



Ranger Mine Closure Plan 2025

Issued Date: 1 October 2025
Revision number: 0.25.1





CONTENTS

1	INTE	RODUCT	ION	1
	1.1	Operate	or Details	4
	1.2	Title De	etails	5
	1.3	Purpos	e of this MCP	6
	1.4	Scope	of this MCP	6
2	STA	TUTORY	, CULTURAL AND CLIMATIC CONTEXT	9
	2.1	Statuto	ry Context	9
		2.1.1	Shared Regulatory Responsibility and the Ranger Authorisation	9
		2.1.2	Australian Government (Commonwealth) Legislation	10
		2.1.3	Northern Territory Government Legislation	12
		2.1.4	Closure Objectives and Closure Criteria	12
	2.2	Cultura	l Context	13
	2.3	Climati	c Context	13
		2.3.1	Climate	13
		2.3.2	Climate Change	14
3	STA	KEHOLD	ER ENGAGEMENT	16
	3.1	Stakeh	olders and Engagement Mechanisms	17
	3.2	Engage	ement with Traditional Owners	21
	3.3	Current	t Engagement Context	21
	3.4	Future	Priorities for Engagement	22
	3.5	Suppor	ting the Jabiru Community Transition	23
	3.6	Commi	unity and Social Performance Plan (2024–2027)	24
4	DES	CRIPTIO	N OF CLOSURE ACTIVITIES	25
	4.1	Pit 1		29
		4.1.1	Installation of the Underdrain and Deposition of Tailings	29
		4.1.2	Wicking	32
		4.1.3	Geotextile Placement and Initial Capping	32
		4.1.4	Backfill	32
		4.1.5	Tailings Consolidation and Removal of Pit Tailings Flux	33
		4.1.6	Creation of Final Landform	33
		4.1.7	Revegetation and Habitat Creation	36





	4.1.8	Planned Future Activities in the Pit 1 Closure Domain	37
4.2	Pit 3		41
	4.2.1	Construction of the Underfill and Underdrain	44
	4.2.2	Pit 3 Underfill Capacity and Brine Injection	45
	4.2.3	Tailings Deposition	48
	4.2.4	Activities Occurring at Present	49
	4.2.5	Planned Future Activities	56
4.3	Water I	Management at Ranger	60
	4.3.1	Ranger Water Classes	61
	4.3.2	Water Treatment Infrastructure	61
	4.3.3	Water Management Areas	65
4.4	Decom	missioning, Demolition and Disposal of Contaminated Material	69
	4.4.1	Decommissioning	69
	4.4.2	Demolition and Disposal	70
	4.4.3	Disposal of Contaminated Material	72
	4.4.4	Other Infrastructure and Services on the RPA	83
4.5	Range	r Water Dam Deconstruction	92
	4.5.1	Tailings Transfer and Process Water Return	92
	4.5.2	RWD Wall and Floor Cleaning	92
	4.5.3	Current Use of the RWD	93
	4.5.4	Planned Future Activities	93
4.6	Range	r 3 Deeps Decline	98
	4.6.1	Planned Future Activities	101
4.7	Trial La	andform	101
	4.7.1	Establishment of Trial Landform	101
	4.7.2	Planned Future Activities	102
4.8	Final L	andform	103
	4.8.1	Final Landform Design Principles	103
	4.8.2	Material Discrimination and Placement	105
	4.8.3	Surface Layer Construction	111
	4.8.4	Ecosystem Establishment on the Final Landform	113
4.9	Erosior	n and Sediment Control	114





