

Ok Birim Tailings Storage Facility Project

Environmental and Social Impact Assessment

Appendix L

Archaeology and cultural heritage report





OK BIRIM TAILINGS STORAGE FACILITY PROJECT ESIA

**ARCHAEOLOGY AND CULTURAL HERITAGE
ASSESSMENT REPORT- VERSION 5**

**OK Birim Tailings Storage Facility, Associated Access
Road And Tailings Pipeline**

IHM CONSULTING LIMITED

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GLOSSARY

Term	Definition
Archaeological Site	A location containing physical evidence of past human activity. Archaeological sites may include artefacts such as stone tools, pottery fragments, or cultural deposits, as well as landscape modifications created by past human use.
Burial Site	A location containing the human remains of a single individual deposited through burial practices, including inhumations or Ossuaries.
Cemetery Site	A location containing the remains of two or more individuals deposited through burial practices, typically representing formal or informal burial grounds.
Cultural Heritage	Tangible and intangible expressions of culture inherited from the past and maintained in the present, including archaeological sites, cultural landscapes, oral traditions, and culturally significant places.
Critical Cultural Heritage (IFC PS7)	Cultural heritage, sacred sites, natural features, landscapes, and traditional practices that are of fundamental importance to the identity, culture, spirituality, and customary livelihood of Indigenous Peoples, including sacred forests, rivers, mountains, ceremonial grounds, ancestral areas, and culturally significant natural resources.
Critical Cultural Heritage (IFC PS8)	Cultural heritage of exceptional cultural, historical, archaeological, scientific, or spiritual importance, including internationally recognised cultural heritage, legally protected heritage areas, sacred or ceremonial places, archaeological sites, burial areas, ritual landscapes, and other heritage places of outstanding significance to communities or the nation.
Infrastructure Corridor Communities	Communities located within or adjacent to the proposed infrastructure corridor associated with project access roads and tailings pipeline alignments.
Infrastructure Corridor Development Area	The construction footprint associated with infrastructure components outside the TSF development area, including the access road, bridge crossings, pipeline corridor, and associated facilities.
Oral Traditional Site	A location recognised through oral history, cultural narratives, or traditional knowledge as being culturally or spiritually significant, even where no physical archaeological remains are present.
Pipeline Route 1	The proposed primary tailings pipeline alignment extending approximately 95 km along the Kiunga–Tabubil Highway before connecting to the Ok Birim TSF via the proposed access road.
Alternate Pipeline Route 2	An alternative tailings pipeline alignment located on the opposite bank of the Ok Tedi River along the Ningerum–Tabubil section of the Kiunga–Tabubil Highway. This route has been adopted by the project.
Scientific Value	The potential of a site to provide information about past human activity through scientific investigation such as archaeological research or analysis.
Social Value	The importance of a place to a community or cultural group due to its cultural associations, identity, or social meaning.
Spiritual Value	The cultural or religious significance of a place associated with spiritual beliefs, traditional practices, or metaphysical associations.

Term	Definition
Settlement Site	A location associated with present or past habitation, including former villages, garden areas, hunting sites, and associated cultural features.
TSF Development Area	The construction footprint of the proposed Tailings Storage Facility, including the impoundment area, hydrocyclone house, laydown areas, and associated ancillary infrastructure.
TSF Communities	Communities located within or adjacent to the TSF development area, including Birimkamba, Karandimok, Kungim, Putmambin, Ambaga (Buseki people), Kungembit (Mendua people), and Komokpin villages.

ABBREVIATIONS

Abbreviation	Meaning
CEPA	Conservation and Environment Protection Authority
CH	Cultural Heritage
CHMP	Cultural Heritage Management Plan
ESIA	Environmental and Social Impact Assessment
ITCS	Kiunga–Tabubil Highway (Ok Tedi Infrastructure Transport Corridor)
NMAG	National Museum and Art Gallery
OTML	Ok Tedi Mining Limited
PNG	Papua New Guinea
TSF	Tailings Storage Facility

EXECUTIVE SUMMARY

PROJECT OVERVIEW

Ok Tedi Mining Ltd (OTML) proposes the Ok Birim Tailings Storage Facility Project in Western Province, Papua New Guinea. The project is intended to substantially reduce reliance on riverine tailings disposal and provide a long-term engineered tailings management solution.

The proposed TSF would be located approximately 1 km west of the confluence of Ok Birim and Ok Tedi and approximately 55 km south of the existing Ok Tedi Mine. The project includes the TSF, hydro-cyclone house, associated water management infrastructure, an 87-km tailings delivery pipeline, access roads, bridges and ancillary infrastructure. The current estimated disturbance footprint is approximately 1,900 ha.

The TSF is intended to provide controlled on-land storage of tailings and significantly reduce the need for continued riverine tailings disposal.

This Archaeology and Cultural Heritage Assessment forms part of the Environmental and Social Impact Assessment (ESIA) being undertaken to support project approvals.

STUDY AREA

The cultural heritage assessment considered the proposed TSF development area and associated infrastructure corridor development area, being the primary project disturbance areas where direct and indirect impacts to cultural heritage may occur.

The TSF development area includes the proposed tailings impoundment, hydro-cyclone house, internal roads, water management infrastructure, laydown areas, workshops, accommodation facilities and other ancillary infrastructure.

The infrastructure corridor development area includes the proposed tailings pipeline corridor, access roads, bridges, crossings and associated support infrastructure linking the TSF to existing OTML operational areas.

METHODOLOGY OVERVIEW

The assessment combined desktop review, community consultation, cultural mapping and field survey. The study was completed by experienced Papua New Guinean heritage practitioners under relevant NMAG permits and independent approvals.

Desktop review

Existing information considered included:

- previous archaeological studies in the wider region
- National Museum and Art Gallery records where available
- historical and ethnographic sources
- project planning and design information.

Community consultation

Consultation with community knowledge holders was undertaken to identify culturally significant locations including:

-
- sacred landscape features
 - ancestral settlement areas
 - burial places
 - traditional clan boundaries
 - culturally important access routes.

Field survey

Archaeological and cultural heritage surveys were undertaken within accessible portions of the project footprint using pedestrian inspection and guided site visits. No excavation or artefact collection formed part of this assessment.

Baseline Cultural Environment

The project area lies within a customary cultural landscape associated primarily with communities linked to the Yonggom, Awain and Ningerum groups.

These communities maintain enduring cultural relationships with land and waterways through:

- ancestral settlement areas
- sacred sites
- clan territorial boundaries
- customary travel routes
- hunting, fishing and subsistence areas
- oral history associations tied to named places.

KEY FINDINGS, IMPACT ASSESSMENT AND MITIGATION

A total of 354 cultural heritage places were identified during the assessment program. These comprise physically verified archaeological and cultural heritage sites recorded during field survey, together with additional culturally significant locations identified through community consultation and oral testimony that require future verification during pre-construction investigations.

The project area contains a culturally significant customary landscape with recorded places associated with ancestral occupation, burial practices, clan identity, spiritual beliefs and historical land use.

Most recorded places are of local or community significance rather than national or international heritage significance. No currently confirmed cultural heritage values meeting IFC Performance Standard 7 (IFC PS7) Critical Cultural Heritage thresholds have been identified within the presently defined project footprint. Under IFC PS7, such values may include sacred landscapes, ceremonial places, culturally significant natural features, traditional subsistence areas, and other heritage values fundamental to the identity and cultural continuity of Indigenous Peoples. Similarly, no currently confirmed sites meeting IFC Performance Standard 8 (IFC PS8) Critical Cultural Heritage thresholds have been identified within the presently defined project footprint.

Potential impacts are primarily associated with vegetation clearing, earthworks, embankment construction, road and pipeline works, and temporary or permanent changes to access. Based on current design information, the highest impact potential is within the TSF development area where permanent land take is required. Infrastructure corridor impacts are expected to be more readily managed through alignment refinement and local avoidance.

Where avoidance is practicable, culturally sensitive places such as burial areas and sacred locations should be excluded from disturbance. Where unavoidable impacts remain within limited portions of the TSF footprint, effects can be reduced through targeted consultation, detailed recording, agreed management measures and construction controls.

Following implementation of recommended mitigation measures, residual impacts are expected to be predominantly Minor to Moderate, with no currently predicted residual impacts of national or international cultural heritage significance.

CONCLUSION

The assessment indicates that the project can proceed from a cultural heritage perspective, subject to continued consultation, pre-construction verification of final disturbance areas, and implementation of a Cultural Heritage Management Plan and Chance Finds Procedure.

1. PROJECT DESCRIPTION

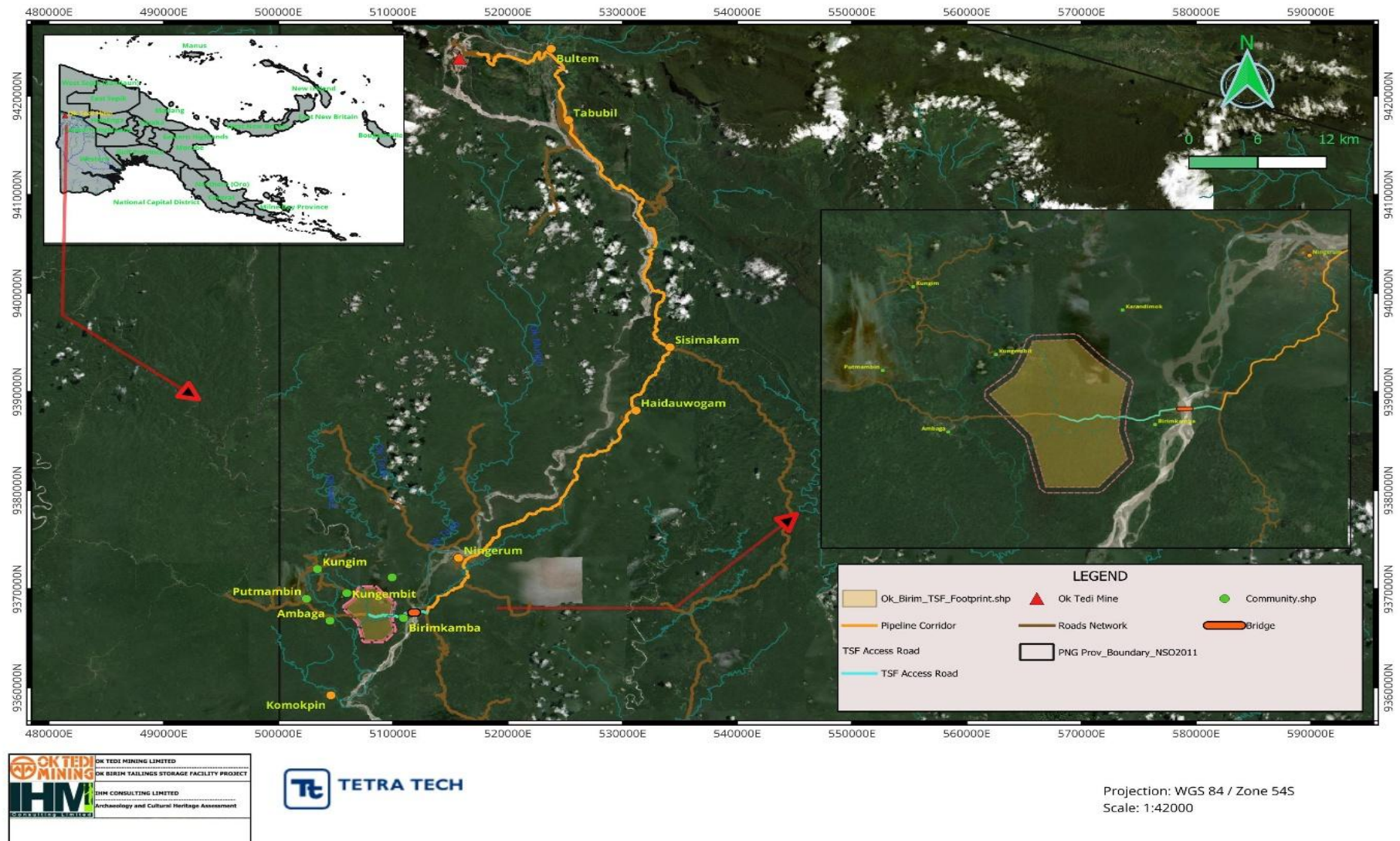
1.1 OVERVIEW

Ok Tedi Mining Ltd (OTML) proposes the Ok Birim Tailings Storage Facility Project (the project) in Western Province, Papua New Guinea. The project forms part of OTML's long-term tailings management strategy and is intended to substantially reduce reliance on riverine tailings disposal associated with existing mining operations.

The proposed tailings storage facility (TSF) would be located approximately 1 km west of the confluence of Ok Birim and Ok Tedi and approximately 55 km south of the existing Ok Tedi Mine. The project is intended to provide a long-term engineered tailings management solution while supporting future mine operations.

This Archaeology and Cultural Heritage Assessment has been prepared as part of the Environmental and Social Impact Assessment (ESIA) for the project.

Figure 1: Regional Location of Ok Birim TSF Project



1.2 PROJECT COMPONENTS

Based on the latest available design information, the project has an estimated total disturbance footprint of approximately 1,900 ha, comprising:

- TSF development area – approximately 1,500 ha
- Infrastructure corridor development area – approximately 400 ha

The principal project components include:

- tailings storage facility (TSF) impoundment
- hydro-cyclone house
- staged internal storage cells and embankments
- associated water management infrastructure
- an 87-km tailings delivery pipeline
- access roads and internal haul roads
- three permanent bridges and minor crossings
- laydown areas and workshops
- fuel and chemical storage facilities
- temporary accommodation and support camps
- borrow pits and gravel extraction areas
- power generation and ancillary operational infrastructure.

1.3 TAILINGS STORAGE FACILITY DEVELOPMENT AREA

The TSF development area includes the permanent storage footprint and supporting infrastructure required for construction, operations and closure.

Key components include:

- hydro-cyclone house for tailings separation
- ring-dyke embankment system
- progressive internal storage cells
- seepage and decant water management systems
- sediment control structures
- perimeter and internal access roads
- maintenance and operational facilities.

The TSF development area represents the largest permanent land disturbance area within the project and is therefore the principal focus of direct cultural heritage impact assessment.

1.4 INFRASTRUCTURE CORRIDOR DEVELOPMENT AREA

The infrastructure corridor development area includes all project linear infrastructure outside the TSF area required to connect the facility with existing OTML operational areas.

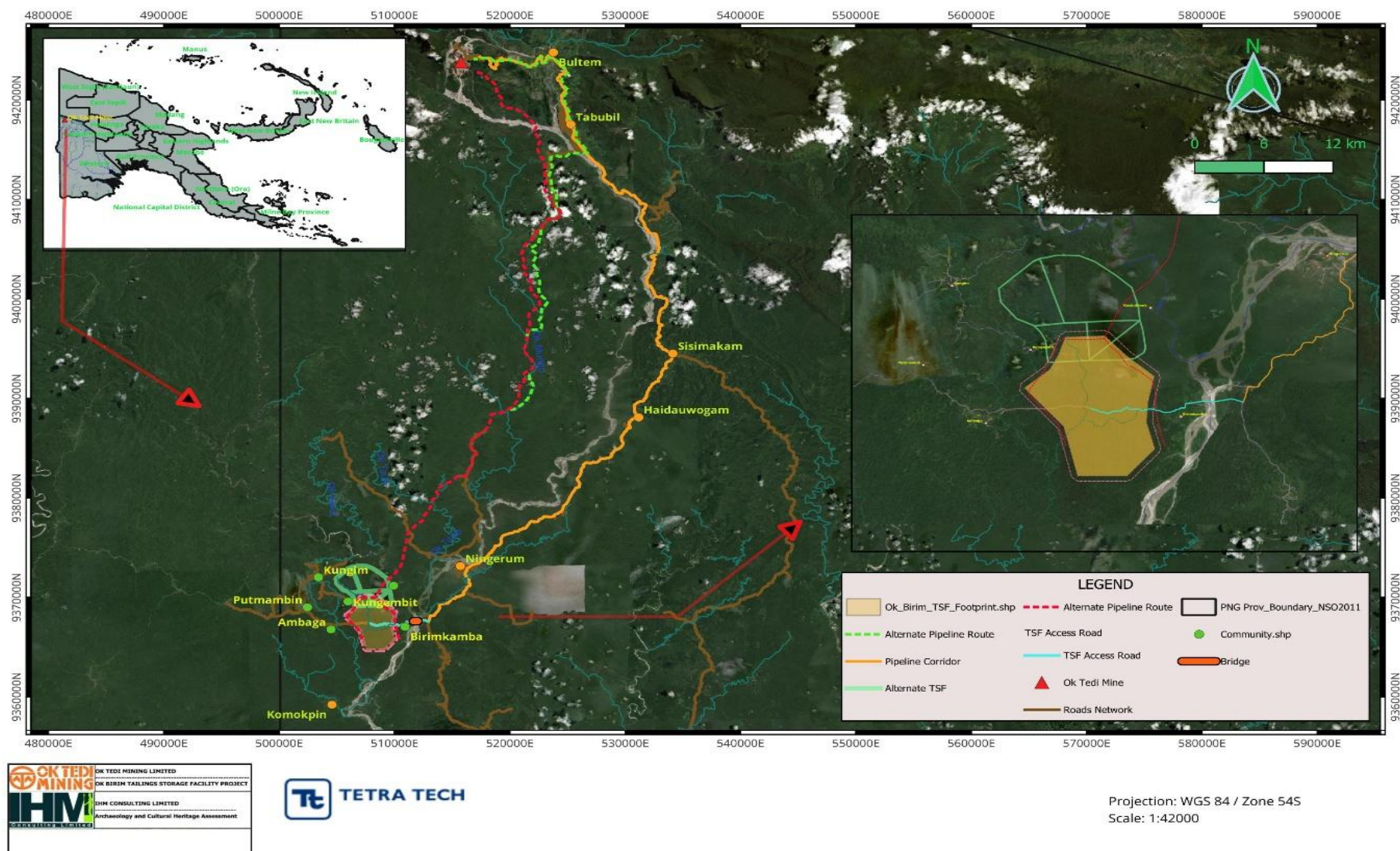
Key components include:

- 87-km tailings pipeline corridor
 - access and maintenance roads
-

-
- three permanent bridges
 - watercourse and ravine crossings
 - choke / valve stations
 - temporary construction compounds where required.

Because corridor disturbances are generally linear and narrower than the TSF footprint, there is greater opportunity for micro-siting and local avoidance of sensitive heritage places during final design.

Figure 2: Project Infrastructure Layout Showing TSF, Pipeline Corridor and Access Network.



1.5 PROJECT PHASES

The project is expected to proceed through the following phases:

1.5.1 Construction Phase

Activities are expected to include:

- vegetation clearing
- earthworks and grading
- embankment construction
- pipeline installation
- bridge construction
- development of temporary camps and work areas
- commissioning of infrastructure.

1.5.2 Operations Phase

Activities are expected to include:

- receipt and storage of tailings
- embankment raising and maintenance
- pipeline operation and maintenance
- water management
- site access and operational logistics.

1.5.3 Closure and Rehabilitation Phase

Activities are expected to include:

- decommissioning of operational infrastructure where required
- landform stabilisation
- drainage controls
- revegetation and rehabilitation
- long-term monitoring.

1.6 RELEVANCE TO CULTURAL HERITAGE ASSESSMENT

The project may affect cultural heritage values through:

- permanent land take within the TSF footprint
 - linear disturbance associated with roads and pipeline construction
 - temporary access restrictions
 - landscape modification
 - inadvertent disturbance during earthworks.
-

The distinction between the TSF development area and infrastructure corridor development area is important for this assessment, as each presents different impact pathways and different opportunities for avoidance and mitigation.

2. LEGISLATIVE AND POLICY FRAMEWORK

This Archaeology and Cultural Heritage Assessment has been prepared with reference to applicable Papua New Guinean legislation, project-specific environmental approval requirements, and relevant international standards for cultural heritage management.

The assessment forms part of the broader Environmental and Social Impact Assessment (ESIA) for the Ok Birim Tailings Storage Facility Project and is intended to support informed decision-making regarding project approvals and environmental management commitments.

2.1 PAPUA NEW GUINEA LEGISLATIVE FRAMEWORK

2.1.1 Ok Tedi Environment Management Act 2019

The *Ok Tedi Environment Management Act 2019* provides the principal environmental management framework relevant to Ok Tedi Mining Ltd operations and associated developments.

The proposed project is being assessed within this regulatory context. Cultural heritage considerations form part of the broader environmental and social matters requiring appropriate assessment and management.

2.1.2 National Museum and Art Gallery Act 1992

The *National Museum and Art Gallery Act 1992* establishes the National Museum and Art Gallery (NMAG) as the statutory authority responsible for archaeological heritage, cultural materials and related heritage matters in Papua New Guinea.

NMAG has an important role in relation to:

- archaeological site protection
- recording of heritage places
- management of artefacts
- approvals relating to archaeological investigations
- heritage advice where cultural materials may be affected.

Where archaeological materials or previously unrecorded heritage resources are encountered, consultation with NMAG may be required. Field investigations undertaken for this project were completed under relevant NMAG approvals consistent with statutory heritage requirements.

2.1.3 National Cultural Property (Preservation) Act 1965

The *National Cultural Property (Preservation) Act 1965* provides legal mechanisms for the protection of objects and places of cultural importance in Papua New Guinea.

This legislation is relevant where project activities may affect protected cultural property, significant objects or historically important places.

2.1.4 Human Remains and Burial Places

Although not always addressed through a single statutory mechanism, burial places (grave) and human remains require sensitive management consistent with:

-
- applicable Papua New Guinean laws; *Cemeteries Act 1955*
 - community expectations
 - customary protocols
 - government authority requirements; Provincial or District Coroner

Any unexpected discovery of human remains during construction should trigger immediate cessation of work and implementation of the Chance Finds Procedure.

2.2 CUSTOMARY LAND TENURE CONTEXT

Much of the project area is subject to customary ownership and traditional association. In Papua New Guinea, land, identity and cultural heritage are often closely linked.

Accordingly, heritage management within the project area should recognise:

- clan-based land tenure systems
- customary boundaries
- oral traditions connected to place
- ongoing community use of land and waterways
- spiritual relationships with landscape features.

This context is particularly relevant when assessing significance and consultation requirements.

2.3 INTERNATIONAL STANDARDS

2.3.1 IFC Performance Standard 7 – Indigenous Peoples

This assessment has considered the principles of International Finance Corporation Performance Standard 7 (IFC PS7): Indigenous Peoples.

IFC PS7 seeks to:

- ensure respect for the human rights, dignity, aspirations, identity, culture and natural resource-based livelihoods of Indigenous Peoples
- avoid adverse impacts on Indigenous Peoples and affected traditional communities where possible
- promote sustainable and culturally appropriate development benefits
- support meaningful consultation and informed participation
- recognise and protect customary land use, cultural practices and traditional knowledge
- protect cultural heritage and natural resources of cultural, spiritual and livelihood importance
- identify and appropriately manage Critical Cultural Heritage and culturally significant landscapes where present.

The IFC PS7 framework is particularly relevant to large-scale resource and infrastructure developments occurring within customary land and culturally active landscapes where Indigenous Peoples maintain strong spiritual, cultural and subsistence relationships with land, waterways and natural resources.

2.3.2 Critical Cultural Heritage under IFC PS7

IFC PS7 recognises that certain cultural heritage values, natural features and cultural landscapes may hold fundamental importance to the identity, spirituality, customary practices and cultural continuity of Indigenous Peoples and affected traditional communities.

Under IFC PS7, Critical Cultural Heritage may include:

- sacred sites and ceremonial places
- culturally significant rivers, mountains, forests and natural features
- ancestral settlement areas and customary landscapes
- traditional subsistence and resource-use areas
- culturally important access routes and travel corridors
- locations associated with oral traditions, origin stories and spiritual beliefs
- places essential to maintaining cultural identity and intergenerational knowledge transfer.

Under IFC PS7, certain sacred sites, ceremonial places, culturally significant natural features and customary landscapes may constitute Critical Cultural Heritage where they are fundamental to the identity, spirituality, ceremonial practice or cultural continuity of Indigenous Peoples. While no currently confirmed sites requiring FPIC under IFC PS7 have presently been identified within the defined project footprint, several culturally sensitive and spiritually significant places recorded during consultation may require further assessment during detailed design and pre-construction verification to confirm significance, impact pathways and appropriate management responses.

Based on available information, no currently confirmed cultural heritage values meeting IFC PS7 Critical Cultural Heritage thresholds have been identified within the presently defined project footprint. However, several places may remain highly significant at local, clan and community level and may require strong management measures to avoid or minimise impacts to cultural values, customary practices and community relationships with land and waterways.

2.3.3 IFC Performance Standard 8 – Cultural Heritage

This assessment has considered the principles of International Finance Corporation Performance Standard 8 (IFC PS8): Cultural Heritage.

IFC PS8 seeks to:

- protect cultural heritage from adverse project impacts
- support equitable sharing of benefits arising from use of cultural heritage
- promote meaningful consultation with affected communities
- protect both tangible and intangible cultural heritage
- manage Chance Finds
- identify and protect Critical Cultural Heritage where present.

The IFC PS8 framework is particularly relevant to large-scale resource and infrastructure developments seeking alignment with international financing standards.

2.3.4 Critical Cultural Heritage under IFC PS8

IFC PS8 identifies additional protections where Critical Cultural Heritage is present. This generally applies to places of exceptional cultural significance at national or international scale, or places essential to the identity of communities.

Based on available information, no currently confirmed sites meeting IFC PS8 Critical Cultural Heritage thresholds have been identified within the presently defined project footprint. However, several places may remain highly significant at local or clan level and require strong management responses.

2.4 GOOD INTERNATIONAL INDUSTRY PRACTICE

This assessment has also been informed by generally accepted international heritage management principles, including:

- avoidance of impacts where practicable
- minimisation where avoidance is not possible
- documentation of affected places
- ongoing stakeholder consultation
- transparent decision-making
- adaptive management during construction.

2.5 IMPLICATIONS FOR THE PROJECT

The legislative and policy framework indicates that OTML should ensure project activities are undertaken in a manner that:

- recognises heritage values within the project area
- avoids unnecessary disturbance to significant places
- consults affected communities
- manages unexpected discoveries appropriately
- documents unavoidable impacts
- implements appropriate mitigation and monitoring measures.

