n Establishme	ent) Subtotal	\$58,888		T T
Ideal Tailings Capping - reshaping sealing of trafficable tailings facility chemical reactivity (no to low risk f Forming (PAF) / Neutral Mine Drains Saline Mine Drainsge (SMD) and/c propensity for spontaneous combu physical properties (not significant shear strength does not limit equip artificial strengthening required)	y with little Potential Acid nage (NMD) / or low to moderate istion) and good ly hydrophilic,	¥	2	ha	\$82,000		\$164,000	Allowance for capping 2ha active waste lime emplacement area	This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 0.5 m to 1 mand 0.15 m - 0.2 m growth media (assume at least 1 m thick cover required for carbonaceous material covers). Water quality from runoft, is sepage to the control of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide butterss or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
Land Preparation and			1	I	Mine Wa	ste Subtotal	\$164,000	> 1km but < = 2km	l
Revegetation (Growth Media Development and Ecosystem Establishment) Source, cart and spread growth medistance >1 km but <2 km	edia - haul	у	2000	m3	\$4.32		\$8,640	Allowance for 2ha active waste lime emplacement area	Undertaken with scraper and D10 dozer.
Direct seeding / fertiliser (tree or na species)	ative grass	Y	1	ha	\$4,135		\$4,135	Allowance for direct seeding 50% of active waste lime emplacement area (1 ha)	Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
				m2	\$1.90		\$19,000	Allowance for 50% hydroseeding active waste lime emplacement area (1	Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and
Hydro-seeding with straw mulching tack with native seed	g and bitumen	Y	10000	1112				ha)	input variables. Native seed +\$1.00
		Y	2	ha	\$140.00		\$280	ha) Allowance for 2ha active waste lime emplacement area	30.15 - 30.30 depending on size and input variables. Native seed +\$1.00 These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
tack with native seed	s)				\$140.00 \$13.00		\$280 \$7,800	ha) Allowance for 2ha active waste lime emplacement	input variables. Native seed +\$1.00 These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard

		Growth media supplementation with manure	Y	2	ha	\$747.50		\$1,495	Allowance for 2ha active waste lime emplacement area	Addition of manure to improve soil quality.
ı		Land Preparation and Revegetation (Grov	\$43,850							
			\$0							
	Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y	2	ha	\$925		\$1,850	Allowance for 2ha active waste lime emplacement	Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
		Existing rehabilitation repair - major	Y	2	ha	\$2,500		\$5,000	Allowance for 2na active	Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
				Mainte	enance of Rel	habilitated Ar	eas Subtotal	\$6,850		
						Additional Ite	ms Subtotal	\$0		
		Total Cost for Tailings & Rejects Domain								8

Domain 3a: Overburden & Waste

Total Cost for Overburden & Waste Domain

\$4,936,870

Refer to Plan 1 - 30 Conceptual Final Landform Plan_231130_v1v and 2019 EIS - Figure 2.1 / SSD7009 - APPENDIX 6	Key Rehabilitation Area Data for Domain	Enter data below manually
Areas for overburden domain comprise SOE (61.8ha), WOE (147ha), NOE (18.7ha) = 227.5ha. Assume 1/3rd of area active for final rehab = 75ha	Total Landform Establishment:	75.00
	Total Growth Media Development:	75.00
	Total Ecosystem Establishment:	75.00

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Roads and Tracks	Unsealed roads / access tracks / vehicle park-up				ninated Mater	iais Subtotai	\$0	Allowance for overburden	D10 Dozer @ \$400 per hour and 16 H
	areas with windrows and/or small earthen bunds – minor earthworks and deep rip and trim	Y	1.5	ha	\$1,500		\$2,250	contractor site laydown	grader @ \$230 per hour (50% utilisation) - no seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y	1.5	ha	\$7,025		\$10,538	Allowance for overburden contractor site laydown	D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (haul distance < 1km)	Y	7500	m3	\$4.45		\$33,367	<=1km Allowance for overburden contractor site laydown	Assumes 1 excavator, 3 trucks, 2 x 16 M grader (50% utilisation) and 1 D10 Dozer @ \$400
			l	R	oads and Tra	cks Subtotal	\$46,154		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – 50 m push length	Y	375000	m3	\$0.80		\$299,297	< 50m push	Assumes D11 dozer push @ 400 bcm/hr.
	Minor reshaping and pushing	Y	75	ha	\$3,900		\$292,500	Assume 1/3rd of total emplacement area of approx 227ha active	D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (haul distance >1 km but <2 km)	Y	25000	m3	\$5.22		\$130,495	> 1km but < = 2km Allowance for minor sediment dams to be decommissioned	Undertaken using 623 scraper and D10 Dozer.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y	75	ha	\$1,130.00		\$84,750	Assume 1/3rd of total emplacement area of approx 227ha active	Undertaken using D10 dozer and 16M grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Y	75	ha	\$1,600		\$120,000	Assume 1/3rd of total emplacement area of approx 227ha active	Combination of dozer and excavator work plus grader for ~4 hours each per ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y	7500	m2	\$27.00		\$202,500	Allow for 1% of active area requiring additional rock lined drainage	Installation of on-site rock material (rip- rap) where managing water run-off fron disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.
	E	arthworks / S	Structural Wo	rks (Landforr	n Establishme	ent) Subtotal	\$1,129,542 \$0		
Land Preparation and	-		1	1	wiine Wa	iste Subtotal	Ψ	> 2km but < = 5km	
Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media - haul distance >2 km but <5 km	Y	75000	m3	\$6.00		\$450,000	Assume 1/3rd of total OB emplacement area (approx 227ha) active requiring 0.1m	Undertaken with D10 dozer, excavator and trucks.
	Planting tube stock (<15 cm)	Y	25000	allow	\$6.60		\$165,000	50% of 75ha	4 m centres.
	Direct seeding / fertiliser (tree or native grass species)	Y	37.5	ha	\$4,135		\$155,063	Assume 50% direct seeded	Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Y	187500	m2	\$1.90		\$356,250	Assume 50% of 37.5ha for additional hydroseeding	Process to be used on flat well prepare surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges fror \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydromulch - high performance flexible growth medium grade	Y	372000	m2	\$2.50		\$930,000	Allowance for steep areas on Eastern Batter legacy emplacement areas	Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/h minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Υ	37.2	ha	\$420.00		\$15,624	Allowance for steep areas on Eastern Batter legacy emplacement areas	Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc this is a suitable standard rate.
	Single application of fertiliser (trees)	Y	75	ha	\$140.00		\$10,500	Assume 1/3rd of total emplacement area of approx 227ha active	These rates have fluctuated over the last few years however in light of currer conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Construct no-climb stock fence around rehabilitated areas	Y	10000	m	\$22.00		\$220,000	Allowance for	Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	Y	10000	m	\$13.00		\$130,000	Allowance for	Standard rate for standard stock fencing.
	Purchase and erect warning signs	Y	800	allow	\$250.00		\$200,000	20,000m /25m = 800 signs	Compliance with AS 1319-1994 - Safet signs for the occupational environment installed every 25 m.
	Growth media supplementation with manure	Y	75	ha	\$747.50		\$56,063	Assume 1/3rd of total emplacement area of approx 227ha active	Addition of manure to improve soil quality.
Water Management	Land Preparation and Revegetation (Grou	wth Media De	velopment ar	nd Ecosyster	n Establishme	ent) Subtotal	\$2,688,499		Provisional sum for earthworks and
water management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y	2	allow	\$2,500		\$5,000		revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture
									grass.

	enable it to be converted into clean water structure (haul distance >1km but <2km)	Y	10000	m3	\$4.45		\$44,500		Undertaken with excavator, trucks, 16 M grader and D10 Dozer
				Wa	iter Managem	ent Subtotal	\$70,500		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y	75	ha	\$925		\$69,375	Assume 1/3rd of total emplacement area of approx 227ha active	Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	Y	75	ha	\$1,200		\$90,000		Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	Y	9	ha	\$1,700		\$15,300		Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	Y	11	ha	\$2,500		\$27,500	Bryces Gully	Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	Y	20	ha	\$40,000		\$800,000	Barbers Creek	Areas that require extensive rehabilitation repair - re-design and re- construction of landform.
			Mainte			eas Subtotal	\$1,002,175		
					Additional Ite	ms Subtotal	\$0		
	Total Cost for O	verburd	len & W	aste Do	omain			\$4,936,8	70

Domain 4a: Active Mine & Voids

Total Cost for Active Mine & Voids Domain

\$3,460,260

Refer to Plan 1 - 30 Conceptual Final Landform Plan_231130_v1v and 2019 EIS - Figure 2.1 / SSD7009 - APPENDIX 6	Key Rehabilitation Area Data for Domain	Enter data below manually
Final mine void comprises void (155.4ha) + mine backfill (16.8ha) = 172.2ha	Total Landform Establishment:	60.00
Assumed accessible bench area for visual screen planting of 60ha	Total Growth Media Development:	60.00
	Total Ecosystem Establishment:	60.00

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant	Description / Notes:
Open Cut	Active pit area – benches blasted and doze to acceptable grade	Υ	7000	Lm	\$1.93		\$13,510	Information Estimated perimeter of 155 ha final mine void plus backfill area	Blasting in a 8x9 pattern of bench height 25 m with D11 push of 50-75 m.
	Drill & blast faces to make safe	Y	400000	m3	\$0.95		\$380,000	Allowance for top of highwall treatment to make safe (trim shot)	Bulk Drilling say 8"9 pattern, assuming a stem height of 6 m, charge length of 19 m, explosive density of 0.9, diameter of 229 mm, explosives at 665.3 kg/hole with a powder factor of 0.37 with an approximate bench height of 25 m.
	High wall treatment – (trench and safety berm)	Y	7200	m	\$90.00		\$648,000	Estimated "fenced" perimeter of 155 ha final mine void plus backfill area	D10 dozer, 16H Grader and revegetation with pasture grass.
					Open	Cut Subtotal	\$1,041,510		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – 50 m-75 m push length	Y	700000	m3	\$1.19		\$833,000	> 50m - 100m < push estimate of material pushed into berms to enhance revegetation	Assumes D11 dozer push @ 375 bcm/hr.
	Trim, rock rake & deep rip (includes levelling /	Υ	60	ha	\$1,130.00		\$67,800	Allowance (40%) for	Undertaken using D10 dozer and 16M
	landscaping and rip in 1 direction) Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Υ	30	ha	\$1,600		\$48,000	Allowance (20%) for accessable bench areas, North and South pits	grader. Combination of dozer and excavator work plus grader for ~4 hours each per ha.
	E	arthworks / S	tructural Wor	ks (Landforn	n Establishm	ent) Subtotal	\$948,800		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media - haul distance >1 km but <2 km	Y	60000	m3	\$4.32		\$259,200	> 1km but < = 2km 0.1m of select overburden materials to top dress accessible benches	Undertaken with scraper and D10 dozer.
	Direct seeding / fertiliser (tree or native grass species)	Υ	60	ha	\$4,135		\$248,100	Allowance (40%) for accessable bench areas	Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Y	150000	m2	\$1.90		\$285,000	Additional 15ha allowance for hydroseeding as needed	Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Single application of fertiliser (trees)	Y	60	ha	\$140.00		\$8,400	Allowance (40%) for accessable bench areas	These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Security fence around steep section of high wall	Y	7200	m	\$64.00		\$460,800	security fence around the open void	1800mm x 3 barb chain-link mesh security fence and gate standard 2.5mm mesh & 32 mm post not concreted
	Purchase and erect warning signs	Y	300	allow	\$250.00		\$75,000	7200m / 25m = 288 signs	Compliance with AS 1319-1994 - Safety signs for the occupational environment installed every 25 m.
	Growth media supplementation with manure	Y	60	ha	\$747.50		\$44,850	Allowance (40%) for accessable bench areas	Addition of manure to improve soil quality.
	Land Preparation and Revegetation (Grov	vth Media De	velopment ar	nd Ecosyster	n Establishme	ent) Subtotal	\$1,381,350		
Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y	2	allow	\$2,500		\$5,000		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ -\$200 per hour and pasture grass.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Y	2	allow	\$10,500		\$21,000		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (haul distance <1km)	Υ	2000	m3	\$3.55		\$7,100	< =1km	Undertaken with excavator, trucks, 16 M grader and D10 Dozer
				Wa	ater Managem	ent Subtotal	\$33,100		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y	60	ha	\$925		\$55,500	Allowance (40%) for accessable bench areas	Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
			Mainte		habilitated Ar		\$55,500 \$0		
	T . 10 . (C . A	Additional Items Subtotal Total Cost for Active Mine & Voids Domain							
								\$3,460,2	

Domain 5a: Management Activities

Total Cost for Management Activities

\$1,382,390

Refer to Plan 1 - 30 Conceptual Final Landform Plan_231130_v1v and 2019 EIS - Figure 2.1 / SSD7009 - APPENDIX 6	Key Rehabilitation Area Data for Domain	Enter data below manually
Total area under MLs = 763.6ha. Estimated total disturbance = 521.8ha therefore undisturbed = 241.8ha. Assume 250ha	Total Landform Establishment:	NA
CML 16 remnant is 75.1ha of which an estimated 51.9 is undisturbed.	Total Growth Media Development:	NA
	Total Ecosystem Establishment:	maintenance of undisturbed

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Water Management	On-site treatment of contaminated water due to high salt (includes removal of metals etc, brine disposal and cost of mobile water treatment unit)	N		ML	\$3,600				Rate can fluctuate depending on treatment type however this is a suitable standard rate for current programs at mining operations.
	On-site treatment of contaminated water due to low pH (incudes removal of metals etc, neutralisation treatments and cost of mobile water treatment unit	N		ML	\$1,500		40		Rate can fluctuate depending on treatment type however this is a suitable standard rate for current programs at mining operations.
Creek Diversions	Repairs and/or stabilisation of new or compromised water course diversion	N		m	\$2,500	ent Subtotal	\$0		Assumes material is suitable for revegetating and has a reasonable chance of stabilising.
	Long term maintenance of water course diversion – Channel constructed through backfilled material	N		m	\$1,500				Assumes maintenance has been kept up and significant works are not required.
	Long term maintenance of water course diversion – Channel constructed through competent material	N		m	\$750.00				Assumes maintenance has been kept up and significant works are not required.
	Installation of rock armouring	N		m2	\$6.00				Assumes competent material is locally available - multiply costs by 2 for sourcing and transporting from offsite location.
			<u> </u>		Creek Diversi	ons Subtotal	\$0		Totalion.
Maintenance of Rehabilitated Areas	Pest management on buffer lands, non-disturbed, and rehabilitated areas	Υ	250	ha	\$150.00		\$37,500	Allowance for undisturbed area of ML 1857 and CML16	Feral animal baiting programs if required and waste materials required to be removed.
	Land management of undisturbed areas (rehabilitation, weeds, ferals, erosion and sediment control works)	Υ	250	ha	\$400.00		\$100,000	Allowance for undisturbed area of ML 1857 and CML16	Undisturbed areas within the lease boundary that require land management activities.
			Mainte	enance of Re	habilitated Ar	eas Subtotal	\$137,500		
Heritage Items	The restoration and care and maintenance of items that have heritage significance	Y	2	allow	Use alternate rate cell	\$25,000	\$50,000	Allowance for both Aboriginal and European heritage items	Item for the redistribution of Aboriginal artefacts, preservation of European heritage items or a combination of activities.
Sundry Items					Heritage Ite	ems Subtotal	\$50,000		Provisional sum to be used to refine the
	Development of an 'Unplanned' Project Closure Plan - State Significant Development with closure planning well progressed i.e. preferred cover design, closure environment modelled e.g. grounderter /subsidence / pit lakes, preliminary seal designs, etc. and only finalisation of detailed engineering deigns required	N		allow	\$100,000				closure plan with execution strategies for rehabilitation activities. Assumes outcomes of studies readily available including modelling, landform design, geochemistry, demolition, etc. Costs to finalise options by domain and finalise designs for construction. Assume a simple site e.g. single open cut, no legacy operations historic in the area, little social dependence, etc. Depending on site size, complexity, final land use requirements and knowledge base investigations can range from ~575k to >51 M. Sites with more than 1 pit to add \$50,000 to rate.
	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with at least 22 of the following aspects requiring closure planning, but no significant issues realised at this time: previous subsidence, medium or higher geochemistry risk and/or spontaneous combustion propensity, known' likely contamination, tailings / rejects, final void	N		allow	\$90,000				Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities. Estimated cost for developing closure plan including studies - basic to satisfy risks and decisions - includes risk assessment, options analysis, Closure Plan. Sites with more than 1 pit to add \$50,000 to rate.
	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with no EPL and/or only one of the following relevant aspects: previous subsidence, low to medium geochemistry fisk and/or spontaneous combustion propensity, known limited contamination, small approved final void	N		allow	\$15,000				Assumes sediment control is the key concern for rehabilitation e.g. small mines, exploration operations. Includes risk assessment, sampling and analyses on <5 samples, one study and Closure Plan.
	Development of an 'Unplanned' Project Closure Plan - State Significant Development with only preliminary to conceptual closure planning in place	Y	1	allow	\$300,000		\$300,000	Refer SSD7009 and Rehabilitation Strategy rev 3 30/08/2022	Includes costs for key investigations and studies including designs e.g. geochemistry, Contamination Remediation Action Plan, subsidence risk, cover/capping and final landform, site wide surface water, etc. Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities. Assume at least 15 types of studies required ranging from geotechnical to ecology and social, development of a closure plan including address of obligations. Assume a simple site e.g. single open cut, no legacy operations historic in the area, little social dependence, etc. Depending on site size, complexity, final land use requirements and knowledge base investigations can range to >\$3 M. Sites with more than 1 pit to add \$50,000 to rate.