		4.9.1	Sediment Basins	114
		4.9.2	Rock Check Dams	114
		4.9.3	Access Tracks	114
5	STRI	JCTURE .	AND CONTENT OF CHAPTER 6 TO CHAPTER 11	117
	5.1	Progress	s Status	117
	5.2	Preventa	ative Controls	119
	5.3	Correctiv	ve Actions	120
	5.4	Bow-tie	diagrams	122
6	LAN	DFORM		124
	6.1	Closure	Objectives and Criteria	125
		6.1.1	Retention of facilities	125
		6.1.2	Erosion Characteristics	126
		6.1.3	Isolation of Tailings	126
	6.2	Design B	Elements	128
	6.3	Relevan	t Studies / Knowledge Base	128
		6.3.1	Erosion Characteristics	129
		6.3.2	Isolation of Tailings	142
	6.4	Bow-tie	Diagrams	146
	6.5	Preventa	ative Controls and their Effectiveness	149
		6.5.1	Final Landform Design and Construction	150
		6.5.2	Erosion Control Measures Including Preparation of Final Landform Surface	151
		6.5.3	Sediment Control Measures Including Sediment Basins	151
		6.5.4	Drainage Control Structures Including Sinuous Armoured Drainage Channels	152
		6.5.5	Revegetation of Final Landform Surface	152
		6.5.6	All Tailings Deposited into Pit 1 and Pit 3	153
		6.5.7	Tailings Buried Below Predicted Depth of Gully Formation	153
		6.5.8	Understanding Final Tailings Elevations	153
		6.5.9	Legal Instruments	154
	6.6	Monitori	ng Program	154
		6.6.1	Closure Monitoring Program	155
		6.6.2	Post-closure Monitoring Program	156
	6.7	Correctiv	ve Actions and their Effectiveness	160





	6.8	Trigger,	, Action, Response Plan	161
	6.9	Future \	Work	164
7	WAT	ER AND	SEDIMENT	166
	7.1	Closure	Objectives and Criteria	167
		7.1.1	Water Quality Management Framework	167
		7.1.2	Objectives and Management Goals	169
		7.1.3	Justification for Outcome, Parameter and Criteria	174
	7.2	Design	Elements	183
	7.3	Relevar	nt Studies / Knowledge Base	183
		7.3.1	Ranger Conceptual Model	184
		7.3.2	Source Terms and CoPC	188
		7.3.3	Groundwater Modelling and Uncertainty Analysis	191
		7.3.4	Solute Movement in Shallow Groundwater	192
		7.3.5	Surface Water Model	193
		7.3.6	Solute Movement in Surface Water	199
		7.3.7	Aquatic Pathways Risk Assessment	201
		7.3.8	Vulnerability Assessment Framework	208
		7.3.9	Eutrophication	211
		7.3.10	Acid Sulfate Soils	213
		7.3.11	Preliminary Human Health Risk Assessment	216
		7.3.12	Studies to be Completed	218
	7.4	Bow-tie	Diagrams	221
	7.5	Prevent	tative Controls and their Effectiveness	226
		7.5.1	Site-wide Preventative Controls	227
		7.5.2	Djalkmarra Catchment and Corridor Creek Catchment	230
		7.5.3	Coonjimba Catchment and Gulungul Catchment	232
		7.5.4	Final Landform and Land Application Areas	234
	7.6	Monitor	ing Program	235
	7.7	Correct	ive Actions and their Effectiveness	238
	7.8	Trigger,	, Action, Response Plan	241
	7.9	Future \	Work	244
3	SOIL	_S		245





	8.1	Closure	Objectives and Criteria	246
	8.2	Design E	Elements	246
	8.3	Relevan	t Studies / Knowledge Base	247
		8.3.1	Studies Completed to Date	247
		8.3.2	Studies to be Completed	258
	8.4	Bow-tie	Diagram	258
	8.5	Preventa	ative Controls and their Effectiveness	261
		8.5.1	Containment Cell for PFAS	262
		8.5.2	Excavate and Dispose Contaminated Soil / Sediments into Pit 3 and RP2	263
		8.5.3	In Situ Treatment of Mildly Contaminated, or Culturally Sensitive, Sites	263
		8.5.4	Tilling	263
	8.6	Monitorii	ng Program	264
	8.7	Correctiv	ve Actions and their Effectiveness	264
	8.8	Trigger,	Action, Response Plan	265
	8.9	Future V	Vork	267
9	ECO	SYSTEMS	S	268
	9.1	Closure	Objectives and Criteria	269
	9.2	Design E	Elements	274
	9.3	Relevan	t Studies / Knowledge Base	274
		9.3.1	Vegetation Reference Ecosystems	277
		9.3.2	Fauna Reference Ecosystems	281
		9.3.3	Ecosystem Establishment Strategy	282
		9.3.4	Weeds and Introduced Flora and Fauna	286
		9.3.5	Sustainability Processes (Including Resilience to Disturbance) and Recruitment	292
		9.3.6	Fire Resilience	296
	9.4	Bow-tie	Diagrams	299
	9.5	Preventi	ve Controls and their Effectiveness	307
		9.5.1	Weed Management	309
		9.5.2	Fire Management in Surrounds and Introduction to Rehabilitation Areas	312
	9.6	Monitorii	ng Program	313
		9.6.1	Adaptive Management Monitoring	314
		9.6.2	Vegetation Ground Surveys and Habitat Monitoring	315