These requirements have informed the methodology and recommendations presented in this report

3. METHODOLOGY

3.1 OVERVIEW

The Archaeology and Cultural Heritage Assessment was undertaken using an integrated methodology combining desktop research, community consultation, cultural mapping, field survey and impact assessment.

This approach was adopted to recognise that cultural heritage within the project area includes both:

- tangible heritage, such as archaeological sites, former settlements, burials and artefacts; and
- intangible heritage, such as sacred places, oral traditions, clan boundaries, named landscapes and culturally important access routes.

The methodology was designed to establish a robust baseline understanding of heritage values and assess potential interaction with the latest available project layout.

3.2 ASSESSMENT OBJECTIVES

The key objectives of the study were to:

- identify archaeological and cultural heritage values within the project area
- document places and landscapes of cultural significance
- assess the significance of identified heritage places
- evaluate potential impacts associated with project development
- recommend practical management and mitigation measures
- support ESIA decision-making and project approvals.

3.3 DESKTOP REVIEW

A desktop review was undertaken prior to field activities to compile available background information relevant to the project area.

Sources considered included:

- previous archaeological and heritage studies in the wider Ok Tedi / Ningerum region
- National Museum and Art Gallery records where available
- historical and ethnographic references
- topographic mapping and aerial imagery
- project design information and infrastructure layouts
- community-supplied historical information where available.

The desktop review informed survey planning, consultation priorities and likely heritage sensitivity areas.

3.4 COMMUNITY CONSULTATION AND CULTURAL MAPPING

Consultation was undertaken with community representatives, elders, landowners and local knowledge holders associated with communities in or near the TSF development area and infrastructure corridor. Women's perspectives and participation were incorporated into the consultation process where

culturally appropriate and practicable. Engagement with women assisted in identifying cultural values, family burial areas, gardening locations, subsistence-use areas, oral histories, and culturally sensitive places that may not otherwise be identified through discussions with male community representatives alone. The assessment recognised that cultural knowledge within the project area may be gender-specific, and efforts were made to ensure that women's knowledge and perspectives contributed to the broader understanding of the customary cultural landscape and ongoing community relationships with land and waterways.

Consultation sought to identify:

- sacred places
- ancestral settlement areas
- burial places
- clan boundaries
- historical tracks and movement routes
- culturally sensitive natural features
- oral history associations linked to place.

Where appropriate, consultation outcomes were recorded through field notes, mapping and guided site inspections.

This component of the methodology was essential because many culturally significant places are not identifiable through archaeological survey alone.

3.5 FIELD SURVEY

Field investigations were undertaken within accessible portions of the project area using pedestrian walkover survey and guided inspections with community participants.

Survey tasks included:

- visual inspection of proposed disturbance areas
- identification of surface artefacts and archaeological indicators
- recording of settlement-related places
- verification of culturally significant locations identified during consultation
- GPS location recording where appropriate
- photographic documentation where suitable
- preliminary condition and significance observations.

The field survey focused on areas where project disturbance was considered most likely based on available layout information.

3.6 SURVEY TEAM

Fieldwork was undertaken by experienced Papua New Guinean team comprising cultural heritage practitioners, field personnel and community representatives with prior experience in mining, infrastructure and resource sector heritage assessments within Papua New Guinea. Core project personnel included:

- Robert Mambis – Cultural Heritage Lead / Senior Practitioner
 - Chloe Apo – Community Liaison / Cultural Mapping Support
 - Bernadine Mirio - Community Liaison / Cultural Mapping Support
-

The use of experienced Papua New Guinean personnel was a deliberate strength of the assessment and assisted with:

- engagement with customary landowners and communities
- understanding of local cultural protocols
- Tok Pisin and local language communication
- interpretation of oral histories and place-based knowledge
- efficient field logistics in remote terrain
- culturally appropriate identification of sensitive heritage values.

The survey team was further supported by customary landowners, local guides and relevant community knowledge holders from Birimkamba, Karandimok, Ambaga, Kungim, Putmambin, Kungembit and Buseki during field inspections and consultation activities.

All works were undertaken under relevant National Museum and Art Gallery (NMAG) permits conditions and approvals applicable at the time of survey.

3.7 PERMITS AND AUTHORISATIONS

All archaeological and cultural heritage fieldwork associated with this assessment was undertaken under the relevant National Museum and Art Gallery (NMAG) permits, approvals and authorisations applicable at the time of survey (Refer to Appendix for NMAG Permits) .

Field activities were conducted in accordance with permit conditions and relevant heritage management requirements, including consultation with communities, appropriate treatment of cultural information, and management of any archaeological materials or discoveries.

Ongoing liaison with NMAG was maintained throughout the assessment process, including review of field outcomes and reporting requirements where applicable.

3.8 SURVEY EFFORT AND LEVEL OF INVESTIGATION

The Archaeology and Cultural Heritage Assessment was undertaken over a 29-day program between 19 July and 16 August 2025. The program included mobilisation, planning, desktop review, access road and pipeline corridor reconnaissance, community consultation, participatory cultural mapping, field verification, GIS data management, register compilation and technical reporting. Field activities were completed across multiple communities and project areas including Birimkamba, Karandimok, Kungim, Putmambin, Ambaga, Kungembit, Buseki, and sections of the proposed access road and tailings pipeline corridor. The duration, geographic spread and range of activities undertaken provided an appropriate level of investigation for an ESIA-stage cultural heritage assessment. This equates to approximately 58 core person-days of consultant effort, excluding local guides and community representatives.

3.9 SITE RECORDING AND CLASSIFICATION

Identified places were classified into the following broad categories:

- Archaeological sites – places containing physical evidence of past human activity, including artefacts or occupation traces
 - Settlement sites – former or current occupation areas, village extensions, gardens, tracks or burial places
-

-
- Oral traditional sites – places recognised primarily through story, belief, customary significance or inherited knowledge.

This classification system reflects the mixed archaeological and living heritage character of the project area.

3.10 IMPACT ASSESSMENT METHOD

Potential impacts were assessed through comparison of identified heritage places against the latest available project footprint, including:

- TSF development area
- pipeline corridor
- roads and bridges
- temporary work areas
- ancillary infrastructure zones.

Survey methods varied across the project area according to terrain, access, vegetation cover, security, available time, project design maturity and the nature of proposed disturbance. Different assessment approaches were therefore applied to the TSF development area, access corridors and wider customary landscape.

TSF Development Area

The proposed TSF footprint received the most intensive level of assessment due to the scale of permanent disturbance anticipated. Assessment focused on accessible portions of the presently defined TSF development area and areas considered most likely to experience direct disturbance based on available project design information at the time of survey. Methods included pedestrian walkover survey, community-guided inspections, GPS recording, photographic documentation, cultural mapping and direct inspection of identified heritage locations.

Due to terrain, vegetation density, access limitations and ongoing design refinement, not all portions of the TSF development area were able to be physically verified during the ESIA-stage assessment. Accordingly, additional pre-construction verification surveys should be undertaken within final disturbance footprints and ancillary infrastructure areas prior to construction activities.

Access Road and Bridge Areas

Proposed access roads, crossings and bridge locations were assessed through targeted corridor walkovers, roadside inspections, consultation with nearby communities and verification of visible cultural places where accessible.

Pipeline Corridor – Route 1

Route 1 was assessed through a combination of linear reconnaissance, selected ground inspections at accessible sections, consultation with customary landowners, map review and identification of sensitive areas requiring avoidance or follow-up.

Pipeline Corridor – Route 2 / Alternative Alignments

Alternative corridor options, including Route 2 where applicable, were assessed primarily through consultation, participatory mapping and desktop spatial review. Limited physical verification was possible in sections of the alignment corridor due to access constraints, dense vegetation, remoteness and evolving alignment design.

Villages and Customary Areas

Community areas such as Birimkamba, Karandimok, Ambaga, Putmambin, Kungim, Kungembit and Buseki were assessed through interviews with elders and landowners, guided inspections, oral history recording and identification of culturally significant places.

Impact significance considered:

- heritage sensitivity
- proximity to disturbance
- scale and duration of impact
- reversibility
- avoidance opportunities
- community importance.

3.11 LIMITATIONS

The study was subject to several limitations typical of large-scale greenfield assessments.

3.11.1 Access Constraints

Dense vegetation, waterways, steep terrain, weather conditions and remoteness limited access to some areas.

3.11.2 Design Evolution

Project layouts may continue to evolve during detailed engineering, which can alter site impact relationships.

3.11.3 Non-visible Heritage

Some archaeological materials may occur below ground surface and not be detectable during walkover survey.

3.11.4 Confidential Cultural Information

Certain culturally sensitive information may have been withheld or described only generally by community custodians.

3.11.5 Corridor Verification

Some wider corridor consultation locations require follow-up verification once final micro-alignment is confirmed.

3.12 NO EXCAVATION STATEMENT

No archaeological excavation, test pitting or artefact collection formed part of this assessment.

The study was based on non-intrusive survey methods, consultation outcomes and surface observations.

If future disturbance is proposed in areas of elevated archaeological sensitivity, targeted subsurface investigation may be considered subject to approvals.

3.13 METHODOLOGY CONFIDENCE

Despite the limitations noted above, the integrated desktop, consultation and field-based methodology is considered appropriate for ESIA-level assessment and provides a suitable basis for identifying key heritage constraints, impact risks and management measures.

Further targeted verification surveys should be undertaken before construction in final disturbance areas.

4. BASELINE CULTURAL HERITAGE ENVIRONMENT

4.1 OVERVIEW

The project area lies within a culturally significant landscape in the North Fly region of Western Province, Papua New Guinea. Cultural values in the area are expressed through long-standing relationships between communities, land, rivers and ancestral history.

The baseline cultural heritage environment reflects both:

- physical evidence of past occupation, such as settlement areas, burials and artefacts; and
- living cultural values, including sacred places, clan boundaries, named landforms, customary access routes and oral traditions.

Accordingly, the project area should be understood as an active customary cultural landscape rather than an undeveloped or culturally vacant area.

4.2 REGIONAL CULTURAL SETTING

Communities associated with the project area are linked primarily with the:

- Yonggom groups
- Awain groups
- Ningerum groups.

These groups maintain distinct identities while also sharing historical connections through trade, marriage, migration, conflict resolution and customary land use across the wider Ok Tedi region.

Traditional relationships with rivers and surrounding land remain central to community identity and livelihood systems.

4.3 CUSTOMARY LAND TENURE

Land within the project area is strongly connected to customary ownership and inherited rights. Rights to occupy, use and speak for land may be associated with:

- clan membership
- descent lines
- historical occupation
- marriage links
- negotiated access arrangements
- recognised customary boundaries.

As a result, places that may appear physically modest can hold substantial cultural significance because of their relationship to identity, ownership and social memory.

This issue is particularly relevant to:

- former settlement sites
 - clan boundary markers
 - named ridges or watercourses
 - garden areas
-

-
- burial grounds.

4.4 RIVER SYSTEMS AND LANDSCAPE USE

The project area is associated with the Ok Tedi and Ok Birim catchments, together with tributaries, swamps, ridges and lowland forest environments.

Historically and presently, these landscapes support:

- movement between communities
- fishing and hunting
- collection of forest products
- gardening and small-scale cultivation
- settlement establishment on suitable elevated ground
- spiritual and ceremonial associations.

Waterways often function not only as environmental features, but also as cultural boundaries, travel routes and named places in oral history.

4.5 SETTLEMENT PATTERNS

Settlement in the wider project area has historically included:

- permanent villages
- smaller satellite hamlets
- temporary garden houses
- seasonal use areas
- former villages relocated over time.

Settlement movement may occur for reasons including:

- flooding
- health concerns
- access to services
- inter-group relations
- agricultural needs
- project or infrastructure influences.

As a result, former settlement areas may remain culturally important even where no standing structures survive.

4.6 CULTURAL HERITAGE VALUES PRESENT IN THE PROJECT AREA

Based on consultation and field survey, the principal cultural heritage values in the project area include:

Archaeological Values

- isolated stone artefacts
 - grinding stones
 - surface indicators of former occupation.
-

Historical and Settlement Values

- former village sites
- cemetery and burial places
- historical tracks
- community gathering areas.

Living Cultural Values

- sacred trees
- sacred hills or ridges
- spiritually sensitive water places
- clan boundaries
- named places linked to origin stories
- culturally important access routes.

4.7 BURIAL PRACTICES AND CEMETERIES

Burial places are among the most sensitive cultural heritage receptors in the project area. Cemeteries may include:

- current community burial grounds
- older family burial areas
- ancestral graves associated with former settlements.

Even where grave markers are absent, communities may retain detailed knowledge of burial locations through oral history.

Any potential disturbance to burial places should therefore be treated as high sensitivity.

4.8 SACRED AND RESTRICTED PLACES

Certain natural features may be culturally significant because of:

- ancestral stories
- spirit associations
- customary law restrictions
- ceremonial use
- historic conflict or peace-making events.

Such places may include:

- trees
- hills
- swamps
- rock outcrops
- river bends
- crossings.

Some culturally sensitive locations may not be fully disclosed in public reporting and may require confidential management.

4.9 ARCHAEOLOGICAL POTENTIAL

Only a limited number of recorded artefacts have currently been identified. However, this does not necessarily indicate low archaeological potential.

The broader region has a long history of occupation and movement. Subsurface archaeological materials may occur in:

- former settlement areas
- elevated terraces
- river margins
- undisturbed soils near known occupation zones.

Accordingly, earthworks within undisturbed ground carry some potential for unexpected finds.

4.10 EXISTING DISTURBANCE CONTEXT

Parts of the wider project area have previously experienced disturbance associated with:

- existing roads and tracks
- operational transport routes
- small-scale clearing
- gardening
- village expansion
- historical resource use.

Previously disturbed areas may have reduced archaeological integrity in some locations. However, prior disturbance does not remove living cultural significance or community attachment to a place.

4.11 SIGNIFICANCE CONTEXT

The majority of known cultural heritage values in the project area are considered to be of:

- local significance
- community significance
- clan significance.

At present, no currently confirmed places within the defined project footprint are known to meet national or international thresholds for Critical Cultural Heritage under IFC Performance Standard 8 (IFC PS8).

Nevertheless, locally significant places may still require strong management responses where they relate to burial practices, sacred values or customary ownership.

4.12 BASELINE SUMMARY

The project area contains a culturally rich and active customary landscape with intertwined archaeological, historical and living heritage values.

The most important baseline conclusion is that heritage significance within the project area is driven primarily by:

- continuing community relationships to land
- ancestral history
- burial and spiritual associations
- customary tenure and boundaries
- former settlement occupation.

These baseline conditions form the context for interpretation of survey results and assessment of project impacts.

5. SURVEY RESULTS

5.1 OVERVIEW OF RECORDED SITES

Archaeological and cultural heritage investigations undertaken for the project identified a large and culturally complex suite of heritage locations within the TSF development area, infrastructure corridor development area and adjacent customary lands through a combination of field survey, community consultation, oral testimony and participatory cultural mapping.

The assessment identified both:

- physically verified cultural heritage sites recorded during field investigations; and
- consultation-identified cultural heritage locations that were not able to be physically verified during the ESIA-stage assessment program.

The identified places comprise:

- archaeological sites;
- ancestral settlement and occupation areas;
- burial and cemetery locations;
- oral traditional and sacred places;
- ceremonial and ritual locations;
- clan boundaries and culturally significant landscape features;
- traditional pathways and access routes;
- hunting and subsistence-use areas;
- sacred hills, swamps, rivers and forest locations;
- and places associated with oral history, spiritual belief systems and customary land use.

The survey results demonstrate that the project area forms part of an active customary cultural landscape rather than a culturally vacant environment.

Table 1: Cultural Heritage Site Summary

Dataset Type	Confirmed Number
Field verified cultural heritage sites	77
Consultation-identified sites pending field verification	268
Total recorded cultural heritage locations	345

The field verified dataset comprises:

- 48 Settlement Sites;
- 20 Oral Traditional Sites;
- 5 Archaeological Sites; and
- 4 Other Historical or Modified Landscape Features.

The consultation-identified dataset is associated primarily with:

- Pipeline Route 2;
 - Kungim;
-

-
- Kungembit;
 - Putmambin;
 - and other customary areas where access limitations, terrain, vegetation density, evolving project design and available survey time restricted direct field verification.

The assessment identified a total of 345 cultural heritage locations across the project area through a combination of field survey, community consultation and participatory cultural mapping. This comprises 77 field verified sites physically inspected during field investigations and 268 consultation-identified sites that remain pending field verification. The consultation-identified dataset is associated primarily with Pipeline Route 2 and adjacent customary land areas where access limitations, terrain, vegetation density, logistical constraints and evolving project design restricted direct inspection during the ESIA-stage assessment program.

5.2 INTERPRETATION OF RESULTS

The assessment demonstrates that cultural significance within the project area is strongly associated with living cultural values, oral tradition and customary relationships with land and waterways rather than solely visible archaeological remains.

The high proportion of oral traditional and consultation-identified sites is consistent with the cultural setting of the wider Ok Tedi / Ningerum region, where many culturally significant locations are recognised through:

- inherited customary knowledge;
- ancestral history;
- oral narrative;
- ceremonial practice;
- spiritual belief systems;
- clan identity;
- and traditional land use.

Examples recorded during the assessment include:

- sacred hills and ridges;
- sacred trees and groves;
- swamps, rivers and crossings associated with ancestral stories;
- ceremonial locations;
- burial grounds and cemeteries;
- former settlement areas;
- clan boundaries;
- traditional hunting and subsistence areas;
- and named places associated with masalai beliefs and oral history traditions.

Accordingly, community consultation and participatory cultural mapping formed a critical component of the assessment because many culturally significant locations are not identifiable through archaeological survey alone.

The results further demonstrate that:

- cultural values remain active and ongoing within the project area;
 - many locations continue to hold spiritual and customary significance;
-

-
- and several areas remain culturally sensitive despite existing disturbance associated with roads, gardens and historical development activities.

5.3 FIELD VERIFIED CULTURAL HERITAGE SITES

A total of 77 cultural heritage sites were physically verified during field investigations undertaken within accessible portions of the project area.

These sites were documented through:

- pedestrian walkover survey;
- guided inspections with customary landowners;
- GPS recording;
- photographic documentation;
- cultural mapping;
- and direct field observation.

The physically verified dataset comprises:

- settlement sites and former occupation areas;
- burial grounds and cemeteries;
- oral traditional and sacred places;
- archaeological artefact locations;
- historical tracks and boundaries;
- and modified historical landscape features.

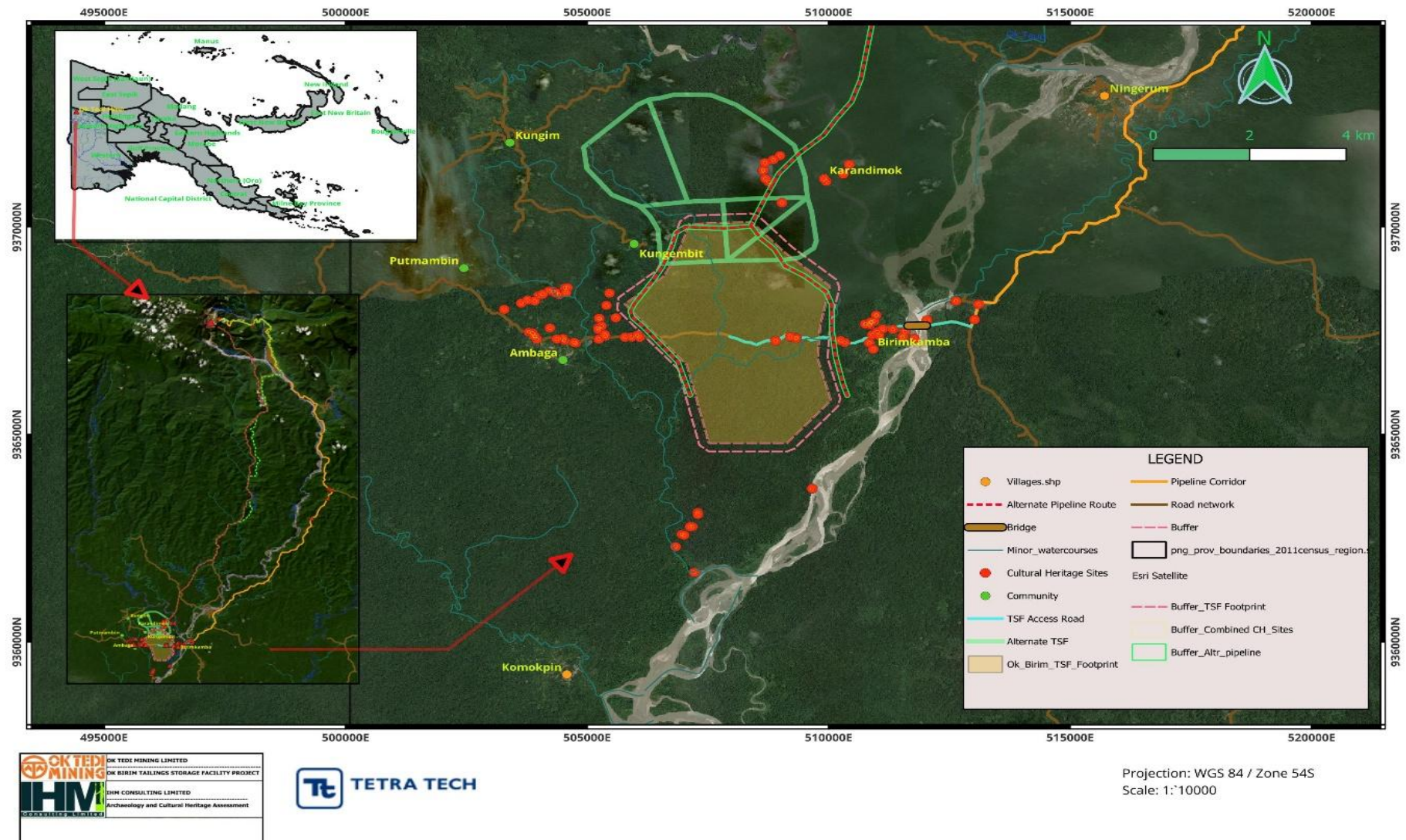
Field verified sites were primarily recorded within:

- Birimkamba;
- Ambaga;
- Karandimok;
- Komokpin;
- the TSF development area;
- access road alignments;
- and accessible portions of the infrastructure corridor.

Several physically verified locations occur:

- within the TSF development footprint;
 - adjacent to proposed access roads;
 - or within areas potentially affected by ancillary infrastructure development.
-

Figure 3: Distribution of Recorded Cultural Heritage Sites within the Project Area



5.4 CONSULTATION – IDENTIFIED SITES PENDING FIELD VERIFICATION

In addition to physically verified sites, 268 culturally significant locations were identified through community consultation, oral testimony and participatory cultural mapping but were not physically verified during the ESIA-stage assessment.

These locations are associated primarily with:

- Pipeline Route 2 and alternative alignments;
- Kungim;
- Kungembit;
- Putmambin;
- and remote customary land areas where direct inspection was constrained by:
 - terrain;
 - dense vegetation;
 - waterways;
 - access limitations;
 - logistical constraints;
 - security considerations;
 - and evolving project design information.

The consultation-identified sites include:

- sacred and spirit sites;
- ceremonial locations;
- burial areas and cemeteries;
- sacred rivers, swamps and water sources;
- hunting and subsistence-use areas;
- clan boundaries;
- ancestral settlement locations;
- culturally important ecological areas;
- wartime shelters and historical locations;
- and places associated with masalai beliefs, oral narratives and customary law.

Preliminary interpretation of consultation outcomes indicates that many of these locations possess:

- strong social significance;
- spiritual and ceremonial value;
- customary importance;
- and continuing associations with clan identity, ancestral history and traditional land use practices.

Several consultation-identified places may require additional assessment in relation to IFC Performance Standard 7 (IFC PS7) and IFC Performance Standard 8 (IFC PS8) cultural heritage considerations, particularly where locations relate to:

- burial practices;
-

-
- sacred landscapes;
 - spiritually significant natural features;
 - ceremonial activity;
 - and cultural values fundamental to Indigenous community identity and continuity.

Because these locations were identified primarily through engagement rather than direct inspection, the current significance assessment and impact interpretation should be regarded as preliminary pending:

- detailed engineering design;
- final micro-alignment confirmation;
- additional community consultation;
- and targeted pre-construction verification surveys.

Accordingly, the consultation-identified dataset should be interpreted as an important component of the broader customary cultural landscape rather than as a fully verified archaeological inventory.

5.5 BIRIMKAMBA CUSTOMARY AREA

Table 2: Birimkamba Customary Area – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Birimkamba	27	27	0	Burial grounds, oral-traditional sites, settlement history, historical infrastructure disturbance

5.5.1 Narrative Interpretation

Birimkamba Village represents one of the most culturally layered localities within the study area, combining historical settlement remains, ongoing burial traditions, oral-traditional landscape features and continuing customary associations linked to ancestral beings such as the Gungotim spirit-dog.

While portions of the area have experienced historical disturbance associated with the ITCS Road and earlier infrastructure activities, many identified sites continue to retain cultural meaning and remain active within community memory and customary land use practices.

The Birimkamba dataset illustrates the overlapping character of:

- living cultural heritage;
 - ancestral memory;
 - settlement history;
 - burial practice;
 - oral-traditional belief systems;
 - and modified historical infrastructure landscapes.
-

Table 3: Representative Site Examples

Site Code	Site Type	Significance Summary
OKB-BIR_002	Community Cemetery	Active ancestral burial area of continuing clan significance.
OKB-BIR_005.2	Gungotim Spirit-Dog Locality	Important oral-traditional site associated with ancestral spiritual beliefs.
OKB-BIR_006	Former Construction Camp	Historical infrastructure-related landscape feature associated with earlier development activity.
OKB-BIR_008	Burial Locality	Burial site retaining strong customary and spiritual significance.

5.5.2 Archaeological Significance

Archaeological significance within Birimkamba is considered moderate due to:

- historical settlement activity;
- burial contexts;
- modified landscape features;
- and evidence of earlier infrastructure development activities associated with the ITCS Road corridor.

Several locations may retain subsurface cultural deposits associated with earlier occupation and settlement history.