	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with at least ≥2 of the following aspects resulting in significan								Includes costs for key investigations and studies including economic treatments and designs e.g. geochemistry, Contamination Remediation Action Plan, subsidence
	Issues requiring remediation: previous subsidence, medium or higher geochemistry risk and/or spontaneous combustion propensity, known/ likely contamination, tailings / rejects, final void	N		allow	\$125,000				risk, cover/capping and final landform, site wide surface water, etc. Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities.
	Develop a Review of Environmental Factors (REF) to facilitate rehabilitation including contamination works.	N		allow	\$27,950				Based on experience for a REF after completion of a detailed closure study (e.g. contamination investigation) costs could range from \$10,000 to \$100,000 ex GST. Note this does not apply to a Statement of Environmental Effects or Environmental Impact Statement.
	Site security during closure	N		yr.	\$75,000				Provisional sum for site security measures required during closure. This includes nightly patrols and first response in the event of an out of hours incident.
	Large HAZMAT Clean-up - cleaning and decontaminating plant and equipment, chemical	Y	1	allow	\$650,000		\$650,000	Large	Very labour intensive and previous experience in similar mine sites suggest
	storage locations, oil and grease traps, tanks, vessels, and pipe work etc						,		this is a better more realistic rate to use for larger size contam clean-ups.
	Removal and disposal of radiation devices	Y	3	each	\$31,630		\$94,890	2 online analyser scanners and a XRF unit in the laboratory	Provisional sum for removal and disposal of monitoring devices on conveyors using a radiation source (i.e., Americium – 241, Plutonium – 238, Caesium - 137 etc). Source Isotope type, quantity, strength, weight, source holder type, source holder type, lock-up location (among others) will directly affect pricing.
	Additional fees for accessing State, Crown or other public lands for rehabilitation/remediation activities	Y	1	allow	Use alternate rate cell	\$50,000	\$50,000	Allowance for Crown Lands access	Provisional sum.
					Sundry Ite	ems Subtotal	\$1,094,890		
Mobilisation and Demobilisation	Mobilisation & Demobilisation for small mine or quarry - small fleet	N		Item	\$12,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation for small mine or quarry - medium to large fleet	N		Item	\$35,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site <150 km)	Υ	1	item	\$100,000		\$100,000	Estimate earth moving equipment required is considered readily available and site access is not considered diffilcult	May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >150 km but <500 km)	N		item	\$150,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >500 km but <1000 km)	N		item	\$300,000				May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
	Mobilisation & Demobilisation (Distance to site >1000 km)	N		item	\$500,000		6400.000		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required.
Additional Items	lau		Мо	Diffisation and	d Demobilisat	uon Subtotal	\$100,000		This item includes < <to added="" be="" by<="" td=""></to>
	Other 1 <insert> Other 2 <insert></insert></insert>	N N			This is deliberately				the operator>> This item includes < <to added="" be="" by="" operator="" the="">></to>
	Other 3 <insert></insert>	N			left blank				This item includes < <to added="" be="" by="" operator="" the="">></to>
					Additional Ite	ems Subtotal	\$0		
	Total Cost for		\$1,382,3	90					

Domain 1b: Infrastructure

Total Cost for Infrastructure Domain

\$0

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant	Description / Notes:
Termination of Services and Demolition Works	Disconnect and terminate all services (Water, electricity, gas etc at point of attachment to site)	Y		allow	\$35,000		\$0	Information	For disconnection of all services, at building boundaries, physical cut at the point of attachment or distribution location. If infrastructure is not consolidated (i.e., administration, camp and workshops are in separate places), consider multiple disconnection fees.
	Disconnect and terminate services at remote areas (i.e. pump stations, remote workshops, sewage treatment plant etc.)	Υ		allow	\$5,850		\$0		Used for infrastructure remote from primary connection. Can also be used for small mines / quarries that do not have dedicated supplies from supply authorities such as steel lattice power lines.
	Removal of low/medium voltage powerlines including disconnection, rolling up the wires and removing the poles - does not include the removal of substations	Y		km	\$15,000		\$0		Applies to power lines on stobie, concrete or similar poles.
	Removal of power lines on tower or lattice structures (this includes disconnection, rolling up the wires and removing the structures) - does not include the removal of substations	Y		km	\$100,000		\$0		Applies to power lines on steel tower and steel lattice structures assuming 3 towers / km.
	Remove small rail, road, water course overpass - manage potential interruptions and demolish and remove bridge supports/pylons/bridge structure etc. and dispose of waste material on-site/locally	Y		ltem	\$350,000		\$0		Smaller structures - minimal civil works to demolish (constructed for the purposes of mining related works - does not include transport to regional disposal facility or equivalent).
	Remove medium rail, road, water course overpass - manage potential interruptions and demolish and remove bridge supports/pylons/bridge structure etc. and dispose of waste material on-site/locally	Y		ltem	\$500,000		\$0		Medium structures - minimal civil works to demolish (constructed for the purposes of mining related works - does not include transport to regional disposal facility or equivalent).
	Remove large / significant rail, road, water course overpass - manage potential interruptions and demolish and remove bridge supports/pylons/bridge structure etc. and dispose of waste material onsite/locally	Y		Item	\$1,300,000		\$0		Large structures - includes significant water management e.g. watercourse diversion and civil works to demolish (constructed for the purposes of mining related works - does not include transport to regional disposal facility or equivalent).
	Demolish and/or remove substations (assumes they are in a closed building). Dispose of waste material on-site/locally	Y		m2	\$100.00		\$0		Simple structure to demolish mechanically (no labour required), assumes single story building with no asbestos and segregation of contents for scrap as applicable.
	Demolish and remove switchyard. Dispose of waste material on-site/locally	Y		m2	\$75.00		\$0		Includes demolition and removal of all switchgear and transformers etc. and segregation of contents for scrap as applicable.
	Demolish and remove demountable structures on concrete stumps. Assumes not being re-used	Y		m2	\$40.00		\$0		Crib huts, temporary offices and other 'non permanent' structures. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove small buildings/tanks (admin buildings, single story accommodation etc) and disposal on-site/locally	Y		m2	\$61.00		\$0		Simple structure to demolish, assumes no greater than 2 stories high. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove light industrial buildings and disposal on-site/locally	Y		m2/floor	\$90.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m) - does not include transport to regional disposal facility or equivalent. Assumes asbestos free and mechanically demolished.
	Demolish and remove industrial buildings (workshops tyre change and servicing area etc not CHPP/process plant) and disposal on-site/locally	Υ		m2/floor	\$130.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Demolish and remove CHPP/process plant (include the area of each floor of the structure) and disposal on-site/locally	Υ		m2/floor	\$225.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove washery, crushers, hoppers, mills, furnaces, agglomeration, electrowinning, floatation, sizing stations, rotary breakers, etc (include the area of each floor of the structure) and disposal on-site/locally	Y		m2/floor	\$225.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove stacker OR reclaimer (radial or luffing etc. with maneuverability for stockpile control) and disposal on-site/locally	Υ		allow	\$750,000		\$0		Cost for removal of stacker or reclaim unit only. Does not include terminate services, remove rails and ballast etc. Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove bucket wheel stacker/rectaimer and disposal on-site/locally	Υ		allow	\$2,000,000		\$0		Cost for just removal of the bucket wheel stacker/reclaim units. Does not include terminate services, remove rails and ballast etc. Does not include transport to regional disposal facility or equivalent.
	Remove stacker/reclaimer rails and ballast and demolish and remove concrete footings etc and disposal on-site/locally	Υ		m	\$75.00		\$0		Includes both rails, does not include the conveyor system. Does not include transport to regional disposal facility or equivalent.
	Collapse, Cut and Remove 5000T coal silo and disposal on-site/locally	Y		allow	\$92,500		\$0		Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.

Collapse, Cut and Remove 3000 T coal silo and					Collapse structure and remove. Does
disposal on-site/locally	Y	allow	\$77,500	\$0	not include transport to regional disposal facility or equivalent.
Collapse, Cut and Remove 1250 T coal silo and disposal on-site/locally	Y	allow	\$62,500	\$0	Collapse structure and remove. Does not include transport to regional disposal facility or equivalent. Collapse structure and remove. Does
Collapse, Cut and Remove rail loading bins and disposal on-site/locally	Y	allow	\$65,000	\$0	not include transport to regional disposal facility or equivalent.
Demolish and Remove large concrete rail loading bin - and disposal on-site/locally	Y	allow	\$460,000	\$0	Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
Demolish and remove onground conveyors, transfer stations & gantries (scrap only – does not include dismantling for reuse at another site) and disposal on-site/locally	Y	m	\$185.00	\$0	Estimate for on-ground conveyor including anything up to 10 m off the ground. Does not include transport to regional disposal facility or equivalent.
Demolish and remove elevated conveyors, transfer stations & gantries (scrap only, does not include dismantling for reuse at another site) and disposal on-site/locally	Υ	m	\$295.00	\$0	Estimate for elevated conveyor up to ~10 m off the ground. Does not include transport to regional disposal facility or equivalent.
Demolish and remove overhead conveyors, transfer stations & gantries (scrap only, does not include dismantling for reuse at another site) and disposal on-site/locally. This may include small scale fixed material stacking	Y	m	\$850	\$0	Estimate for overhead conveyor including conveyors that are >10 m off the ground that require a crane to remove. Does not include transport to regional disposal facility or equivalent.
infrastructure Remove and demolish conveyor from reclaim tunnel (Does not include excavation and demolition of	Y	m	\$150.00	\$0	Due to no canopy or infrastructure
reclaim tunnel roof)			* ***		attached. Assumes this area will be used for
Demolition of reclaim tunnel concrete (Assumes complete removal and dumping in mine pit void)	Υ	m	\$950.00	\$0	another land-use that requires the structure to be dug up and re-buried somewhere else.
Demolition and removal of vent raise fans, electrical substation and winch and disposal on-site/locally	Y	allow	\$25,000	\$0	Does not include filling and capping the shaft. Does not include transport to regional disposal facility or equivalent.
Demolish and remove small tank clean (Thickener etc 3 - 9 m diameter) and disposal on-site/locally	Y	allow	\$10,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove medium tank clean (Thickener etc 10 - 15 m diameter) and disposal on- site/locally	Y	allow	\$30,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove large tank clean (Thickener etc 15 - 30 m diameter) and disposal on-site/locally	Υ	allow	\$45,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove extra large tank clean (Thickener etc >30 m diameter) and disposal on- site/locally	Υ	allow	\$100,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove tank clean (Thickener etc) >50 m diameter and disposal on-site/locally	Υ	allow	\$100,000	\$0	Estimate only - may require a detailed assessment from demolition expert due to specialised equipment required for removal. Does not include transport to regional disposal facility or equivalent.
Removal of UG tank <5000 L - including pipes, bunds etc. and disposal on-site/locally	Y	allow	\$21,000	\$0	Assume tank is clean (contents removed), does not include transport to regional disposal facility or equivalent.
Removal of UG tank 5000 L - 15000 L - including pipes, bunds etc. and disposal on-site/locally	Υ	allow	\$30,000.00	\$0	Assume tank is clean (contents removed), does not include transport to regional disposal facility or equivalent.
Remove small underground pipe and disposal on- site/locally	Y	m	\$25.00	\$0	For example: 300 mm pipes - 0.5 m deep, does not include transport to regional disposal facility or equivalent.
Remove medium underground pipe and disposal on- site/locally	Y	m	\$60.00	\$0	For example: 500 mm pipes - 1 m deep, does not include transport to regional disposal facility or equivalent.
Remove large underground pipe and disposal on- site/locally	Y	В	\$165.00	\$0	For example: 1 m pipes - 2 m deep.
Remove above ground pipe (supported) and disposal on-site/locally	Υ	m	\$12.00	\$0	~300 mm pipes and assumes pipes are in close proximity to infrastructure areas. Does not include transport to regional disposal facility or equivalent.
Remove surface pipelines (unsupported) and disposal on-site/locally	Y	 m	\$15	\$0	~300 mm pipes and assumes pipes are used for water transfer between pits (or similar) and remotely located. Does not include transport to regional disposal facility or equivalent.
Remove pump and pontoon from small lake or dam including pipes and electrical supply or diesel tank/s	Y	allow	\$20,000.00	\$0	Includes equipment for retrieval - boats, etc. and labour. Does not include transport to regional disposal facility or equivalent.
Remove bitumen (car park and access roads) and dispose on-site/locally	Y	m2	\$10.00	\$0	Scalp bitumen and stabilised material. Generally haulage rates will be \$0.50 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
Remove bitumen (airstrip) and dispose on- site/locally	Y	m2	\$20.00	\$0	Scalp bitumen and stabilised material. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.

	Remove concrete pads & footings (<300 mm thickness) and disposal on-site/locally	Υ		m2	\$36.00		\$0	Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
	Remove concrete pads & footings (>300 mm thickness) and disposal on-site/locally	Υ		m2	\$75.00		\$0	Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
	Crush concrete to make road aggregate - 75 mm	Υ		tonne	\$10.00		\$0	Does not include haulage of materials - assumes crushing plant is readily available.
	Crush concrete to make road aggregate - 50 mm	Υ		tonne	\$13.00		\$0	available. Does not include haulage of materials - assumes crushing plant is readily available.
	Crush concrete to make road aggregate - 30 mm	Y		tonne	\$15.00		\$0	Does not include haulage of materials - assumes crushing plant is readily
	Remove fence (cyclone/wire fence) and disposal on- site/locally	Υ		m	\$20.00		\$0	available. Roll up fence and remove posts.
	Removal of small plastic tanks	Y		each	\$1,000.00		\$0	Remove small poly tanks used for water storage, etc.
	Demolish and remove galvanised/corrugated light weight tanks	Υ		each	\$500.00		\$0	Demolish and remove small lightweight metal tanks. No costs included for managing liquids, etc.
	Demolish and remove communication towers	Y		each	\$5,000.00		\$0	Cost includes demolition and removal of tower only; separate costs required for disconnection of services, demolition of footings, etc.
	Removal of UG services (power within main gate areas, etc.)	Y		allow	\$50,000.00		\$0	Assume service disconnection at the mine boundary is at surface level. This cost covers all fees and charges
	Waste disposal to Council landfill (general waste) - haulage >10 km but <15 km	Υ		tonne	\$7.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (general waste) - haulage >15 km but <25 km	Y		tonne	\$9.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (general waste) - haulage >25 km but <50 km	Y		tonne	\$12.50		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (industrial demolition / concrete / scrap metal) - haulage >10 km but <15 km	Y		tonne	\$32.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (industrial demolition / concrete / scrap metal) - haulage >15 km but <25 km	Y		tonne	\$36.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (industrial demolition / concrete / scrap metal) - haulage >25 km but <50 km	Y		allow	Use alternate rate cell		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill - fees (general waste)	Y		tonne	\$193.00		\$0	Fee for waste disposal of general waste to local Council landfill; transport rates separate. Please note that this is not applicable to operations with approval for building and demolition waste disposal on site.
	Waste disposal to Council landfill - fees (industrial demolition / concrete / scrap metal)	Y		tonne	\$174.00		\$0	Fee for waste disposal of industrial demolition / concrete / scrap metal waste to local Council landfill; transport rates separate. Rate does not assume material is recyclable. Please note that this is not applicable to operations with approval for building and demolition waste disposal on site.
Rail Infrastructure		Tern	nination of Se	ervices and D	emolition Wo	rks Subtotal	\$0	Remove all materials to allow area to be
	Remove rail loop and spur, ballast etc. and disposal on-site/locally	Y		m	\$60.00		\$0	reshaped and rehabilitated - does not include transport to regional disposal facility or equivalent.
	Remove train loading facilities and disposal on- site/locally	Υ		m2	\$185.00		\$0	Remove rail load point infrastructure including gantries and control structures. Does not include transport to regional disposal facility or equivalent.
	Reshape rail spur and load out areas. Does not include growth media and revegetation	Y		ha	\$2,860		\$0	D10 Dozer and 16 H Grader (50% utilisation).
taminated Materials			ı	R	ail Infrastruct	ure Subtotal	\$0	
	Undertake a preliminary site investigation (Phase 1). This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple studies may be required.	Y		Cluster	\$15,000		\$0	The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Drivinomental Protection (Site assessment (EP At Section 389 (2) (iv)) or similar approved and recognised assessment method. A cluster may include: A cluster may include: Alice infrastructure (i.e., fuel / chemical store, workshop, whice wash-down, sewage treatment etc.) Processing plants (i.e., ore and product storage, mine waste storage and disposal, rail load-out etc.) Remote pit-top facilities (i.e., vehicle refuel, sewage treatment, secondary workshop, chemical storage etc.)

Undertake an intrusive site investigation on sites with small footprints to investigate e.g. £15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y	Cluster	\$44,000	\$0		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assumes site is easily accessible and a small area e.g. –10:15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
Undertake an intrusive site investigation on sites with large footprints to investigate e.g. >15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y	Cluster	\$106,000	\$0		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, arround ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assume site has a history of contamination and/or a large area >15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
Develop a Remediation Action Plan on sites with small footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Y	allow	\$35,000	\$0		Develop remediation plan for approval including designs and detailed costs. Costs may increase if detailed designs required for construction.
Develop a Remediation Action Plan on sites with large footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Υ	allow	Use alternate rate cell	\$0		Assumes complex site; detailed design drawings required for cover.
Removal and disposal of contaminated water from tanks, bunded areas and sumps	Y	L	\$0.35	\$0		Cost for recent sump clean-up from resource activity - requires specialists to treat.
Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (Select Haul Distance from list)	Υ	m3	Select from List		Select Haul Distance Here	This item includes scraping and removal of the volume of carbonaceous material using dozer, grader etc. to make safe an area and enable the establishment of rehabilitation.
Load, cart and dispose of Hazardous classified contaminated material off site to a licensed landfill. Assumes cartage to a licensed landfill.	Y	m3	\$800.00	\$0		Includes load, haul and dump fees to a licensed facility.
Load, cart and disposal of Restricted classified contaminated material off site to a licensed landfill. Add \$50/m3 for cartage from regional areas	Y	m4	\$660.00	\$0		Includes load, haul and dump fees to a licensed facility.
Load, cart and disposal of Low Level contaminated material off site to a licensed landfill. Add \$50/m3 for cartage to regional landfill	Y	m3	\$220.00	\$0		Includes load, haul and dump fees to a licensed facility.
Onsite remediation of hydrocarbon contaminated soils manual land farming (Select Volume from List)	Y	m3	Select from List		Select Volume Here	Spreading of contaminated soils on a prepared surface and stimulation of aerobic microbial activity within the soils through aeration and/or the addition of minerals, nutrients and moisture to promote the aerobic degradation of organic chemicals - time frame of up to 24 months.
Mobilisation of cement stabilisation plant and equipment for hydrocarbon (i.e., PAH, long chain hydrocarbons, etc.) contaminated soil treatment	Y	Item	\$150,000	\$0		Required if treatment of hydrocarbon contamination is required to be fast tracked.
On-site remediation of hydrocarbon contaminated soils - using a mobile treatment unit	Y	m3	\$165.00	\$0		Additional cost as the treatment process is fast tracked.
Remove and dispose of asbestos (<750 m2)	Y	m2	\$50.00	\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
Remove and dispose of asbestos (>750 m2)	Y	m2	\$40	\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
Waste disposal to Council landfill - fees (asbestos)	Y	tonne	\$290	\$0		Landfill fees to regional landfill.
Treatment of known Acid Sulfate Soils	Y	ha	\$2,580	\$0		Assumes ASS is treatable via neutralisation and does not require capping and isolation. Assumes 1% by weight lime addition and treatment to 100 mm depth only.