		9.6.3	Multispectral Machine Learning Data Capture	315
		9.6.4	Image and/or LiDAR Capture	316
		9.6.5	Litter Decomposition and Nutrient Cycling Monitoring	316
		9.6.6	Mammal, Bird and Reptile Monitoring	317
		9.6.7	Invertebrate Monitoring	318
		9.6.8	Planned Fire Regime Monitoring	318
		9.6.9	Resilience Monitoring	319
	9.7	Correcti	ve Actions and their Effectiveness	319
	9.8	Trigger,	Action, Response Plan	321
	9.9	Future V	Vork	329
		9.9.1	Closure Criteria	329
		9.9.2	Relevant Studies and Knowledge Base	329
		9.9.3	Preventative Controls	330
		9.9.4	Monitoring Program	330
		9.9.5	Corrective Actions	331
10	RADI	ATION		332
	10.1	Closure	Objectives and Criteria	333
	10.2	Design I	Elements	335
	10.3	Relevan	nt Studies / Knowledge Base	335
		10.3.1	Radiation Exposure Pathways	335
		10.3.2	Natural Background Levels	335
		10.3.3	Factors that Affect the Dose Assessment	337
		10.3.4	Predicted Radiation Dose to the Public	340
		10.3.5	Radiation Effects on Terrestrial and Aquatic Biota	342
	10.4	Bow-tie	Diagrams	342
	10.5	Preventa	ative Controls and their Effectiveness	345
	10.6	Monitori	ing Program	346
	10.7	Correcti	ve Actions and their Effectiveness	348
	10.8	Trigger,	Action, Response Plan	348
	10.9	Future V	Vork	351
11	CULT	TURAL		352
	11.1	Closure	Objectives and Criteria	353





	11.2	Design E	Elements	356
	11.3	Knowled	ge Base	357
		11.3.1	Cultural Heritage Management System	357
		11.3.2	Post-closure Use and Diet	359
		11.3.3	Culturally Important Flora and Fauna	360
		11.3.4	Potential Impacts to Cultural Values	360
	11.4	Bow-tie I	Diagrams	360
	11.5	Preventa	ative Controls and their Effectiveness	364
	11.6	Monitorin	ng Program	369
	11.7	Correctiv	ve Actions	370
	11.8	Trigger,	Action, Response Plan	374
	11.9	Future V	/ork	374
12	CON	SOLIDAT	ED RISK ASSESSMENT	377
	12.1	CSIRO L	Led 2013 Risk Assessment	378
	12.2	Archer R	tisk Assessment	378
	12.3	Umwelt I	_ed 2023 Risk Assessment	379
	12.4	Findings		379
13	TIMIN	NG AND F	INANCIAL PROVISION FOR CLOSURE	387
	13.1	Rehabilit	ation Provision	387
	13.2	Governn	nent Agreement	388
14	MAN	AGEMEN	T OF INFORMATION AND DATA	389
	14.1	Data Co	lection and Management	390
	14.2	Data Ava	ailability and Reporting	390
15	REFE	ERENCES		394
FIGU	JRES			
Figure	e 1-1: l	Location o	of Ranger Project Area (RPA)	2
Figure	e 1-2:	Ranger M	ine – Closure Domains	3
Figure	e 1-3: l	Land port	ions within and surrounding the RPA	5
Figure	e 2-1: .	Jabiru me	an monthly rainfall and evaporation (1971 to 2025: Bureau of Meteorology 2025)	14
Figure	e 4-1:	Indicative	timeline of planned activities	26
Figure	e 4-2:	Ranger M	ine– Closure Domains	27