5.5.3 Customary / Local Significance

Customary significance within Birimkamba is very high. The area contains:

- active burial areas;
- sacred oral-traditional sites;
- ancestral settlement locations;
- and culturally significant landscape features linked to community identity, oral history and spiritual beliefs.

Many locations remain active components of the living customary landscape.

5.5.4 Survey Confidence

Survey confidence within Birimkamba is high due to complete field verification coverage achieved during the ESIA-stage assessment.

5.5.5 IFC Considerations

No currently confirmed IFC PS8 Critical Cultural Heritage sites were identified within Birimkamba. However, several sacred oral-traditional sites and burial areas may warrant additional assessment under IFC PS7 due to their continuing spiritual and customary significance.

5.5.6 Management Implications

Management priorities for Birimkamba include:

-
- avoidance of burial areas;
 - maintenance of exclusion buffers around sacred sites;
 - additional consultation during detailed design;
 - and implementation of targeted management controls within the TSF footprint.

Figure 4: shows sites distribution related to Birimkamba communities.

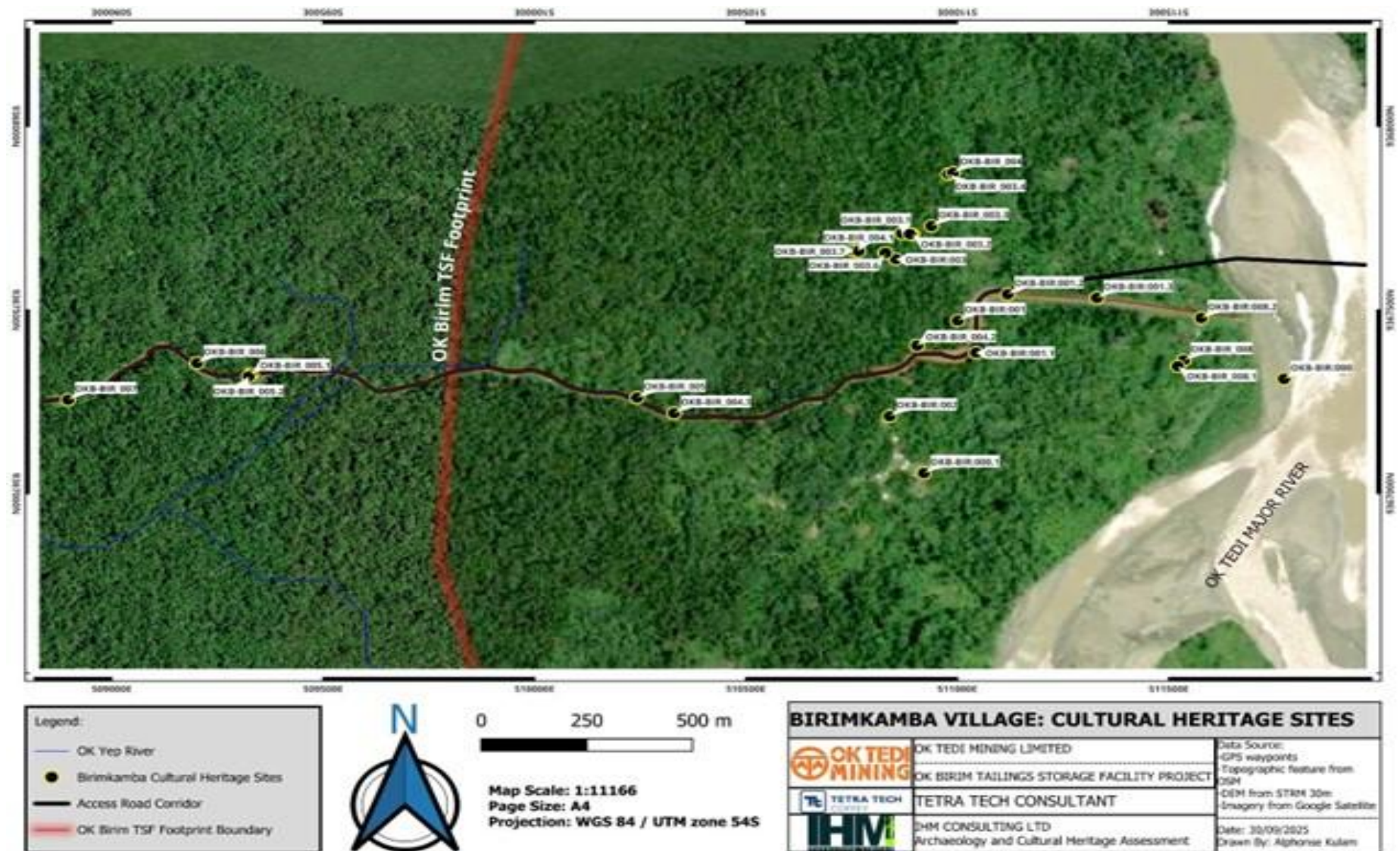


Table 4: Site Profile of Birimkamba Area

	<p>Site Code: OKB-BIR_000.1 / 002</p> <p>Site Type: Community Cemetery (OKB-BIR_000.1 / 002)</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: Yes</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Burial huts and graves located approximately 20 m from the ITCS Road, outside the TSF development area. The area was recorded to capture its spatial reference with the adjacent settlement.</p>
<p>Plate 1 – OKB-BIR_002: Community Burial Area adjacent to Access Road</p> 	<p>Site Code: (OKB-BIR_001 Series)</p> <p>Site Type: Masalai Spirit Sites</p> <p>Site Category: Oral Traditional site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Series of sacred localities associated with the <i>Masalai</i> (spirit) or spirit-being, including a fig tree habitat and swamp where a woman and child reportedly vanished. These are key oral-historical points of reference within Birimkamba belief systems. The site is observed to be impacted by the ITCS Road construction.</p>



Plate 3 – OKB-BIR_003: Post-Colonial Settlement Remains

Site Code: OKB-BIR_003 Series

Site Type: Ancestral Settlement Complex with Burials, Ceremonial Area and Archaeological Artefact Occurrence

Site Category: Mixed Cultural Heritage Complex (Settlement, Oral Traditional and Archaeological Components)

Archaeological Potential: Medium to High

Reference to TSF: Outside TSF development area

Description: The OKB-BIR_003 Series comprises a complex cultural heritage landscape associated with former occupation of the Birimkamba area. The site complex includes an ancestral village (OKB-BIR_003.1), multiple burial areas (OKB-BIR_003.2 and OKB-BIR_003.3), a ceremonial feast area (OKB-BIR_003.4), an isolated chert flake indicating archaeological activity (OKB-BIR_003.5), and associated settlement extensions and boundaries (OKB-BIR_003.6–003.7). The location is also associated with the burial of Chief Mukon Wangbon, an individual recognised in local history. Collectively, these features demonstrate evidence of former settlement, ceremonial activity, mortuary practices and archaeological occupation, resulting in moderate to high cultural heritage significance and archaeological potential.

Assessment: The site should be treated as a **multi-component cultural heritage complex** rather than a single archaeological site. The highest significance elements are the burial locations and ancestral settlement remains, while the chert artefact confirms archaeological potential within the broader site complex.

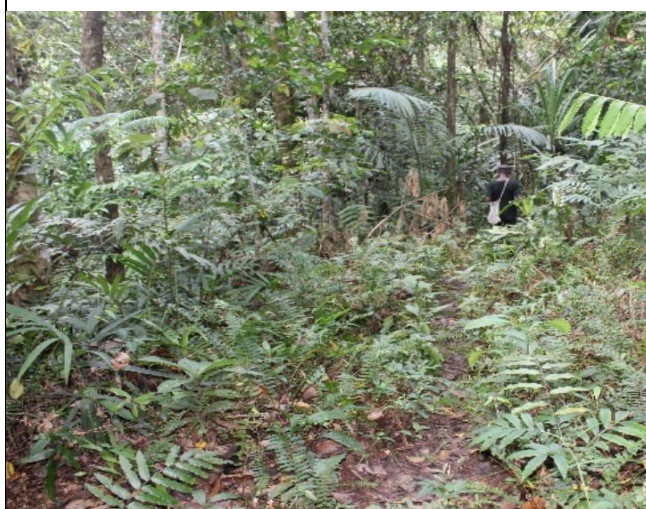


Plate 4 – OKB-BIR_004: Overgrown Colonial Track

Site Code: OKB-BIR_004 Series

Site Type: Old Bush Track

Site Category: Settlement site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Linear track constructed in the 1950s connecting Tabubil to adjacent villages. Now overgrown but retains historic value as a colonial-era route.

 <p>Plate 5 – OKB-BIR_005: Traditional Clan Boundary at Niktem Creek</p>	<p>Site Code: OKB-BIR_005 – 005.2 Site Type: Clan Boundaries Site Category: Settlement site Archaeological Potential: No Reference to TSF: Inside TSF development area Description: Customary clan divisions identified by elders, marked by creeks and small hills between Kimki, Namago-Komlegi, Opka, and Ambeki clans. Represents traditional territorial knowledge rather than formal cadastral limits</p>
 <p>Plate 6– OKB-BIR_006: Former Access Road Camp Area</p>	<p>Site Code: OKB-BIR_006 Site Type: Former Construction Camp Site category: Settlement Site Archaeological Potential: No Reference to TSF: Inside TSF development area Description: Site (~200 m × 200 m) used by construction crews during the 1979 Access Road development. Located on Kimki clan land, now heavily modified and without visible remains</p>
 <p>Plate 7 – OKB-BIR_007: Mt Mongatbit Gungotim (Sacred Mountain)</p>	<p>Site Code: OKB-BIR_007 Site Type: Spirit Site Site Category: Oral Traditional site Archaeological Potential: No Reference to TSF: Inside TSF development area Description: Revered mountain dwelling of the spirit-dog <i>Gungotim</i>, believed to manifest as a warning spirit foretelling death. Despite disturbance from roadwork, the site remains central to local belief systems and oral traditions.</p>

 <p>Plate 8 – OKB-BIR_008: Satellite Village and Burial Plots near Ok Tedi</p>	<p>Site Code: OKB-BIR_008 Series Site Type: Birimkamba Satellite Village Site Category: Settlement site Archaeological Potential: Yes Reference to TSF: Outside TSF development area Description: Small satellite settlement (~50 m × 40 m) near Ok Tedi, with recent family burials within active gardens. Reflects contemporary settlement and mortuary practice linked to riverine livelihoods</p>
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5.6 AMBAGA CUSTOMARY AREA

Table 5: Ambaga Customary Area – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Ambaga	36	33	3	Sacred oral-traditional sites, burial areas, clan boundaries, archaeological artefacts

5.6.1 Narrative Interpretation

The Ambaga customary area contains one of the densest concentrations of cultural heritage locations recorded during the assessment. The landscape reflects strong interaction between:

- customary land tenure;
- oral-traditional belief systems;
- subsistence activity;
- burial practice;
- and long-term settlement use.

Several sacred oral-traditional locations remain culturally active and continue to hold strong importance within local clan identity systems and community memory.

Table 6: Representative Site Examples

Site Code	Site Type	Significance Summary
OKB-AMB_005	Mythical Site (Binturun)	Sacred oral-traditional landscape feature of very high customary significance.
OKB-AMB_008	Grinding Stone	Isolated archaeological artefact indicating historical subsistence activity.
OKB-AMB_015	Sacred Site	Oral-traditional location associated with masalai marriage narrative.
OKB-AMB_003	Clan Boundary	Consultation-identified territorial boundary associated with customary tenure.

5.6.2 Archaeological Significance

Ambaga contains moderate archaeological significance associated with:

- grinding stone artefacts;
- long-term settlement use;
- subsistence activity;
- and landscape modification associated with occupation history.

The area demonstrates evidence of prolonged cultural interaction with the environment.

5.6.3 Customary / Local Significance

Customary significance within Ambaga is very high due to:

- sacred oral-traditional sites;
- burial locations;
- clan boundaries;
- and continuing subsistence-use landscapes.

Many locations continue to function as active components of the customary landscape and remain strongly connected to clan identity and spiritual belief systems.

5.6.4 Survey Confidence

Survey confidence for Ambaga is moderate due to partial non-field verified areas associated with clan boundaries and culturally sensitive locations.

5.6.5 IFC Considerations

Several sacred oral-traditional sites and culturally sensitive landscapes within Ambaga may warrant further consideration under IFC PS7 due to their ongoing cultural and spiritual importance to Indigenous communities.

5.6.6 Management Implications

Management priorities for Ambaga include:

- protection of sacred oral-traditional locations;
 - avoidance of burial areas;
 - maintenance of customary access pathways;
 - and targeted verification of consultation-identified boundary areas prior to disturbance.
-

Figure 5: sites owned by communities of Ambaga village

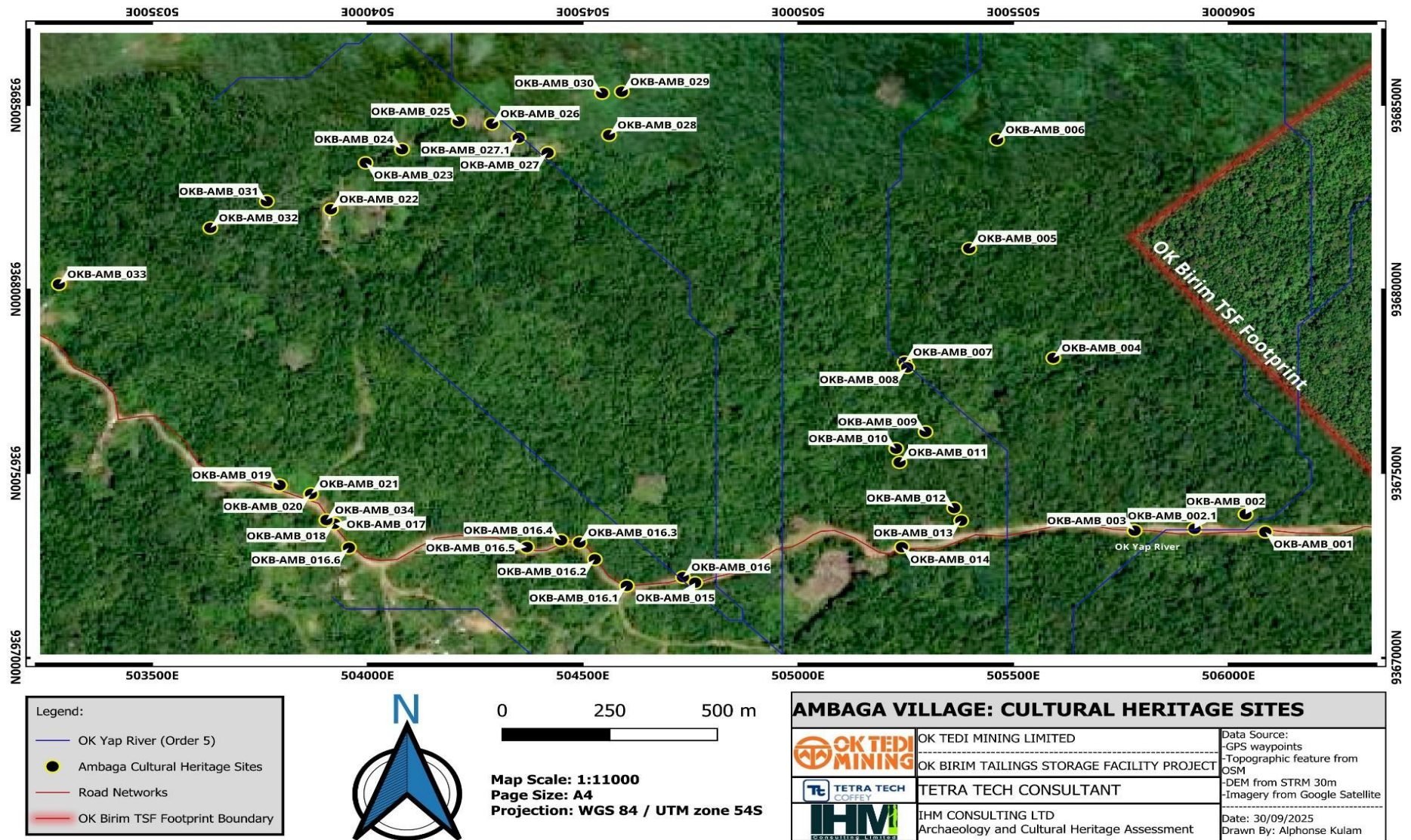


Table 7: Site Profile of Ambaga Area



Plate 9 – OKB-AMB_001: Traditional Clan Boundary along Access Road

Site Code: OKB-AMB_001

Site Type: Ancient Clan Boundary

Category: Settlement site

Archaeological Potential: No

Reference to TSF: Outside TSF development area/within 250m

Description: Traditional boundary between the Buburam clan of Ambaga and the Kimki-Namago clans of Birimkamba, following a natural ridge disturbed by Access Road construction. Despite physical modification, elders continue to recognise it as a living boundary defining land ownership and clan identity.

Archaeological Significance: Low

Customary/Local Significance: Moderate



Plate 10 – OKB-AMB_002: Rubber Plantation Area

Site Code: OKB-AMB_002

Site Type: Economic/Rubber Plantation site

Site Category: Settlement site

Archaeological Potential: No

Reference to TSF: Outside TSF development area/within 250m

Description: A one-hectare rubber plantation established by Jonny Konickson, Bibiram Clan. Represents early community cash-crop development under customary tenure. Although largely unmaintained, it remains an important marker of livelihood transition.

Archaeological Significance: Low

Customary/Local Significance: Moderate



Plate 11 – OKB-AMB_005: Binturun Sacred Site

Site Code: OKB-AMB_005

Site Type: Spirit Site (Location: *Binturun*)

Site Category: Oral traditional site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area/within 250m

Description: Sacred grove located at the intersection of ancestral bush tracks. Believed to manifest ancestral power through thunder and heavy rain when disturbed. Considered a living spiritual site central to Buburam-Irimkubum Clan identity.

Archaeological Significance: Moderate

Customary/Local Significance: High



Plate 12 – OKB-AMB_007: Grinding Stone Site near Bush Track

Site Code: OKB-AMB_007–008

Site type: Temporary Settlement and Grinding Stone

Site Category: Archaeological site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Abandoned dwelling area with a grinding-stone artefact (~20 cm × 10 cm) suggesting ancestral tool-making and early domestic activity.

Archaeological Significance: High

Customary/Local Significance: Moderate



Plates 13 – OKB-AMB_013–021: Burial Areas across Ambaga Landscape

Site Code: OKB-AMB_013–021 Series

Site type: Burial Sites

Site Category: Settlement site

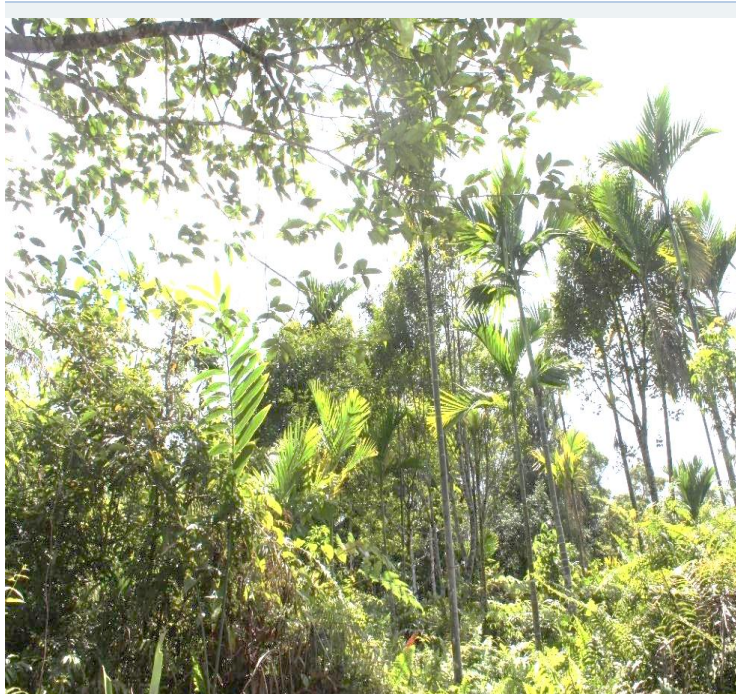
Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Cluster of ancestral and family burials within active gardens and village precincts. Graves of notable figures such as Nekatma and Karingi are recognised as lineage markers and are still respected.

Archaeological Significance: High

Customary/Local Significance: High



Plates 14 – OKB-AMB_024–026: Economic and Cash-Crop Plots

Site Code: OKB-AMB_024–026

Site Type: Economic site

Site Category: Settlement site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Betel-nut, vanilla, and mixed-crop gardens representing smallholder enterprise and intercultural partnerships. Example: a Vanilla plantation established found on the landscape owned by Ambaga is being cultivated by in-law of the village Chief, Mr. Alex Missimbi.

Archaeological Significance: Low

Customary/Local Significance: Moderate



Plate 15 – OKB-AMB_027: Bendodit Village Area

Site Code: OKB-AMB_027–027.1

Site Type: Current Village/Bendodit village)

Site Category: Settlement site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Active village (~2 ha) under Chief Elder Dabi's custodianship, containing coconut and betel-nut trees and associated sacred zones (Kumge and Nengopit). Demonstrates ongoing habitation and cultural continuity within the TSF development area.

Archaeological Significance: Moderate

Customary/Local Significance: High



Plate 16 – OKB-AMB_028: Pig and Fish Project Site

Site Code: OKB-AMB_028

Site Type: Economic/ Family Livelihood Project site

Site Category: Settlement site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Integrated pig-poultry and fish-pond site developed by a family unit; illustrates diversification of income generation on customary land.

Archaeological Significance: Low

Customary/Local Significance: Moderate



Site Code: OKB-AMB_033
Site Type: Sacred Lithic Scatter
Site Category: Archaeological site
Archaeological Potential: Yes
Reference to TSF: Outside TSF development area
Description: Former sacred ground with a small scatter of chert flakes (~20 m × 15 m). May represent ritual or domestic tool-making activity.
Archaeological Significance: High
Customary/Local Significance: High

Plate 17 – OKB-AMB_033: Sacred Site with Lithic Scatter

5.7 KARANDIMOK CUSTOMARY AREA

Karandimok's cultural landscape is strongly expressed through traditional resource-use features, customary pathways, sacred natural features, burial locations and ancestral settlement associations linked to the Yonggom-Kimki communities. While most identified sites possess low to moderate archaeological potential, they retain high ethnographic, customary and social significance, reflecting the continuing coexistence of livelihood, spirituality and oral tradition across the broader landscape.

A total of 13 cultural heritage sites were recorded within the Karandimok customary area, of which 10 were physically verified during field investigations and 3 were identified through community consultation but not field verified. Refer to site profiles in Section 6.5.1 and Figure 6. The recorded sites include:

- village and settlement features;
- clan boundaries;
- burial locations;
- traditional fishing and resource-use areas;
- bush tracks and customary access routes;
- and sacred oral-traditional sites associated with local belief systems and ancestral narratives.

The Karandimok area forms part of the lower Ok Birim catchment and demonstrates strong biocultural relationships between people, waterways, forest resources and customary land systems. Several culturally significant locations are associated with traditional ecological knowledge and continue to function as active components of the living cultural landscape.

Although no recorded Karandimok sites are currently located within the presently defined TSF disturbance footprint, several locations occur within the broader customary landscape surrounding proposed infrastructure development areas and may still require management consideration during detailed project planning and access development.

Table 8: Karandimok Customary Area – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Karandimok	13	10	3	Clan boundaries, burial areas, traditional pathways, sacred oral-traditional landscape features

5.7.1 Archaeological Significance

Archaeological significance within Karandimok is generally low to moderate. Limited physical archaeological material was identified during field survey; however, burial locations, historical settlement areas and traditional movement corridors retain archaeological potential associated with long-term occupation and cultural landscape use.

5.7.2 Customary / Local Significance

Customary significance within Karandimok is high due to the continuing importance of:

- sacred natural features;
 - burial areas;
 - traditional fishing and resource-use locations;
 - clan boundary systems;
-

-
- and oral-traditional places associated with ancestral identity and customary land tenure.

Several sites continue to function as active cultural locations within the living customary landscape.

5.7.3 Survey Confidence

Moderate to high survey confidence was achieved within accessible portions of the Karandimok customary area. However, several sacred locations, burial areas and customary pathways remain consultation-derived only and require future field verification during pre-construction investigations.

5.7.4 IFC Considerations

No currently confirmed IFC PS8 Critical Cultural Heritage sites were identified within the Karandimok area. However, several sacred oral-traditional locations and burial sites may warrant further consideration under IFC PS7 due to their continuing cultural and spiritual significance to affected Indigenous communities.

5.7.5 Management Implications

Management priorities for Karandimok include:

- avoidance of burial areas and sacred locations;
 - maintenance of traditional access pathways;
 - continued consultation with customary custodians;
 - and targeted verification of non-field verified sites prior to disturbance activities
-

Figure 6: Shows sites owned by communities of Karandimok village.