March Selection of the Company (1997) 1997 19										
Part			Y		m2	\$1		\$0		Provisional sum for cutting using rippir tynes and on-site disposal of the liner.
Month Mont		Long haulage brine/salt for disposal (Select Haul	Y		tonne				Select Haul Distance Here	Costs for haulage to location for
100,000,000,000,000,000,000,000,000,000									Coloci Hadi Dictalico Horo	Rate for trackable liquid levy of \$78.2
			Y		tonne			\$0		landfill.
April Committee Committe			Y		tonne				Select Haul Distance Here	Assumes transport in a 20,000 L tank Add disposal costs to additional item
Page Contraction Contrac	Vante Shafte and Barohalas	r			Contan	ninated Mater	als Subtotal	\$0		0
Copposition Production Pr	vents, Snarts and Borenoles	Exploration boreholes – rehabilitate coal boreholes	Υ		depth (m)	\$44.55		\$0		exploration borehole. Assume a 20 m 20 m drill pad requires rehabilitation - push cover of nearby growth media, r and seed.
Experience for control and one open services of the property o		Exploration boreholes – backfill open Rotary	Y		allow	\$ 43		\$0		installation of a casing cap, and/or manually backfilling the hole with drill cuttings. Does not include reshaping ripping the drill pad, amelioration /
Security 1. year development 1. year d		Exploration boreholes – grout and cap open bore	Y		allow	\$5,700		\$0		requirements of Departmental
Action and the company Action and includes V Store 18,800 59 Control of processing from the control of process		casing (i.e., goaf drainage etc.)	Y		allow	\$6,960		\$0		cutting steel collar 6 m below surface grouting and capping.
Roots and Track Accordance of the process of the			Y		allow	\$17,890		\$0		
Books and Tracks Trac			Y		allow	\$16,000		\$0		Vertical gas drainage boreholes.
Bootstar - up and and amond broad service for controls to U.S. Y		Boreholes - grout (with concrete) cap and seal bore	Y		allow	\$35,000		\$0		Includes multi skin sleaves to preven
Ogno 4 - Mores agency of 11 force in memory and of all and of the control of the		Boreholes – cap and seal service boreholes for UG	Υ		allow	\$45,000		\$0		Includes large diameter boreholes us for supplying electricity (66kV),
Routs and Tracks Name of Control of Contr		Rehabilitation of diamond drill holes and pad	Y		Item	\$2,070		\$0		Bog out cuttings, remove fencing, remove rubbish, push sumps in, rehabilitate pads and tracks, cut and plug collars. Includes labour and equipment, disposal of rubbish locally
Openio - Residentification of all this colorary immunity and secretary in the colorary in the colorary immunity and secretary in the colorary in the		Rehabilitation of reverse circulation drill holes and pad including sealing drill holes for mineral	Y		Item	\$1,340		\$0		Sealing required, but not complete fill with concrete/grout
Reads and Tracks Inscelled roads / vehicle paint-up areas - minor V		Option 6 - Rehabilitation of drill hole collars Rehabilitation of drill hole collars (mineral	Y		each	\$415		\$0		Cut collar, remove, cap, backfill capp collar and cover with nearby organic growth material
exchange queue greater tein International parts agreed to the control of the con					Vents, Shaft	s and Boreho	les Subtotal	\$0		
Unwested models / Webbild perfusion and select print and deep pin and	Roads and Tracks	works including deep rip and trim Unsealed roads / access tracks / vehicle park-up						-		Grader. D10 Dozer @ \$400 per hour and 16 h
Unsected master / vehicle pask-sp areas - Manor vehicle pask-sp areas - Manor vehicle pask-sp areas - V		Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed	Y		ha	\$3,700		\$0		D10 Dozer @ \$400 per hour and 16 grader @ \$230 per hour (50%
Urstaeler roads / hauf madar / whiche park-up areas with windroos and or amal safether burds - Minor of the park o		Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and	Y		ha	\$4,485		\$0		D10 Dozer @ \$400 per hour and 16 grader @ \$230 per hour (50%
Unselect roads / hast roads / h		Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and	Y		ha	\$4,870		\$0		D10 Dozer @ \$400 per hour and 16 li grader @ \$230 per hour (50%
Remove stabilised material (blue metal, apgregate rec). From road-ways and disposal on alter/ocally (Select Haul Distance from Ital) Roads and Tracks Substotal Roads an		Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and	Y		ha	\$7,025		\$0		
Algor bulk pushing to achieve grades nominated in the approval/permit — Select Push Length Here the approval/permit — Select Heal Distance Here — Select Heal Distance Her		etc.) from roadways and disposal on-site/locally	Y		m3				Select Haul Distance Here	removal of the volume of stabilised material from the road, laydown or ot surface using an excavator, dozer an grader to enable the establishment of
Major bulk pushing to achieve grades nominated in the approval/permit. Select Push Length Minor reshaping and pushing Structural works, banks, waterways - contour banks, dramage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance Here) Shotcrete application on cuttings and steep slopes Y m2 Silect from List Select from List Select from List Select from Combination of cape and excavator was converted in the securator and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance Here) This item includes the volume of material requiring backfill using an excavator and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance Here) Shotcrete application on cuttings and steep slopes Y m2 Silest from List Minor reshaping and pushing to a second responsibility of the permit of the permit of the permit requiring backfill using an excavator and screaming the packfill using an excavator and screaming the permit requiring backfill using an excavator and screaming the permit of the permit selected from the permit requiring backfill using an excavator and screaming the permit requiring backfill using an excavator and screaming the permit requiring backfill using an excavator and screaming slopes of weathered rock, readways and stabilisation. This tree is used to rehabilitate steep slopes of the pushing the steep slope of the pushing the slope of the pushing slopes of weathered rock, readways and stabilisation. Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction) Deep rip hard stand / lay down areas Y In land Preparation and slope of the permit slopes and repair to discuss the permit slopes and repair to discuss the permit slopes and repai	Footburgeles / Otropotored Words				R	oads and Tra	cks Subtotal	\$0		Malankallanakian tanakian mada
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	Direct seeding / fertiliser (pasture grass species)	Υ		ha	\$1,875		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or
	Direct seeding / fertiliser (tree or native grass species)	Y		ha	\$4,135		\$0		helicopter (aerial seeding). Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Y		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed	Y		m2	\$0.43		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where irrigation from water cart may be possible. Industry standard application rate of 2500kg/ha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Y		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha. This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Y		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of -4,000kg/ha minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Υ		ha	\$140.00		\$0		These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000.00		\$0		Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	Y		m	\$22.00		\$0		Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	Y		m	\$13.00		\$0		Standard rate for standard stock fencing.
	Purchase and erect warning signs	Y		allow	\$250.00		\$0		Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Υ		m3	\$80.80		\$0		D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Y		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.
	Clearing and grubbing of trees and vegetation	Y		ha	\$4,730.00		\$0		Clearing and grubbing of light vegetation growth e.g. regrowth
	Topsoil stripping	Y		m3	\$4.86		\$0		Stripping or topsoil at an approximate depth of 0.2 m into stockpiles; load and haul to final rehabilitation location required or respreading where necessary.
	Growth media supplementation with manure	Y		ha	\$747.50		\$0		Addition of manure to improve soil quality.
	Utilise biotic soil media - organic topsoil alternative	Y		m2	\$2.50		\$0		Material that can be applied as an alternative to spreading topsoil prior to hydromulching.
Water Management	Land Preparation and Revegetation (Grov	vth Media De	evelopment ar	nd Ecosysten	n Establishme	ent) Subtotal	\$0		Provisional sum for earthworks and
	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y		allow	\$2,500		\$0		revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Y		allow	\$10,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list) Removal of evaporation fans and/or other water	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck and dozer to clean out the dam. Provisional sum for removal of water
	transfer and management infrastructure	Y		allow W a	\$25,000 iter Managem	ent Subtotal	\$0 \$0		management infrastructure.
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y		ha	\$925	Junioldi	\$0		Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	Y		ha	\$1,700		\$0		Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	Y		ha	\$2,500		\$0		Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.

Existing rehabilitation repair - total failure of landform	Y		ha	\$40,000		\$0		Areas that require extensive rehabilitation repair - re-design and re-construction of landform.
		Mainte	nance of Rel	abilitated Are	eas Subtotal	\$0		
				Additional Ite	ms Subtotal	\$0		
Total Cost fo		\$0						

Domain 2b: Tailings & Rejects

Total Cost for Tailings & Rejects Domain

\$0

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Contaminated Materials	Undertake a preliminary site investigation (Phase 1). This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple studies may be required.	Y		Cluster	\$15,000		\$0		The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 1 assessment (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. A cluster may include: - Mine infrastructure (i.e., fuel / chemical store, workshop, vehicle wash-down, sewage treatment etc.) - Processing plants (i.e., ore and product storage, mine waste storage and disposal, rail load-out etc.) - Remote pit-top facilities (i.e., vehicle refuel, sewage treatment, secondary workshop, chemical storage etc.)
	Undertake an intrusive site investigation on sites with small footprints to investigate e.g. <15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y		Cluster	\$44,000		\$0		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, arround ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assumes site is easily accessible and a small area e.g10-15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, samppling and analysis.
	Undertake an intrusive site investigation on sites with large footprints to investigate e.g. >15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y		Cluster	\$106,000		\$0		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assume site has a history of contamination and/or a large area >15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
	Develop a Remediation Action Plan on sites with small footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Y		allow	\$35,000		\$0		Develop remediation plan for approval including designs and detailed costs. Costs may increase if detailed designs required for construction.
	Develop a Remediation Action Plan on sites with large footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Y		allow	Use alternate rate cell		\$0		Assumes complex site; detailed design drawings required for cover.
	Removal and disposal of contaminated water from tanks, bunded areas and sumps	Y		L	\$0.35		\$0		Cost for recent sump clean-up from resource activity - requires specialists to treat. This trem includes scraping and
	spillage or otherwise) from footprint of the process facility (leach nads) / stocknile area (ROM product) / Load, cart and dispose of Hazardous classified	Y		m3	Select from List			Select Haul Distance Here	removal of the volume of carbonaceous
	contaminated material off site to a licensed landfill. Assumes cartage to a licensed landfill.	Y		m3	\$800.00		\$0		Includes load, haul and dump fees to a licensed facility.
	Load, cart and disposal of Restricted classified contaminated material off site to a licensed landfill. Add \$50/m3 for cartage from regional areas	Y		m4	\$660.00		\$0		Includes load, haul and dump fees to a licensed facility.

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	Load, cart and disposal of Low Level contaminated material off site to a licensed landfill. Add \$50/m3 for cartage to regional landfill	Y		m3	\$220.00		\$0		Includes load, haul and dump fees to a licensed facility.
	Onsite remediation of hydrocarbon contaminated soils manual land farming (Select Volume from List)	у		m3	Select from List			Select Volume Here	Spreading of contaminated soils on a prepared surface and stimulation of aerobic microbial activity within the soil through aeration and/or the addition of minerals, nutrients and moisture to promote the aerobic degradation of organic chemicals - time frame of up to 24 months.
	Mobilisation of cement stabilisation plant and equipment for hydrocarbon (i.e., PAH, long chain hydrocarbons, etc.) contaminated soil treatment	Y		Item	\$150,000		\$0		Required if treatment of hydrocarbon contamination is required to be fast tracked.
	On-site remediation of hydrocarbon contaminated soils - using a mobile treatment unit	Y		m3	\$165.00		\$0		Additional cost as the treatment process is fast tracked.
	Remove and dispose of asbestos (<750 m2)	Υ		m2	\$50.00		\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Remove and dispose of asbestos (>750 m2)	Υ		m2	\$40.00		\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Waste disposal to Council landfill - fees (asbestos)	Y		tonne	\$290		\$0		Landfill fees to regional landfill.
Roads and Tracks	Unsealed roads / vehicle park-up areas – minor		l		ninated Mater	ials Subtotal	\$0		Assumes ~6 m road width - 16H
	works including deep rip and trim Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds –	Y		ha ha	\$1,040.00 \$1,500		\$0 \$0		Grader. D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50%
	minor earthworks and deep rip and trim Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed	Y		ha	\$3,700		\$0		utilisation) - no seed D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50%
	(pasture grass) Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and	Y		ha	\$4,485		\$0		utilisation) - pasture grass seed D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50%
	seed (native tree/shrub/grass) Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	Υ		ha	\$4,870		\$0		utilisation) - native tree/shrub seed D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Υ		ha	\$7,025		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	Υ		m3	Select from List			Select Haul Distance Here	This item includes the scraping and removal of the volume of stabilised material from the road, laydown or othe surface using an excavator, dozer and grader to enable the establishment of rehabilitation.
	E	arthworks / S	tructural Wor	ks (Landforn	n Establishme	ent) Subtotal	\$0		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	Y		m3	Select from List			Select Push Length Here	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	Υ		ha	\$3,900		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	у		m3	Select from List			Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y		ha	\$1,130.00		\$0		Undertaken using D10 dozer and 16M grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Υ		ha	\$1,600		\$0		Combination of dozer and excavator work plus grader for ~4 hours each per ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y		m2	\$27.00		\$0		Installation of on-site rock material (rip- rap) where managing water run-off fror disturbed land and/or upon entry to
									water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.
Mine Waste	E	arthworks / S	tructural Wor	ks (Landforr	n Establishme	ent) Subtotal	\$0		gully head (assumes competent material is locally available). If required to be sourced off site, assume an
Mine Waste	Ideal Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with little chemical reactivity (no to low risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) / Saline Mine Drainage (SMD) and/or low to moderate propensity for spontaneous combustion) and good physical properties (not significantly hydrophilic, shear strength does not limit equipment choice, no artificial strengthening required)	arthworks / S	tructural Wor	ks (Landforn	n Establishme	ent) Subtotal			gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2. This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 0.5 m to 1 mad 0.15 m - 0.2 m growth media (assume at least 1 m thick cover required for carbonaceous material covers). Water quality from runoff, seepage etc. meets site-specific environment water quality values.
Mine Waste	Ideal Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with little chemical reactivity (no to low risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) and of low to moderate propensity for spontaneous combustion) and good physical properties (not significantly hydrophilic, shear strength does not limit equipment choice, no		tructural Wor			ent) Subtotal	\$0		gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2. This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 0.5 m to 1 mand 0.15 m - 0.2 m growth media (assume at least 1 m thick cover required for carbonaceous material covers). Water quality from runoff, seepage etc. meets site-specific environment water quality values. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for this distance in 8.05 (spreading in additional to any long spreading in 4.05 (spreading in 4.05 (spread

Efficient Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (low to medium risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) / Saline Mine Drainage (SMD) and/or low to moderate propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$146,500	\$0	This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities where the tailings or rejects base is at a strength that enables economically efficient construction methods with small plant. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness ranging from >1 m to 2 m thickness constructed in 1 m layers + growth media up to 0.2 m depth. This may require additional materials (such as capillary breaks, geofabric, etc.) - use alternate rate cells below, specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised/additional materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Adverse Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (medium to high risk Potiential Acid Forming (PAF) / Neutral Mine Drainage (NMD) / Saline Mine Drainage (SMD) and/or moderate to high propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$313,000	\$0	This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities of high geochemical risk, and / or low shear strength that prohibits economically efficient construction methods. This rate assumes suitable capping materials are available on site within 10 km, and an average cap thickness of approximately >2 m + growth media up to 0.2 m depth. This may require additional materials (i.e., capillary breaks, geofabric, etc.) specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap naterial included in rate).
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Difficult Tailings Capping- reshaping, capping / sealing of weak or soft surfaced tailings facility with poor physical properties (significantly hydrophilic, low shear strength limits equipment choice greatly, artificial strengthening required) OR visible adverse impacts on legacy sites from chemical reactivity over lengthy exposure prior to rehabilitation	Y	ha	\$843,000	\$0	This option is typically driven by time constraints and/or when tailings properties significantly restrict adequate desiccation, resulting in a tailings shear strength that is very weak excluding access by conventional small plant. Small equipment used for rehabilitation. This excludes any additional material required to form the final landform profile in addition to this cap. If the shaulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.