Figure 4-3: Schematic of Pit 1 with key elevations (not to scale)	30
Figure 4-4: Pit 1 water balance schematic	33
Figure 4-5: Areas within the Pit 1 Domain	38
Figure 4-6: Schematic of Pit 3 with key elevations (not to scale)	43
Figure 4-7: Pit 3 in 2014 (left) and after construction of the underfill in 2021 (right)	44
Figure 4-8: Location of Well Heads of the Directionally Drilled Brine Injection Wells	47
Figure 4-9: Pit 3 dewatering zones	52
Figure 4-10: Schematic of the initial capping construction method	53
Figure 4-11: Pit 3 initial capping source material locations	55
Figure 4-12: Decant well typical section (indicative only –not to scale)	57
Figure 4-13: Nominal location of decant wells and monitoring towers	58
Figure 4-14: Schematic of secondary capping method	59
Figure 4-15: Example of 3D design files used to convert into machine guidance files for contractors	60
Figure 4-16: Ranger water circuit	62
Figure 4-17: Demolition Phases on the RPA	74
Figure 4-18: Processing Plant proposed demolition phases	75
Figure 4-19: Current and historical landfill sites on the RPA	82
Figure 4-20: Jabiru airport and ERISS buildings (August 2024)	83
Figure 4-21: Existing pipeline corridors (yellow lines) and proposed central services corridor (purple line	s). 89
Figure 4-22: Jabiru dredge removal plan	94
Figure 4-23: RWD Infrastructure scheduled for demolition	96
Figure 4-24: Plan view of the R3 Deeps decline	99
Figure 4-25: Final landform boundary and contours	104
Figure 4-26: Stockpile drilling program	106
Figure 4-27: Illustration of the height difference between current and final landform	108
Figure 4-28: Source locations of bulk material movements with place names	109
Figure 4-29: Destination locations of bulk material movements with place names	110
Figure 4-30: Construction method for final landform vegetation growth layer	112
Figure 4-31: Early concept under assessment – subject to change	116
Figure 5-1: Spider web diagram from the Landform theme showing subjective percentage complete and changes from 2024 to 2025	•
Figure 5-2: Example output from the bow-tie risk assessment process (Soils theme)	123
Figure 6-1: Pit 1 landform surface management water features	134



Figure 6-2: Pit 1 inlet channel telemetry and lab turbidity (2021-2025)	135
Figure 6-3: Pit 1 inlet channel telemetry and lab turbidity (2022-2025)	135
Figure 6-4: Decrease in mean annual bedload yield with time since construction on the TLF (Lowry and Saynor, 2015)	136
Figure 6-5: Stage 52 Inflow vs Outflow Turbidity (March 2024)	139
Figure 6-6: Calculated Pit 1 tailings surface as of May 2021 (S. Murphy, per. comms.1 June 2021)	142
Figure 6-7: Bow-tie diagram for erosion characteristics (L1)	147
Figure 6-8: Bow-tie diagram for tailings isolation (L2)	148
Figure 7-1: The Water Quality Management Framework (ANZG, 2018)	168
Figure 7-2: (Top) The main features of the ALARA procedure (Oudiz <i>et al.,</i> 1986) and (Bottom) Framework for the integration of risks from multiple hazards into a holistic ALARA demonstration (from Bryant <i>et al.,</i> 2017)	
Figure 7-3: Ranger sitewide groundwater sheds	187
Figure 7-4: Horsetail plot of Pit 3 uncertainty analysis modelled magnesium loads from Pit 3 sources (Px realisation classification is based on peak loads only)	
Figure 7-5: P50 (peak) realisation load contributions from Pit 3 sources	192
Figure 7-6: Pit 1 - CRS water quality data – Electrical Conductivity – 2020/21 to 2024/25 wet season	199
Figure 7-7: Pit 1 - CRS water quality data – Filtered uranium – 2020/21 to 2024/25 wet season	200
Figure 7-8: Pit 1 - CRS water quality data – Filtered uranium – 2022/23 to 2024/25 wet season	200
Figure 7-9: Conceptual model underpinning the APRA (BMT, 2023a)	203
Figure 7-10: Decision tree for vulnerability assessment framework	210
Figure 7-11: Summary of preliminary site wide ASS conceptual model – potential source areas (ERM, 2020b)	215
Figure 7-12: Bow-tie diagram for Djalkmarra and Corridor Creek catchments (Pit 1, Pit 3 and RP2) (WS1	1)223
Figure 7-13: Bow-tie diagram for Coonjimba and Gulungul catchments (WS2)	224
Figure 7-14: Bow-tie diagram for Final Landform and Land Application Areas (WS3)	225
Figure 8-1: Areas of potential concern – Overview	252
Figure 8-2: Study area for sampling of Areas of Potential Concern (AoPC) within processing area	256
Figure 8-3: Soil and groundwater bore sampling locations	257
Figure 8-4: Bow-tie diagram for contaminated soils (S1)	260
Figure 9-1: Revegetation monitoring areas	276
Figure 9-2: Surveyed reference sites with vegetation types mapped by Schodde and others (1987)	280
Figure 9-3: Bow-tie diagram for vegetation composition, abundance and community structure (ES1)	300
Figure 9-4: Bow-tie diagram for fauna composition, abundance or habitat formation (ES2)	301