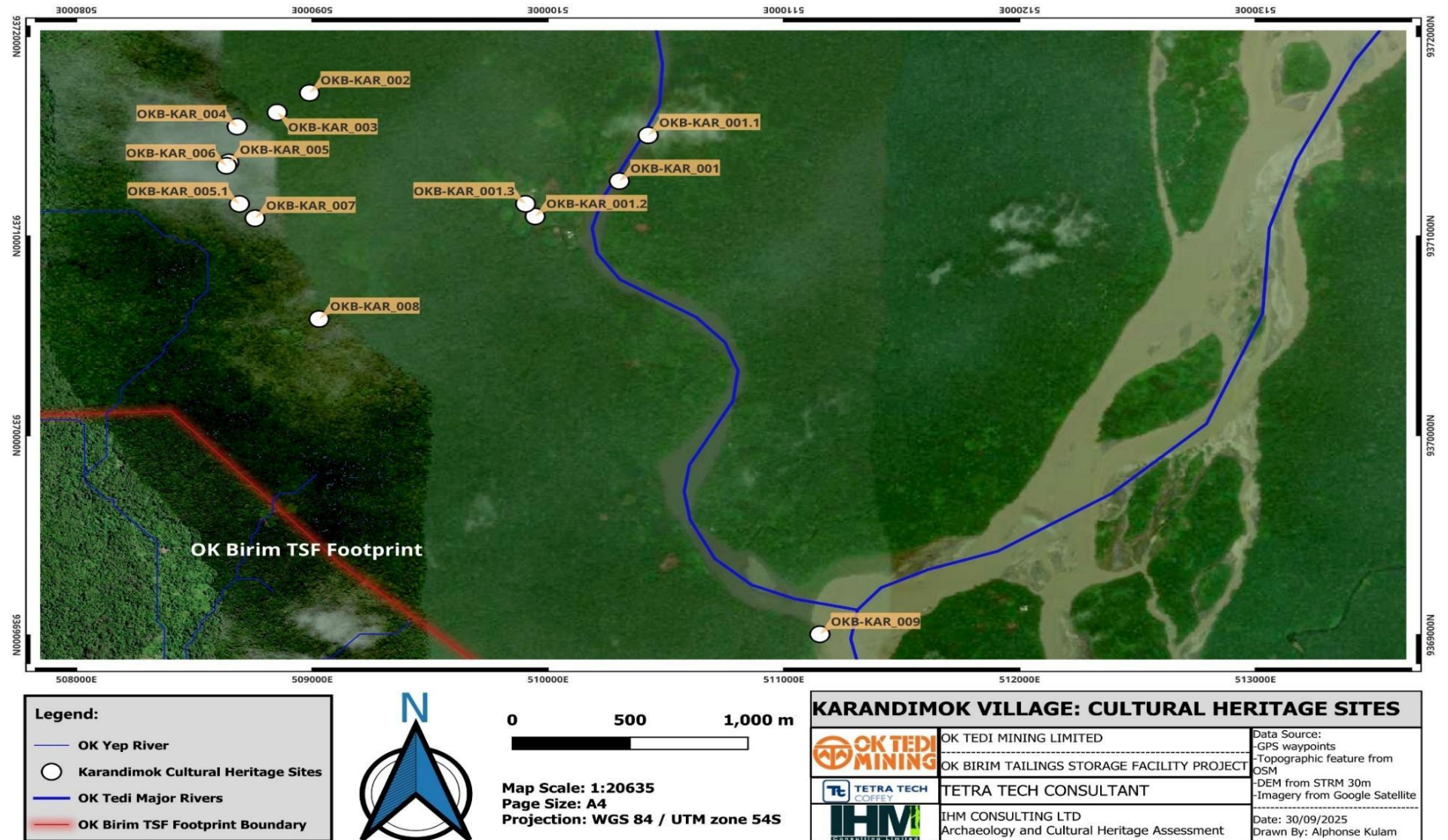


Table 9: Site Profile of Ambaga Area



Plate 26 – OKB-KAR_001: Ok Birim Tributary – Entry Point into Karandimok Territory

Site Code: OKB-KAR_001
Site Type: Ancient Clan boundary
Site Category: Settlement site
Archaeological Potential: No
Reference to TSF: Outside TSF development area
Description: The Ok Birim tributary marks the northern boundary of Karandimok customary land. It functions as a physical and spiritual threshold recognised in local cosmology as an entry to the village territory.



Plate 27 – OKB-KAR_001.1: Karandimok Village Centre

Site Code: OKB-KAR_001.1
Site Type: Karandimok Village Centre
Site Category: Settlement site
Archaeological Potential: Yes
Reference to TSF: Outside TSF development area
Description: Present-day settlement core comprising clustered dwellings, small burial areas, and remnant airstrip from early missionary period. The area demonstrates layered habitation and continuity of clan settlement.



Plate 28 – OKB-KAR_002: Clan Boundary Ridge South of Karandimok

Site Code: OKB-KAR_002
Site Type: Ancient Clan Boundary
Site Category: Settlement site
Archaeological Potential: No
Reference to TSF: Outside TSF development area
Description: Traditional clan boundary extending along a low ridge south of the village, demarcating Kiko and Kandam clan lands. Defined by a line of mature trees and associated oral traditions referencing ancestral guardianship.



Plate 29 – OKB-KAR_003: Former Garden Area

Site Code: OKB-KAR_003
Site Type: Economic/ Abandoned Garden site
Site Category: Settlement site
Archaeological Potential: Yes
Reference to TSF: Outside TSF development area
Description: Abandoned garden area situated within secondary forest. Represents former subsistence use with limited surface evidence.



Plate 30 – OKB-KAR_004–005.1: Sacred and Resource Trees along Karandimok Creek

Site Code: OKB-KAR_004–005.1

Site Type: Fishing /Sacred Tree site

Site Category: Settlement site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Two adjoining areas of high community significance. OKB-KAR_004 comprises fishing resource trees located along the Karandimok Creek, providing shade and habitat for key fish species. OKB-KAR_005.1 is a sacred tree associated with ancestral fishing spirits, believed to influence fish abundance.



Plate 31 – OKB-KAR_006: Family Hamlet Adjacent to Creek line

Site Code: OKB-KAR_006

Site Type: Shelter Site

Site Category: Settlement site

Archaeological Potential: No

Reference to TSF: Outside TSF development area

Description: Small, currently occupied hamlet (~30 m × 40 m) used for gardening and seasonal hunting. Represents living settlement continuity along the Ok Birim floodplain.

5.8 KOMOKPIN CUSTOMARY AREA

Komokpin Village survey investigations identified eight cultural heritage sites within the village and its surrounding customary lands, refer to Figure 7 for site distribution toward the north. Of the eight recorded sites, seven were physically verified during field investigations and one was identified through consultation but not field verified. The recorded sites comprise a diverse combination of:

- ancestral burial locations;
- ceremonial and feasting grounds;
- sacred water and sago areas;
- clan boundary features;
- hunting and subsistence-use zones;
- and oral-traditional landscape features associated with local customary belief systems.

The Komokpin cultural landscape is characterised by the close interaction between resource use, ritual practice, subsistence activity and clan identity. Rivers and creeks function not only as ecological resources, but also as spiritual and territorial boundaries within the customary landscape. Similarly, sago swamps, gardens, ceremonial areas and hunting grounds remain active expressions of social organisation, ancestral association and customary environmental management.

The recorded sites demonstrate the continuing ritual ecology of the Buburam clans, where ancestral, subsistence and environmental domains coexist and continue to structure community life and customary relationships with land and waterways.

Table 10: Komokpin Customary Area – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Komokpin	8	7	1	Burial areas, ceremonial grounds, sacred water areas, hunting and subsistence-use zones

Table 11: Representative Site Examples

Site Code	Site Type	Significance Summary
OKB-KOM_001	Burial Area	Ancestral burial locality associated with continuing clan significance and mortuary tradition.
OKB-KOM_003	Ceremonial / Feasting Ground	Traditional gathering and ceremonial activity area associated with clan identity and social organisation.
OKB-KOM_005	Sacred Water Area	Spiritually significant water feature associated with oral traditions and customary belief systems.
OKB-KOM_007	Hunting / Resource Area	Traditional subsistence-use area associated with customary livelihood practices.

5.8.1 Archaeological Significance

Archaeological significance within Komokpin is generally low to moderate. Limited visible archaeological material was identified during field investigations; however, ancestral burial areas,

settlement activity zones and ceremonial locations retain archaeological potential associated with long-term customary occupation and land use.

5.8.2 Customary / Local Significance

Customary significance within Komokpin is high due to the continuing cultural importance of:

- burial locations;
- ceremonial grounds;
- sacred water and sago areas;
- hunting zones;
- and clan boundary systems associated with Buburam customary identity and land tenure.

Many identified locations remain active components of the living cultural landscape and continue to support customary social and subsistence practices.

5.8.3 Survey Confidence

Partial survey coverage and moderate field verification confidence were achieved within the Komokpin customary area. Accessible sites were physically inspected during field investigations; however, several remote customary areas and one consultation-identified location remain pending future verification.

5.8.4 IFC Considerations

No currently confirmed IFC PS8 Critical Cultural Heritage sites were identified within the Komokpin area. However, sacred water areas, ceremonial grounds and burial locations may warrant further assessment under IFC PS7 due to their continuing cultural and spiritual significance to affected Indigenous communities.

5.8.5 Management Implications

Where development occurs near Komokpin, cemetery areas, ceremonial grounds and sacred locations should receive priority management attention. Management measures should include:

- avoidance where practicable;
 - establishment of exclusion buffers;
 - continued consultation with customary custodians;
 - and targeted verification of non-field verified locations prior to disturbance activities.
-

Figure 7: sites owned by communities of Komokpin villages

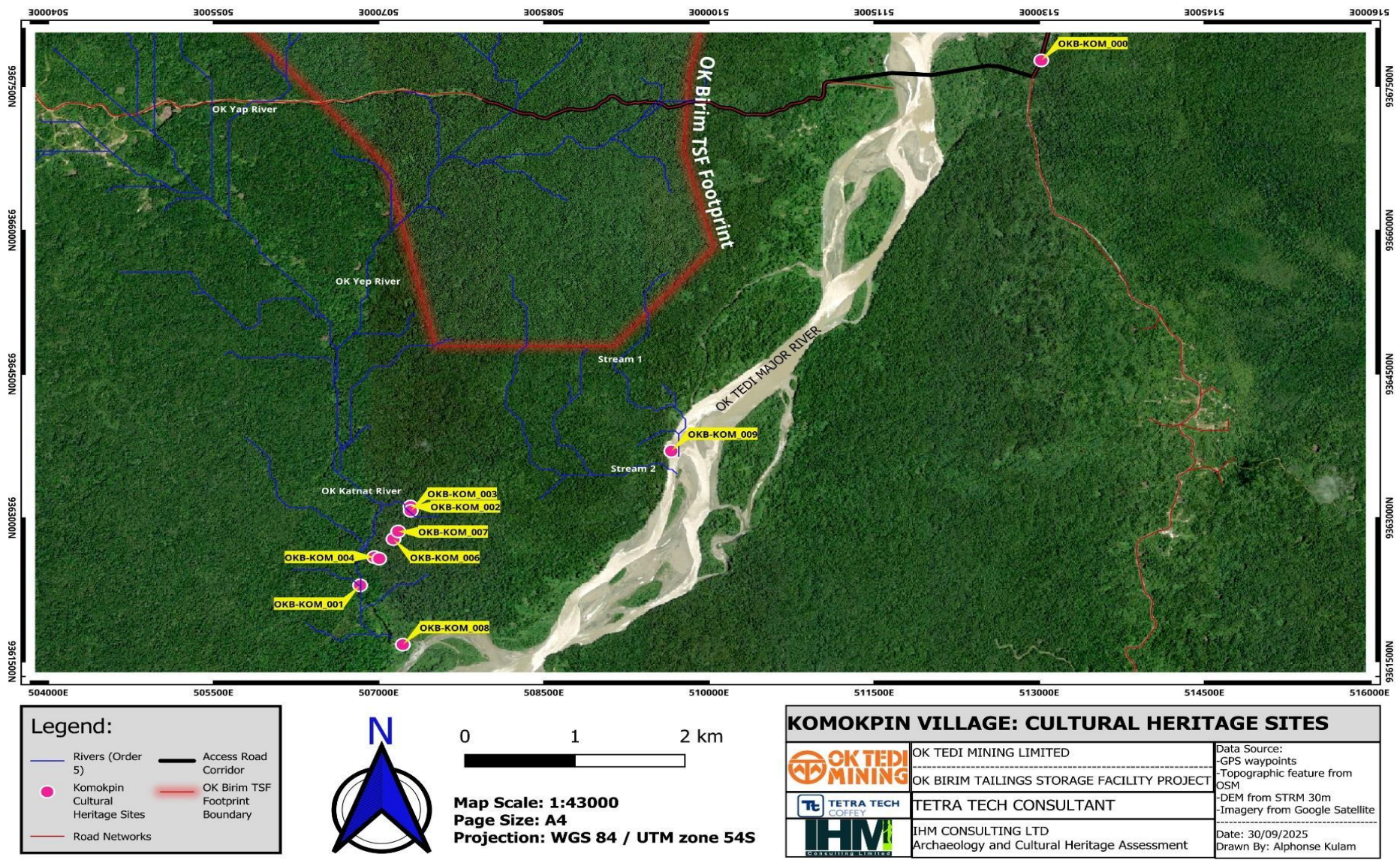


Table 12: Site Profile for Komokpin area

	<p>Site Code: OKB-KOM_001</p> <p>Site Type: Village Entry Route</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Traditional access path linking the Ok Kep River to inland heritage areas. Serves as a spatial marker guiding movement to gardens and ritual sites, illustrating how waterways shape land-use organisation.</p> <p>Archaeological Significance: Low</p> <p>Customary/Local Significance: Moderate</p>
<p>Plate 18 – OKB-KOM_001: Traditional Entry Route from Ok Kep River</p> 	<p>Site Code: OKB-KOM_002</p> <p>Site Type: Clan Boundary</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Customary division between the Ekpit and Buburam clans defined by the Ok Katnat River. Represents enduring hydrological demarcation of clan estates.</p> <p>Archaeological Significance: Low</p> <p>Customary/Local Significance: Moderate</p>
<p>Plate 19 – OKB-KOM_002: Clan Boundary along Ok Katnat River</p>	



Plate 20 – OKB-KOM_003: Ancestral Burial and Ceremonial Site

Site Code: OKB-KOM_003

Site Type: Ritual Burial Site

Site Category: Settlement site

Archaeological Potential: Yes

Reference to TSF: Outside TSF development area

Description: Burial of late Barap (Inamkaba clan), situated in secondary forest away from habitation. Marked by bamboo and wild-fowl nesting, indicating both ecological and ritual continuity.

Archaeological Significance: High

Customary/Local Significance: High



Plate 21 – OKB-KOM_004: Sacred Sago Swamp (Koiabin-Korop)

Site Code: OKB-KOM_004

Site Type: Economic/Sacred Sago Swamp site (*Koiabin-Korop*)

Site category: Settlement site

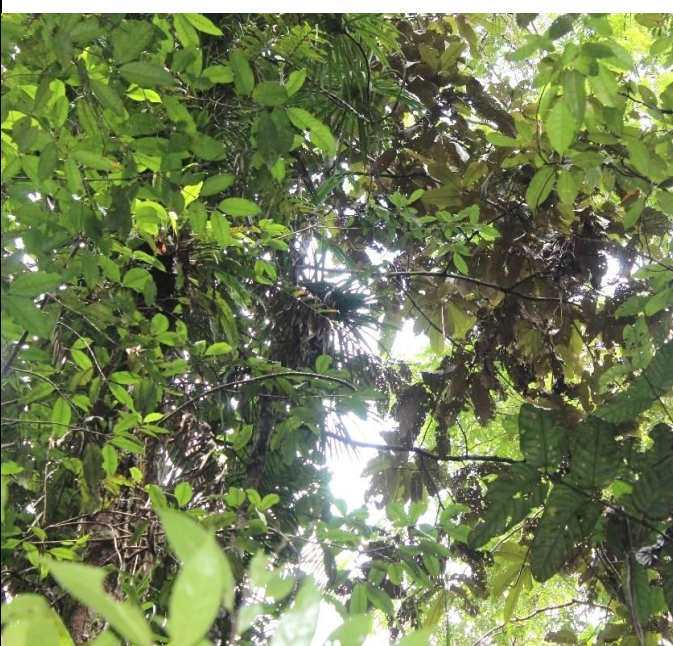
Archaeological Potential: Low

Reference to TSF: Outside TSF development area

Description: Spirit-inhabited sago swamp measuring approximately 200 m × 100 m. Traditionally viewed as a sacred area used for domesticated sago zone governed by ritual taboos. Demonstrates the fusion of cosmology and subsistence in Komokpin's cultural landscape.

Archaeological Significance: Low

Customary/Local Significance: High

	<p>Site Code: OKB-KOM_005</p> <p>Site Type: Temporary Shelter Site</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Small abandoned bush-hut (~3 m²) formerly occupied by a hunting party. Reflects short-term seasonal residence typical of subsistence mobility patterns.</p> <p>Archaeological Significance: Low</p> <p>Customary/Local Significance: Low</p>
	<p>Site Code: OKB-KOM_006</p> <p>Site Type: Economic/Abandoned Garden Plot site</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Overgrown garden site marked by a single Okari tree. Indicates rotational horticulture and resource regeneration common to Komokpin practice. Archaeological Significance: Low</p> <p>Customary/Local Significance: Moderate</p>

	<p>Site Code: OKB-KOM_007</p> <p>Site Type: Ceremonial/Feasting and Ceremonial Ground site</p> <p>Site Category: Oral Traditional site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Levelled flat area (~30 m × 20 m) historically used for pig feasts and communal ceremonies. Now regenerating but retains symbolic importance as a locus of clan gathering and feasting tradition.</p> <p>Archaeological Significance: Moderate</p> <p>Customary/Local Significance: High</p>
<p>Plate 24 – OKB-KOM_007: Feasting and Ceremonial Ground</p>  <p>Plate 25 – OKB-KOM_008: Hydrological Boundary at Upper Ok Katnat</p>	<p>Site Code: OKB-KOM_008</p> <p>Site Type: Hydrological Clan Boundary</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Riverine boundary separating Dumbubit/Katpit and Buburam/Ekpo sub-clans. Reflects use of waterways as long-standing natural markers of social territory.</p> <p>Archaeological Significance: Low</p> <p>Customary/Local Significance: Moderate</p>
<p>No Picture Taken</p> <p>Plate 55 – OKB-KOM_009: Crocodile Breeding and Ancestral Spirit Zone</p>	<p>Site Code: OKB-KOM_009</p> <p>Site Type: Economic/Crocodile Breeding Hub site</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: No</p> <p>Reference to TSF: Outside TSF development area</p> <p>Description: Crocodile nesting and breeding area along the Ok Tedi River, located outside the TSF footprint. Regarded as spiritually potent and linked</p>

	<p>through hydrological and mythic ties to upstream tributaries.</p> <p>Archaeological Significance: Low Customary/Local Significance: High</p>
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5.9 TSF DEVELOPMENT AREA

Existing records indicate that a number of known cultural heritage places occur within or adjacent to the proposed TSF development area, including settlement-related places, burial locations, oral-traditional sites and culturally sensitive landscape features associated with ongoing customary land use and ancestral associations.

Because the TSF development area represents the largest permanent disturbance footprint associated with the project (approximately 1,500 ha), it presents the highest potential for direct impact where identified sites intersect final construction areas, embankment zones, ancillary infrastructure locations and associated access development.

Table 13: TSF Development Area – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
TSF Development Area	40	37	3	Burial grounds, settlement areas, sacred oral-traditional sites, culturally sensitive landscape features

The TSF development area contains a mixture of:

- ancestral settlement locations;
- burial and cemetery areas;
- oral-traditional and sacred sites;
- clan boundary features;
- modified historical landscape areas;
- and culturally significant ecological zones associated with customary subsistence activity and spiritual belief systems.

The recorded sites demonstrate that the TSF landscape forms part of an active customary cultural environment rather than an isolated industrial footprint. Several identified locations retain strong ongoing social, spiritual and customary significance for surrounding Yunggom and associated customary communities.

Table 14: Representative Site Examples

Site Code	Site Type	Significance Summary
OKB-BIR_002	Community Cemetery	Active ancestral burial locality associated with continuing clan significance and mortuary practice.
OKB-BIR_005.2	Gungotim Spirit-Dog Site	Sacred oral-traditional locality associated with ancestral spiritual belief systems and community identity.
OKB-AMB_005	Sacred Site (Binturun)	Mythical and spiritually significant landscape feature associated with local oral history traditions.
OKB-BIR_006	Former Construction Camp	Historical infrastructure-related landscape feature associated with earlier road and development activities.

Archaeological significance within the TSF development area is generally considered low to moderate. While relatively few confirmed archaeological artefact locations were identified during survey, several settlement areas, burial contexts and undisturbed landscape zones retain archaeological potential associated with historical occupation and subsurface cultural deposits.

Customary and local significance within the TSF landscape is considered high to very high due to the concentration of:

- sacred oral-traditional locations;
- burial areas;
- ancestral settlement places;
- customary land boundaries;
- and culturally significant ecological features linked to subsistence use, oral traditions and spiritual belief systems.

Moderate to high field verification coverage was achieved across accessible portions of the presently defined TSF footprint. However, several peripheral and densely vegetated areas remain incompletely verified, and additional consultation-derived locations associated with nearby customary villages require future assessment.

There also remains potential for:

- previously unidentified subsurface archaeological materials;
- additional culturally known places not previously disclosed during consultation;
- and indirect impacts on customary access, movement pathways and landscape relationships.

Accordingly, pre-construction archaeological and cultural heritage verification surveys should be undertaken across final TSF disturbance cells, ancillary infrastructure areas and any newly developed construction footprints prior to ground disturbance activities.

Villages located toward the north-western sector of the TSF landscape and toward the Indonesian border require additional detailed cultural heritage assessment and consultation programs. These include:

- Kungembit Village;
- Kungim Village;
- and Putmambin Village.

Several sacred sites, burial locations and culturally sensitive landscapes associated with these communities remain consultation-derived only and require future field verification.

5.9.1 IFC Considerations

No currently confirmed IFC PS8 Critical Cultural Heritage sites have presently been identified within the defined TSF development footprint. However, several sacred oral-traditional sites, burial locations and culturally significant landscape features may warrant additional assessment under IFC PS7 due to their continuing spiritual and customary importance to affected Indigenous communities.

5.9.2 Management Implications

Management priorities within the TSF development area include:

- avoidance of burial locations and sacred sites where practicable;
- establishment of exclusion buffers around culturally sensitive areas;
- continued consultation with customary custodians during detailed design;
- targeted pre-construction verification surveys;
- and implementation of Chance Finds procedures during all ground disturbance activities.

5.10 INFRASTRUCTURE CORRIDOR DEVELOPMENT AREA

The infrastructure corridor development area extends through a culturally active landscape connecting the TSF development area with existing OTML operational areas. Infrastructure components assessed as part of the cultural heritage program include:

- the proposed Access Road connecting the TSF development area to the Kiunga–Tabubil Highway;
- Pipeline Route 1 alignment following the Tabubil–Ningerum Highway corridor into the TSF area;
- and the alternate Pipeline Route 2 alignment extending from upstream Tabubil along the western bank of the Ok Tedi River and through several customary village areas before entering the TSF development area via Karandimok.

The Route 2 pipeline alignment was subsequently approved by OTML for construction of the tailings pipeline.

The infrastructure corridor traverses a culturally complex landscape containing:

- former settlement areas;
- burial locations;
- sacred and ceremonial places;
- traditional pathways and river crossings;
- clan boundaries;
- hunting and subsistence-use zones;
- and oral-traditional landscape features associated with local customary belief systems.

Table 15: Infrastructure Corridor Development Area – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Access Road Corridor	10	10	0	Historical infrastructure features, clan boundaries, sacred areas
Pipeline Route 1 Corridor	8	8	0	Sacred crossings, oral-traditional sites, archaeological potential
Pipeline Route 2 Corridor	243	0	243	Sacred landscapes, burial areas, customary pathways, settlement zones

The linear nature of corridor disturbance provides greater opportunity for:

- micro-alignment refinement;
- localised avoidance;
- and targeted management of culturally sensitive locations when compared with the broader TSF footprint.

However, the Route 2 corridor remains the least verified component of the assessment area and contains a substantial consultation-derived dataset requiring future field verification.

5.10.1 Archaeological Significance

Archaeological significance across the infrastructure corridors is generally low to moderate. Most identified locations relate to oral-traditional values, settlement history and culturally modified landscapes rather than dense archaeological deposits. Nevertheless, isolated artefact localities, abandoned settlement areas and undisturbed landforms adjacent to waterways retain archaeological potential.

5.10.2 Customary / Local Significance

Customary significance across the infrastructure corridors is high due to the presence of:

- sacred locations;
- burial grounds;
- customary pathways;
- clan boundaries;
- and culturally significant ecological features associated with continuing subsistence use and oral-traditional belief systems.

Many locations remain active components of the customary landscape and continue to structure community movement, territorial identity and cultural practice.

5.10.3 Survey Confidence

Survey confidence varies considerably across the corridor system:

- moderate to high confidence was achieved along the Access Road and Pipeline Route 1 corridors where field verification occurred;
- while Route 2 remains predominantly consultation-derived with low preliminary verification confidence pending future field investigations.

Additional pre-construction verification surveys will therefore be required along sections of the Route 2 alignment and adjacent customary land areas prior to disturbance activities.

5.10.4 IFC Considerations

No currently confirmed IFC PS8 Critical Cultural Heritage sites have presently been identified within the infrastructure corridor development areas. However, several sacred landscape features, burial locations and ceremonial areas recorded along Route 2 may require additional IFC PS7 consideration during detailed design and verification stages.

5.10.5 Management Implications

Management priorities across the infrastructure corridors include:

- refinement of corridor alignments to avoid culturally sensitive locations where practicable;
- implementation of exclusion buffers around sacred and burial areas;
- continued consultation with customary custodians;
- targeted pre-construction verification surveys along Route 2;
- and implementation of Chance Finds procedures during all construction activities.

5.11 ACCESS ROAD CORRIDOR (OKB-ACR_00_)

The Access Road survey covered an approximately 10 km corridor connecting the TSF development area to the main Kiunga–Tabubil Highway on the eastern bank of the Ok Tedi River. A total of 10 cultural heritage sites were recorded within and adjacent to the access corridor.

The recorded sites include:

- disturbed archaeological localities;
- former work camp areas;
- clan boundaries;
- oral-traditional landscape features;
- and sacred areas located adjacent to the existing road alignment.

While much of the corridor has experienced previous disturbance associated with infrastructure development and road maintenance activities, several surviving localities continue to retain cultural, historical and oral-traditional significance, particularly those associated with:

- early construction phases;
- ancestral territorial markers;
- and continuing customary landscape associations.

The corridor therefore demonstrates the overlap between industrial development and continuing heritage values within an already modified environment.

Site OKB-ACR_001 is located directly within the access road corridor, while the remaining recorded sites occur within approximately 500 m of the proposed alignment. Refer to Figure 6 for site distribution.

Table 16: Access Road Corridor – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Access Road Corridor	10	10	0	Disturbed archaeological localities, sacred sites, clan boundaries, historical work camps

5.11.1 Archaeological Significance

Archaeological significance within the Access Road corridor is generally low due to extensive historical disturbance associated with road construction and maintenance. However, isolated disturbed archaeological localities and former work camp areas retain local historical and archaeological value.