									Include additional cost to import
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y		allow	Use alternate rate cell		\$0		materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric /
	Long naulage soil / weathered rock / sediment e.g.	Y		m3	Select from			Select Haul Distance Here	composite lining etc.). capping/cover material available within 50 km round trip e.g. waste /
	Landinizavels. Ieinival vi talilanniantii. en-					ste Subtotal	\$0		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	у		m3	Select from List			Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Direct seeding / fertiliser (pasture grass species)	Y		ha	\$1,875		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Direct seeding / fertiliser (tree or native grass species)	Y		ha	\$4,135		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Y		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed	Y		m2	\$0.43		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where irrigation from water cart may be possible. Industry standard application rate of 2500kg/ha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Υ		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha. This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Υ		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/ha minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Y		ha	\$140.00		\$0		These rates have fluctuated over the last few years however in light of curren conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000.00		\$0		Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Υ		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated	Υ		m	\$22.00		\$0		Standard rate for no-climb stock
	areas Construct standard stock fence around rehabilitated	Y			\$13.00		\$0		fencing. Standard rate for standard stock
	areas Purchase and erect warning signs	Y		m allow	\$250.00		\$0		fencing. Compliance with AS 1319-1994 - Safety signs for the occupational environment installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Υ		m3	\$80.80		\$0		D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allov nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Υ		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allov nominal rate of \$60/m3 for imported fill material.
	Clearing and grubbing of trees and vegetation	Y		ha	\$4,730.00		\$0		Clearing and grubbing of light vegetation growth e.g. regrowth
	Topsoil stripping	Y		m3	\$4.86		\$0		Stripping or topsoil at an approximate depth of 0.2 m into stockpiles; load and haul to final rehabilitation location required or respreading where necessary.
	Growth media supplementation with manure	Y		ha	\$747.50		\$0		Addition of manure to improve soil quality.
	Utilise biotic soil media - organic topsoil alternative	Y		m2	\$2.50	ont) Color	\$0		Material that can be applied as an alternative to spreading topsoil prior to hydromulching.
Water Management	Land Preparation and Revegetation (Grov	vin Media De	velopment ar	u Ecosyster	II Establishme	ant) Subtotal	\$0		Provisional sum for earthworks and
	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y		allow	\$2,500		\$0		revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Υ		allow	\$10,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
	Remove sediments from the floor of the dam to	4	1					Select Haul Distance Here	This item includes the volume of

Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Υ		ha	\$925		\$0		Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	Y		ha	\$1,700		\$0		Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	Y		ha	\$2,500		\$0		Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	Y		ha	\$40,000		\$0		Areas that require extensive rehabilitation repair - re-design and re- construction of landform.
		·	Mainte	enance of Rel	habilitated Ar	eas Subtotal	\$0 \$0		
	Additional Items Subtota								
	Total Cost for Tailings & Rejects Domain								

Domain 3b: Overburden & Waste

Total Cost for Overburden & Waste Domain

\$0

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Contaminated Materials	Treatment of known Acid Sulfate Soils	Y		ha	\$2,580		\$0		Assumes ASS is treatable via neutralisation and does not require capping and isolation. Assumes 1% by weight lime addition and treatment to 100 mm depth only.
	Removal and disposal of plastic liner (i.e. dam, leach pad, sump etc.)	Y		m2	\$1		\$0		Provisional sum for cutting using rippir tynes and on-site disposal of the liner.
	Long haulage brine/salt for disposal (Select Haul Distance from list)	Y		tonne	Select from List			Select Haul Distance Here	Costs for haulage to location for authorised disposal.
	Brine disposal to landfill - fees only	Y		tonne	\$288		\$0		Rate for trackable liquid levy of \$78.20 per tonne and authorised disposal to landfill.
	Long haulage water (clean or contaminated) (Select Haul Distance from list)	Y		tonne	Select from List ninated Mater	ials Subtotal	\$0	Select Haul Distance Here	Assumes transport in a 20,000 L tank Add disposal costs to additional items
Roads and Tracks	Unsealed roads / vehicle park-up areas – minor	Y	I	ha	\$1.040.00	idio odibiotai	\$0		Assumes ~6 m road width - 16H
	works including deep rip and trim Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds – minor earthworks and deep rip and trim	Y		ha	\$1,500		\$0		Grader. D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - no seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed (pasture grass)	Y		ha	\$3,700		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y		ha	\$4,485		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	Y		ha	\$4,870		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y		ha	\$7,025		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	This item includes the scraping and removal of the volume of stabilised material from the road, laydown or oth surface using an excavator, dozer and grader to enable the establishment of rehabilitation.
				R	oads and Tra	cks Subtotal	\$0		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	Y		m3	Select from List			Select Push Length Here	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	Y		ha	\$3,900		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Shotcrete application on cuttings and steep slopes	Y		m2	\$185.00		\$0		This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y		ha	\$1,130.00		\$0		Undertaken using D10 dozer and 16N grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Y		ha	\$1,600		\$0		Combination of dozer and excavator work plus grader for ~4 hours each pe ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y		m2	\$27.00		\$0		Installation of on-site rock material (ri rap) where managing water run-off fr disturbed land and/or upon entry to water courses - prevents erosion of gulfy head (assumes competent material is locally available). If require to be sourced off site, assume an additional \$20/m2.

Mine Waste

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Ideal Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with little chemical reactivity (no to low risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) of Saline Mine Drainage (SMD) and/or low to moderate propensity for spontianeous combustion) and good physical properties (not significantly hydrophilic, shear strength does not limit equipment choice, no artificial strengthening required)	Y	ha	\$82,000	\$0	This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 0.5 m to 1 mand 0.15 m - 0.2 m growth media (assume at least 1 m thick cover required for carbonaceous material covers). Water quality from runoff, seepage etc. meets site-specific environment water quality values. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Efficient Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (tow to medium risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMID) / Saline Mine Drainage (SMID) and/or low to moderate propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, Shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$146,500	\$0	This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities where the tailings or rejects base is at a strength that enables economically efficient construction methods with small plant. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness ranging from >1 m to 2 m thickness constructed in 1 m layers + growth media up to 0.2 m depth. This may require additional materials (such as capillary breaks, geofabric, etc.) - use alternate rate cells below, specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised/additional materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Adverse Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (medium to high risk Potential Acid Forming (PAF) / Neutral Mine Drainage (SMD) and/or moderate to high propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$313,000	\$0	This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities of high geochemical risk, and / or low shear strength that prohibits economically efficient construction methods. This rate assumes suitable capping materials are available on site within 10 km, and an average cap thickness of approximately >2 m + growth media up to 0.2 m depth additional materials (i.e., capillary breaks, geofabric, etc.), specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.

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	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Difficult Tailings Capping- reshaping, capping / sealing of weak or soft surfacet tailings facility with poor physical properties (significantly hydrophilic, low shear strength limits equipment choice greatly, artificial strengthening required) OR visible adverse impacts on legacy sites from chemical reactivity over lengthy exposure prior to rehabilitation	Y		ha	\$843,000		\$0		This option is typically driven by time constraints and/or when tailings properties significantly restrict adequate desiccation, resulting in a tailings shear strength that is very weak excluding access by conventional small plant. Small equipment used for rehabilitation. This excludes any additional material required to form the final landform profile in addition to this cap. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values. Long haulage soil / weathered rock / sediment e.g.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.). Capping/cover material available within
	capping/covers, removal of contamination, etc.	Y		m3	List	aste Subtotal	\$0	Select Haul Distance Here	50 km round trip e.g. waste /
Land Preparation and			1			aste Subtotal	φU	Select Haul Distance Here	If topsoil is not available on-site, then
Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	Y		m3	Select from List				Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Planting mature trees (>15 cm) Planting tube stock (<15 cm)	Y		allow allow	\$15.00 \$6.60		\$0 \$0		4 m centres. 4 m centres.
	Direct seeding / fertiliser (pasture grass species)	Y		ha	\$1,875		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Direct seeding / fertiliser (tree or native grass species)	Y		ha	\$4,135		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Υ		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed	Υ		m2	\$0.43		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where imigation from water cart may be possible. Industry standard application ate of 2500kpha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Y		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha. This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Υ		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/ha minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Υ		ha	\$140.00		\$0		These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000		\$0		Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	Y		m	\$22.00		\$0		Standard rate for no-climb stock fencing.
1	Construct standard stock fence around rehabilitated	Y		m	\$13.00		\$0		Standard rate for standard stock
	areas Purchase and erect warning signs	Y		allow	\$250.00		\$0		fencing. Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Y		m3	\$80.80		\$0		D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill

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	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Y		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.
	Clearing and grubbing of trees and vegetation	Y		ha	\$4,730.00		\$0		Clearing and grubbing of light vegetation growth e.g. regrowth
	Topsoil stripping	Y		m3	\$4.86		\$0		Stripping or topsoil at an approximate depth of 0.2 m into stockpiles; load and haul to final rehabilitation location required or respreading where necessary.
	Growth media supplementation with manure	Y		ha	\$747.50		\$0		Addition of manure to improve soil quality.
	Utilise biotic soil media - organic topsoil alternative	Y		m2	\$2.50		\$0		Material that can be applied as an alternative to spreading topsoil prior to hydromulching.
	Land Preparation and Revegetation (Grov	vth Media De	evelopment ar	nd Ecosysten	n Establishme	ent) Subtotal	\$0		
Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y		allow	\$2,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Y		allow	\$10,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck and dozer to clean out the dam.
				Wa	ter Managem	nent Subtotal	\$0		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y		ha	\$925		\$0		Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - moderate	Y		ha	\$1,700		\$0		Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	Y		ha	\$2,500		\$0		Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	Y		ha	\$40,000		\$0		Areas that require extensive rehabilitation repair - re-design and re- construction of landform.
			Mainte		habilitated Ar		\$0		
					Additional Ite	ems Subtotal	\$0	<u>\$0</u>	
	Total Cost for Overburden & Waste Domain								

Domain 4b: Active Mine & Voids

Total Cost for Active Mine & Voids Domain

\$0

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Open Cut	Active pit area – benches blasted and doze to acceptable grade	Υ		Lm	\$1.93		\$0		Blasting in a 8x9 pattern of bench height 25 m with D11 push of 50-75 m.
	Drill & blast faces to make safe	Y		m3	\$0.95		\$0		Bulk Drilling say 8'9 pattern, assuming a stem height of 6 m, charge length of 19 m, explosive density of 0.9, diameter of 229 mm, explosives at 66.3 kg/hole with a powder factor of 0.37 with an approximate bench height of 25 m.
	High wall treatment – (trench and safety berm)	Y		m	\$90.00		\$0		D10 dozer, 16H Grader and revegetation with pasture grass.
Earthworks / Structural Works	T		I		Open	Cut Subtotal	\$0	Select Push Length Here	
(Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	Υ		m3	Select from List			October 1 dan Eengan Note	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	Y		ha	\$3,900		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Shotcrete application on cuttings and steep slopes	Y		m2	\$185.00		\$0		This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y		ha	\$1,130.00		\$0		Undertaken using D10 dozer and 16M grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Υ		ha	\$1,600		\$0		Combination of dozer and excavator work plus grader for ~4 hours each per ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y		m2	\$27.00		\$0		Installation of on-site rock material (rip- rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.
Land Preparation and	E	arthworks / S	tructural Wor	ks (Landforn	n Establishm	ent) Subtotal	\$0	Oalant Hard Distance Hare	Manager to a second the second second
Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Planting mature trees (>15 cm) Planting tube stock (<15 cm)	Y		allow allow	\$15.00 \$6.60		\$0 \$0		4 m centres. 4 m centres.
	Direct seeding / fertiliser (pasture grass species)	Y		ha	\$1,875		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Direct seeding / fertiliser (tree or native grass species)	Y		ha	\$4,135		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Y		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed	Y		m2	\$0.43		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where irrigation from water cart may be possible. Industry standard application rate of 2500kg/ha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Υ		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha. This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Y		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/ha minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.

	Total Cost for A	ctive M	ine & V	oids Do	main			\$0	
					Additional Ite	ems Subtotal	\$0		
			Mainte		habilitated Ar		\$0		
	Existing rehabilitation repair - total failure of landform	Y		ha	\$40,000		\$0		Areas that require extensive rehabilitation repair - re-design and re- construction of landform.
	Existing rehabilitation repair - major	Υ		ha	\$2,500		\$0		Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - moderate	Y		ha	\$1,700		\$0		Areas requiring moderate repair - rills significant growth media replacement
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		Areas requiring minor repair - rills, minor growth media replacement.
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y		ha	\$925		\$0		Rehabilitation maintenance might include re-seeding, watering, fertilisir minor re-shaping, erosion control, inspections/audits - does not include major repair works.
				Wa	ater Managem	nent Subtotal	\$0		
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck ar dozer to clean out the dam.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Y		allow	\$10,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Υ		allow	\$2,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ -\$200 per hour and pastu grass.
	Land Preparation and Revegetation (Grov	vth Media De	velopment ar	nd Ecosysten	n Establishme	ent) Subtotal	\$0		
	Utilise biotic soil media - organic topsoil alternative	Υ		m2	\$2.50		\$0		Material that can be applied as an alternative to spreading topsoil prior hydromulching.
	Growth media supplementation with manure	Y		ha	\$747.50		\$0		Addition of manure to improve soil quality.
	Topsoil stripping	Y		m3	\$4.86		\$0		Stripping or topsoil at an approximat depth of 0.2 m into stockpiles; load a haul to final rehabilitation location required or respreading where necessary.
	Clearing and grubbing of trees and vegetation	Y		ha	\$4,730.00		\$0		Clearing and grubbing of light vegetation growth e.g. regrowth
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Y		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - al nominal rate of \$60/m3 for imported material.
	Purchase and erect warning signs	Υ		allow	\$250.00		\$0		Compliance with AS 1319-1994 - Sa signs for the occupational environme installed every 25 m.
	Security fence around steep section of high wall	Y		m	\$64.00		\$0		1800mm x 3 barb chain-link mesh security fence and gate standard 2.5 mesh & 32 mm post not concreted
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000.00		\$0		Assumes 2.5 t / ha as an average application rate.
	Single application of fertiliser (trees)	Y		ha	\$140.00		\$0		last few years however in light of cur conditions (lower fuel prices, reduced demand etc) this is a suitable standarate.

Domain 5b: Management Activities

Total Cost for Management Activities

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Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Baselinet	Author Description	Applicable	0	11-2	Default Unit	Alternative	Taral Const	Basis for Costs Estimation	Description (Notes
Management Precinct Water Management	Activity / Description	(Y or N)	Quantity	Unit	Rate	Unit Rate	Total Cost	and Additional Relevant Information	Description / Notes: Rate can fluctuate depending on
water management	On-site treatment of contaminated water due to high salt (includes removal of metals etc, brine disposal and cost of mobile water treatment unit)	Υ		ML	\$3,600		\$0		treatment type however this is a suitable standard rate for current programs at mining operations.
	On-site treatment of contaminated water due to low pH (incudes removal of metals etc, neutralisation treatments and cost of mobile water treatment unit	Y		ML	\$1,500		\$0		Rate can fluctuate depending on treatment type however this is a suitable standard rate for current programs at mining operations.
Creek Diversions	In			Wa	ater Managem	ent Subtotal	\$0		Assumes material is suitable for
	Repairs and/or stabilisation of new or compromised water course diversion	Y		m	\$2,500		\$0		revegetating and has a reasonable chance of stabilising. Assumes maintenance has been kept
	Long term maintenance of water course diversion – Channel constructed through backfilled material	Y		m	\$1,500		\$0		up and significant works are not required. Assumes maintenance has been kept
	Long term maintenance of water course diversion – Channel constructed through competent material	Y		m	\$750.00		\$0		up and significant works are not required.
	Installation of rock armouring	Y		m2	\$6.00		\$0		Assumes competent material is locally available - multiply costs by 2 for sourcing and transporting from offsite location.
					Creek Diversi	ons Subtotal	\$0		100dilon
Maintenance of Rehabilitated Areas	Pest management on buffer lands, non-disturbed, and rehabilitated areas	Y		ha	\$150.00		\$0		Feral animal baiting programs if required and waste materials required to be removed.
	Land management of undisturbed areas (rehabilitation, weeds, ferals, erosion and sediment control works)	Y		ha	\$400.00		\$0		Undisturbed areas within the lease boundary that require land managemer activities.
			Mainte	enance of Re	habilitated Ar	eas Subtotal	\$0		1
Heritage Items	The restoration and care and maintenance of items that have heritage significance	Y		allow	Use alternate rate cell		\$0		Item for the redistribution of Aboriginal artefacts, preservation of European heritage items or a combination of activities.
					Heritage Ite	ems Subtotal	\$0		activities.
Sundry Items									Provisional sum to be used to refine the conceptual closure plan into a detailed
	Development of an 'Unplanned' Project Closure Plan - State Significant Development with closure planning well progressed i.e. preferred cover design, closure environment modelled e.g. groundwater /subsidence / pit lakes, preliminary seal designs, etc. and only finalisation of detailed engineering deigns required	٧		allow	\$100,000		\$0		for rehabilitation activities. Assumes outcomes of studies readily available including modelling, landform design, geochemistry, demolition, etc. Costs to finalise options by domain and finalise designs for construction. Assume a simple site e.g. single open cut, no legacy operations historic in the area, little social dependence, etc. Depending on site size, complexity, final land use requirements and knowledge base investigations can range from ~\$75k to >\$1 M. Sites with more than 1 pit to add \$50,000 to rate.
	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with at least 22 of the following aspects requiring closure planning, but no significant issues realised at this time: previous subsidence, medium or higher previous subsidence, medium or higher geochemistry risk and/or spontaneous combustion propensity, known/ likely contamination, tailings / rejects, final void	Y		allow	\$90,000		\$0		Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities. Estimated cost for developing closure plan including studies - basic to satisfy risks and decisions - includes risk assessment, options analysis, Closure Plan. Sites with more than 1 pit to add \$50,000 to rate.
	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with no EPJ and/or only one of the following relevant aspects: previous subsidence, low to medium geochemistry risk and/or spontaneous combustion propensity, known limited contamination, small approved final void	Y		allow	\$15,000		\$0		Assumes sediment control is the key concern for rehabilitation e.g. small mines, exploration operations. Includer risk assessment, sampling and analyses on <5 samples, one study and Closure Plan.
	Development of an 'Unplanned' Project Closure Plan - State Significant Development with only preliminary to conceptual closure planning in place	Y		allow	\$300,000		\$0		Includes costs for key investigations and studies including designs e.g. geochemistry, Contamination Remediation Action Plan, subsidence risk, cover/capping and final landform, site wide surface water, etc. Provisions sum to be used to refine the conceptua closure plan into a detailed closure plan with execution strategies for rehabilitation activities. Assume at least 15 types of studies required ranging from geotechnical to ecology and social, development of a closure plan including address of obligations. Assume a simple site e.g. single open cut, no legacy operations historic in the area, little social dependence, etc. Depending on site size, complexity, fine land use requirements and knowledge base investigations can range to > \$3 M Sites with more than 1 pit to add \$50,000 to rate.