Figure 9-5: Bow-tie diagram for nutrient cycling (ES3)	302
Figure 9-6: Bow-tie diagram for fire resilience (ES4)	303
Figure 9-7: Bow-tie diagram for resilience to disturbance (ES5)	304
Figure 9-8: Bow-tie diagram for management of weed risk (ES6)	305
Figure 9-9: Bow-tie diagram for management of introduced fauna risk (ES7)	306
Figure 10-1: Dissolved uranium concentrations in Magela Creek Upstream of Ranger	336
Figure 10-2: Bow-tie diagram for radiation doses to humans (R1)	343
Figure 10-3: Bow-tie diagram for radiation doses to non-human biota (plants and animals) (R2)	344
Figure 11-1: Bow-tie diagram for closure criteria – creating a landform that meets Traditional Owner requirements (CL1)	362
Figure 11-2: Bow-tie diagram for cultural management – to avoid destruction or damage to a cultural sit (CL2)	
TABLES	
Table 1-1: Ranger operator details	5
Table 1-2: Ranger mine title holder details	6
Table 1-3: Timelines of the operations and closure phases of Ranger	7
Table 1-4: Updates/changes between the 2024 and the 2025 MCP	7
Table 2-1: Comparison of AR5 and AR6 climate findings	15
Table 3-1: Committees and forums	18
Table 3-2: Other Stakeholder Engagement Mechanisms	20
Table 3-3: Jabiru transition framework	23
Table 4-1: Land disturbance and rehabilitation by domains (see Figure 4-2)	28
Table 4-2: Pit 3 Capping, Waste Disposal and Bulk Material Movement approval conditions	41
Table 4-3: Water quality classes at Ranger	61
Table 4-4: Capacity and description of on-site retention ponds	65
Table 4-5: Approximate amount and destination of waste materials for disposal	76
Table 4-6: Waste rock material types incorporated into the model	107
Table 5-1: Descriptors used to assess effectiveness of preventative controls and corrective actions	121
Table 6-1: Landform theme: Environmental Requirements	125
Table 6-2: Retention of Facilities – Approval of this Closure Criteria is sought	125
Table 6-3: Erosion Characteristics – Approved Closure Criteria	126
Table 6-4: Tailings Isolation – Approval of this Closure Criteria is sought	127