5.11.2 Customary / Local Significance

Customary significance within the corridor remains moderate to high due to the presence of:

- sacred areas;
- clan boundary markers;
- and oral-traditional landscape features linked to continuing customary identity and territorial systems.

5.11.3 Survey Confidence

Moderate to high field verification confidence was achieved along the Access Road corridor due to direct inspection of all recorded sites.

5.11.4 IFC Considerations

No currently confirmed IFC PS7 or IFC PS8 Critical Cultural Heritage sites were identified within the Access Road corridor.

5.11.5 Management Implications

Management priorities include:

- protection of residual sacred locations and clan boundary features;
- minimisation of unnecessary disturbance adjacent to identified heritage localities;
- and implementation of Chance Finds procedures during corridor construction works.

Table 17: Site Profile for Access Road

Site Code: OKB-ACR_001 Site Type: Sacred Hilltop Site Category: Oral Traditional site Archaeological Potential: Low Reference to Access Road: Alongside access road, within 50m Description: Hilltop locality believed to host a Masalai (ancestral spirit). Although partially disturbed by historical road cutting activities, local elders maintain that the site continues to function as a spiritually significant guardian location associated	Site Code: OKB-ACR_002 Site Type: Old Construction Camp Site Category: Other site Archaeological Potential: Moderate Reference to Access Road: Alongside access road, within 250m Description: Scatter of metal, glass and construction-related material associated with a former work camp established during late 1970s access road development activities. The locality has been heavily modified by subsequent drainage and maintenance works, although residual historical material remains
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<p>with protection of the corridor and surrounding customary landscape.</p> <p>Archaeological Significance: Low archaeological significance due to limited visible material evidence; however, the locality retains potential for associated cultural deposits linked to long-term traditional use.</p> <p>Customary / Local Significance: Very high customary significance associated with ancestral spiritual beliefs, oral traditions and protection of travellers using the corridor.</p>	<p>visible.</p> <p>Archaeological Significance: Moderate historical archaeological significance associated with early infrastructure development and surviving material evidence from construction activities.</p> <p>Customary / Local Significance: Moderate local significance associated with community memory of historical road construction and changing land use practices.</p>
<p>Site Code: OKB-ACR_003</p> <p>Site Type: Ancient Clan Boundary</p> <p>Site category: Settlement site</p> <p>Archaeological Potential: Low</p> <p>Reference to Access Road: Alongside access road, within 250m</p> <p>Description: Ridge and creek confluence representing the customary territorial boundary between Ambaga and Birimkamba clan groups. The locality continues to be recognised by both communities as a living cultural demarcation associated with customary land tenure and ancestral identity.</p> <p>Archaeological Significance: Low archaeological significance due to limited physical cultural material.</p> <p>Customary / Local Significance: High customary significance associated with clan identity, territorial boundaries and continuing customary land tenure systems.</p>	<p>Site Code: OKB-ACR_004</p> <p>Site Type: Old Garden and Shelter</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: Moderate</p> <p>Reference to Access Road: Alongside access road, within 250m</p> <p>Description: Former garden area with remnant shelter used by road workers. Overgrown but retains community memory as a resting place.</p> <p>Archaeological Significance: Moderate archaeological significance associated with historical occupation activity and possible surviving subsurface cultural material.</p> <p>Customary / Local Significance: Moderate customary significance associated with historical subsistence use, temporary occupation and community memory.</p>
<p>Site Code: OKB-ACR_005</p> <p>Site Type: Old Construction Camp</p> <p>Site Category: Other</p> <p>Archaeological Potential: Low</p> <p>Reference to Access Road: Alongside access road, within 300 m</p> <p>Description: Approximate 200 m × 200 m area reportedly used during the original 1979 Access Road construction program. Located on Kimki clan land. The locality has been extensively modified, and no clearly visible surface features remain.</p> <p>Archaeological Significance: Low archaeological significance due to extensive disturbance and limited surviving physical evidence.</p> <p>Customary / Local Significance: Moderate local significance associated with historical development activities and community recollection of infrastructure construction.</p>	<p>Site Code: (OKB-ACR_006)</p> <p>Site Type: Engineered Stone Alignment</p> <p>Site Category: Other</p> <p>Archaeological Potential: Moderate</p> <p>Reference to Access Road: Alongside access road, within 150 m</p> <p>Description: Short alignment of rounded stones approximately 10 m in length situated on a slope above an existing culvert. The feature may represent a terrace base, retaining structure or drainage-related feature associated with earlier road construction works. Additional assessment may be warranted to clarify origin and function.</p> <p>Archaeological Significance: Moderate archaeological significance due to uncertainty regarding origin, construction method and possible association with historical infrastructure activity.</p> <p>Customary / Local Significance: Low to moderate customary significance with limited direct cultural association currently identified through consultation.</p>
<p>Site Code: OKB-ACR_007</p> <p>Site Type: Ancestral site/Sacred Grove near Culvert</p> <p>Site category: Oral Traditional site</p> <p>Archaeological Potential: Moderate</p> <p>Reference to Access Road: Alongside access road, within 100 m</p> <p>Description: Small grove approximately 15 m × 10 m located adjacent to a culvert crossing. Local elders identified the locality as a resting place for ancestral spirits associated with protection of travellers and</p>	

surrounding customary pathways. The site retains continuing oral-traditional and spiritual significance within the local cultural landscape.

Archaeological Significance: Moderate archaeological significance due to potential long-term ceremonial or traditional use associated with the grove locality.

Customary / Local Significance: Very high customary significance associated with ancestral spirit beliefs, traveller protection narratives and continuing oral-traditional practice.

5.12 ROUTE 1-PROPOSED PIPELINE CORRIDOR (OKB-TAP_00_)

A total of eight (8) cultural heritage sites were recorded along the proposed Pipeline Route 1 corridor extending approximately 95 km from the TSF outlet toward the Kiunga–Tabubil Highway interface. All recorded sites were physically verified during field investigations undertaken along accessible portions of the corridor alignment.

The recorded sites comprise:

- sacred hills and oral-traditional landscape features;
- clan boundary locations;
- former rest shelters and occupation areas;
- archaeological localities and isolated artefact scatters;
- abandoned settlement remains;
- and ritual crossings associated with traditional movement pathways and customary land use systems.

Table 18: Route 1 Pipeline Corridor – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Route 1 Pipeline Corridor	8	8	0	Sacred hills, oral-traditional sites, clan boundaries, archaeological localities

While the corridor follows previously disturbed terrain and existing infrastructure alignments for much of its length, several locations remain culturally sensitive, particularly:

- sacred hilltops;
- spirit creek crossings;
- oral-traditional sites associated with masalai beliefs;
- and culturally significant ritual localities tied to ancestral movement and customary territorial systems.

These sites reflect continuing belief systems embedded within the broader Awin–Yonggom cosmological landscape and demonstrate the persistence of customary relationships with land, waterways and spiritually significant natural features despite existing infrastructure disturbance.

The Route 1 corridor therefore represents a culturally layered linear landscape where:

- ancestral memory;
- oral tradition;
- customary land tenure;
- subsistence use;

- and modern infrastructure intersect and continue to influence community relationships with the environment.

Table 19: Site Profile for Route 1 Pipeline Corridor

<p>Site Code: OKB-TAP_001</p> <p>Site Type: Spirit Hill Site (Masalai Dwelling)</p> <p>Site Category: Oral Traditional site</p> <p>Archaeological Potential: Low</p> <p>Description: Hilltop locality near Sisimakam Village believed to be the dwelling place of an invisible ancestral being (masalai). The area is characterised by dense lower-montane forest and customary spiritual taboos restricting entry.</p> <p>Archaeological Significance: Low archaeological significance due to limited physical evidence.</p> <p>Customary / Local Significance: Very high customary significance associated with ancestral spiritual beliefs and culturally restricted landscape values.</p>	<p>Site Code: OKB-TAP_002</p> <p>Site Type: Temporarily Shelter/Old Garden</p> <p>Site Category: Settlement site</p> <p>Archaeological Potential: Low</p> <p>Description: Remnant old garden area and temporary rest shelter reportedly constructed by Awin families during early road construction activities. No confirmed archaeological features were identified.</p> <p>Archaeological Significance: Low archaeological significance due to absence of identifiable cultural deposits.</p> <p>Customary / Local Significance: Moderate local significance associated with historical occupation and subsistence use</p>
<p>Site Code: OKB-TAP_003</p> <p>Site Type: Ancient Clan Boundary (Sisimakam to Yonggom)</p> <p>Site category: Settlement site</p> <p>Archaeological Potential: Moderate</p> <p>Description: Hydrological boundary following Ok Katnap Creek serving as a customary territorial demarcation between Awin and Yonggom groups. Elders associate the boundary with ancestral migration agreements and historical customary arrangements.</p> <p>Archaeological Significance: Low to moderate archaeological significance associated with historical territorial use and possible long-term occupation activity.</p> <p>Customary / Local Significance: High customary significance associated with clan identity, territorial systems and oral-traditional history.</p>	<p>Site Code: OKB-TAP_004</p> <p>Site Type: Surface Artefact Scatter</p> <p>Site Category: Archaeological site</p> <p>Archaeological Potential: High</p> <p>Description: Scatter of chert flakes and small stone cores within an approximately 15 m × 10 m locality situated on an exposed bank above the pipeline alignment. Material is likely present within secondary depositional context associated with upland activity.</p> <p>Archaeological Significance: High archaeological significance due to confirmed lithic material and evidence of historical cultural activity.</p> <p>Customary / Local Significance: Moderate local significance associated with historical land use and ancestral occupation.</p>
<p>Site Code: OKB-TAP_005</p> <p>Site Type: Spirit Creek (<i>Masalai Wanum</i>) site</p> <p>Site Category: Oral Traditional site</p> <p>Archaeological Potential: Moderate</p> <p>Description: Stream crossing associated with an ancestral spirit believed to guard the corridor. Community members refer to the locality as Masalai Wanum, a spiritually significant place where ritual offerings are undertaken to ensure safe passage.</p> <p>Archaeological Significance: Moderate archaeological significance associated with possible long-term ritual use.</p> <p>Customary / Local Significance: Very high customary significance associated with living spiritual practice and oral-traditional belief systems.</p>	<p>Site Code: OKB-TAP_006</p> <p>Site Type: Abandoned Village Remains</p> <p>Site Category: Archaeological site</p> <p>Archaeological Potential: High</p> <p>Description: Overgrown settlement locality approximately 1 ha in extent containing post holes and earthen mounds. Elders identified the locality as a former Yonggom hamlet abandoned during earlier road construction activities.</p> <p>Archaeological Significance: High archaeological significance associated with preserved settlement remains and occupation evidence.</p> <p>Customary / Local Significance: High customary significance associated with ancestral settlement history and community identity.</p>
<p>Site Code: OKB-TAP_007</p> <p>Site type: Old Rest Camp</p> <p>Site Category: Other</p> <p>Archaeological Potential: Moderate</p> <p>Description: Flat levelled area approximately 40 m ×</p>	<p>Site Code: OKB-TAP_008</p> <p>Site type; Ritual/River Crossing site</p> <p>Site Category: oral Traditional site</p> <p>Archaeological Potential: Moderate</p> <p>Description: Small clearing approximately 20 m ×</p>

<p>25 m formerly used as a rest camp during the initial phase of road construction. Secondary vegetation now covers the locality, although minor metal fragments remain visible.</p> <p>Archaeological Significance: Moderate archaeological significance associated with historical infrastructure development activities.</p> <p>Customary / Local Significance: Moderate local significance associated with historical community interaction and infrastructure development history.</p>	<p>10 m where travellers pause to offer betel nut to ancestral spirits prior to crossing the creek. The practice remains active among Awin families.</p> <p>Archaeological Significance: Moderate archaeological significance associated with repeated ceremonial use and long-term cultural practice.</p> <p>Customary / Local Significance: Very high customary significance associated with living ritual practice, oral tradition and spiritual landscape values.</p>
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5.13 ROUTE 2- PROPOSED ALTERNATE PIPELINE ROUTE CORRIDOR

A substantial number of cultural heritage locations were identified through community consultation and participatory cultural mapping along the proposed Route 2 Alternate Pipeline Corridor. Community representatives from approximately ten villages recounted numerous culturally significant places associated with ancestral settlement, burial practice, sacred landscape features, clan identity, oral traditions and customary resource use.

Consultation outcomes, recorded interviews and field notes were transcribed and assessed against the project cultural heritage classification framework, including:

- Archaeological Sites;
- Oral Traditional Sites;
- Settlement Sites;
- and Other Historical or Cultural Landscape Features.

Table 20: Route 2 Pipeline Corridor – Survey Summary

Area	Total Sites	Verified	Non-Verified	Key Significance
Route 2 Alternate Pipeline Corridor	243	0	243	Sacred landscapes, burial areas, ancestral settlements, clan boundaries, ritual locations

The Route 2 corridor contains the largest concentration of consultation-identified cultural heritage places recorded during the assessment program. The dataset demonstrates the high cultural complexity of the western Ok Tedi customary landscape and reflects strong ongoing relationships between:

- ancestral identity;
- spiritual belief systems;
- territorial boundaries;
- subsistence activity;
- and customary environmental knowledge.

Due to time limitations, logistical constraints, difficult terrain, vegetation density and the evolving status of the proposed alignment during the ESIA stage, the majority of Route 2 sites were not physically verified during field investigations. Accordingly, the current Route 2 dataset should be regarded as preliminary and consultation-derived pending future field assessment.

The identified sites include:

-
- burial and cemetery locations;
 - sacred hills and spirit localities;
 - ancestral settlement remains;
 - hunting and fishing grounds;
 - ritual and ceremonial areas;
 - clan boundary systems;
 - sacred rivers, creeks and swamps;
 - oral-historical landscape features;
 - and culturally significant ecological resource areas.

The Route 2 corridor therefore represents a highly sensitive customary landscape where cultural; spiritual and subsistence values remain actively embedded within the environment and continue to structure community relationships with land and waterways.

5.13.1 Archaeological Significance

Archaeological significance within the Route 2 corridor is presently considered low to moderate overall based on available information. However, several consultation-identified settlement locations, burial areas and artefact localities may possess archaeological potential pending future field verification and subsurface investigation.

5.13.2 Customary / Local Significance

Customary significance within the Route 2 corridor is considered very high due to the concentration of:

- sacred sites;
- burial grounds;
- ancestral settlement locations;
- ritual landscapes;
- clan boundary systems;
- and culturally significant ecological features associated with living customary practice and oral tradition.

Many of the identified places continue to function as active components of the living cultural landscape.

5.13.3 Survey Confidence

Survey confidence for the Route 2 corridor is presently low to preliminary because the majority of identified sites remain consultation-derived only and have not yet undergone detailed field verification.

5.13.4 IFC Considerations

No currently confirmed IFC PS8 Critical Cultural Heritage sites have presently been identified within the Route 2 corridor. However, several sacred landscape features, burial areas and ritual locations may warrant further consideration under IFC PS7 due to their continuing cultural and spiritual significance to affected Indigenous communities.

5.13.5 Management Implications

All consultation-identified Route 2 sites should be regarded as culturally sensitive pending future verification. Accordingly:

- detailed pre-construction cultural heritage assessment surveys will be required;
- expanded consultation with customary custodians should occur during final alignment refinement;
- and targeted verification investigations should be undertaken prior to disturbance activities.

Particular management attention should be directed toward:

- sacred landscape features;
- burial areas;
- ceremonial locations;
- and culturally significant waterways and customary movement corridors.

5.13.5.1 Site Profile for Route 2 Alternate Pipeline

Ankit and Kumkit Villages

Community consultations undertaken with representatives from Ankit and Kumkit Villages identified several culturally significant locations associated with ancestral burial, sacred landscape values and oral-traditional belief systems.

The consultation process identified:

- one community cemetery containing more than nine recorded burials;
- and seven oral-traditional sacred sites associated with ancestral spiritual beliefs and culturally restricted locations.

The identified sacred sites were described by community representatives as spiritually sensitive areas associated with ancestral beings, customary taboos and historical clan narratives. Although these locations were not physically verified during the ESIA-stage assessment program, they remain culturally significant components of the customary landscape and will require detailed assessment during future pre-construction verification surveys.

Table 21: Route 2 Pipeline Corridor – Survey Summary

Ankit and Kumkit Villages			
Site Code	Site Type	Significance	Management
OKB-ANK-001.1-1.7	Sacred/Spirit Sites	High Customary Significance	Field verification required prior to disturbance activities
OKB-ANK-002	Burial site/ Community Cemetery	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB-ANK-003	Garden/ Subsistence Use Area	Moderate Customary Significance	Verification required during pre-construction survey

Community consultations undertaken with representatives from Ankit and Kumkit Villages identified several culturally sensitive locations associated with ancestral spiritual belief systems, burial practice and customary subsistence use. The identified sacred and spirit sites were described as culturally restricted localities associated with masalai presence, ancestral narratives and traditional territorial knowledge.

Although these sites were not physically verified during the ESIA-stage assessment program, they remain significant components of the living customary landscape and should be treated as culturally sensitive pending future field assessment and verification.

Clarification is required regarding the use of the term “significance” within this assessment. The significance ratings assigned to sites primarily refer to their **local cultural, customary and spiritual significance** to the associated clan groups and Indigenous communities rather than archaeological significance unless otherwise stated.

The ratings therefore reflect:

- ancestral association
- spiritual importance
- customary land connection
- oral tradition values
- ceremonial or ritual use
- burial and community importance
- ongoing traditional land use practices.

Archaeological significance is assessed separately and relates specifically to the scientific, historical or research value of physical archaeological material such as artefacts, stratified deposits, cave occupation evidence or other material remains.

At the current stage, many sites were identified through interviews and oral testimony and have not yet undergone detailed archaeological verification. Consequently, the present significance ratings should be interpreted primarily as indicators of local Indigenous cultural value rather than formal archaeological importance.

Ok Ma Village

Community consultations undertaken with Ok Ma Village representatives identified a range of culturally significant settlement, oral tradition and archaeological locations within the proposed Alternate Pipeline corridor.

Settlement-related heritage values comprised seven identified locations. Community representatives advised that three of these locations are recognised as community cemetery sites containing more than

100 deceased individuals, while the remaining four sites were identified as smaller ancestral burial areas containing fewer than 10 burials each. These places continue to retain strong customary, ancestral and cultural significance to associated clan groups.

Oral tradition interviews further identified 11 sacred and spiritually sensitive locations associated with customary beliefs, clan histories and traditional cultural practices. These locations were described by community representatives as culturally restricted areas that continue to maintain spiritual and customary importance within the broader landscape.

In addition, four cave locations were identified and described as former hunting shelters and bat harvesting areas. These cave sites are understood to have been utilised historically for temporary shelter, hunting activity and short-term occupation purposes. While the archaeological potential of these locations remains preliminary pending field verification, the sites may contain evidence of past occupation and traditional subsistence activity.

Overall, the Ok Ma Village area demonstrates a cultural landscape characterised predominantly by continuing customary association, burial heritage, sacred landscape features and oral tradition values rather than extensive archaeological complexes. Further field verification surveys will be required to confirm site conditions, boundaries, archaeological potential and management requirements prior to disturbance activities.

Table 22: Route 2 Pipeline Corridor – Survey Summary

Okma Village – Alternate Pipeline			
Site Code	Site Type	Significance	Management
OKB-OKM-001.1,1.3,11.5,1.9,1.12-1.13,1.16	Sacred/Spirit site	High Customary Significance	Field verification required prior to disturbance activities
OKB-OKM-1.10-1.11	Mythical site	Moderate Customary Significance	Verification required during pre-construction
OKB-OKM-001.2	Hunting Shelter	Moderate Archaeological and Customary Significance	Verification required during pre-construction
OKB-OKM-001.4,1.8,1.14,1.15	Bat Cave site	Moderate Archaeological Potential and Customary Significance	Archaeological verification and condition assessment required prior to disturbance activities
OKB-OKM-001.6	Sacred Lake	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB-OKM-002.1-2.7	Burial/Cemetery site	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB-OKM-003	Garden/Subsistence Use Area	Moderate Customary Land Use Significance	Verification required during pre-construction survey

Kolebon Village – Alternate Pipeline

Community consultations undertaken with representatives from Kolebon Village identified a substantial number of culturally significant settlement and oral tradition locations within the proposed Alternate Pipeline corridor.

Settlement-related heritage values comprised a total of 15 identified locations. Of these, 13 were recorded as ancestral burial sites while two locations were identified as large community cemeteries associated with eight clan groups and reported to contain more than 100 deceased individuals. These places continue to retain strong ancestral, cultural and customary significance to local communities and are regarded as highly sensitive heritage locations.

Oral tradition interviews further identified 22 culturally significant sites distributed throughout the broader customary landscape. All recorded oral tradition locations were categorised as spirit or ritual sites associated with customary belief systems, sacred traditions, clan histories and spiritually sensitive areas. Community representatives described these locations as continuing places of cultural importance within the Kolebon customary landscape.

The Kolebon Village area therefore reflects a culturally sensitive landscape characterised predominantly by ancestral burial heritage, sacred landscape values and continuing customary association. Further field verification and pre-construction surveys will be required to confirm site condition, extent and final management requirements prior to disturbance activities.

Table 23: Route 2 Pipeline Corridor – Survey Summary

Kolebon Village			
Site Code	Site Type	Significance	Management
OKB_KOL-001.1-1.7,001.9-1.5,001.17-1.22	Sacred/Spirit site	Moderate–High Customary and Spiritual Significance	Field verification required prior to disturbance activities
OKB_KOL-001.8	Ancestral Site	High Cultural and Ancestral Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB_KOL-002.1-2.15	Burial site/Cemetery	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB_KOL-001.16	Sacred Lake	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB_KOL-003.1	Garden/Subsistence Use Area	Moderate Customary Land Use Significance	Verification required during pre-construction survey

Digam Village – Alternate Pipeline

Community consultations undertaken with representatives and chiefs from Digam Village identified a number of culturally significant settlement and oral tradition locations within the proposed Alternate Pipeline corridor.

Settlement-related heritage values comprised nine identified locations. Of these, two were recorded as burial sites while seven were identified as cemetery areas associated with local clan groups. Community representatives advised that one burial location was reportedly impacted by flooding, with the deceased believed to have been washed away, making the presence of intact inhumation deposits unlikely. Nevertheless, the location continues to retain cultural and customary significance to the associated community.

Oral tradition interviews further identified 35 culturally significant sites distributed throughout the broader customary landscape. All recorded oral tradition locations were categorised as sacred, and spirit sites

associated with customary beliefs, oral histories, spiritually sensitive areas and traditional cultural practices. Community representatives described these locations as culturally restricted areas possessing continuing spiritual importance within the Digam customary landscape.

The Digam Village area therefore represents a culturally sensitive landscape characterised predominantly by burial heritage, sacred landscape values and ongoing customary association. Further field verification and pre-construction surveys will be required to confirm site condition, extent and final management requirements prior to disturbance activities.

Table 24: Route 2 Pipeline Corridor – Survey Summary

Digam Village			
Site Code	Site Type	Significance	Management
OKB_DIG-001.2-1.6,001.8-1.18,001.20-1.22,001.28-1.35	Sacred/Spirit site	Moderate–High Customary and Spiritual Significance	Field verification required prior to disturbance activities
OKB_DIG-001.23-1.27	Ancient boundary site	Moderate Cultural and Customary Landscape Significance	Verification required during pre-construction survey
OKB_DIG-002.1-2.9	Burial site/Cemetery	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB_DIG-001.19	Spirit Lake	High Cultural and Spiritual Significance.	Avoidance assessment and field verification required prior to disturbance activities
OKB_DIG-001.7	Sacred Water Source	High Cultural and Spiritual Significance.	Avoidance assessment and field verification required prior to disturbance activities

Ningerum-Tamaro Village – Alternate Pipeline

Community consultations undertaken with representatives from Ningerum-Tamaro Village identified several culturally significant settlement and oral tradition locations within the proposed Alternate Pipeline corridor.

Settlement-related heritage values comprised three identified locations, including two cemetery sites and one ancestral male burial location associated with local clan groups. These places continue to retain strong ancestral, cultural and customary significance to the community and are regarded as sensitive heritage areas requiring careful management.

Oral tradition interviews further identified 22 culturally significant sites distributed throughout the broader customary landscape. All recorded locations were categorised as sacred sites associated with customary belief systems, spiritual traditions, oral histories and culturally restricted areas. Community representatives described these locations as possessing continuing spiritual and cultural importance within the Ningerum-Tamaro customary landscape.

The Ningerum-Tamaro Village area therefore represents a culturally sensitive landscape characterised predominantly by ancestral burial heritage, sacred landscape values and continuing customary association. Further field verification and pre-construction surveys will be required to confirm site condition, extent and final management requirements prior to disturbance activities.

Table 25: Route 2 Pipeline Corridor – Survey Summary

Ningerum-Tamaro Village			
Site Code	Site Type	Significance	Management
OKB_NITA-001-1.12,001.14-1.20,001.22	Sacred/Spirit site	Moderate–High Customary and Spiritual Significance	Field verification required prior to disturbance activities
OKB_NITA-001.21	Fishing site	Moderate–High Customary and Spiritual Significance	Verification required during pre-construction survey
OKB_NITA-002.1-2.3	Burial site/Cemetery	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB_NITA-001.13	Spirit Swamp	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities

Wombon Village – Alternate Pipeline

Community consultations undertaken with representatives from Wombon Village identified several culturally significant settlement-related heritage locations within the proposed Alternate Pipeline corridor.

Settlement heritage values comprised three identified locations, including two ancestral cemetery sites and one ancestral burial location associated with local clan groups. These places continue to retain strong ancestral, cultural and customary significance to the Wombon community and are regarded as highly sensitive heritage areas.

The identified burial and cemetery locations form part of the broader customary landscape and remain associated with clan identity, ancestral connection and traditional land association. Although no additional oral tradition or archaeological sites were specifically recorded during the interviews, the presence of ancestral burial heritage indicates continuing cultural sensitivity within the Wombon Village area.

Further field verification and pre-construction surveys will be required to confirm site condition, extent and final management requirements prior to disturbance activities.