					Additional Ite	ems Subtotal	\$0		
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			Мо	bilisation and	d Demobilisat	ion Subtotal	\$0		
	Mobilisation & Demobilisation (Distance to site >1000 km)	Y		item	\$500,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required
	Mobilisation & Demobilisation (Distance to site >500 km but <1000 km)	Y		item	\$300,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required
	Mobilisation & Demobilisation (Distance to site >150 km but <500 km)	Y		item	\$150,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required
	Mobilisation & Demobilisation (Distance to site <150 km)	Y		item	\$100,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required
	Mobilisation & Demobilisation for small mine or quarry - medium to large fleet	Y		Item	\$35,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as require
obilisation and Demobilisatio	n Mobilisation & Demobilisation for small mine or quarry - small fleet	Y		Item	\$12,000		\$0		May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as require
	<u>r</u>					ems Subtotal	\$0		
	Additional fees for accessing State, Crown or other public lands for rehabilitation/remediation activities	Y		allow	Use alternate rate cell		\$0		Provisional sum.
	Removal and disposal of radiation devices	Y		each	\$31,630		\$0		Provisional sum for removal and disposal of monitoring devices on conveyors using a radiation source Americium – 241, Plutonium – 238, Caesium – 137 etc). Source Isotope type, quantity, stren weight, source holder type, source holder weight, pick-up location (am others) will directly affect pricing.
	Choose type of HAZMAT Clean-up required - cleaning and decontaminating plant and equipment, chemical storage locations, oil and grease traps, tanks, vessels, and pipe work etc	Y		allow	\$0		\$0	Select type of HAZMAT Clean-up Required	Type of HAZMAT Clean-up required cleaning and decontaminating plan equipment, chemical storage location and grease traps, tanks, vessels pipe work etc
	Site security during closure	Υ		yr.	\$75,000		\$0		Provisional sum for site security measures required during closure. includes nightly patrols and first response in the event of an out of I incident.
	Develop a Review of Environmental Factors (REF) to facilitate rehabilitation including contamination works.	Y		allow	\$27,950		\$0		Based on experience for a REF afte completion of a detailed closure sit (e.g. contamination investigation) could range from \$10,000 to \$100,000 to \$10
	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with at least 22 of the following aspects resulting in significant issues requiring remediation: previous subsidence, medium or higher geochemistry risk and/or spontaneous combustion propensity, known/ likely contamination, tailings / rejects, final void	Y		allow	\$125,000		\$0		Includes costs for key investigation and studies including economic treatments and designs e.g. geometristry. Cortemistry. Contensitation Action Plans, subsider risk, cover/capping and final landrisk the wide sufface water, etc. Provi sum to be used to refine the conce closure plan into a detailed closure with execution strategies for rehabilitation activities.

Domain 1c: Infrastructure

Total Cost for Infrastructure Domain

\$0

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Termination of Services and Demolition Works	Disconnect and terminate all services (Water, electricity, gas etc at point of attachment to site)	Y		allow	\$35,000		\$0	mornator	For disconnection of all services, at building boundaries, physical cut at the point of attachment or distribution location. If infrastructure is not consolidated (i.e., administration, camp and workshops are in separate places), consider multiple disconnection fees.
	Disconnect and terminate services at remote areas (i.e. pump stations, remote workshops, sewage treatment plant etc.)	Υ		allow	\$5,850		\$0		Used for infrastructure remote from primary connection. Can also be used for small mines / quarries that do not have dedicated supplies from supply authorities such as steel lattice power lines.
	Removal of low/medium voltage powerlines including disconnection, rolling up the wires and removing the poles - does not include the removal of substations	Y		km	\$15,000		\$0		Applies to power lines on stobie, concrete or similar poles.
	Removal of power lines on tower or lattice structures (this includes disconnection, rolling up the wires and removing the structures) - does not include the removal of substations	Υ		km	\$100,000		\$0		Applies to power lines on steel tower and steel lattice structures assuming 3 towers / km.
	Remove small rail, road, water course overpass - manage potential interruptions and demolish and remove bridge supports/pylons/bridge structure etc. and dispose of waste material on-site/locally	Υ		ltem	\$350,000		\$0		Smaller structures - minimal civil works to demolish (constructed for the purposes of mining related works - does not include transport to regional disposal facility or equivalent).
	Remove medium rail, road, water course overpass - manage potential interruptions and demolish and remove bridge supports/pylons/bridge structure etc. and dispose of waste material on-site/locally	Υ		Item	\$500,000		\$0		Medium structures - minimal civil works to demolish (constructed for the purposes of mining related works - does not include transport to regional disposal facility or equivalent).
	Remove large / significant rail, road, water course overpass - manage potential interruptions and demolish and remove bridge supports/pylons/bridge structure etc. and dispose of waste material onsite/locally	Υ		Item	\$1,300,000		\$0		Large structures - includes significant water management e.g. watercourse diversion and civil works to demolish (constructed for the purposes of mining related works - does not include transport to regional disposal facility or equivalent).
	Demolish and/or remove substations (assumes they are in a closed building). Dispose of waste material on-site/locally	Y		m2	\$100.00		\$0		Simple structure to demolish mechanically (no labour required), assumes single story building with no asbestos and segregation of contents for scrap as applicable.
	Demolish and remove switchyard. Dispose of waste material on-site/locally	Y		m2	\$75.00		\$0		Includes demolition and removal of all switchgear and transformers etc. and segregation of contents for scrap as applicable.
	Demolish and remove demountable structures on concrete stumps. Assumes not being re-used	Y		m2	\$40.00		\$0		Crib huts, temporary offices and other 'non permanent' structures. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove small buildings/tanks (admin buildings, single story accommodation etc) and disposal on-site/locally	Y		m2	\$61.00		\$0		Simple structure to demolish, assumes no greater than 2 stories high. Does not include transport to regional disposal facility or equivalent.
	Demolish and remove light industrial buildings and disposal on-site/locally	Y		m2/floor	\$90.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m) - does not include transport to regional disposal facility or equivalent. Assumes asbestos free and mechanically demolished.
	Demolish and remove industrial buildings (workshops tyre change and servicing area etc not CHPP/process plant) and disposal on-site/locally	Y		m2/floor	\$130.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Demolish and remove CHPP/process plant (include the area of each floor of the structure) and disposal on-site/locally	Y		m2/floor	\$225.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove washery, crushers, hoppers, mills, furnaces, agglomeration, electrowinning, floatation, sizing stations, rotary breakers, etc (include the area of each floor of the structure) and disposal on-site/locally	Y		m2/floor	\$225.00		\$0		Needs to be calculated per floor/level (Assume 1 floor/level = 3-4 m). Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove stacker OR reclaimer (radial or luffing etc. with maneuverability for stockpile control) and disposal on-site/locally	Y		allow	\$750,000		\$0		Cost for removal of stacker or reclaim unit only. Does not include terminate services, remove rails and ballast etc. Does not include transport to regional disposal facility or equivalent.
	Collapse, demolish and remove bucket wheel stacker/reclaimer and disposal on-site/locally	Y		allow	\$2,000,000		\$0		Cost for just removal of the bucket wheel stacker/reclaim units. Does not include terminate services, remove rails and ballast etc. Does not include transport to regional disposal facility or equivalent.
	Remove stacker/reclaimer rails and ballast and demolish and remove concrete footings etc and disposal on-site/locally	Y		m	\$75.00		\$0		Includes both rails, does not include the conveyor system. Does not include transport to regional disposal facility or equivalent.
	Collapse, Cut and Remove 5000T coal silo and disposal on-site/locally	Y		allow	\$92,500		\$0		Collapse structure and remove. Does not include transport to regional disposal facility or equivalent. Collapse structure and remove. Does
	Collapse, Cut and Remove 3000 T coal silo and disposal on-site/locally	Y		allow	\$77,500		\$0		Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.

					Collapse structure and remove. Does
Collapse, Cut and Remove 1250 T coal silo and disposal on-site/locally	Y	allow	\$62,500	\$0	not include transport to regional disposal facility or equivalent.
Collapse, Cut and Remove rail loading bins and disposal on-site/locally	Y	allow	\$65,000	\$0	Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
Demolish and Remove large concrete rail loading bin - and disposal on-site/locally	Y	allow	\$460,000	\$0	Collapse structure and remove. Does not include transport to regional disposal facility or equivalent.
Demolish and remove onground conveyors, transfer stations & gantries (scrap only – does not include dismantling for reuse at another site) and disposal on-site/locally	Y	m	\$185.00	\$0	Estimate for on-ground conveyor including anything up to 10 m off the ground. Does not include transport to regional disposal facility or equivalent.
Demolish and remove elevated conveyors, transfer stations & gantries (scrap only, does not include dismantling for reuse at another site) and disposal on-site/locally	Y	m	\$295.00	\$0	Estimate for elevated conveyor up to ~10 m off the ground. Does not include transport to regional disposal facility or equivalent.
Demolish and remove overhead conveyors, transfer stations & gantries (scrap only, does not include dismantling for reuse at another site) and disposal on-site/locally. This may include small scale fixed material stacking	Y	m	\$850	\$0	Estimate for overhead conveyor including conveyors that are >10 m off the ground that require a crane to remove. Does not include transport to regional disposal facility or equivalent.
infrastructure Remove and demolish conveyor from reclaim tunnel (Does not include excavation and demolition of	Υ	m	\$150.00	\$0	Due to no canopy or infrastructure attached.
reclaim tunnel roof) Demolition of reclaim tunnel concrete (Assumes complete removal and dumping in mine pit void)	Y	m	\$950.00	\$0	Assumes this area will be used for another land-use that requires the structure to be dug up and re-buried somewhere else.
Demolition and removal of vent raise fans, electrical substation and winch and disposal on-site/locally	Y	allow	\$25,000	\$0	Does not include filling and capping the shaft. Does not include transport to regional disposal facility or equivalent.
Demolish and remove small tank clean (Thickener etc 3 - 9 m diameter) and disposal on-site/locally	Y	allow	\$10,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove medium tank clean (Thickener etc 10 - 15 m diameter) and disposal on- site/locally	Y	allow	\$30,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove large tank clean (Thickener etc 15 - 30 m diameter) and disposal on-site/locally	Y	allow	\$45,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove extra large tank clean (Thickener etc >30 m diameter) and disposal on- site/locally	Y	allow	\$100,000	\$0	Assume tank is clean - contents removed. If tank is full allow extra 30% for excavator and 2 men to dig out and dispose. Does not include transport to regional disposal facility or equivalent.
Demolish and remove tank clean (Thickener etc) >50 m diameter and disposal on-site/locally	Y	allow	\$100,000	\$0	Estimate only - may require a detailed assessment from demolition expert due to specialised equipment required for removal. Does not include transport to regional disposal facility or equivalent.
Removal of UG tank <5000 L - including pipes, bunds etc. and disposal on-site/locally	Y	allow	\$21,000	\$0	Assume tank is clean (contents removed), does not include transport to regional disposal facility or equivalent.
Removal of UG tank 5000 L - 15000 L - including pipes, bunds etc. and disposal on-site/locally	Y	allow	\$30,000.00	\$0	Assume tank is clean (contents removed), does not include transport to regional disposal facility or equivalent.
Remove small underground pipe and disposal on- site/locally	Y	m	\$25.00	\$0	For example: 300 mm pipes - 0.5 m deep, does not include transport to regional disposal facility or equivalent.
Remove medium underground pipe and disposal on- site/locally	Y	m	\$60.00	\$0	For example: 500 mm pipes - 1 m deep, does not include transport to regional disposal facility or equivalent.
Remove large underground pipe and disposal on- site/locally	Y	m	\$165.00	\$0	For example: 1 m pipes - 2 m deep.
Remove above ground pipe (supported) and disposal on-site/locally	Υ	m	\$12.00	\$0	~300 mm pipes and assumes pipes are in close proximity to infrastructure areas. Does not include transport to regional disposal facility or equivalent.
Remove surface pipelines (unsupported) and disposal on-site/locally	Y	m	\$15	\$0	-300 mm pipes and assumes pipes are used for water transfer between pits (or similar) and remotely located. Does not include transport to regional disposal facility or equivalent.
Remove pump and pontoon from small lake or dam including pipes and electrical supply or diesel tank/s	Y	allow	\$20,000.00	\$0	Includes equipment for retrieval - boats, etc. and labour. Does not include transport to regional disposal facility or equivalent.
Remove bitumen (car park and access roads) and dispose on-site/locally	Y	m2	\$10.00	\$0	Scalp bitumen and stabilised material. Generally haulage rates will be \$0.60 \ \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
Remove bitumen (airstrip) and dispose on- site/locally	Υ	m2	\$20.00	\$0	Scalp bitumen and stabilised material. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
Remove concrete pads & footings (<300 mm thickness) and disposal on-site/locally	Υ	m2	\$36.00	\$0	Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.

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	Remove concrete pads & footings (>300 mm thickness) and disposal on-site/locally	Y		m2	\$75.00		\$0	Breaking up slab and disposal or for conversion to aggregate. Generally haulage rates will be \$0.60 - \$1.20 / km, depending on truck fleet, loaders etc. For off-site disposal use alternate rate option and add \$0.90 / km for transport.
	Crush concrete to make road aggregate - 75 mm	Υ		tonne	\$10.00		\$0	Does not include haulage of materials - assumes crushing plant is readily available.
	Crush concrete to make road aggregate - 50 mm	Y		tonne	\$13.00		\$0	Does not include haulage of materials - assumes crushing plant is readily available.
	Crush concrete to make road aggregate - 30 mm	Y		tonne	\$15.00		\$0	Does not include haulage of materials - assumes crushing plant is readily available.
	Remove fence (cyclone/wire fence) and disposal on- site/locally	Υ		m	\$20.00		\$0	Roll up fence and remove posts.
	Removal of small plastic tanks	Υ		each	\$1,000.00		\$0	Remove small poly tanks used for water storage, etc.
	Demolish and remove galvanised/corrugated light weight tanks	Y		each	\$500.00		\$0	Demolish and remove small lightweight metal tanks. No costs included for managing liquids, etc.
	Demolish and remove communication towers	Υ		each	\$5,000.00		\$0	Cost includes demolition and removal of tower only; separate costs required for disconnection of services, demolition of footings, etc.
	Removal of UG services (power within main gate areas, etc.)	Y		allow	\$50,000.00		\$0	Assume service disconnection at the mine boundary is at surface level. This cost covers all fees and charges
	Waste disposal to Council landfill (general waste) - haulage >10 km but <15 km	Y		tonne	\$7.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (general waste) - haulage >15 km but <25 km	Y		tonne	\$9.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (general waste) - haulage >25 km but <50 km	Y		tonne	\$12.50		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (industrial demolition / concrete / scrap metal) - haulage >10 km but <15 km	Υ		tonne	\$32.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (industrial demolition / concrete / scrap metal) - haulage >15 km but <25 km	Y		tonne	\$36.00		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill (industrial demolition / concrete / scrap metal) - haulage >25 km but <50 km	Y		allow	Use alternate rate cell		\$0	Rate accounts for round trip haulage to Council landfill but excludes landfill fees. Input quantity against Waste disposal to Council landfill - fees for relevant waste type.
	Waste disposal to Council landfill - fees (general waste)	Υ		tonne	\$193.00		\$0	Fee for waste disposal of general waste to local Council landfill; transport rates separate. Please note that this is not applicable to operations with approval for building and demolition waste disposal on site.
	Waste disposal to Council landfill - fees (industrial demolition / concrete / scrap metal)	Y		tonne	\$174.00		\$0	Fee for waste disposal of industrial demolition / concrete / scrap metal waste to local Council landfill; transport rates separate. Rate does not assume material is recyclable. Please note that this is not applicable to operations with approval for building and demolition waste disposal on site.
Rail Infrastructure		Tern	nination of Se	rvices and D	emolition Wo	rks Subtotal	\$0	Demove all materials to allow area to be
aou uotdi e	Remove rail loop and spur, ballast etc. and disposal on-site/locally	Y		m	\$60.00		\$0	Remove all materials to allow area to be reshaped and rehabilitated - does not include transport to regional disposal facility or equivalent.
	Remove train loading facilities and disposal on- site/locally	Υ		m2	\$185.00		\$0	Remove rail load point infrastructure including gantries and control structures. Does not include transport to regional disposal facility or equivalent.
	Reshape rail spur and load out areas. Does not include growth media and revegetation	Y		ha	\$2,860		\$0	D10 Dozer and 16 H Grader (50% utilisation).
Contaminated Materials				R	ail Infrastruct	ure Subtotal	\$0	
	Undertake a preliminary site investigation (Phase 1). This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple studies may be required.	Y		Cluster	\$15,000		\$0	The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 1 assessment (EP Act Section 339 (2) (iv)) or similar approved and recognised assessment method. A cluster may include: - Mine infrastructure (i.e., fuel / chemical store, workshop, vehicle wash-down, sewage treatment etc.) - Processing plants (i.e., ore and product storage, mine waste storage and disposal, rail load-out etc.) - Remote pit-top facilities (i.e., vehicle refuel, sewage treatment, secondary) workshop, chemical storage etc.)