Table 6-5: Predicted denudation rates for each catchment on FLv6.2	. 130
Table 6-6: Predicted gullying depth for each catchment on FLv6.2	. 144
Table 6-7: Summary of significant hazards and consequences	. 144
Table 6-8: Preventative Controls for Landform	. 149
Table 6-9: Landform monitoring	. 158
Table 6-10: Corrective Actions for Landform	. 160
Table 6-11: Trigger, Action, Response Plan for Landform	. 162
Table 7-1: Water and Sediment Theme: Environmental Requirements	. 167
Table 7-2: Approved guideline values for each management goal – most stringent and therefore adopted Guideline Values (GV) in italics and underlined	
Table 7-3: Draft water and sediment quality objectives under review	. 172
Table 7-4: Ranger source terms and their locations	. 188
Table 7-5: Solutes that are potential CoPC at Ranger and their BTVs in HLUs	. 189
Table 7-6: Predicted peak concentrations for peak groundwater loads at selected locations (all Ranger sources + background)	. 195
Table 7-7: Predicted peak concentrations for 10,000 year groundwater loads at selected locations (all Ranger sources + background)	. 197
Table 7-8: Risk rating matrix	. 204
Table 7-9: Likelihood lookup table	. 204
Table 7-10: Sliding scale consequence lookup table (example for manganese)	. 204
Table 7-11: Comparison of manganese concentrations against consequence categories provided in Tabl 10 (colour legend below table)	
Table 7-12: Comparison of predicted annual loads and background levels (Holmes, 2023)	. 212
Table 7-13: Hazard Index results for the assessed scenarios – MG003 and MG009	. 217
Table 7-14: Hazard Index results for the assessed scenarios – Mudginberri Billabong (MB)	. 217
Table 7-15: Water and Sediment Theme: potential threats	. 226
Table 7-16: Preventative Controls for Water and Sediment – Site-wide	. 227
Table 7-17: Preventative controls for Djalkmarra Catchment and Corridor Creek Catchment	. 230
Table 7-18: Preventative Controls Coonjimba Catchment and Gulungul Catchment	. 232
Table 7-19: Preventative controls – final landform and LAAs	. 234
Table 7-20: Groundwater and surface water monitoring additional to monitoring requirements in the Rang Water Monitoring Strategy	_
Table 7-21: Corrective actions for water and sediment (all 'active' corrective actions)	. 238
Table 7-22: Trigger, Action, Response Plan for water and sediment	. 242



Table 8-1: Soils theme: Environmental Requirements	246
Table 8-2: Soils – approved Closure Criteria	246
Table 8-3: Sources of contamination and potential contaminants	249
Table 8-4: Soil assessment screening criteria (focus values) – heavy metals	253
Table 8-5: Soil assessment screening criteria (focus values) – Total Recoverable Hydrocarbons (TRH), Petroleum Hydrocarbons (TPH) and BTEXNTRH	
Table 8-6: Preventative controls for soil contamination	261
Table 8-7: Corrective actions for soil contamination (all 'active' corrective actions)	265
Table 8-8: Trigger, Action, Response Plan for Soil	266
Table 9-1: Ecosystems Theme: Environmental Requirements	269
Table 9-2: Ecosystems – Approved Closure Criteria	271
Table 9-3: Vegetation community descriptions in undisturbed areas of the RPA (Schodde et al., 1987)	277
Table 9-4: Unreported studies and monitoring that have informed the current ecosystem establishment strategy	284
Table 9-5: Weed categories and currently managed species	287
Table 9-6: Approved herbicides and target species	290
Table 9-7: Introduced fauna species and control type	291
Table 9-8: Fire resilience mechanisms for Ranger rehabilitation	298
Table 9-9: Preventative controls for Ecosystem	307
Table 9-10: Weed management indicative program	309
Table 9-11: Preliminary nutrient cycling monitoring program	317
Table 9-12: Corrective Actions for Ecosystem (all 'Active' Corrective Actions)	319
Table 9-13: Trigger, Action, Response Plan for Savanna Woodland CRE (Establishment, 0–2 years)	323
Table 9-14: Trigger, Action, Response Plan for Savanna Woodland CRE (Years 2–5)	324
Table 9-15: Trigger, Action, Response Plan for Savanna Woodland CRE (Years 5–10)	325
Table 9-16: Trigger, Action, Response Plan for Savanna Woodland CRE (Years 10–15)	326
Table 9-17: Trigger, Action, Response Plan for Savanna Woodland CRE (Years 15–25)	327
Table 9-18: Trigger, Action, Response Plan for Savanna Woodland CRE (Years 25+)	328
Table 10-1: Radiation theme: Environmental Requirements	333
Table 10-2: Radiation – approved Closure Criteria	334
Table 10-3: Calculated background average values in groundwater (ERM, 2020a)	336
Table 10-4: Occupancy intentions on the former mine area	337
Table 10-5: Annual intake of bush tucker	338