Table 26: Route 2 Pipeline Corridor – Survey Summary

Wombon Village			
Site Code	Site Type	Significance	Management
OKB_WOM_001.1-001.2 & 001.3	Burial/Cemetery	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities

Bolewogam Village – Alternate Pipeline

Community consultations undertaken with representatives from Bolewogam Village identified a total of 11 settlement-related heritage locations within the proposed Alternate Pipeline corridor. These included three ancestral cemetery sites; one ancestral burial location and seven contemporary cemetery areas currently associated with respective clan groups. The identified burial places continue to retain strong cultural, ancestral and customary significance to local communities.

Oral tradition interviews further recorded 23 culturally significant locations distributed throughout the broader customary landscape. The majority of these places were identified as sacred, or spirit sites associated with customary beliefs, oral histories and spiritually sensitive areas. Several additional locations were identified as traditional hunting areas associated with subsistence and economic resource use practices.

The Bolewogam Village area therefore reflects a cultural landscape characterised predominantly by continuing customary association, burial heritage, sacred landscape values and traditional subsistence practices. Further field verification and pre- construction surveys will be required to confirm site condition, extent, archaeological potential and final management requirements prior to disturbance activities.

Table 27: Route 2 Pipeline Corridor – Survey Summary

Bolewogam Village			
Site Code	Site Type	Significance	Management
OKB_BOL_001.1-1.3,001.7-1.9,001.11,001.14	Sacred/Spirit sites	Moderate–High Customary and Spiritual Significance	Field verification required prior to disturbance activities
OKB_BOL-001.6,1.12,1.17-1.18,1.19-1.21	Mythical sites	Moderate Customary and Oral Tradition Significance	Verification required during pre-construction survey
OKB_BOL-002.1-2.11	Burial/Cemetery	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB_BOL-001.10, 001.16	Ceremonial site	High Cultural and Ceremonial Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB_BOL-001.13	Ritual site	High Cultural and Ritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB_BOL -001.15	Sacred Lake	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB_BOL-001.22-1.23	Hunting site	Moderate Customary Subsistence and Economic Significance	Verification required during pre-construction survey
OKB_BOL-003	Garden/Subsistence Use Area	Moderate Customary Land Use Significance	Verification required during pre-construction survey

Wogam Village – Alternate Pipeline

Community consultations undertaken with representatives from Wogam Village identified a substantial concentration of culturally significant settlement, oral tradition and archaeological locations within the proposed Alternate Pipeline corridor.

Settlement-related heritage values comprised 12 identified locations. These included two ancestral burial sites, four smaller cemetery locations containing fewer than five deceased individuals per site, five ancestral cemetery areas and one current community cemetery associated with local clan groups. These places continue to retain strong ancestral, cultural and customary significance to the Wogam community and are regarded as highly sensitive heritage locations.

Oral tradition interviews conducted with approximately six clan groups recorded a total of 97 culturally significant sites distributed throughout the broader customary landscape. Community representatives identified seven spirit sites and 90 mythical locations, all of which were regarded as sacred places associated with customary beliefs, oral histories, spiritually restricted areas and traditional cultural practices. The large concentration of sacred and mythical locations demonstrates the continuing cultural importance of the Wogam landscape to associated clan groups.

In addition, five cave locations were identified as settlement cave sites associated with historical occupation, temporary shelter and traditional subsistence activity. These cave sites may retain archaeological potential relating to former settlement activity and traditional land use practices; however, detailed archaeological verification has not yet been undertaken.

The Wogam Village area therefore represents a culturally sensitive landscape characterised by extensive customary association, burial heritage, sacred geography, oral tradition values and potential archaeological occupation evidence. Further field verification and pre-construction surveys will be required to confirm site condition, extent, archaeological potential and final management requirements prior to disturbance activities.

Table 28: Route 2 Pipeline Corridor – Survey Summary

Wogam Village			
Site Code	Site Type	Significance	Management
OKB-WOG-001.2-1.4,001.10-1.11,001.24-1.39,001.42-1.43,001.45-1.48,1.50,001.54-1.70,001.72-1.76,001.84-1.97,001.99	Sacred/Spirit sites	Moderate–High Customary and Spiritual Significance	Field verification required prior to disturbance activities
OKB-WOG-001.1,001.9,001.52	Ancestral site	High Cultural and Ancestral Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB-WOG-002.1-2.12	Burial/Cemetery	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB-WOG-01.98	Scared waterfall site	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB-WOG-001.5-1.8	Forbidden site	High Cultural Restriction and Spiritual Significance	Restricted access and field verification required prior to disturbance activities
OKB-WOG-001.21-1.23,1.79,1.101,1.102	Cave/Sacred stone Site	Moderate Archaeological Potential and High	Archaeological verification and condition assessment required prior to disturbance activities

Wogam Village			
		Customary Significance	
OKB-WOG-001.12-1.20, 001.77	Ritual Sites	High Cultural and Ceremonial Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB-WOG-001.40,001.78	Sacred Mountain	Moderate High Spiritual Landscape Significance	Field verification required prior to disturbance activities
OKB-WOG-001.41	Sacred Tree	Moderate High Cultural and Spiritual Significance	Verification required during pre-construction survey
OKB-WOG-001.44	Crocodile Hub	Moderate–High Customary and Spiritual Significance	Field verification required prior to disturbance activities
OKB-WOG-001.49,001.51	Sacred Waterfall	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB-WOG-001.53,001.80-1.82	Sacred River Sites	High Cultural and Spiritual Landscape Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB-WOG-001.71	Communal site	Moderate Community and Customary Significance	Verification required during pre-construction survey
OKB-WOG-1.83,1.100	Mythical Swamp Sites	Moderate–High Customary and Oral Tradition Significance	Field verification required prior to disturbance activities

Walawam Village – Alternate Pipeline

Community consultations undertaken with representatives from Walawam Village identified a number of culturally significant settlement and oral tradition locations within the proposed Alternate Pipeline corridor.

Settlement-related heritage values comprised five identified cemetery locations associated with respective clan groups. Community representatives estimated that these cemetery areas collectively contain more than 40 deceased individuals. These places continue to retain strong ancestral, cultural and customary significance to local communities and are regarded as highly sensitive heritage locations.

Oral tradition interviews further identified a total of 44 culturally significant locations distributed throughout the broader customary landscape. Community representatives described these places as sacred sites, spiritually sensitive areas and locations associated with traditional economic and subsistence activities. One recorded location was identified as PPL 269-L19, which is understood to represent a petroleum prospect area recognised within the local customary landscape.

The Walawam Village area therefore represents a culturally sensitive landscape characterised by ancestral burial heritage, sacred landscape values, oral tradition associations and continuing customary land use practices. Further field verification and pre-construction surveys will be required to confirm site condition, extent, archaeological potential and final management requirements prior to disturbance activities.

Table 29: Route 2 Pipeline Corridor – Survey Summary

Walawam Village			
Site Code	Site Type	Significance	Management
OKB_WAL-001.1-1.8,1.12-1.13,1.15-1.19,1.21-1.22,1.26,1.36,1.41	Sacred/Spirit sites	Moderate–High Customary and Spiritual Significance	Field verification required prior to disturbance activities
OKB_WAL-1.37,1.42-1.44	Mythical Galip Tree/Tree sites	Moderate Customary and Oral Tradition Significance	Verification required during pre-construction survey
OKB_WAL-002.1-2.5	Burial/Cemetery	High Cultural and Customary Significance	Verification required
OKB_WAL-001.9,001.14	Scared Lake Sites	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB_WAL-001.10-1.11	Sacred Waterfall Sites	High Cultural and Spiritual Significance	Avoidance assessment and field verification required prior to disturbance activities
OKB_WAL-001.20,1.38	Ancestral site	High Cultural and Ancestral Significance	Field verification and avoidance assessment required prior to disturbance activities
OKB_WAL-001.23-1.25,1.27,1.29-1.33	Sacred Mountain/Hill Sites	Moderate–High Spiritual Landscape Significance	Field verification required prior to disturbance activities
OKB_WAL-001.28,1.34-1.35,1.39-1.40	Sacred Riverside Sites	Moderate–High Cultural and Spiritual Landscape Significance	Field verification required prior to disturbance activities

Wirimkanatko Village – Alternate Pipeline

Community consultations undertaken with representatives from Wirimkanatko Village identified four culturally significant settlement-related heritage locations within the proposed Alternate Pipeline corridor.

All identified settlement sites were recorded as cemetery locations associated with respective clan groups. Community representatives estimated that these cemetery areas collectively contain more than 50 deceased individuals. These places continue to retain strong ancestral, cultural and customary significance to the local community and are regarded as highly sensitive heritage locations.

The identified burial locations form part of the broader customary landscape and remain closely associated with clan identity, ancestral connection and traditional land association. Although no additional oral tradition or archaeological sites were specifically recorded during the interviews, the presence of multiple cemetery areas indicates continuing cultural sensitivity within the Wirimkanatko Village area.

Further field verification and pre-construction surveys will be required to confirm site condition, extent and final management requirements prior to disturbance activities.

Table 30: Route 2 Pipeline Corridor – Survey Summary

Wirimkanatko Village			
Site Code	Site Type	Significance	Management
OKB_WIR_001.1, 001.2, 001.3, 001.4,	Burial/Cemetery Sites	High Cultural and Customary Significance	Field verification and avoidance assessment required prior to disturbance activities

5.14 ARCHAEOLOGICAL SIGNIFICANCE

Verification against the master register confirms that only a limited number of archaeological materials and isolated artefact occurrences were formally recorded within the project area. The identified archaeological finds consist primarily of isolated lithic artefacts and one grinding stone, indicating evidence of past human occupation, temporary land use and subsistence activity within the broader landscape.

The presently recorded archaeological dataset does not demonstrate evidence of extensive archaeological complexes, permanent settlement centres or archaeological sites of confirmed national significance. Rather, the recorded assemblage is characterised by isolated and low-density artefact occurrences consistent with patterns of mobile forest occupation, temporary habitation and repeated short-term land use through time.

The verified archaeological finds are summarised below:

Table 31: Verified Archaeological finds Summary

Site Code	Area	Site Type	Interpretation	Verified Archaeological Sensitivity
BRK-A01	Birimkamba	Stone flake	Evidence of tool manufacture or utilisation associated with past occupation activity	Moderate Archaeological Sensitivity
AMB-A01	Ambaga	Grinding stone	Evidence of domestic processing or plant preparation activity	Moderate Archaeological Sensitivity
KOM-A01	Komokpin	Lithic artefact	Evidence of past occupation and landscape utilisation	Moderate Archaeological Sensitivity
R1-A01	Route 1	Stone artefact	Isolated artefact occurrence with limited contextual association	Low–Moderate Archaeological Sensitivity

In addition to the isolated artefacts recorded above, several cave locations identified within Okma and Wogam Village areas may retain archaeological potential associated with temporary occupation, hunting activity and shelter use. However, these locations have not yet undergone detailed archaeological verification or subsurface investigation.

The significance ratings assigned to archaeological materials within this assessment refer specifically to their archaeological research potential and scientific value rather than customary or spiritual significance. Current archaeological sensitivity is therefore considered local to regional in scale and does not presently meet thresholds for nationally significant archaeological heritage.

Further archaeological verification and implementation of a project-specific Chance Finds Procedure will nevertheless remain necessary during future field investigations and construction activities to ensure appropriate management of any previously unidentified archaeological materials encountered during ground disturbance.

5.15 SOCIAL AND CULTURAL SIGNIFICANCE

Verification against the master register confirms that the dominant heritage value of the project area relates primarily to living cultural landscapes and continuing customary association rather than monumental archaeology or formally recognised national heritage places.

The majority of sites identified during the assessment derive their significance from ongoing Indigenous cultural values, oral traditions, ancestral association and customary land relationships maintained by local clan groups. These values remain actively recognised by communities throughout the project area and continue to form part of broader customary governance systems, spiritual belief structures and traditional land use practices.

Places within the project area may be culturally significant because they represent:

- burial grounds and ancestral cemetery locations
- clan migration histories and oral traditions
- spiritually sensitive natural landscape features
- sacred lakes, rivers, waterfalls, mountains and swamps
- evidence of former settlement occupation
- customary boundaries associated with clan identity and land rights
- ceremonial and ritual locations
- traditional hunting and subsistence use areas
- routes linking communities and customary territories.

The significance ratings assigned within this assessment primarily refer to local cultural, customary and spiritual significance unless specifically identified as archaeological significance. Consequently, many identified places possess high sensitivity at local or clan level despite not meeting thresholds for national archaeological significance.

These cultural values remain material considerations under IFC Performance Standard 8 and require ongoing management through culturally appropriate consultation, field verification, avoidance measures where practicable and implementation of project-specific cultural heritage management procedures.

5.16 IFC PS 8 CRITICAL CULTURAL HERITAGE SCREENING

Verification against the presently available master register data indicates that no currently identified sites clearly meet IFC Performance Standard 8 Critical Cultural Heritage thresholds.

Based on the available information:

- no World Heritage properties are known within the project footprint
 - no gazetted national monuments or formally protected heritage places are known within the project area
 - no documented archaeological sites presently demonstrate exceptional rarity or outstanding scientific significance at national scale
-

-
- no recorded archaeological assemblages indicate the presence of monumental or nationally significant archaeological complexes.

The archaeological dataset presently consists primarily of isolated artefacts, limited occupation indicators and culturally sensitive customary locations rather than formally recognised critical heritage assets.

Nevertheless, numerous burial grounds, sacred landscape features, ritual areas and culturally restricted locations possess substantial importance at local and clan level. Although these sites may not presently satisfy IFC PS8 Critical Cultural Heritage criteria, they remain highly sensitive within the customary landscape and require conservative management approaches.

Accordingly, culturally sensitive sites should be managed through:

- continued consultation with customary landowners
- pre-construction field verification
- implementation of exclusion or avoidance buffers where feasible
- incorporation into the project Cultural Heritage Management Plan (CHMP)
- implementation of a project-specific Chance Finds Procedure.

5.17 IFC PS 7 CRITICAL CULTURAL HERITAGE SCREENING

The project area occurs within actively occupied customary landscapes where Indigenous communities maintain strong cultural, spiritual and ancestral connections to the land and natural environment. Clan consultations and oral testimony confirm that many identified places continue to possess contemporary significance associated with customary identity, oral history, spiritual beliefs and traditional land use practices.

The assessment identified extensive numbers of sacred, ceremonial, burial and oral tradition sites distributed throughout the project area, particularly within Wogam, Walawam, Digam, Kolebon and Bolewogam Village areas. These locations include:

- ancestral burial grounds and cemeteries
- sacred lakes, rivers, waterfalls and swamps
- spirit and ritual sites
- sacred mountains, hills and trees
- ceremonial and communal areas
- customary hunting and subsistence locations
- clan boundary and oral tradition sites.

Under IFC Performance Standard 7, Critical Cultural Heritage may include cultural heritage essential to the identity, cultural continuity and traditional practices of Indigenous Peoples. Based on presently available information and verification against the master register:

- no formally recognised Indigenous cultural landscapes of international significance are presently known within the project footprint
 - no sites are currently protected under national legislation specifically as Indigenous cultural properties
 - no identified locations presently demonstrate exceptional rarity or irreplaceable significance at national or international scale
 - no currently identified sites clearly meet IFC PS7 Critical Cultural Heritage thresholds.
-

However, many identified locations retain high local cultural sensitivity and continuing customary significance to associated clan groups. The significance of these places derives primarily from ongoing cultural association, ancestral connection and spiritual value rather than monumental archaeological characteristics.

As much of the present dataset is based on oral testimony and preliminary field identification, additional culturally significant places may still be identified during future ground verification and construction activities. A precautionary management approach is therefore recommended throughout all phases of the project.

5.18 RESULTS SUMMARY

The assessment results confirm that the project area contains widespread cultural heritage values of varying sensitivity distributed throughout the broader customary landscape.

While nationally significant archaeological complexes have not presently been identified, the project area retains extensive local cultural significance associated with burial heritage, sacred landscape features, oral traditions, customary land association and continuing Indigenous cultural practices.

The principal cultural heritage management challenges for the project are therefore expected to relate to:

- protection and avoidance of burial and cemetery locations
- management of sacred and spiritually sensitive sites
- avoidance of impacts to ceremonial, ritual and customary locations
- management of impacts to former settlement and occupation areas
- respectful engagement with customary landowners and clan representatives
- implementation of culturally appropriate consultation and verification processes
- management of unexpected archaeological or cultural finds during construction activities.

Implementation of a project-specific Cultural Heritage Management Plan (CHMP), pre-construction verification surveys and a robust Chance Finds Procedure will therefore be essential to ensure appropriate management of cultural heritage values throughout the project lifecycle.

While nationally significant archaeology has not presently been identified, local cultural significance is extensive. The principal heritage management challenge for the project is therefore expected to relate to:

- protection of burial places
 - avoidance of sacred locations
 - management of impacts to former settlement areas
 - maintenance of respectful engagement with customary landowners
 - control of unexpected finds during construction.
-

6. IMPACT ASSESSMENT

6.1 OVERVIEW

Potential project impacts on archaeological and cultural heritage values were assessed through comparison of identified heritage places against the latest available project layout, including:

- TSF development area
- infrastructure corridor development area
- roads and bridges
- ancillary infrastructure areas
- temporary construction work areas.

The assessment considered:

- cultural significance and sensitivity of each site type
- proximity to disturbance
- scale and duration of impacts
- reversibility
- avoidance opportunities
- likely effectiveness of mitigation measures.

The impact assessment applies the mitigation hierarchy of:

- Avoid
- Minimise
- Mitigate
- Manage

6.2 PRINCIPAL IMPACT PATHWAYS

Project activities with potential to affect cultural heritage include:

Table 32: Principal impact pathway

Project Activity	Potential Heritage Effect
Vegetation clearing	Loss of visible site features; reduced access
Earthworks / excavation	Disturbance of archaeological deposits or burials
Embankment construction	Permanent landform change; site loss
Road / bridge works	Disturbance to tracks, boundaries or access routes
Pipeline trenching	Linear disturbance across multiple site types
Workforce movement	Inadvertent damage to sensitive places
Operational access controls	Ongoing restriction of community access

6.3 HERITAGE SENSITIVITY FRAMEWORK

High Sensitivity Receptors

-
- burial grounds
 - sacred places
 - cemeteries
 - spiritually restricted natural features
 - intact ancestral settlement sites.

Moderate Sensitivity Receptors

- former settlements
- ceremonial areas
- clan boundaries
- historical tracks
- traditional use areas.

Lower Sensitivity Receptors

- isolated artefacts in disturbed context
- low integrity modern land-use areas
- previously disturbed non-sensitive ground.

6.4 TSF DEVELOPMENT AREA IMPACTS

The TSF development area presents the **highest potential for direct impact** because it contains the largest permanent disturbance footprint (approximately 1,500 ha) and includes embankments, storage cells and associated infrastructure.

Potential impacts include:

- permanent disturbance of heritage places within final footprint areas
- loss of culturally meaningful landscape features
- disturbance of undocumented subsurface materials
- reduced future access to customary areas
- indirect changes to setting and landscape relationships.

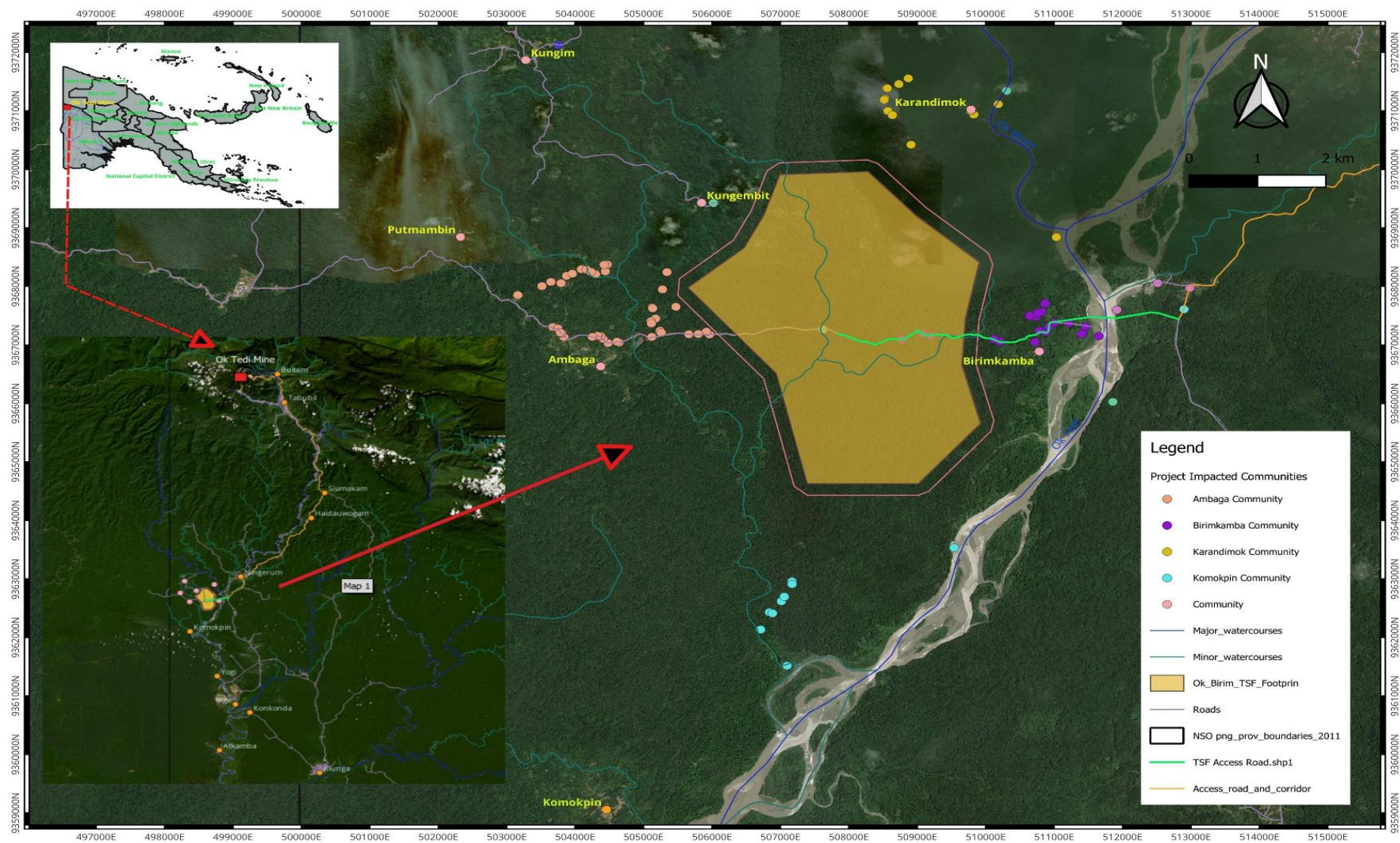
Where burial places or sacred locations are confirmed within final TSF construction areas, these should be considered high priority for avoidance.

Where avoidance of a high-significance cultural heritage site is not feasible due to engineering, safety or operational constraints, residual risk may remain at a Moderate level following implementation of all reasonable mitigation measures. In such circumstances, impact reduction is achieved through a combination of detailed site verification, minimisation of the disturbance footprint, culturally appropriate consultation with affected custodians, implementation of agreed management measures, comprehensive site documentation, archaeological recording where applicable, workforce access controls, construction monitoring and application of project-specific Cultural Heritage Management Plan (CHMP) procedures.

For sites possessing high cultural or customary significance, mitigation measures may also include establishment of partial protection zones, retention of unaffected portions of the site, preservation of associated cultural information, documentation of oral traditions, negotiated management agreements with affected communities and implementation of any additional consultation or consent requirements

identified under IFC Performance Standard 7. While such measures cannot eliminate the loss of heritage value where physical disturbance occurs, they substantially reduce the likelihood of unmanaged impacts and ensure that residual impacts remain localised and appropriately managed

Figure 8: Cultural Heritage Sites distribution in Relation to current



6.5 INFRASTRUCTURE CORRIDOR DEVELOPMENT AREA IMPACTS

The infrastructure corridor development area includes the pipeline corridor, roads, bridges and associated works.

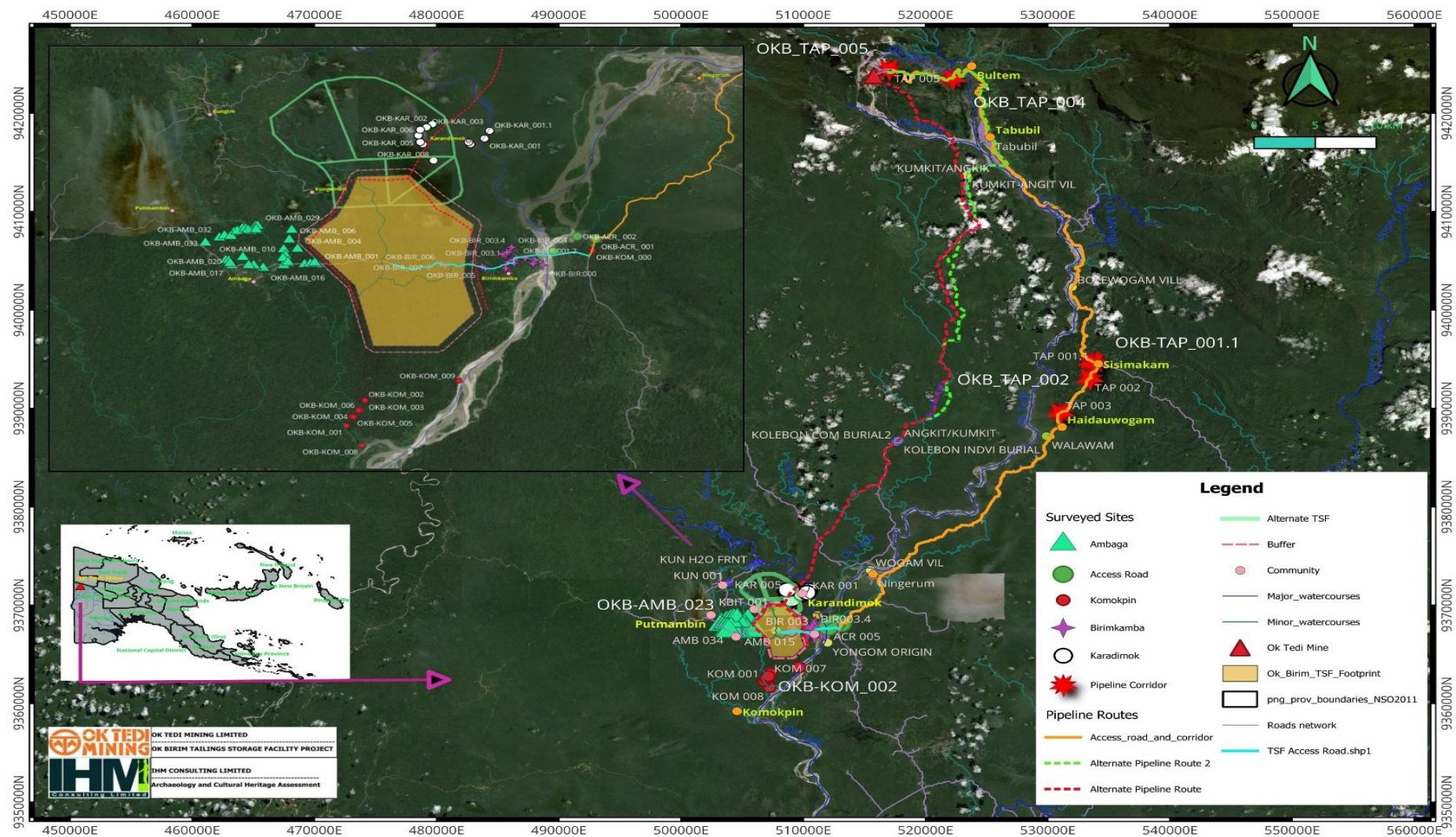
This area presents a different impact profile because disturbance is generally narrower and linear.