Undertake an intrusive site investigation on sites with small footprints to investigate e.g. £15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	>	Cluster	\$44,000	\$0		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthern bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assumes site is easily accessible and a small area e.g. –10-15 ha requires investigation and testing (lest pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
Undertake an intrusive site investigation on sites with large footprints to investigate e.g. >15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y	Cluster	\$106,000	\$0		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 398 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, arround ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assume site has a history of contamination and/or a large area >15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
Develop a Remediation Action Plan on sites with small footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Υ	allow	\$35,000	\$0		Develop remediation plan for approval including designs and detailed costs. Costs may increase if detailed designs required for construction.
Develop a Remediation Action Plan on sites with large footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Y	allow	Use alternate rate cell	\$0		Assumes complex site; detailed design drawings required for cover.
Removal and disposal of contaminated water from tanks, bunded areas and sumps	Y	L	\$0.35	\$0		Cost for recent sump clean-up from resource activity - requires specialists to treat.
Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (leach pads) / stockpile area (ROM product) / roads and dump in a void on-site (Select Haul Distance from list)	Υ	m3	Select from List		Select Haul Distance Here	This item includes scraping and removal of the volume of carbonaceous material using dozer, grader etc. to make safe an area and enable the establishment of rehabilitation.
Load, cart and dispose of Hazardous classified contaminated material off site to a licensed landfill. Assumes cartage to a licensed landfill.	Υ	m3	\$800.00	\$0		Includes load, haul and dump fees to a licensed facility.
Load, cart and disposal of Restricted classified contaminated material off site to a licensed landfill. Add \$50/m3 for cartage from regional areas	Y	m4	\$660.00	\$0		Includes load, haul and dump fees to a licensed facility.
Load, cart and disposal of Low Level contaminated material off site to a licensed landfill. Add \$50/m3 for cartage to regional landfill	Y	m3	\$220.00	\$0		Includes load, haul and dump fees to a licensed facility.
Onsite remediation of hydrocarbon contaminated soils manual land farming (Select Volume from List)	Y	m3	Select from List		Select Volume Here	Spreading of contaminated soils on a prepared surface and stimulation of aerobic microbial activity within the soils through aeration and/or the addition of minerals, nutrients and moisture to promote the aerobic degradation of organic chemicals - time frame of up to 24 months.
Mobilisation of cement stabilisation plant and equipment for hydrocarbon (i.e., PAH, long chain hydrocarbons, etc.) contaminated soil treatment	Y	Item	\$150,000	\$0		Required if treatment of hydrocarbon contamination is required to be fast tracked.
On-site remediation of hydrocarbon contaminated soils - using a mobile treatment unit	Y	m3	\$165.00	\$0		Additional cost as the treatment process is fast tracked.
Remove and dispose of asbestos (<750 m2)	Y	m2	\$50.00	\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
Remove and dispose of asbestos (>750 m2)	Y	m2	\$40	\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
Waste disposal to Council landfill - fees (asbestos)	Υ	tonne	\$290	\$0		Landfill fees to regional landfill.
Treatment of known Acid Sulfate Soils	Υ	ha	\$2,580	\$0		Assumes ASS is treatable via neutralisation and does not require capping and isolation. Assumes 1% by weight lime addition and treatment to 100 mm depth only.
Removal and disposal of plastic liner (i.e. dam, leach pad, sump etc.)	Y	m2	\$1	\$0		Provisional sum for cutting using ripping tynes and on-site disposal of the liner.

	Long haulage brine/salt for disposal (Select Haul								Costs for haulage to location for
	Distance from list)	Y		tonne	Select from List			Select Haul Distance Here	authorised disposal.
	Brine disposal to landfill - fees only	Y		tonne	\$288		\$0		Rate for trackable liquid levy of \$78.20 per tonne and authorised disposal to
	Long haulage water (clean or contaminated) (Select				Select from				landfill. Assumes transport in a 20,000 L tanke
	Haul Distance from list)	Y		tonne	List		••	Select Haul Distance Here	Add disposal costs to additional items where warranted.
Vents, Shafts and Boreholes	Т		Ī	Contan	ninated Mater	ials Subtotal	\$0		Cost to grout and cap an open
vents, charts and borelotes	Option 1 - Coal bore hole Exploration boreholes – rehabilitate coal boreholes and drill pads as required	Y		depth (m)	\$44.55		\$0		exploration borehole. Assume a 20 m 20 m drill pad requires rehabilitation - push cover of nearby growth media, rip and seed.
	Option 3 - Mineral RAB and aircore drill holes Exploration boreholes – backfill open Rotary Airblast (RAB) or aircore drill holes with cuttings	Y		allow	\$43		\$0		May include cutting of casing, installation of a casing cap, and/or manually backfilling the hole with drill cuttings. Does not include reshaping / ripping the drill pad, amelioration / seeding etc.
	Option 2 - Mineral drill hole requiring grouting Exploration boreholes – grout and cap open bore holes	Y		allow	\$5,700		\$0		Includes grouting and capping 100 - 20 m exploration boreholes to meet the requirements of Departmental Guidelines.
	Boreholes – cap and seal open bore holes with steel casing (i.e., goaf drainage etc.)	Y		allow	\$6,960		\$0		Holes deeper than 100 m - includes cutting steel collar 6 m below surface, grouting and capping.
	Boreholes – cap and seal open bore holes - surface- to-in-seam gas drainage	Y		allow	\$17,890		\$0		Surface-to-in-seam gas drainage boreholes.
	Boreholes – cap and seal open bore holes - vertical gas drainage	Υ		allow	\$16,000		\$0		Vertical gas drainage boreholes.
	Boreholes - grout (with concrete) cap and seal bore	Υ		allow	\$35,000		\$0		Includes multi skin sleaves to prevent
	holes (i.e. where sealing aquifers) Boreholes – cap and seal service boreholes for UG								aquifer mixing. Includes large diameter boreholes use
	coal operations	Y		allow	\$45,000		\$0		for supplying electricity (66kV), compressed air, water, solsenic etc. Bog out cuttings, remove fencing,
	Option 4 - Mineral diamond drill hole Rehabilitation of diamond drill holes and pad including sealing drill holes for mineral exploration	Y		Item	\$2,070		\$0		remove rubbish, push sumps in, rehabilitate pads and tracks, cut and plug collars. Includes labour and equipment, disposal of rubbish locally on site
	Option 5 - Mineral reverse circulation drill holes Rehabilitation of reverse circulation drill holes and pad including sealing drill holes for mineral exploration	Y		Item	\$1,340		\$0		Sealing required, but not complete fillir with concrete/grout
	Option 6 - Rehabilitation of drill hole collars Rehabilitation of drill hole collars (mineral	Y		each	\$415		\$0		Cut collar, remove, cap, backfill capped collar and cover with nearby organic or
	exploration)			Vents, Shaft	s and Boreho	les Subtotal	\$0		growth material
Roads and Tracks	Unsealed roads / vehicle park-up areas – minor works including deep rip and trim	Y		ha	\$1,040.00		\$0		Assumes ~6 m road width - 16H Grader.
	Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds –	Y		ha	\$1,500		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50%
	minor earthworks and deep rip and trim Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed	Y		ha	\$3,700		\$0		utilisation) - no seed D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50%
	(pasture grass) Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and	Y		ha	\$4,485		\$0		utilisation) - pasture grass seed D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50%
	seed (native tree/shrub/grass) Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	Y		ha	\$4,870		\$0		utilisation) - native tree/shrub seed D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Υ		ha	\$7,025		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	This item includes the scraping and removal of the volume of stabilised material from the road, laydown or oth surface using an excavator, dozer and
				R	oads and Tra	cks Subtotal	\$0		grader to enable the establishment of
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	Y						Select Push Length Here	
				m3	Select from List				Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	Y		m3 ha			\$0		nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Minor reshaping and pushing Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Y			List		\$0 \$0		nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for -4 hours each per ha.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation			ha	\$3,900			Select Haul Distance Here	nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for -4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes	Y		ha ha	\$3,900 \$1,600 Select from			Select Haul Distance Here	nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for –4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilises.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	Y		ha ha m3	\$3,900 \$1,600 Select from List		\$0	Select Haul Distance Here	nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for -4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, et chat cannot be cut back
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes Trim, rock rake & deep rip (includes levelling /	Y		ha ha m3	\$3,900 \$1,600 Select from List		\$0	Select Haul Distance Here	nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for -4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised. Undertaken using D10 dozer and 16M
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y Y Y		ha ha m3 m2	\$3,900 \$1,600 Select from List \$185.00		\$0 \$0 \$0 \$0 \$0	Select Haul Distance Here	nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for -4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep slopes of weathered rock, roadway outings, et chat cannot be cut back and stabilised. Undertaken using D10 dozer and 16M grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction) Deep rip hard stand / lay down areas Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y Y Y Y Y	tructural Wo	ha ha m3 m2 ha ha m2	\$3,900 \$1,600 \$1,600 Select from List \$185.00 \$1,130.00 \$960.00	ent) Subtotal	\$0 \$0 \$0 \$0 \$0		nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for –4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised. Undertaken using D10 dozer and 16M grader. D10 deep ripping. Installation of on-site rock material (rip rap) where managing water run-off fror disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.
Land Preparation and Revegetation (Growth Media Development and Ecosystem	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction) Deep rip hard stand / lay down areas Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y Y Y Y Y	tructural Woo	ha ha m3 m2 ha ha m2	\$3,900 \$1,600 \$1,600 Select from List \$185.00 \$1,130.00 \$960.00	ent) Subtotal	\$0 \$0 \$0 \$0 \$0	Select Haul Distance Here Select Haul Distance Here	nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for -4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep stopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised. Undertaken using D10 dozer and 16M grader. D10 deep ripping. Installation of on-site rock material (rip- rap) where managing water run-off fror disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2. If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally
Revegetation (Growth Media	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction) Deep rip hard stand / lay down areas Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments E Source, cart and spread growth media (Select Haul Distance from List)	Y Y Y Y Y Y Arthworks / S	tructural Woo	ha ha m3 m2 ha ha m2 m2 m3	\$3,900 \$1,600 \$1,600 Select from List \$185.00 \$1,130.00 \$960.00 \$27.00 Establishma Select from List	ent) Subtotal	\$0 \$0 \$0 \$0 \$0		nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for -4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep stopes of weathered rock, roadway outtings, etc that cannot be cut back and stabilised. Undertaken using D10 dozer and 16M grader. D10 deep ripping. Installation of on-site rock material (rip rap) where managing water run-off fror disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If require to be sourced off site, assume an additional \$20/m2. If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
Revegetation (Growth Media Development and Ecosystem	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction) Deep rip hard stand / lay down areas Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments E Source, cart and spread growth media (Select Haul Distance from List) Planting mature trees (>15 cm) Planting nature trees (<15 cm)	Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y Y	tructural Woo	ha ha m3 m2 ha ha ha m2 allow	List \$3,900 \$1,600 \$1,600 Select from List \$185.00 \$1,130.00 \$960.00 \$27.00 Select from List \$15.00 \$6.60	ent) Subtotal	\$0 \$0 \$0 \$0 \$0 \$0		nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for –4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised. Undertaken using D10 dozer and 16M grader. D10 deep ripping. Installation of on-site rock material (rip rap) where managing water run-off fror disturbed land and/or upon entry to water courses - prevents erosion of guily head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2. If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced. 4 m centres. Includes treating, weighing, mixing with
Revegetation (Growth Media Development and Ecosystem	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List) Shotcrete application on cuttings and steep slopes Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction) Deep rip hard stand / lay down areas Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments E Source, cart and spread growth media (Select Haul Distance from List) Planting mature trees (>15 cm)	Y Y Y Y Y Y Y Y Y Y Y Y	tructural Wor	ha ha m3 m2 ha ha ha m3 allow	List \$3,900 \$1,600 Select from List \$185.00 \$4,130.00 \$960.00 Establishme Select from List \$15.00	ent) Subtotal	\$0 \$0 \$0 \$0 \$0		nominated in the approval/permit D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation). Combination of dozer and excavator work plus grader for –4 hours each per ha. This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation. This rate is used to rehabilitate steep slopes of weathered rock, roadway outlings, etc that cannot be out back and stabilised. Undertaken using D10 dozer and 16M grader. Installation of on-site rock material (rip- rap) where managing water run-off frod fisturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2. If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.

	Hydro-seeding with straw mulching and bitumen tack with native seed	Y		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed	Y		m2	\$0.43		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage transment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where irrigation from water cart may be possible. Industry standard application rate of 2500kg/ha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Y		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha. This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Y		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/ha minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Y		ha	\$140.00		\$0		These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000.00		\$0		Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	Y		m	\$22.00		\$0		Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	Y		m	\$13.00		\$0		Standard rate for standard stock fencing.
	Purchase and erect warning signs	Y		allow	\$250.00		\$0		Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Y		m3	\$80.80		\$0		D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Y		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.
	Clearing and grubbing of trees and vegetation	Y		ha	\$4,730.00		\$0		Clearing and grubbing of light vegetation growth e.g. regrowth
	Topsoil stripping	Y		m3	\$4.86		\$0		Stripping or topsoil at an approximate depth of 0.2 m into stockpiles; load and haul to final rehabilitation location required or respreading where necessary.
	Growth media supplementation with manure	Y		ha	\$747.50		\$0		Addition of manure to improve soil quality.
	Utilise biotic soil media - organic topsoil alternative	Y		m2	\$2.50		\$0		Material that can be applied as an alternative to spreading topsoil prior to hydromulching.
Water Management	Land Preparation and Revegetation (Grov	vth Media De	velopment ar	nd Ecosysten	n Establishme	ent) Subtotal	\$0		Provisional sum for earthworks and
	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y		allow	\$2,500		\$0		revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Large clean water dams (i.e. \geq 2 ha) to be retained after mine closure – make safe and minor earthworks	Y		allow	\$10,500		\$0	Select Haul Distance Here	Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass. This item includes the volume of
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	Y		m3	Select from List			Select Hauf Distance Here	contaminated sediment requiring removal using an excavator, truck and dozer to clean out the dam.
	Removal of evaporation fans and/or other water transfer and management infrastructure	Y		allow	\$25,000		\$0		Provisional sum for removal of water management infrastructure.
Maintenance of Rehabilitated				Wa	ater Managem	nent Subtotal	\$0		Rehabilitation maintenance might
Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y		ha	\$925		\$0		include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works. Areas requiring minor repair - rills,
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		minor growth media replacement.
	Existing rehabilitation repair - moderate	Υ		ha	\$1,700		\$0		Areas requiring moderate repair - rills, significant growth media replacement. Areas requiring major repair - rills,
	Existing rehabilitation repair - major	Υ		ha	\$2,500		\$0		gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	Y		ha	\$40,000	S. L.	\$0 \$0		Areas that require extensive rehabilitation repair - re-design and reconstruction of landform.
			Mainte		habilitated Ar Additional Ite		\$0 \$0		
	Total Cost fo	r Infras	tructure	e Doma	in			\$0	

Open Cut Operations

Domain 2c: Tailings & Rejects

Total Cost for Tailings & Rejects Domain

Rejects Total Gost for Family & Rejects Domain

Additional Assumptions. Necord any relevant assumptions to this domain below.		
	Key Rehabilitation Area Data for Domain	Enter data below manually
	Total Landform Establishment:	
	Total Growth Media Development:	
	Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Contaminated Materials	Undertake a preliminary site investigation (Phase 1). This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple studies may be required.	Υ		Cluster	\$15,000		\$0		The preliminary investigation would include at minimum a desktop assessment of the area and site history, incidents, etc. as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 1 assessment (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. A cluster may include: - Mine infrastructure (i.e., fuel / chemical store, workshop, vehicle wash-down, sewage treatment etc.) - Processing plants (i.e., ore and product storage, mine waste storage and disposal, rail load-out etc.) - Remote pit-top facilities (i.e., vehicle refuel, sewage treatment, secondary workshop, chemical storage etc.)
	Undertake an intrusive site investigation on sites with small footprints to investigate e.g. <15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Υ		Cluster	\$44,000		\$0		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the rehabilitation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assumes site is easily accessible and a small area e.g10-15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, samppling and analysis.
	Undertake an intrusive site investigation on sites with large footprints to investigate e.g. >15 ha. This accounts for current and historical locations where areas of disturbance are clustered. If there are multiple cluster areas on site, multiple intrusive investigations should be included.	Y		Cluster	\$106,000		so		The intrusive investigation would include at minimum a site walkover and field sampling as per the National Environmental Protection (Site Contamination) Measure (NEPM) Phase 2 intrusive investigation (EP Act Section 389 (2) (iv)) or similar approved and recognised assessment method. Note: An intrusive investigation is not required for all contaminated areas and should be applied considering the republikation program, site history, location, etc. A cluster area where it is highly anticipated that contamination has occurred (i.e., underground tanks / pipes that are known to have leaked, chemical stores with earthen bunds, around ineffective oil/water separators etc.) and further field work is required involving intrusive investigation. Assume site has a history of contamination and/or a large area >15 ha requires investigation and testing (test pits, boreholes, etc.) based on Sampling and Analysis Quality Plan. Includes SAQP, fieldwork, sampling and analysis.
	Develop a Remediation Action Plan on sites with small footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Y		allow	\$35,000		\$0		Develop remediation plan for approval including designs and detailed costs. Costs may increase if detailed designs required for construction.
	Develop a Remediation Action Plan on sites with large footprints based on outcomes of intrusive investigation including strategies to address contamination exceedances	Y		allow	Use alternate rate cell		\$0		Assumes complex site; detailed design drawings required for cover.
	Removal and disposal of contaminated water from tanks, bunded areas and sumps	Y		L	\$0.35		\$0		Cost for recent sump clean-up from resource activity - requires specialists to treat.
	Remove material (carbonaceous / metalliferous spillage or otherwise) from footprint of the process facility (feach pads) / stockpile area (ROM product) / roads and dump in a void on-site (Select Haul Distance from list)	Υ		m3	Select from List			Select Haul Distance Here	This item includes scraping and removal of the volume of carbonaceous material using dozer, grader etc. to make safe an area and enable the establishment of rehabilitation.
	Load, cart and dispose of Hazardous classified contaminated material off site to a licensed landfill. Assumes cartage to a licensed landfill.	Υ		m3	\$800.00		\$0		Includes load, haul and dump fees to a licensed facility.