Table 10-6: Radiation dose to the public (mSv/y)	. 341
Table 10-7: Modelled Ra226 Increments	. 342
Table 10-8: Preventative controls for Radiation	. 345
Table 10-9: Radiation monitoring	. 347
Table 10-10: Corrective actions for Radiation	. 348
Table 10-11: Trigger, Action, Response Plan for Radiation	. 349
Table 11-1: Cultural Closure Criteria – approved via the 2023 MCP	. 354
Table 11-2: Preliminary Assessment of the Potential impacts to future cultural land use activities (ongoin consultation with Traditional Owners required)	-
Table 11-3: Preventative controls for Cultural	. 366
Table 11-4: Example of scalar measurement tool for cultural criteria monitoring	. 369
Table 11-5: Corrective actions for Cultural	. 371
Table 11-6: Trigger, Action, Response Plan for Cultural and Cultural Heritage	. 374
Table 12-1: Risk assessment consequence table	. 380
Table 12-2: Risk assessment likelihood table	. 382
Table 12-3: Risk assessment risk rating table and associated response	. 382
Table 12-4: Consolidated risks from bow-tie diagrams (see relevant chapters for details)	. 383
Table 14-1: Indicative data collection types	. 392
PHOTOS	
Photo 4-1: Pit 1 nearing the completion of mining (1992)	29
Photo 4-2: Settlement monitoring plate, with standpipe, at time of installation	31
Photo 4-3: Tailings surface showing tops of vertical wick drains installed in Pit 1	32
Photo 4-4: Scarification of the surface on Pit 1 (October 2020)	34
Photo 4-5: View of the perimeter drain and rock check dams along the south-east edge of Pit 1 (January	
2021)	
Photo 4-6: Completed Corridor Road Sump upgrade works with pumping infrastructure installed	
Photo 4-7: Back-cutting erosion on the steeper slope leading into the temporary perimeter drain (2022)	
Photo 4-8: Revegetation on Pit 1 (June 2025)	
Photo 4-9: Former Orica Explosives Storage Yard	
Photo 4-10: Former trial evaporators	
Photo 4-11: Decommissioned pumping booster station	
Photo 4-12: Tailings hung up on the tip head	48



Photo 4-13: Pit 3 tip head during removal of tailings (August 2024)	49
Photo 4-14: Pit 3 tip head following tailings removal (August 2025)	49
Photo 4-15: Amphibious excavator	50
Photo 4-16: Amphirol machines on Pit 3	51
Photo 4-17: Amphirol overturning tailings in Pit 3	51
Photo 4-18: Installation of geotextile and construction of initial capping on Pit 3 (June 2025)	53
Photo 4-19: Brine Concentrator	63
Photo 4-20: Brine Squeezer	64
Photo 4-21: Corridor Creek Wetland Filter (CCWLF)	67
Photo 4-22: Corridor Creek Land Application Area	68
Photo 4-23: Rubber tyre dump on top of a waste rock stockpile	78
Photo 4-24: Nursery (on right) and old core yard (on left) at Jabiru East (August 2024)	80
Photo 4-25: Old magazine site (August 2024)	85
Photo 4-26: Gagudju yard and surrounding disturbance (August 2024)	86
Photo 4-27: Gagudju workshop and surrounding infrastructure	86
Photo 4-28: Ranger Mine Village – with plants establishing (August 2024)	87
Photo 4-29: Magela Levee (August 2024)	88
Photo 4-30: Telstra communications tower upgrade	91
Photo 4-31: The Jabiru dredge	92
Photo 4-32: R3 Deeps portal and offices	98
Photo 4-33: The end of the steel multiplate tunnel (June 2022)	. 100
Photo 4-34: Coarse rockfill placed on top of the backfilled R3 Deeps ventilation shaft	. 101
Photo 4-35: Trial Landform (2023)	. 102
Photo 6-1: Pit 1 perimeter drain with sediments visible behind rock check dams	. 133
Photo 6-2: Pit 1 inlet channel on 16 January 2024 – noting release from CRS was not occurring at this tir	
Photo 6-3: Stage 52 HES Basin (31 January 2023)	
Photo 7-1: Filamentous algae in Magela Creek – Western channel upstream from MG003 (9 May 2023)	. 213
Photo 9-1: Trial landform (permanent monitoring plot 2) in 2009 (top left), 2016 (top right) and 2025	. 283
Photo 9-2: Section 2 of the TLF: June 2024 controlled burn (left) and successful seeding of native groundcovers, observed April 2025 (right).	. 292
Photo 9-3: Weed management for stockpiles	. 311