Potential impacts include:

- trenching through isolated heritage locations
- temporary disruption to tracks or access routes
- disturbance near settlements or burial places
- vegetation clearing near sacred locations
- inadvertent finds during bridge and crossing works.

Because the corridor allows greater alignment flexibility, many impacts are expected to be avoidable through micro-siting.

Figure 9: Pipeline Route Alternatives and Opportunities for Heritage Avoidance.



6.6 INDICATIVE IMPACT CATEGORIES

Table 33: Indicative Impact Categories.

Heritage Value	Typical Risk	Preferred Management	Residual Risk
Burial places	High	Full avoidance where feasible, establishment of exclusion buffers, culturally appropriate consultation and no disturbance without formal approvals and community agreement	Low–Moderate
Sacred trees / hills / water places	High	Avoidance where feasible, culturally appropriate community protocols, restricted access and consultation with custodians	Low–Moderate
Former settlements	Moderate–High	Avoid where practicable; undertake documentation, recording and archaeological verification where disturbance is unavoidable	Moderate
Clan boundaries	Moderate	Reconfirm boundaries with landowners, mark sensitive areas in the field and maintain ongoing consultation to avoid access or ownership conflict	Low
Traditional tracks and access routes	Moderate	Maintain alternative access arrangements and minimise disruption to customary movement pathways	Low
Isolated artefacts	Low–Moderate	Record, protect in situ where practicable and salvage or manage under the Chance Finds Procedure if required	Low
Sacred mountains and culturally restricted landscapes within permanent infrastructure footprints	High	Undertake detailed consultation, documentation and culturally appropriate mitigation where avoidance is not feasible; implement agreed management measures with custodians	Moderate to

6.7 IMPACTED, AVOIDED AND UNCERTAIN SITES

Based on the current project layout, **four recorded cultural heritage sites are located within the permanent TSF development footprint and would be subject to direct impact or destruction if the present design proceeds without modification.** These include three ancestral settlement / cultural landscape places and one sacred landscape feature. Impacts would likely involve vegetation clearing, bulk earthworks, embankment construction, permanent land take and irreversible alteration of cultural landscape context. In practical terms, this would result in loss of physical site integrity, restricted future access, and removal of heritage values associated with place-based community memory and customary association. Avoidance opportunities within the permanent TSF basin are more limited than along the infrastructure corridor; however, design refinement should still be considered where feasible. Where impacts cannot be avoided, detailed recording, community consultation and agreed mitigation measures will be required. Applicable site classifications are;

Likely Directly Impacted

Sites located within the permanent TSF footprint or within finalised corridor disturbance areas.

Potentially Impacted

Sites located near disturbance areas where final engineering micro-siting is still pending.

Likely Avoided

Sites outside disturbance areas or capable of protection through local design adjustment.

Uncertain

Sites requiring additional field verification or confidential consultation before final classification.

This classification should be updated during detailed design.

6.8 EXISTING DISTURBANCE CONTEXT

Some portions of the wider corridor occur near previously disturbed environments such as:

- existing roads and tracks
- cleared land
- village expansion areas
- operational transport corridors.

In such areas, archaeological integrity may be lower than in intact ground. However, living cultural significance may still remain high, particularly where sacred places, burials or customary access routes are present.

6.9 CRITICAL CULTURAL HERITAGE ASSESSMENT (IFC PS8)

Each identified heritage place was screened against IFC Performance Standard 8 criteria to assess whether it may represent:

- internationally recognised heritage value
- nationally rare or legally protected heritage significance
- unique or irreplaceable archaeological complexes
- places essential to cultural identity beyond local scale.

Based on presently available information and verification against the master register, no currently confirmed sites within the defined project footprint meet IFC PS8 Critical Cultural Heritage thresholds.

The presently recorded archaeological dataset is characterised primarily by isolated artefacts, limited occupation indicators and culturally sensitive customary locations rather than monumental archaeological complexes or heritage places of demonstrated international or national rarity.

Most identified cultural heritage values are presently assessed as possessing:

- local significance
- clan significance
- community significance.

Nevertheless, many identified burial places, sacred landscape features, ceremonial locations and culturally restricted areas retain substantial importance to associated Indigenous communities and customary landowners. Although these places may not satisfy IFC PS8 Critical Cultural Heritage criteria, they remain highly sensitive within the customary landscape and require conservative management approaches throughout the project lifecycle.

6.10 CRITICAL CULTURAL HERITAGE ASSESSMENT (IFC PS7)

Each identified cultural heritage place was additionally screened against IFC Performance Standard 7 criteria relating to Indigenous Peoples cultural heritage and cultural continuity. Assessment considered whether identified places may represent:

- locations essential to Indigenous cultural identity and continuity
- sacred or ceremonial areas fundamental to customary belief systems
- ancestral burial grounds and culturally restricted locations
- places associated with oral traditions, clan histories and customary governance
- culturally significant landscapes linked to traditional land use and spiritual practice
- irreplaceable cultural heritage essential to Indigenous communities beyond local scale.

Based on current information and verification against the master register, no presently identified sites within the project footprint clearly meet IFC PS7 Critical Cultural Heritage thresholds at national or international scale.

However, the assessment confirms that the project area contains extensive Indigenous cultural heritage values associated with:

- burial and cemetery locations
- sacred rivers, lakes, waterfalls and mountains
- spirit and ritual sites
- oral tradition and mythical locations
- customary hunting and subsistence areas
- ancestral settlement and clan association.

These places continue to retain strong customary, spiritual and cultural importance to local Indigenous communities and remain integral components of the broader customary landscape.

Most identified cultural heritage values are therefore assessed as possessing:

- local Indigenous cultural significance
- clan-level customary significance
- community-level spiritual and ancestral significance.

While no sites presently satisfy IFC PS7 Critical Cultural Heritage thresholds, the significance of these locations to associated communities requires ongoing culturally appropriate management, consultation, verification and avoidance measures wherever practicable.

6.11 RESIDUAL IMPACT ASSESSMENT

Following implementation of the recommended cultural heritage mitigation and management measures, the majority of predicted project impacts are expected to reduce to low or minor residual significance levels.

Residual impact significance has been assessed based on the anticipated effectiveness of:

- final infrastructure design refinement
 - avoidance of culturally sensitive locations where feasible
 - implementation of exclusion and protective buffer zones
 - pre-construction verification surveys
-

- continued consultation with customary landowners
- construction monitoring and supervision
- implementation of a Cultural Heritage Management Plan (CHMP)
- implementation of a project-specific Chance Finds Procedure.

The anticipated residual cultural heritage impacts are summarised below:

Table 34: Residual Cultural Heritage Impacts Summary

Impact Category	Residual Significance
Most infrastructure corridor interactions	Minor
Temporary disruption to customary access or land use	Minor
Sacred places avoided through protective buffers	Low
Burial and cemetery locations avoided through design refinement	Low
Unavoidable limited disturbance within the TSF footprint	Moderate - High

Most identified heritage values are expected to remain manageable through application of avoidance-based management strategies and culturally appropriate mitigation measures.

Residual impacts associated with unavoidable disturbance within portions of the TSF footprint remain moderate due to the potential for permanent alteration of culturally sensitive landscape areas where complete avoidance may not be technically feasible. These impacts are nevertheless expected to remain localised in extent and manageable through continued consultation, documentation and agreed management measures.

Based on presently available information and verification against the master register, no residual impacts of confirmed national or international cultural heritage significance are currently predicted.

6.12 IMPACT ASSESSMENT SUMMARY

The assessment confirms that the project has potential to directly affect a limited number of culturally sensitive heritage places, particularly within the permanent TSF footprint and selected sections of the proposed infrastructure corridor.

Potential impacts primarily relate to:

- disturbance to burial and cemetery locations
- impacts to sacred and spiritually sensitive landscape features
- disturbance to former settlement and occupation areas
- disruption to customary land use and access
- inadvertent disturbance of previously unidentified archaeological or cultural materials during construction activities.

However, the majority of predicted impacts are expected to remain manageable through implementation of appropriate mitigation and cultural heritage management measures, including:

- final infrastructure design refinement
- avoidance of sensitive heritage places wherever feasible
- implementation of protective exclusion buffers
- targeted site documentation and verification
- continued consultation with customary landowners and clan representatives

-
- construction-phase cultural heritage monitoring
 - implementation of a Cultural Heritage Management Plan (CHMP)
 - implementation of a project-specific Chance Finds Procedure.

The greatest residual cultural heritage risk is expected to occur where permanent TSF infrastructure overlaps culturally sensitive locations for which no technically feasible avoidance option exists. In such cases, impacts will require ongoing consultation, detailed verification, culturally appropriate mitigation measures and management agreements developed in consultation with affected customary landowners.

Overall, the assessment indicates that while the project area contains widespread local and clan-level cultural heritage values, the majority of identified impacts are expected to remain manageable and are unlikely to result in residual impacts of national or international cultural heritage significance.

7. CULTURAL HERITAGE MANAGEMENT AND MITIGATION MEASURES

7.1 8.1 OVERVIEW

This section outlines the measures recommended to avoid, minimise, mitigate and manage impacts to archaeological and cultural heritage values during construction, operations and closure of the project. The recommended management framework has been informed by:

- IFC Performance Standard 7: Indigenous Peoples
- IFC Performance Standard 8: Cultural Heritage
- PNG National Cultural Property (Preservation) Act 1965
- Environment Act 2000
- recognised international good practice for cultural heritage management.

The recommended approach follows the mitigation hierarchy and should be implemented through a project-specific Cultural Heritage Management Plan (CHMP).

The management framework recognises that many identified heritage places possess continuing customary, spiritual and cultural significance to Indigenous communities and therefore require culturally appropriate engagement, verification and management throughout all phases of the project lifecycle.

Project implementation should also recognise that customary land ownership and Indigenous cultural association remain central components of land governance within Papua New Guinea. Accordingly, culturally appropriate consultation with affected landowners and clan representatives should occur throughout all phases of project planning and implementation.

7.2 CULTURAL HERITAGE MANAGEMENT OBJECTIVES

The primary management objectives are to:

- avoid unnecessary disturbance to culturally sensitive heritage places
- protect burial grounds, sacred locations and ceremonial areas
- minimise impacts where complete avoidance is not feasible
- appropriately document and manage unavoidable impacts
- maintain respectful consultation and engagement with affected communities
- recognise and manage Indigenous cultural values in accordance with IFC PS7 and PS8
- manage unexpected discoveries during construction activities
- ensure contractor awareness and compliance
- provide ongoing monitoring, reporting and adaptive management
- ensure compliance with PNG cultural heritage legislation and project approval conditions.

7.3 LEGISLATIVE AND IFC COMPLIANCE FRAMEWORK

Cultural heritage management measures for the project should be implemented in accordance with applicable PNG legislative requirements and relevant IFC Performance Standards.

7.3.1 PNG Legislative Requirements

Relevant PNG legislative requirements include:

- National Cultural Property (Preservation) Act 1965
- Environment Act 2000
- Organic Law on Provincial Governments and Local-level Governments
- customary land ownership provisions recognised under PNG law.
- Under the National Cultural Property (Preservation) Act 1965:
 - archaeological materials and places of cultural significance should be protected from unauthorised disturbance
 - discoveries of archaeological or cultural materials should be reported to the relevant authorities
 - significant heritage places may require consultation with the National Museum and Art Gallery (NMAG)
 - disturbance to human remains or culturally sensitive heritage places may require formal approvals and management oversight.

7.3.2 IFC PS7 and PS8 Requirements

IFC Performance Standard 8 requires:

- protection of cultural heritage from adverse project impacts
- implementation of avoidance-based mitigation where feasible
- management of archaeological and cultural heritage resources
- implementation of Chance Finds Procedures
- consultation with affected communities regarding culturally sensitive places.

IFC Performance Standard 7 requires:

- culturally appropriate engagement with Indigenous communities
- recognition of customary cultural values and traditional land association
- protection of culturally significant places essential to Indigenous identity and cultural continuity
- consideration of Free, Prior and Informed Consent (FPIC) requirements where applicable.

7.4 FPIC CONSIDERATIONS AND POTENTIAL TRIGGERS

Although no currently identified sites are presently assessed as IFC PS7 Critical Cultural Heritage, project activities may still trigger enhanced consultation or Free, Prior and Informed Consent (FPIC) requirements where impacts to Indigenous communities or culturally significant places are substantial.

Under IFC Performance Standard 7, FPIC considerations may be triggered where project activities involve:

- significant impacts on culturally significant heritage places essential to Indigenous identity or spirituality
 - disturbance to sacred or ceremonial areas of continuing customary importance
 - relocation from traditionally owned or customarily used land
 - significant impacts on natural resources central to Indigenous livelihoods or cultural practice
 - commercial use of Indigenous cultural heritage without agreement
-

-
- impacts that may substantially affect cultural continuity or customary governance systems.

Where such circumstances arise, the project should:

- undertake culturally appropriate consultation processes
- ensure affected communities are adequately informed regarding proposed impacts
- provide opportunities for meaningful participation in decision-making
- document consultation outcomes and agreements
- implement consent processes consistent with IFC PS7 requirements where applicable.

The CHMP should therefore include:

- culturally appropriate consultation procedures
- protocols for engagement with customary landowners
- management pathways for culturally sensitive discoveries
- escalation procedures where potential FPIC triggers are identified during project implementation.

7.5 MITIGATION HIERARCHY

7.5.1 Avoid

Avoidance should be the first management priority wherever practicable. Recommended avoidance measures include:

- refine final project layouts to exclude sensitive sites
- micro-site pipeline and road alignments
- establish no-go zones around burial places
- avoid sacred trees, sacred hills and restricted places
- retain culturally important access routes where feasible
- avoid ancillary facilities in heritage-sensitive locations.

Minimise

Where avoidance is not practicable:

- reduce clearing widths
- minimise temporary work footprints
- use existing disturbed areas where suitable
- schedule works to reduce community disruption
- limit workforce movement outside approved areas
- maintain temporary alternative access arrangements.

7.5.2 Mitigate

Where direct impacts cannot be fully avoided:

- undertake detailed recording of affected sites
 - photograph and map site extents
 - document oral history values with community consent
-

-
- salvage movable surface materials where approved
 - undertake culturally appropriate management agreed with custodians.

7.5.3 Manage

Long-term management measures include:

- implementation of the CHMP
- induction and training
- heritage monitoring during ground disturbance
- incident reporting
- periodic review of controls
- continued community liaison.

7.6 CULTURAL HERITAGE MANAGEMENT PLAN (CHMP)

A project-specific CHMP should be prepared prior to construction.

The CHMP should include:

- heritage responsibilities and governance
- approved heritage site register
- no-go zones and buffers
- construction clearance procedures
- Chance Finds Procedure
- consultation protocols
- monitoring requirements
- reporting procedures
- corrective action processes
- document review schedule.

The CHMP should be treated as a live management document and updated as project design progresses.

7.7 PRE-CONSTRUCTION REQUIREMENTS

Before any ground disturbance occurs, OTML should complete the following actions:

- Final overlay of approved footprints against the heritage register.
 - Verification walkover surveys of final disturbance areas.
 - Community confirmation meetings regarding sensitive locations.
 - Marking of exclusion zones and buffers in the field.
 - Contractor inductions on cultural heritage obligations.
 - Confirmation of heritage contact personnel.
 - Approval of the CHMP.
-

7.8 CONSTRUCTION PHASE CONTROLS

During construction, the following controls are recommended:

- heritage monitor presence during initial clearing and earthworks in sensitive areas
- permit-to-clear process before vegetation removal
- fenced exclusion areas around protected sites
- stop-work authority where heritage risk arises
- controlled spoil disposal locations
- restriction of unauthorised collection of artefacts
- regular toolbox talks reinforcing obligations.

7.9 OPERATIONAL PHASE CONTROLS

During operations:

- maintain exclusion zones where retained sites remain nearby
- manage ongoing access arrangements with communities where relevant
- inspect heritage controls periodically
- update site register if new places are identified
- manage maintenance works through CHMP approval processes.

7.10 CLOSURE AND REHABILITATION PHASE CONTROLS

During closure:

- assess any heritage constraints before demolition or landform reworking
- maintain protection of retained sites
- consult communities regarding post-closure land access
- ensure rehabilitation does not inadvertently damage known heritage places.

7.11 SPECIFIC MEASURES BY HERITAGE TYPE

7.11.1 Burial Places

- highest priority avoidance
- implementation of agreed exclusion buffers
- no disturbance without formal approvals and community agreement
- culturally appropriate consultation prior to nearby works.

Where disturbance to burial places or human remains cannot be avoided, formal approvals may include:

- consultation and endorsement from affected customary landowners, clan representatives and custodians
 - approval or advice from the Papua New Guinea National Museum and Art Gallery (NMAG) where archaeological or cultural heritage values may be affected
-

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- compliance with requirements under the National Cultural Property (Preservation) Act 1965
 - project-level management approval through the Cultural Heritage Management Plan (CHMP)
 - implementation of IFC PS7 and PS8 consultation requirements where Indigenous cultural heritage may be significantly affected.

Where burial places possess continuing ceremonial, spiritual or clan-level significance, disturbance should only proceed following:

- documented consultation outcomes
- culturally appropriate agreements with affected communities
- confirmation of agreed management measures
- implementation of any required Free, Prior and Informed Consent (FPIC) processes where applicable under IFC PS7.

Potential management responses may include:

- complete avoidance
- redesign or micro-siting of infrastructure
- establishment of permanent exclusion zones
- culturally appropriate relocation processes where agreed by custodians and legally permitted
- supervised documentation and management by qualified cultural heritage specialists.

Any disturbance to human remains should be treated as a high-sensitivity cultural heritage issue requiring immediate stop-work procedures, restricted access and formal heritage assessment prior to any further activity.

7.11.2 Sacred Places

- confidential handling of sensitive location information where requested by custodians or communities
- restricted workforce access to sacred, ceremonial and culturally restricted areas
- consultation with custodians and clan representatives prior to commencement of nearby works
- establishment of culturally appropriate exclusion buffers around sacred locations where feasible
- avoidance of unnecessary vegetation clearing, blasting or disturbance near spiritually sensitive places
- implementation of no-go zones for highly sensitive sacred areas
- prohibition of photography, collection of materials or unauthorised entry into restricted locations
- inclusion of sacred site protocols within workforce inductions and contractor awareness training
- immediate stop-work procedures where previously unidentified sacred places are encountered during construction activities.

Where sacred places are considered highly sensitive by Indigenous communities or customary landowners, management responses should be developed in consultation with custodians and incorporated into the Cultural Heritage Management Plan (CHMP).

Under IFC Performance Standard 7, sacred places associated with Indigenous cultural identity, spiritual practice or ceremonial activity may require enhanced consultation processes and culturally appropriate engagement measures. Where project activities may significantly affect places essential to cultural continuity or spiritual practice, additional consultation and potential Free, Prior and Informed Consent (FPIC) considerations may be required.

Confidentiality of sacred site information should be maintained wherever requested by custodians to prevent unauthorised disclosure, disturbance or culturally inappropriate access. Access to sensitive site location data should therefore be restricted to authorised project personnel and heritage representatives only.

7.11.3 Former Settlement Areas

- record the extent, condition and known cultural values of former settlement locations
- avoid disturbance to former settlement areas wherever practicable through design refinement and micro-siting
- undertake detailed documentation where disturbance cannot be avoided
- recognise that former settlement areas may retain both archaeological and continuing customary significance
- minimise vegetation clearing and ground disturbance within or adjacent to identified occupation areas
- undertake archaeological verification where settlement areas demonstrate potential subsurface deposits or occupation evidence
- consult with affected communities regarding culturally sensitive settlement locations and associated oral histories
- include former settlement areas within construction exclusion mapping and permit-to-clear procedures where required.

Where disturbance to former settlement areas is unavoidable, mitigation measures may include:

- photographic and spatial recording
- oral history documentation with community consent
- archaeological inspection and recording
- salvage of surface artefacts where approved
- culturally appropriate management measures agreed with custodians.

Former settlement areas may also contain unrecorded archaeological materials; human remains or culturally sensitive deposits. Consequently, all disturbance activities within former occupation areas should remain subject to the project Chance Finds Procedure.

7.11.4 Clan Boundaries

- confirm customary clan boundaries and land associations with landowners prior to commencement of works
 - avoid creating community access restrictions, land ownership disputes or inter-clan conflict
 - maintain ongoing communication and consultation with affected clan groups throughout project activities
 - ensure final infrastructure layouts and access routes are verified against agreed customary land boundaries
 - avoid locating ancillary facilities, spoil disposal areas or temporary camps within disputed or culturally sensitive boundary areas where feasible
 - recognise that clan boundaries may possess cultural, historical and customary significance beyond administrative land divisions
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- document community-agreed boundary information within project consultation records and the Cultural Heritage Management Plan (CHMP).
 - implement culturally appropriate dispute resolution pathways where boundary concerns are identified during project implementation.

Where disturbance to clan boundaries cannot be avoided, the project should recognise that impacts may extend beyond physical land disturbance and may affect customary ownership relationships, access rights, clan identity, traditional governance systems and community cohesion.

Where boundary-related disputes or culturally sensitive land access issues arise, works within the affected area should be temporarily suspended pending further consultation, verification and agreement with relevant landowners and community representatives.

7.11.5 Archaeological Finds

- record and protect archaeological materials in situ wherever practicable
- manage newly identified archaeological materials under the project Chance Finds Procedure
- establish temporary exclusion zones around archaeological discoveries until assessment is completed
- undertake specialist archaeological assessment where required
- prohibit unauthorised collection, disturbance or removal of archaeological materials
- document archaeological finds through photography, GPS recording and field documentation
- notify relevant heritage representatives and project management following discovery of archaeological materials
- implement additional mitigation measures where archaeological sensitivity is confirmed.

Potential archaeological finds may include:

- stone artefacts
- grinding stones
- shell deposits
- charcoal-rich occupation deposits
- cave occupation evidence
- culturally modified stone or earth features
- human remains or burial materials.

Under the National Cultural Property (Preservation) Act 1965, archaeological discoveries and culturally significant materials may require notification to relevant authorities, including the National Museum and Art Gallery (NMAG).

7.12 TRAINING AND INDUCTION

All personnel entering site should receive cultural heritage induction covering

- importance of heritage values in the project area
 - prohibited behaviours
 - no collection of artefacts
 - recognition of possible heritage materials
 - stop-work and reporting procedures
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- respect for community customs and restricted places.
 - Refresher training should be provided periodically.

7.13 MONITORING AND REPORTING

Monitoring should include:

- inspections of exclusion zones
- review of compliance during clearing and excavation
- records of incidents or near misses
- consultation feedback from communities
- corrective actions implemented.

Regular reporting should be provided to project management.

CHANCE FINDS PROCEDURE

If previously unidentified heritage materials or human remains are discovered:

- Stop work immediately in the immediate area.
- Establish a temporary exclusion zone.
- Notify the supervisor and heritage representative.
- Protect the find from further disturbance.
- Undertake specialist assessment.
- Consult relevant community representatives where appropriate.
- Determine management response and approvals required.
- Resume work only after formal clearance.

7.14 MANAGEMENT SUMMARY

With implementation of the recommended measures, most project cultural heritage risks are expected to be controllable and capable of being reduced to acceptable levels.

The most important management priorities are:

- early avoidance through design
- respectful engagement with landowners
- strong construction controls
- rapid response to unexpected finds
- ongoing compliance monitoring.

8. CONCLUSION

8.1 OVERVIEW

This Archaeology and Cultural Heritage Assessment was undertaken to identify cultural heritage values within the proposed Ok Birim Tailings Storage Facility (TSF), associated infrastructure corridors and ancillary development areas, assess potential project impacts, and recommend practical management

measures consistent with Papua New Guinea legislative requirements and recognised international standards, including IFC Performance Standards 7 and 8.

The assessment considered the proposed TSF development area, pipeline corridors, access roads, bridge crossings and associated construction disturbance areas. The assessment identified a total of 345 cultural heritage locations across the project area through a combination of field survey, community consultation and participatory cultural mapping. This comprises 77 field-verified sites that were physically inspected and assessed during field investigations, and 268 consultation-identified sites that remain subject to future field verification.

The consultation-identified dataset is associated primarily with the proposed Pipeline Route 2 corridor and adjacent customary land areas, where access limitations, difficult terrain, dense vegetation, logistical constraints and evolving project design restricted direct site inspection during the ESIA-stage assessment program. These sites were recorded through interviews with community representatives, clan leaders and customary landowners and include burial places, sacred sites, ancestral settlement locations, ceremonial areas, customary boundaries and other places of cultural significance.