	Load, cart and disposal of Restricted classified contaminated material off site to a licensed landfill. Add \$50/m3 for cartage from regional areas	Y		m4	\$660.00		\$0		Includes load, haul and dump fees to a licensed facility.
	Load, cart and disposal of Low Level contaminated material off site to a licensed landfill. Add \$50/m3 for cartage to regional landfill	Y		m3	\$220.00		\$0		Includes load, haul and dump fees to a licensed facility.
	Onsite remediation of hydrocarbon contaminated soils manual land farming (Select Volume from List)	у		m3	Select from List			Select Volume Here	spreading or contaminated soils on a prepared surface and stimulation of aerobic microbial activity within the soils through aeration and/or the addition of minerals, nutrients and moisture to promote the aerobic degradation of
	Mobilisation of cement stabilisation plant and equipment for hydrocarbon (i.e., PAH, long chain hydrocarbons, etc.) contaminated soil treatment	Y		Item	\$150,000		\$0		Arganic chemicals - time frame of un to- Required if treatment of hydrocarbon contamination is required to be fast tracked.
	On-site remediation of hydrocarbon contaminated soils - using a mobile treatment unit	Y		m3	\$165.00		\$0		Additional cost as the treatment process is fast tracked.
	Remove and dispose of asbestos (<750 m2)	Y		m2	\$50.00		\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Remove and dispose of asbestos (>750 m2)	Y		m2	\$40.00		\$0		Where an assessment/estimation has been made to confirm the volume of asbestos to be removed.
	Waste disposal to Council landfill - fees (asbestos)	Υ		tonne	\$290		\$0 \$0		Landfill fees to regional landfill.
Roads and Tracks	Unsealed roads / vehicle park-up areas – minor	Y	I	ha	ninated Mater \$1,040.00	iais Subtotai	\$0 \$0		Assumes ~6 m road width - 16H
	works including deep rip and trim Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds – minor earthworks and deep rip and trim	Y		ha	\$1,500		\$0		Grader. D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - no seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed (pasture grass)	Y		ha	\$3,700		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y		ha	\$4,485		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	Y		ha	\$4,870		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y		ha	\$7,025		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	removal of the volume of stabilised material from the road, laydown or other surface using an excavator, dozer and grader to enable the establishment of rephabilitation
Fasthanada (Otanatara) Wasta	E	arthworks / S	tructural Wo	rks (Landforn	n Establishme	ent) Subtotal	\$0		Ī
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	Y		m3	Select from List			Select Push Length Here	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	Y		ha	\$3,900		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	у		m3	Select from List			Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y		ha	\$1,130.00		\$0		Undertaken using D10 dozer and 16M grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Y		ha	\$1,600		\$0		Combination of dozer and excavator work plus grader for ~4 hours each per ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Y		m2	\$27.00		\$0		Installation of on-site rock material (rip- rap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.
Mine Waste	<u>E</u>	arthworks / S	tructural Wo	rks (Landforn	n Establishme	ent) Subtotal	\$0		
	Ideal Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with little chemical reactivity (no to low risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) / Saline Mine Drainage (SMD) and/or low to moderate propensity for spontaneous combustion) and good	Y		ha	\$82,000		\$0		This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 0.5 m to 1 mand 0.15 m - 0.2 m growth media (assume at least 1 m thick cover required for carbonaceous material covers). Water quality from runoff, seepage etc. meets site-specific environment water quality values. If site haulage longer than 10 km round trip add the volume of the relevant
	physical properties (not significantly hydrophilic, shear strength does not limit equipment choice, no artificial strengthening required) Additional materials required for reshaping, capping								material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05. Include additional cost to import

	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Efficient Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (low to medium risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) / Saline Mine Drainage (SMD) and/or low to moderate propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$146,500		\$0		This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities where the tailings or rejects base is at a strength that enables economically efficient construction methods with small plant. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness ranging from >1 m to 2 m thickness constructed in 1 m layers + growth media up to 0.2 m depth. This may require additional materials (such as capillary breaks, geofabric, etc.) - use alternate rate cells below, specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised/additional materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Adverse Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (medium to high risk Potential Acid Forming (PAF) Neutral Mine Drainage (NMD) / Saline Mine Drainage (SMD) and/or moderate to high propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$313,000		\$0		This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities of high geochemical risk, and / or low shear strength that prohibits economically efficient construction methods. This rate assumes suitable capping materials/ are available on site within 10 km, and an average cap thickness of approximately > 2 m + growth media up to 0.2 m depth. This may require additional materials (i.e., capillarly breaks, geofabric, etc.), specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / hauf / place / rush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material include in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.), and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values. Long naurage soil / weathered rock / sediment e.g.	Y	allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.). Capping/cover material available within
	capping/covers, removal of contamination, etc.	Y	m3	List	ste Subtotal	\$0	Select Haul Distance Here	50 km round trip e.q. waste /
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	у	m3	Select from List			Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Direct seeding / fertiliser (pasture grass species)	Y	ha	\$1,875		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Direct seeding / fertiliser (tree or native grass species)	Y	ha	\$4,135		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).

	Hydro-seeding with straw mulching and bitumen tack with native seed	Y		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed	Y		m2	\$0.43		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where irrigation from water cart may be possible. Industry standard application rate of 2500kg/ha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Y		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha. This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Y		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/ha minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Y		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Y		ha	\$140.00		\$0		These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000.00		\$0		Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	Y		m	\$22.00		\$0		Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated areas	Υ		m	\$13.00		\$0		Standard rate for standard stock fencing.
	Purchase and erect warning signs	Y		allow	\$250.00		\$0		Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Y		m3	\$80.80		\$0		Installed every 25 flir. D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Y		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill material.
	Clearing and grubbing of trees and vegetation	Y		ha	\$4,730.00		\$0		Clearing and grubbing of light vegetation growth e.g. regrowth
	Topsoil stripping	Y		m3	\$4.86		\$0		Stripping or topsoil at an approximate depth of 0.2 m into stockpiles; load and haul to final rehabilitation location required or respreading where necessary.
	Growth media supplementation with manure	Y		ha	\$747.50		\$0		Addition of manure to improve soil quality.
	Utilise biotic soil media - organic topsoil alternative	Y		m2	\$2.50		\$0		Material that can be applied as an alternative to spreading topsoil prior to hydromulching.
	Land Preparation and Revegetation (Grov	vth Media De	velopment ar	nd Ecosysten	n Establishme	ent) Subtotal	\$0		
Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y		allow	\$2,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Υ		allow	\$10,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	Υ		m3	Select from List	ent Subtotal	\$0	Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck and dozer to clean out the dam.
Maintenance of Rehabilitated				***		Junioidi			Rehabilitation maintenance might
Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y		ha	\$925		\$0		include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works. Areas requiring minor repair - rills,
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		minor growth media replacement.
	Existing rehabilitation repair - moderate	Υ		ha	\$1,700		\$0		Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - major	Y		ha	\$2,500		\$0		Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - total failure of landform	Y		ha	\$40,000		\$0		Areas that require extensive rehabilitation repair - re-design and re- construction of landform.
			Mainte		habilitated Ar		\$0 *0		
	Total Coat for 3	Tailin ~ -	2 Daia		Additional Ite	ems Subtotal	\$0	60	
	Total Cost for 1	anngs	a keje	CIS DOL	IIdili			\$0	

Open Cut Operations

Domain 3c: Overburden & Waste

Total Cost for Overburden & Waste Domain

\$0

Additional Assumptions: Record any relevant assumptions to this domain below:

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Contaminated Materials	Treatment of known Acid Sulfate Soils	Υ		ha	\$2,580		\$0		Assumes ASS is treatable via neutralisation and does not require capping and isolation. Assumes 1% by weight lime addition and treatment to 100 mm depth only.
	Removal and disposal of plastic liner (i.e. dam, leach pad, sump etc.)	Y		m2	\$1		\$0		Provisional sum for cutting using ripping tynes and on-site disposal of the liner.
	Long haulage brine/salt for disposal (Select Haul Distance from list)	Y		tonne	Select from List			Select Haul Distance Here	Costs for haulage to location for authorised disposal.
	Brine disposal to landfill - fees only	Y		tonne	\$288		\$0		Rate for trackable liquid levy of \$78.20 per tonne and authorised disposal to landfill.
	Long haulage water (clean or contaminated) (Select Haul Distance from list)	Y		tonne	Select from List			Select Haul Distance Here	Assumes transport in a 20,000 L tanker Add disposal costs to additional items
Roads and Tracks	Unsealed roads / vehicle park-up areas – minor	ı	T	Contan	ninated Mater	ials Subtotal	\$0		Assumes ~6 m road width - 16H
Roads and Tracks	works including deep rip and trim	Y		ha	\$1,040.00		\$0		Grader.
	Unsealed roads / access tracks / vehicle park-up areas with windrows and/or small earthen bunds – minor earthworks and deep rip and trim	Y		ha	\$1,500		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - no seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip and seed (pasture grass)	Y		ha	\$3,700		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / vehicle park-up areas – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y		ha	\$4,485		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (pasture grass)	Y		ha	\$4,870		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - pasture grass seed
	Unsealed roads / haul roads / vehicle park-up areas with windrows and/or small earthen bunds – Minor earthworks, final trim and deep rip, ameliorate and seed (native tree/shrub/grass)	Y		ha	\$7,025		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation) - native tree/shrub seed
	Remove stabilised material (blue metal, aggregate etc.) from roadways and disposal on-site/locally (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	This item includes the scraping and removal of the volume of stabilised material from the road, laydown or othe surface using an excavator, dozer and grader to enable the establishment of rehabilitation.
				R	oads and Tra	cks Subtotal	\$0		
Earthworks / Structural Works (Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	Y		m3	Select from List			Select Push Length Here	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	Y		ha	\$3,900		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Shotcrete application on cuttings and steep slopes	Y		m2	\$185.00		\$0		This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y		ha	\$1,130.00		\$0		Undertaken using D10 dozer and 16M grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Y		ha	\$1,600		\$0		Combination of dozer and excavator work plus grader for ~4 hours each per ha.
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Υ		m2	\$27.00		\$0		Installation of on-site rock material (rip- rap) where managing water run-off fror disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.

Mine Waste

Ideal Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with little chemical reactivity (no to low risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) / Saline Mine Drainage (SMD) and/or low to moderate propensity for spontaneous combustion) and good physical properties (not significantly hydrophilic, shear strength does not limit equipment choice, no artificial strengthening required)	Y	ha	\$82,000	\$0	This includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume material with the appropriate chemical and physical properties. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness of approximately 0.5 m to 1 mand 0.15 m - 0.2 m growth media (assume at least 1 m thick cover required for carbonaceous material covers). Water quality from runoff, seepage etc. meets site-specific environment water quality values. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Υ	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Efficient Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (low to medium risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) and/or low to moderate propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$146,500	\$0	This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities where the tailings or rejects base is at a strength that enables economically efficient construction methods with small plant. This rate assumes suitable capping material is available on site within 10 km, and an average cap thickness ranging from > 1 m to 2 m thickness constructed in 1 m layers + growth media up to 0.2 m depth. This may require additional materials (such as capillary breaks, geofabric, etc.) - use alternate rate cells below, specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised/additional materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate.) If additional material to make up landform, provide buttress or other works aside from tailings cap use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y	allow	Use alternate rate cell	\$0	Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
Adverse Tailings Capping - reshaping, capping / sealing of trafficable tailings facility with moderate chemical reactivity (medium to high risk Potential Acid Forming (PAF) / Neutral Mine Drainage (NMD) saline Mine Drainage (SMD) and/or moderate to high propensity for spontaneous combustion) and moderate physical properties (not significantly hydrophilic, shear strength limits equipment choice somewhat, no artificial strengthening required)	Y	ha	\$313,000	\$0	This item includes sourcing, carting, spreading, moisture conditioning and compaction of a suitable volume of material to cap / cover facilities of high geochemical risk, and / or low shear strength that prohibits economically efficient construction methods. This rate assumes suitable capping material/s are available on site within 10 km, and an average cap thickness of approximately >2 m + growth media up to 0.2 m depth. This may require additional materials (i.e., capillary breaks, geofabric, etc.), specific material types (e.g. acid neutralising / consuming materials, competent rock etc.), and associated activities (i.e., load / haul / place / crush / screen / borrow etc.). Costs for haulage of specialised materials must be added separately if required. If site haulage longer than 10 km round trip add the volume of the relevant material requiring haulage for this distance in 8.05 (spreading costs for tailings cap material included in rate). If additional material to make up landform, provide buttress or other works aside from tailings cap, use rate from 9.02 for relevant haulage and spreading in additional to any long haulage volume in 8.05.

	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific								
	environment water quality values.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Difficult Tailings Capping- reshaping, capping / sealing of weak or soft surfaced tailings facility with poor physical properties (significantly hydrophilic, low shear strength limits equipment choice greatly, artificial strengthening required) OR visible adverse impacts on legacy sites from chemical reactivity over lengthy exposure prior to rehabilitation	Y		ha	\$843,000		\$0		This option is typically driven by time constraints and/or when tailings properties significantly restrict adequate desiccation, resulting in a tailings shear strength that is very weak excluding access by conventional small plant. Small equipment used for rehabilitation. This excludes any additional material required to form the final landform could in a deciliary to the convention of t
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Additional materials required for reshaping, capping / sealing of structure to facilitate water quality from runoff, seepage etc. meeting site-specific environment water quality values.	Y		allow	Use alternate rate cell		\$0		Include additional cost to import materials (i.e., shale / clay, competent drainage materials etc.) and / or additional requirements (i.e., geofabric / composite lining etc.).
	Long haulage soil / weathered rock / sediment e.g. capping/covers, removal of contamination, etc.	Y		m3	Select from List			Select Haul Distance Here	Capping/cover material available within 50 km round trip e.g. waste /
Land Preparation and			l .		Mine Wa	ste Subtotal	\$0		
Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Planting mature trees (>15 cm) Planting tube stock (<15 cm)	Y Y		allow allow	\$15.00 \$6.60		\$0 \$0		4 m centres. 4 m centres.
									Includes treating, weighing, mixing with
	Direct seeding / fertiliser (pasture grass species)	Y		ha	\$1,875		\$0		fertiliser + spreading by tractor or helicopter (aerial seeding). Includes treating, weighing, mixing with
	Direct seeding / fertiliser (tree or native grass species)	Y		ha	\$4,135		\$0		fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Y		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed	Y		m2	\$0.43		\$0		Process to be used on flat well prepares surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where irrigation from water cart may be possible. Industry standard application rate of 2500kg/ha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Υ		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Υ		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/hminimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Υ		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
	Single application of fertiliser (trees)	Y		ha	\$140.00		\$0		These rates have fluctuated over the last few years however in light of curren conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.
1	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000		\$0		Assumes 2.5 t / ha as an average application rate.
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Construct no-climb stock fence around rehabilitated areas	Y		m	\$22.00		\$0		Standard rate for no-climb stock fencing.
	Construct standard stock fence around rehabilitated	Y		m	\$13.00		\$0		Standard rate for standard stock
	areas Purchase and erect warning signs	Y		allow	\$250.00		\$0		fencing. Compliance with AS 1319-1994 - Safety signs for the occupational environment - installed every 25 m.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Y		m3	\$80.80		\$0		Installed every 25 III. D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$70/m3 for imported fill material.
	Supply from external sources a combination of	Y		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - allow nominal rate of \$60/m3 for imported fill
	virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.								material.
	virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping	Y		ha	\$4,730.00		\$0		material. Clearing and grubbing of light vegetation growth e.g. regrowth
	virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Y		ha m3	\$4,730.00 \$4.86		\$0 \$0		Clearing and grubbing of light

	Utilise biotic soil media - organic topsoil alternative	Y		m2	\$2.50		\$0		Material that can be applied as an alternative to spreading topsoil prior to hydromulching.
	Land Preparation and Revegetation (Grov	vth Media De	velopment ar	nd Ecosysten	n Establishme	ent) Subtotal	\$0		,
Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y		allow	\$2,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pasture grass.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Y		allow	\$10,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck and dozer to clean out the dam.
				Wa	ter Managem	ent Subtotal	\$0		
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Y		ha	\$925		\$0		Rehabilitation maintenance might include re-seeding, watering, fertilising, minor re-shaping, erosion control, inspections/audits - does not include major repair works.
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		Areas requiring minor repair - rills, minor growth media replacement.
	Existing rehabilitation repair - minor Existing rehabilitation repair - moderate	Y		ha ha	\$1,200 \$1,700		\$0 \$0		Areas requiring minor repair - rills, minor growth media replacement.
	,								Areas requiring minor repair - rills, minor growth media replacement. Areas requiring moderate repair - rills,
	Existing rehabilitation repair - moderate	Y		ha ha	\$1,700 \$2,500 \$40,000		\$0 \$0 \$0		Areas requiring minor repair - rills, minor growth media replacement. Areas requiring moderate repair - rills, significant growth media replacement. Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water
	Existing rehabilitation repair - moderate Existing rehabilitation repair - major Existing rehabilitation repair - total failure of	Y	Mainte	ha ha ha	\$1,700 \$2,500 \$40,000 habilitated Ar		\$0 \$0 \$0		Areas requiring minor repair - rills, minor growth media replacement. Areas requiring moderate repair - rills, significant growth media replacement. Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management. Areas that require extensive rehabilitation repair - re-design and re-rehabilitation repair - re-design and re-
	Existing rehabilitation repair - moderate Existing rehabilitation repair - major Existing rehabilitation repair - total failure of	Y		ha ha ha enance of Re	\$1,700 \$2,500 \$40,000 habilitated Ar		\$0 \$0 \$0		Areas requiring minor repair - rills, minor growth media replacement. Areas requiring moderate repair - rills, significant growth media replacement. Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management. Areas that require extensive rehabilitation repair - re-design and re-re-design and re-

Total Cost for Active Mine & Voids Domain

\$0

Additional Assumptions: Record any relevant assumptions to this domain below:

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	

Management Precinct	Activity / Description	Applicable (Y or N)	Quantity	Unit	Default Unit Rate	Alternative Unit Rate	Total Cost	Basis for Costs Estimation and Additional Relevant Information	Description / Notes:
Open Cut	Active pit area – benches blasted and doze to acceptable grade	Υ		Lm	\$1.93		\$0		Blasting in a 8x9 pattern of bench height 25 m with D11 push of 50-75 m.
	Drill & blast faces to make safe	Y		m3	\$0.95		\$0		Bulk Drilling say 8'9 pattern, assuming a stem height of 6 m, charge length of 19 m, explosive density of 0.9, diameter of 229 mm, explosives at 665.3 kg/hole with a powder factor of 0.37 with an approximate bench height of 25 m.
	High wall treatment – (trench and safety berm)	Y		m	\$90.00		\$0		D10 dozer, 16H Grader and revegetation with pasture grass.
Earthworks / Structural Works			ı	ı	Open	Cut Subtotal	\$0	Select Push Length Here	
(Landform Establishment)	Major bulk pushing to achieve grades nominated in the approval/permit – Select Push Length	Y		m3	Select from List			Select Push Length Here	Major bulk pushing to achieve grades nominated in the approval/permit
	Minor reshaping and pushing	Y		ha	\$3,900		\$0		D10 Dozer @ \$400 per hour and 16 H grader @ \$230 per hour (50% utilisation).
	Fill dams, voids etc Source local material, cart and spread to cap or backfill, cap thickness determined by approval / permit (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of material requiring backfill using an excavator and scraper to fill the void and enable the establishment of rehabilitation.
	Shotcrete application on cuttings and steep slopes	Y		m2	\$185.00		\$0		This rate is used to rehabilitate steep slopes of weathered rock, roadway cuttings, etc that cannot be cut back and stabilised.
	Trim, rock rake & deep rip (includes levelling / landscaping and rip in 1 direction)	Y		ha	\$1,130.00		\$0		Undertaken using D10 dozer and 16M grader.
	Structural works, banks, waterways - contour banks, drainage channels and other soil conservation measures	Υ		ha	\$1,600		\$0		Combination of dozer and excavator work plus grader for ~4 hours each per
	Construction of spine drains / drop structures and/or stabilising water course entry points - required for large catchments	Υ		m2	\$27.00		\$0		Installation of on-site rock material (rip- Insap) where managing water run-off from disturbed land and/or upon entry to water courses - prevents erosion of gully head (assumes competent material is locally available). If required to be sourced off site, assume an additional \$20/m2.
	E	arthworks / S	tructural Wor	rks (Landforn	n Establishm	ent) Subtotal	\$0		
Land Preparation and Revegetation (Growth Media Development and Ecosystem Establishment)	Source, cart and spread growth media (Select Haul Distance from List)	Y		m3	Select from List			Select Haul Distance Here	If topsoil is not available on-site, then Virgin Excavated Natural Material (VENM) may need to be externally sourced.
	Planting mature trees (>15 cm) Planting tube stock (<15 cm)	Y		allow allow	\$15.00 \$6.60		\$0 \$0		4 m centres. 4 m centres.
	Direct seeding / fertiliser (pasture grass species)	Y		ha	\$1,875		\$0		Includes treating, weighing, mixing with fertiliser + spreading by tractor or
	Direct seeding / fertiliser (tree or native grass species)	Y		ha	\$4,135		\$0		helicopter (aerial seeding). Includes treating, weighing, mixing with fertiliser + spreading by tractor or helicopter (aerial seeding).
	Hydro-seeding with straw mulching and bitumen tack with native seed	Y		m2	\$1.90		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Native seed +\$1.00
	Hydro-seeding with straw mulching and bitumen tack with pasture seed		\$0.43		\$0		Process to be used on flat well prepared surfaces under irrigation e.g. sewage treatment irrigation areas. Ranges from \$0.15 - \$0.50 depending on size and input variables. Pasture seed +\$0.10		
	Hydromulch - base grade or standard for flat areas that can be irrigated by water cart	Y		m2	\$0.80		\$0		Assumes use on flat areas with a gradient of less than 4:1, and where irrigation from water cart may be possible. Industry standard application rate of 2500kg/ha. Product will last short term (less than 3 months) and vegetation is required to grow ASAP for stability. This cost includes cover crop only, additional seeding required.
	Hydromulch - bonded fibre matrix grade for steep areas to stabilise up to 12 months	Y		m2	\$1.80		\$0		Assumes use on steep areas where stabilisation is required for up to 12 months. Application rate of ~3500kg/ha. This cost includes cover crop only, additional seeding required.
	Hydromulch - high performance flexible growth medium grade	Y		m2	\$2.50		\$0		Assumes use on extreme slopes where stabilisation is required for up to 18 months. Application rate of ~4,000kg/ha minimum. This cost includes cover crop only, additional seeding required.
	Single application of fertiliser (pasture)	Υ		ha	\$420.00		\$0		Assumes 250 kg / ha. These rates have fluctuated over the last few years however in light of current conditions (lower fuel prices, reduced demand etc) this is a suitable standard rate.

	Total Cost for A		\$0						
					Additional Ite	ems Subtotal	\$0		
			Mainte	enance of Re	habilitated Ar		\$0		
	Existing rehabilitation repair - total failure of landform	Y		ha	\$40,000		\$0		Areas that require extensive rehabilitation repair - re-design and re- construction of landform.
	Existing rehabilitation repair - major	Y		ha	\$2,500		\$0		Areas requiring major repair - rills, gullies, growth media replacement, some level of additional surface water management.
	Existing rehabilitation repair - moderate	Y		ha	\$1,700		\$0		Areas requiring moderate repair - rills, significant growth media replacement.
	Existing rehabilitation repair - minor	Y		ha	\$1,200		\$0		Areas requiring minor repair - rills, minor growth media replacement.
Maintenance of Rehabilitated Areas	Maintenance of areas that have been shaped and seeded and revegetation has been 'successful'	Υ		ha	\$925		\$0		Rehabilitation maintenance might include re-seeding, watering, fertilisin minor re-shaping, erosion control, inspections/audits - does not include major repair works.
				Wa	ter Managem	nent Subtotal	\$0		
	Remove sediments from the floor of the dam to enable it to be converted into clean water structure (Select Haul Distance from list)	Y		m3	Select from List			Select Haul Distance Here	This item includes the volume of contaminated sediment requiring removal using an excavator, truck ar dozer to clean out the dam.
	Large clean water dams (i.e. ≥ 2 ha) to be retained after mine closure – make safe and minor earthworks	Y		allow	\$10,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) + pasture grass.
Water Management	Clean water dams to be retained after decommissioning – make safe and minor earthworks	Y		allow	\$2,500		\$0		Provisional sum for earthworks and revegetation required to rehabilitate dam batters etc suitable for re-use by an alternate land-user - D6 Dozer (or similar) @ ~\$200 per hour and pastu grass.
	Land Preparation and Revegetation (Grov	vth Media De	velopment ar	nd Ecosysten	n Establishme	ent) Subtotal	\$0		.,,
	Utilise biotic soil media - organic topsoil alternative	Υ		m2	\$2.50		\$0		Material that can be applied as an alternative to spreading topsoil prior to hydromulching.
	Growth media supplementation with manure	Y		ha	\$747.50		\$0		necessary. Addition of manure to improve soil quality.
	Topsoil stripping	Υ		m3	\$4.86		\$0		Stripping or topsoil at an approximate depth of 0.2 m into stockpiles; load a haul to final rehabilitation location required or respreading where
	Clearing and grubbing of trees and vegetation	Y		ha	\$4,730.00		\$0		Clearing and grubbing of light vegetation growth e.g. regrowth
	Supply from external sources a combination of virgin excavated natural material (VENM) and spoil from large excavation for filing voids and/or capping etc.	Υ		m3	\$72.50		\$0		D10 push into void at \$270/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - al nominal rate of \$60/m3 for imported material.
	Supply from external sources virgin excavated natural material (VENM) for growth media.	Y		m3	\$80.80		\$0		D7 to spread material at \$205/hr, Excavator (\$220/hr) load Artic Trucks (90c/km) from imported stockpile - all nominal rate of \$70/m3 for imported f material.
	Purchase and erect warning signs	Y		allow	\$250.00		\$0		Compliance with AS 1319-1994 - Saf signs for the occupational environment installed every 25 m.
	Security fence around steep section of high wall	Υ		m	\$64.00		\$0		1800mm x 3 barb chain-link mesh security fence and gate standard 2.5r mesh & 32 mm post not concreted
	growth media amelioration with biosolids	Y		ha	\$1,015		\$0		Recent experience with agronomy projects.
	Spoil amelioration (adding lime / gypsum etc.)	Y		ha	\$1,000.00		\$0		Assumes 2.5 t / ha as an average application rate.
	Single application of fertiliser (trees)	Y		ha	\$140.00		\$0		last few years however in light of curic conditions (lower fuel prices, reduced demand etc) this is a suitable standarate.

Open Cut Operations

Domain 5c: Management Activities

Total Cost for Management Activities

\$0

Additional Assumptions: Record any relevant assumptions to this domain below:

Key Rehabilitation Area Data for Domain	Enter data below manually
Total Landform Establishment:	
Total Growth Media Development:	
Total Ecosystem Establishment:	•

		Applicable			Default Unit	Alternative		Basis for Costs Estimation	
Management Precinct	Activity / Description	(Y or N)	Quantity	Unit	Rate	Unit Rate	Total Cost	and Additional Relevant Information	Description / Notes:
Water Management	On-site treatment of contaminated water due to high salt (includes removal of metals etc, brine disposal and cost of mobile water treatment unit)	Y		ML	\$3,600		\$0		Rate can fluctuate depending on treatment type however this is a suitable standard rate for current programs at mining operations.
	On-site treatment of contaminated water due to low pH (incudes removal of metals etc, neutralisation treatments and cost of mobile water treatment unit	Y		ML	\$1,500		\$0		Rate can fluctuate depending on treatment type however this is a suitable standard rate for current programs at mining operations.
Creek Diversions	T			Wa	ater Managem	ent Subtotal	\$0		Assumes material is suitable for
	Repairs and/or stabilisation of new or compromised water course diversion	Y		m	\$2,500		\$0		revegetating and has a reasonable chance of stabilising. Assumes maintenance has been kept
	Long term maintenance of water course diversion – Channel constructed through backfilled material	Y		m	\$1,500		\$0		up and significant works are not required. Assumes maintenance has been kept
	Long term maintenance of water course diversion – Channel constructed through competent material	Y		m	\$750.00		\$0		up and significant works are not required. Assumes competent material is locally
	Installation of rock armouring	Y		m2	\$6.00		\$0		available - multiply costs by 2 for sourcing and transporting from offsite location.
					Creek Diversi	ons Subtotal	\$0		
Maintenance of Rehabilitated Areas	Pest management on buffer lands, non-disturbed, and rehabilitated areas	Y		ha	\$150.00		\$0		Feral animal baiting programs if required and waste materials required to be removed.
	Land management of undisturbed areas (rehabilitation, weeds, ferals, erosion and sediment control works)	Y		ha	\$400.00		\$0		Undisturbed areas within the lease boundary that require land managemer activities.
Heritage Items	ı		Mainte	enance of Re	habilitated Ar	eas Subtotal	\$0		Item for the redistribution of Aboriginal
Heritage items	The restoration and care and maintenance of items that have heritage significance	Y		allow	Use alternate rate cell		\$0		artefacts, preservation of European heritage items or a combination of activities.
					Heritage Ite	ems Subtotal	\$0		
Sundry Items									Provisional sum to be used to refine th
	Development of an 'Unplanned' Project Closure Plan - State Significant Development with closure planning well progressed i.e. preferred cover design, closure environment modelled e.g. groundwater /subsidence / pit lakes, preliminary seal designs, etc. and only finalisation of detailed engineering deigns required	Y		allow	\$100,000		\$0		conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities. Assumes outcomes of studies readily available including modelling, landform design, geochemistry, demolition, etc. Costs to finalise options by domain and finalise designs for construction. Assume a simple site e.g. single open cut, no legacy operations historic in the area, little social dependence, etc. Depending on site size, complexity, fini land use requirements and knowledge base investigations can range from ~\$75k to >\$1 M. Sites with more than 1 pit to add \$55,000 to rate.
	Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with at least 22 of the following aspects requiring closure planning, but no significant issues realised at this time: previous subsidence, medium or higher geochemistry risk and/or spontaneous combustion propensity, known/ likely contamination, tailings / rejects, final void	Y		allow	\$90,000		\$0		Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan into a detailed closure plan with execution strategies for rehabilitation activities. Estimated cost for developing closure plan including studies - basic to satisfy risks and decisions - includes risk assessment, options analysis, Closure Plan. Sites with more than 1 pit to add \$50,000 to rate.
	Development of an 'Unplanned' Project Closure Plan Non State Significant Development with no EPL and/or only one of the following relevant aspects: previous subsidence, low to medium geochemistry risk and/or spontaneous combustion propensity, known limited contamination, small approved final void	Y		allow	\$15,000		\$0		Assumes sediment control is the key concern for rehabilitation e.g. small mines, exploration operations. Include risk assessment, sampling and analyses on <5 samples, one study and Closure Plan.
	Development of an 'Unplanned' Project Closure Plan - State Significant Development with only preliminary to conceptual closure planning in place	Y		allow	\$300,000		\$0		Includes costs for key investigations and studies including designs e.g. geochemistry, Contamination Remediation Action Plan, subsidence risk, cover/capping and final landform, site wide surface water, etc. Provision: sum to be used to refine the conceptua closure plan into a detailed closure plan with execution strategies for rehabilitation activities. Assume at least 15 types of studies required ranging from geotechnical to ecology and social, development of a closure plan including address of obligations. Assume a simple site e.g. single open cut, no legacy operations historic in the area, little social dependence, etc. Depending on site size, complexity, fini land use requirements and knowledge base investigations can range to \$30 MS its with more than 1 pit to add \$50,000 to rate.

Develop a Review of Circhintermoral Forces (REF) in Inchestinate in reclubation in Necking contemination) V		Development of an 'Unplanned' Project Closure Plan - Non State Significant Development with at least 22 of the following aspects resulting in significant issues requiring remediation: previous subsidence, medium or higher geochemistry risk and/or spontaneous combustion propensity, known/ likely contamination, tailings / rejects, final vold	Y		allow	\$125,000		\$0	Includes costs for key investigations and studies including economic treatments and designs e.g. geochemistry. Contamination Remediation Action Plan, subsidence risk, cover/capping and final landform, site wide surface water, etc. Provisional sum to be used to refine the conceptual closure plan into a detailed closure plan with execution strategies for rehabilitation activities.
Site security during closure V y yr. \$75,000 So measurer required coding closure V y 155,000 So measurer required coding closure in relative special pully parties as an internal relative special coding closure. In relative special coding closure in relative		to facilitate rehabilitation including contamination	Y		allow	\$27,950		\$0	completion of a detailed closure study (e.g. contamination investigation) costs could range from \$10,000 to \$100,000 ex GST. Note this does not apply to a Statement of Environmental Effects or
Cocons you of MASSANT Coloration and Committee State of Coloration and Coloration		Site security during closure	Y		yr.	\$75,000		\$0	measures required during closure. This includes nightly patrols and first response in the event of an out of hours
Removal and disposal of radiation devices Y each \$31,830 \$0 \$10 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0 \$0		cleaning and decontaminating plant and equipment, chemical storage locations, oil and grease traps,	Y		allow	\$0			Type of HAZMAT Clean-up required - cleaning and decontaminating plant and equipment, chemical storage locations, oil and grease traps, tanks, vessels, and pipe work et.
Additional fees for accessing State. Crown or other public lands for rehabilitation/remediation activities Value Sundry Items Subtotal Sundry I		Removal and disposal of radiation devices	Y		each	\$31,630		\$0	disposal of monitoring devices on conveyors using a radiation source (i.e., Americium – 241, Plutonium – 238, Caesium - 137 etc). Source Isotope type, quantity, strength, weight, source holder type, source holder weight, pick-up location (among
Mobilisation and Demobilisation & Demobilisation for small mine or quarry - small fleet Mobilisation & Demobilisation for small mine or quarry - small fleet Mobilisation & Demobilisation for small mine or quarry - small fleet Mobilisation & Demobilisation for small mine or quarry - medium to large fleet Mobilisation & Demobilisation for small mine or quarry - medium to large fleet Mobilisation & Demobilisation (Distance to site <150			Y		allow	rate cell			
Mobilisation & Demobilisation for small mine or quarry - small fleet Mobilisation & Demobilisation for small mine or quarry - small fleet Mobilisation & Demobilisation for small mine or quarry - medium to large fleet Mobilisation & Demobilisation (Distance to site <150 V item \$100,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site <150 V item \$100,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >150 V item \$150,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 V item \$150,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 V item \$300,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 V item \$500,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 V item \$500,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 V item \$500,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 V item \$500,000 \$0 May include specialist demolition equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 V item \$500,000 V	Mahillostinanda	philippion				Sundry Ite	ems Subtotal	\$0	
Some continuation of the	Mobilisation and Dem	Mobilisation & Demobilisation for small mine or	Y		Item	\$12,000		\$0	equipment and/or suitable plant to
Mobilisation & Demobilisation (Distance to site < 150 Y item \$100,000 \$0 equipment and/or suitable plant to execute bulk earthworks as required.			Y		Item	\$35,000		\$0	equipment and/or suitable plant to
Mobilisation & Demobilisation (Distance to site >500 y litem \$150,000 \$0 equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site >500 y litem \$300,000 \$0 equipment and/or suitable plant to execute bulk earthworks as required. Mobilisation & Demobilisation (Distance to site > 100 km but <1000 km) Mobilisation & Demobilisation (Distance to site > 100 km but <1000 km) Mobilisation & Demobilisation (Distance to site > 100 km but <1000 km) Mobilisation & Demobilisation (Distance to site > 100 km but <1000 km) Mobilisation and Demobilisation Subtotal \$0 Additional Items Other 1 <insert> N</insert>			Y		item	\$100,000		\$0	equipment and/or suitable plant to
Mobilisation & Demobilisation (Distance to site Y item \$300,000 \$0 equipment and/or suitable plant to execute bulk earthworks as required.			Y		item	\$150,000		\$0	equipment and/or suitable plant to
Mobilisation and Demobilisation Subtotal Additional Items			Y		item	\$300,000		\$0	equipment and/or suitable plant to
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Total Cost for Management Activities \$0	Additional Ite	Other 2 <insert> Other 3 <insert></insert></insert>	N			left blank	ems Subtotal	\$0	the operator>> This item includes < <to added="" be="" by<="" td=""></to>

Assumptions and rehabilitation requirements							
List or record any assumptions made when completing this tool:							



Activity

Domain

Justification for Change of Rates in the Rehabilitation Cost Estimation Tool

DRG unit/rate

_					_
Tool. A ju	_	y a third party has l	-	es currently utilised in the Rehabilit hat only the rates identified in the a	
	Les Longhurst			29/08/	/2024
,	Authrorisation Representatives	Name		Date	
	Site Manager				
1	Authorisation Representatives F	Role / Responsibility		Signature	}

Adopted Rates

Justification