While the consultation process provides important information regarding the location and cultural significance of these sites, their precise extent, condition, archaeological potential and management requirements remain preliminary pending detailed field verification. Accordingly, all consultation-identified sites should be regarded as culturally sensitive locations requiring further assessment during pre-construction surveys and detailed design stages prior to any ground-disturbing activities.

The results indicate that the project area forms part of a culturally significant customary landscape associated primarily with communities linked to the Yonggom, Awain and Ningerum peoples.

Key heritage values identified during the assessment include:

- ancestral settlement areas
- burial places and cemeteries
- sacred mountains, lakes, rivers, waterfalls and other culturally significant landscape features
- ceremonial and ritual locations
- sacred and spirit sites
- clan boundaries and customary land associations
- traditional hunting areas and subsistence-use locations
- traditional tracks and access routes
- oral history and ancestral associations linked to named places.

The dominant heritage significance of the project area is therefore associated with living cultural landscapes, continuing customary association and Indigenous cultural values rather than nationally recognised monumental archaeology.

8.1.1 Key Findings

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8.2 SIGNIFICANCE ASSESSMENT

Most recorded places are considered to be of:

- local significance
- clan significance
- community significance.

The archaeological record within the project area is relatively limited and is characterised primarily by isolated artefacts, grinding stones, occupation indicators and cave sites with potential archaeological value. No archaeological sites of confirmed national significance were identified during the assessment.

Based on currently available information and verification undertaken during the assessment, no presently identified sites within the defined project footprint are considered to meet IFC Performance Standard 8 (IFC PS8) thresholds for Critical Cultural Heritage.

Similarly, no currently identified sites are assessed as meeting IFC Performance Standard 7 (IFC PS7) thresholds for Critical Cultural Heritage at a national or international scale. However, many recorded burial places, sacred sites, ceremonial locations and culturally restricted areas retain High Cultural and Customary Significance to affected clan groups. These places remain important components of Indigenous cultural identity, customary practice and cultural continuity and therefore require culturally appropriate management and consultation throughout the project lifecycle.

8.3 IMPACT CONCLUSIONS

Potential impacts are primarily associated with:

- vegetation clearing
- earthworks and excavation
- TSF embankment construction
- road, bridge and pipeline construction
- temporary or permanent changes to community access
- inadvertent disturbance during construction activities.

The greatest potential for direct impact occurs within the permanent TSF development area due to the scale of planned land disturbance.

Infrastructure corridor impacts are expected to be more readily managed through local alignment refinement, micro-siting and targeted avoidance.

8.4 MANAGEMENT CONCLUSIONS

The assessment concludes that most identified heritage risks can be effectively managed through:

- final design refinement
- avoidance of sensitive places wherever practicable
- establishment of buffers and exclusion zones
- pre-construction verification surveys
- continued consultation with affected communities
- implementation of a Cultural Heritage Management Plan
- workforce induction and monitoring
- implementation of a Chance Finds Procedure.

Where unavoidable impacts remain within limited portions of the TSF footprint, impacts can be reduced through documentation, agreed management responses and construction controls.

8.5 OVERALL CONCLUSION

Subject to implementation of the recommended mitigation and management measures, the project is considered capable of proceeding from a cultural heritage perspective.

No currently predicted residual impacts of national or international cultural heritage significance are anticipated.

The most important success factors for the project will be:

- early integration of heritage constraints into final engineering design
 - respectful and ongoing engagement with customary landowners
 - effective construction-phase controls
 - timely response to unexpected finds
 - adaptive management where new information emerges.
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8.6 RECOMMENDED NEXT STEPS

Prior to construction, OTML should complete the following actions:

- Final design overlay against the heritage register.
- Verification surveys of final disturbance areas.
- Confirmation of no-go zones and buffers.
- Completion and approval of the CHMP.
- Contractor induction prior to mobilisation.
- Establishment of monitoring and reporting procedures.
- Integration of heritage requirements into contractor management systems.

8.7 FINAL STATEMENT

The project area contains important cultural heritage values closely linked to community identity, history and customary land relationships. With appropriate planning and management, these values can be respected and managed alongside project development objectives

9. REFERENCES

9.1 OVERVIEW

This section lists the principal documents, legislation, policies and source materials referenced in preparation of this Archaeology and Cultural Heritage Assessment.

Final formatting should be aligned to the project referencing style and updated once all report appendices, maps and supporting technical studies are complete.

9.2 LEGISLATION AND STATUTORY INSTRUMENTS

- Government of Papua New Guinea. National Cultural Property (Preservation) Act 1965.
- Government of Papua New Guinea. National Museum and Art Gallery Act 1992.
- Government of Papua New Guinea. Ok Tedi Environment Management Act 2019.
- Government of Papua New Guinea. Other applicable environmental and land management legislation as relevant to project approvals.

9.3 INTERNATIONAL STANDARDS AND GUIDANCE

- International Finance Corporation (IFC). **Performance Standard 8: Cultural Heritage**. Current edition.
- International Finance Corporation (IFC). **Guidance Notes to Performance Standard 8**. Current edition.
- International Council on Monuments and Sites (ICOMOS). Relevant cultural heritage impact assessment and significance guidance.

9.4 PROJECT DOCUMENTS

- Ok Tedi Mining Ltd (OTML). **Ok Birim Tailings Storage Facility Project Description**. Latest available revision.
- Ok Tedi Mining Ltd (OTML). **Project Layout Drawings and Engineering Footprint Information**. Latest available revisions.
- Ok Tedi Mining Ltd (OTML). Environmental and Social Impact Assessment supporting studies.

9.5 HERITAGE AND TECHNICAL SOURCES

- National Museum and Art Gallery (NMAG). Available heritage records, consultation correspondence and related information where applicable.
- Previous archaeological, ethnographic and heritage studies relevant to the wider Ok Tedi / Ningerum / Western Province region.
- Community consultation outcomes, field notes and survey records compiled during this assessment.
- GPS records, photographs and field mapping collected during survey activities.

9.6 MAPPING AND SPATIAL SOURCES

- Satellite imagery and topographic mapping used for planning and interpretation.
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- Project GIS shapefiles and engineering alignment data (latest approved versions).
 - Field GPS coordinates collected during site inspections.

10. APPENDIX A: MASTER CULTURAL HERITAGE SITE REGISTER

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
A1. KARANDIMOK VILLAGE SITES										
1	OKB-KAR_001	Karandimok	Settlement site	Ancient Clan Boundary	Boundary marker along Ok Birim tributary separating Yonggom clan territories.	Field verified	Low	Medium	Medium	Avoid disturbance; maintain buffer where possible.
2	OKB-KAR_001.1	Karandimok	Settlement site	Current village centre	Current Karandimok village including cemetery, airstrip, creek access and mission area.	Field verified	Low	Medium	Medium	Avoid project intrusion into active settlement areas.
3	OKB-KAR_001.2	Karandimok	Settlement site	Village hall	Community meeting structure located within village centre.	Field verified	Low	Low	Low	No specific mitigation required unless impacted by project works.
4	OKB-KAR_001.3	Karandimok	Settlement site	Village marker	Secondary marker indicating spatial extent of the village area.	Field verified	Low	Low	Low	Record location; no further action required.
5	OKB-KAR_002	Karandimok	Settlement site	Bush track intersection	Traditional bush track junction connecting Karandimok with Kungim and Kungembit areas.	Field verified	Low	Medium	Medium	Avoid track disruption where feasible.
6	OKB-KAR_003	Karandimok	Settlement site	Burial site	Burial location associated with local clan groups.	Field verified	Medium	High	High	Avoid disturbance; implement buffer zone.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
7	OKB-KAR_004	Karandimok	Settlement site	Fishing site	Traditional fishing location along Ok Amung River used by villagers.	Field verified	Low	Medium	Medium	Avoid disruption of fishing access.
8	OKB-KAR_005	Karandimok	Oral Traditional site	Sacred herbal tree	Sacred medicinal tree used for herbal remedies in traditional knowledge systems.	Field verified	Low	Medium	Medium	Avoid tree removal where possible.
9	OKB-KAR_005.1	Karandimok	Oral Traditional site	Fish poison tree	Tree species used traditionally to stun fish during harvesting activities.	Field verified	Low	Medium	Medium	Record and avoid removal where possible.
10	OKB-KAR_006	Karandimok	Settlement site	Bush track to Kungim	Traditional pathway linking Karandimok and Kungim villages.	Field verified	Low	Medium	Medium	Maintain access where feasible.
11	OKB-KAR_007	Karandimok	Settlement site	Bush track to Kungembit	Traditional pathway connecting Karandimok and Kungembit.	Not field verified	Low	Medium	Medium	Maintain track access where possible.
12	OKB-KAR_008	Karandimok	Settlement site	Burial area	Burial ground associated with Kaiyuk and Kadep clans.	Not field verified	Medium	High	High	Avoid disturbance; establish protective buffer.
13	OKB-KAR_009	Karandimok	Oral Traditional site	Sacred site "Ok Tedit"	Sacred cultural landscape feature referenced in oral traditions.	Not field verified	Low	High	High	Avoid disturbance; consult with community custodians.
A2. BIRIMKAMBA VILLAGE SITES										
14	OKB-BIR:000	Birimkamba	Other	Ok Tedi riverfront	River frontage adjacent to Birimkamba settlement used for	Field verified	Low	Medium	Medium	Avoid disruption to river access points.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
					subsistence and transport.					
15	OKB-BIR:000.1	Birimkamba	Settlement site	Main village	Current Birimkamba settlement area.	Field verified	Low	Medium	Medium	Avoid development within settlement area.
16	OKB-BIR:001	Birimkamba	Oral Traditional site	Mythical area	Cultural landscape encompassing sacred hill, swamp and fig tree.	Field verified	Low	High	High	Avoid disturbance; consult custodians.
17	OKB-BIR:001.1	Birimkamba	Oral Traditional site	Sacred hilltop	Hill associated with mythical dog-spirit narrative.	Field verified	Low	High	High	Avoid disturbance.
18	OKB-BIR:001.2	Birimkamba	Oral Traditional site	Sacred swamp	Swamp associated with disappearance story in local tradition.	Field verified	Low	High	High	Avoid disturbance.
19	OKB-BIR:001.3	Birimkamba	Oral Traditional site	Sacred fig tree	Sacred masalai tree associated with spiritual beliefs.	Field verified	Low	High	High	Avoid removal of tree.
20	OKB-BIR:002	Birimkamba	Settlement site	Community cemetery	Cemetery currently used by the community.	Field verified	Medium	High	High	Avoid disturbance; maintain buffer.
21	OKB-BIR:003	Birimkamba	Oral Traditional site	Burial site	Burial of Chief Mukon Wangbon recognised in local history.	Field verified	Medium	High	High	Avoid disturbance; consult community elders.
22	OKB-BIR_003.1	Birimkamba	Settlement site	Ancestral village	Former settlement predating the current village location.	Field verified	Medium	High	High	Avoid disturbance; record site if unavoidable.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
23	OKB-BIR_003.2	Birimkamba	Settlement site	Burial area	Secondary burial site within ancestral village zone.	Field verified	Medium	High	High	Avoid disturbance.
24	OKB-BIR_003.3	Birimkamba	Oral Traditional site	Main burial area	Burial ground linked to former village occupation.	Field verified	Medium	High	High	Avoid disturbance.
25	OKB-BIR_003.4	Birimkamba	Oral Traditional site	Ceremonial feast area	Traditional ceremonial gathering area approximately 50 × 100 m.	Field verified	Low	Medium	Medium	Record site; avoid disturbance where possible.
26	OKB-BIR_003.5	Birimkamba	Archaeological site	Chert flake	Isolated lithic artefact indicating prehistoric tool production.	Field verified	High	Medium	Medium	Archaeological documentation required if impacted.
27	OKB-BIR_003.6	Birimkamba	Settlement site	Settlement extension	Extension of former village settlement area.	Field verified	Medium	Medium	Medium	Record site; salvage if impacted.
28	OKB-BIR_003.7	Birimkamba	Settlement site	Settlement end point	Terminal boundary of ancestral settlement zone.	Field verified	Medium	Medium	Medium	Record site if impacted.
29	OKB-BIR_004	Birimkamba	Settlement site	Colonial track	Historic colonial-era pathway.	Field verified	Low	Medium	Medium	Record alignment; avoid if possible.
30	OKB-BIR_004.1	Birimkamba	Settlement site	Colonial track back point	Rear section of historic track.	Field verified	Low	Medium	Medium	Record location.
31	OKB-BIR_004.2	Birimkamba	Settlement site	Colonial track entrance	Entry point to colonial track.	Field verified	Low	Medium	Medium	Record location.
32	OKB-BIR_004.3	Birimkamba	Settlement site	Colonial track access	Road connection point to colonial track.	Field verified	Low	Medium	Medium	Record location.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
33	OKB-BIR_005	Birimkamba	Settlement site	Clan boundary	Boundary between Namago-Komlegi and Kimki-Obit clans.	Field verified	Medium	Medium	Medium	Avoid disturbance if possible.
34	OKB-BIR_005.1	Birimkamba	Settlement site	Clan boundary marker	Boundary marker along access road corridor.	Field verified	Medium	Medium	Medium	Record location prior to construction.
35	OKB-BIR_005.2	Birimkamba	Settlement site	Clan boundary marker	Boundary marker at Niktem Creek separating clans.	Field verified	Medium	Medium	Medium	Record location.
36	OKB-BIR_006	Birimkamba	Settlement site	Pioneer camp	Former construction camp established during 1979 road works.	Field verified	Low	Low	Low	Record site only.
37	OKB-BIR_007	Birimkamba	Oral Traditional site	Sacred mountain	Mt Mogabit Gungoktim associated with mythical spirit dog narrative.	Field verified	Low	High	High	Avoid disturbance; if not then consult custodians.
38	OKB-BIR_008	Birimkamba	Settlement site	Satellite village	Recent settlement extension near TSF area.	Field verified	Low	Medium	Medium	Avoid settlement disturbance.
39	OKB-BIR_008.1	Birimkamba	Oral Traditional site	Burial locations	Burials associated with named individuals from community.	Field verified	Medium	High	High	Avoid disturbance.
40	OKB-BIR:008.2	Birimkamba	Settlement site	Satellite village boundary	End of satellite settlement near stockpile area.	Field verified	Low	Medium	Medium	Record location.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
A3. AMBAGA VILLAGE SITES										
41	OKB-AMB_001	Ambaga	Settlement site	Clan boundary	Boundary marker separating Buburam and Kimki-Namago clans.	Field verified	Low	Medium	Medium	Avoid disturbance where possible.
42	OKB-AMB_002	Ambaga	Settlement site	Rubber plantation	Plantation area established by Ambaga villagers.	Field verified	Low	Low	Low	Record site only.
43	OKB-AMB_003	Ambaga	Settlement site	Clan boundary	Boundary marker separating Onakama and Buburam clans.	Not field verified	Low	Medium	Medium	Record boundary prior to construction.
44	OKB-AMB_004	Ambaga	Settlement site	Clan boundary	Traditional territorial boundary marker between clan groups.	Not field verified	Low	Medium	Medium	Record boundary; avoid disturbance if possible.
45	OKB-AMB_005	Ambaga	Oral Traditional site	Mythical site (Binturun)	Sacred cultural landscape feature associated with oral traditions.	Field verified	Low	High	High	Avoid disturbance and consult local custodians.
46	OKB-AMB_006	Ambaga	Settlement site	Garden site	Traditional subsistence gardening area used by community members.	Not field verified	Low	Low	Low	No mitigation required.
47	OKB-AMB_007	Ambaga	Settlement site	Bush track	Traditional access track linking gardens and settlement areas.	Field verified	Low	Medium	Medium	Maintain access where possible.
48	OKB-AMB_008	Ambaga	Archaeological site	Grinding stone	Isolated grinding stone artefact located west of site 007.	Field verified	High	Medium	Medium	Archaeological recording if disturbance unavoidable.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
49	OKB-AMB_009	Ambaga	Settlement site	Garden site	Traditional food garden area within clan territory.	Field verified	Low	Low	Low	Record only.
50	OKB-AMB_010	Ambaga	Settlement site	Bush track	Traditional pathway connecting Ambaga gardens and settlement.	Field verified	Low	Medium	Medium	Maintain pathway access.
51	OKB-AMB_011	Ambaga	Settlement site	Bush track	Secondary traditional pathway used by villagers.	Field verified	Low	Medium	Medium	Maintain access where feasible.
52	OKB-AMB_012	Ambaga	Settlement site	Bush track	Traditional pathway through customary land areas.	Field verified	Low	Medium	Medium	Record pathway alignment.
53	OKB-AMB_013	Ambaga	Settlement site	Garden site	Subsistence garden area used for food cultivation.	Field verified	Low	Low	Low	No mitigation required.
54	OKB-AMB_014	Ambaga	Settlement site	Garden site	Garden area associated with local clan subsistence activities.	Field verified	Low	Low	Low	Record only.
55	OKB-AMB_015	Ambaga	Oral Traditional site	Sacred site	Oral tradition location associated with masalai marriage narrative.	Field verified	Low	High	High	Avoid disturbance and consult elders.
56	OKB-AMB_016	Ambaga	Settlement site	Bush track	Track connecting Ambaga settlement and nearby gardens.	Field verified	Low	Medium	Medium	Maintain pathway access.
57	OKB-AMB_017	Ambaga	Settlement site	Bush track	Traditional pathway used by villagers for travel.	Field verified	Low	Medium	Medium	Record alignment.
58	OKB-AMB_018	Ambaga	Settlement site	Garden site	Traditional agricultural area used for subsistence crops.	Field verified	Low	Low	Low	No mitigation required.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
59	OKB-AMB_019	Ambaga	Settlement site	Garden site	Garden area within Ambaga customary land.	Field verified	Low	Low	Low	Record site only.
60	OKB-AMB_020	Ambaga	Settlement site	Garden site	Cultivation area used by Ambaga households.	Field verified	Low	Low	Low	Record site only.
A4. KOMOKPIN VILLAGE SITES										
61	OKB-KOM_001	Komokpin	Settlement site	Village settlement	Current Komokpin village settlement area including houses and gardens.	Field verified	Low	Medium	Medium	Avoid disturbance to settlement area.
62	OKB-KOM_002	Komokpin	Settlement site	Village cemetery	Burial area used by Komokpin residents.	Field verified	Medium	High	High	Avoid disturbance; establish buffer zone.
63	OKB-KOM_003	Komokpin	Settlement site	Ancestral village site	Former settlement site associated with earlier village occupation.	Field verified	Medium	High	High	Avoid disturbance where possible.
64	OKB-KOM_004	Komokpin	Oral Traditional site	Sacred landscape feature	Cultural site referenced in local oral traditions.	Field verified	Low	High	High	Avoid disturbance and consult custodians.
65	OKB-KOM_005	Komokpin	Settlement site	Garden site	Traditional subsistence gardening area used by villagers.	Field verified	Low	Low	Low	Record site only.
66	OKB-KOM_006	Komokpin	Settlement site	Bush track	Traditional pathway linking Komokpin with neighbouring areas.	Field verified	Low	Medium	Medium	Maintain pathway access where feasible.
67	OKB-KOM_007	Komokpin	Settlement site	Fishing site	Traditional fishing location used by villagers.	Field verified	Low	Medium	Medium	Avoid disruption of fishing access.

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
68	OKB-KOM_008	Komokpin	Oral Traditional site	Sacred tree	Tree associated with traditional beliefs.	Field verified	Low	Medium	Medium	Avoid removal where possible.
69	OKB-KOM_009	Komokpin	Settlement site	Garden site	Subsistence agricultural area used by villagers.	Field verified	Low	Low	Low	Record site only.
70	OKB-KOM_010	Komokpin	Archaeological site	Lithic artefact	Stone artefact identified during field survey.	Field verified	High	Medium	Medium	Archaeological recording if disturbed.
A5. ACCESS ROAD CORRIDOR SITES										
71	OKB-ACR_001	Access Road Corridor	Oral Traditional site	Sacred hill	Sacred hill located along the proposed access road alignment identified during community consultation.	Field verified	Low	High	High	Avoid disturbance; maintain buffer zone and consult community custodians.
72	OKB-ACR_002	Access Road Corridor	Other site	Old construction camp	Remains of early constructions works	Field verified	Low	Low	medium	Disturbed site, record site only.
73	OKB-ACR_003	Access Road Corridor	Settlement sites	Clan boundary	Boundary marker separating territory boundary between Ambaga and Birimkamba clans.	Field verified	low	Medium	Medium	Avoid disturbance.
74	OKB-ACR_004	Access Road Corridor	Settlement site	Garden site	Traditional subsistence gardening area used by villagers.	Field verified	low	low	medium	Record site only

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
75	OKB-ACR_005	Access Road Corridor	Other site	Old construction camp	Area extensively modified by early earthworks, no visible evidence of remains.	Field verified	Low	Low	medium	Disturbed site, record site only
76	OKB-ACR_006	Access Road Corridor	Other site	Engineered stone pile	Stone pile from early works at culvert.	Field verified	low	low	medium	Disturbed site, record site only
77	OKB-ACR_007	Access Road Corridor	Oral Traditional site	Sacred grove	Spiritual site associated with small grove.	Field verified	low	medium	High	Avoid disturbance and maintain protective buffer.

A6. PIPELINE ROUTE 1

No.	Code	Village / Area	Site Category	Site Type	Details	Verification Status	Archaeological Potential	Cultural Significance	Impact Risk	Recommended Management
78	OKB-TAP_001	Pipeline Route 1	Oral Traditional site	Sacred site	Cultural landscape feature identified through community consultation along the pipeline corridor.	Field verified	Low	High	High	Avoid disturbance and maintain protective buffer.
79	OKB-TAP_002	Pipeline Route 1	Settlement site	Village settlement	Remains of former village occupation recorded along pipeline alignment.	Field verified	Medium	Medium	Medium	Record site prior to construction; avoid where feasible.
80	OKB-TAP_003	Pipeline Route 1	Settlement site	Traditional land boundary	Cultural landscape feature associated with cultural land boundary.	Field verified	Medium	High	High	Avoid disturbance and establish buffer zone.

A6. PIPELINE ROUTE 1

81	OKB-TAP_004	Pipeline Route 1	Archaeological site	Lithic artefact	Isolated stone artefact identified during survey indicating archaeological potential.	Field verified	High	Medium	Medium	Archaeological documentation required if disturbance unavoidable.
82	OKB-TAP_005	Pipeline Route 1	Oral Traditional site	Sacred location	Sacred landscape feature associated with traditional belief systems.	Field verified	Low	High	High	Avoid disturbance and consult local custodians.
83	OKB-TAP_006	Pipeline Route 1	Archaeological site	Settlement remains	Traditional subsistence gardening area used by nearby communities.	Field verified	Medium	Medium	Medium	Record site and avoid disturbance where feasible.
84	OKB-TAP_007	Pipeline Route 1	Settlement site	Settlement remains	Remains of earlier habitation area located near pipeline corridor.	Field verified	Medium	Medium	Medium	Record site and avoid disturbance where feasible.
85	OKB-TAP_008	Pipeline Route 1	Oral Traditional site	Ritual site	Cultural site associated with ritual practices and oral history.	Field verified	Low	High	High	Avoid disturbance and consult community representatives.

A7. Pipeline Route 2

The locations listed above were identified through community consultation during the cultural heritage mapping exercise for the proposed Pipeline Route 2 corridor. These 268 locations have not been verified through field survey and represent potential cultural heritage sites. Detailed archaeological and cultural heritage investigations will be required to confirm their presence, extent and significance prior to any ground disturbance activities. Based on oral sites descriptions, initial sites significance assessment without physical verification confirm majority of the sites predominantly present social, spiritual and aesthetic values. Some of these site types and significance may change upon detailed investigation of each site.

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
86	OKB-TAP2_001	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape location identified by elders during consultation	Community consultation	Not field verified
87	OKB-TAP2_002	Pipeline Route 2 Corridor	Settlement	Burial site	High	Burial location associated with clan ancestors	Community consultation	Not field verified
88	OKB-TAP2_003	Pipeline Route 2 Corridor	Oral Traditional	Sacred site	Medium	Sacred site associated with local spiritual beliefs	Community consultation	Not field verified
89	OKB-TAP2_004	Pipeline Route 2 Corridor	Settlement	Former village	Low	Former village settlement area identified through oral history	Community consultation	Not field verified
90	OKB-TAP2_005	Pipeline Route 2 Corridor	Archaeological (Potential)	Artefact location	High	Possible artefact location reported by community members	Community consultation	Not field verified
91	OKB-TAP2_006	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	Medium	Sacred tree associated with masalai beliefs	Community consultation	Not field verified
92	OKB-TAP2_007	Pipeline Route 2 Corridor	Settlement	Garden area	Medium	Traditional gardening area within clan land	Community consultation	Not field verified
93	OKB-TAP2_008	Pipeline Route 2 Corridor	Oral Traditional	Sacred river crossing	Medium	Sacred river crossing used during traditional rituals	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
94	OKB-TAP2_009	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement area described by elders	Community consultation	Not field verified
96	OKB-TAP2_010	Pipeline Route 2 Corridor	Oral Traditional	Ritual site	medium	Ritual location associated with initiation practices	Community consultation	Not field verified
97	OKB-TAP2_011	Pipeline Route 2 Corridor	Oral Traditional	Sacred site	medium	Sacred site associated with clan spiritual beliefs	Community consultation	Not field verified
98	OKB-TAP2_012	Pipeline Route 2 Corridor	Settlement	Garden area	medium	Former garden area associated with earlier village occupation	Community consultation	Not field verified
99	OKB-TAP2_013	Pipeline Route 2 Corridor	Settlement	Burial site	high	Burial location identified by community elders	Community consultation	Not field verified
100	OKB-TAP2_014	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest area associated with masalai presence	Community consultation	Not field verified
101	OKB-TAP2_015	Pipeline Route 2 Corridor	Settlement	Hunting ground	medium	Traditional hunting location within clan territory	Community consultation	Not field verified
102	OKB-TAP2_016	Pipeline Route 2 Corridor	Settlement	Former village	Low	Former village settlement location identified in oral history	Community consultation	Not field verified
103	OKB-TAP2_017	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	Low	Sacred creek crossing associated with cultural rituals	Community consultation	Not field verified
104	OKB-TAP2_018	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway linking neighbouring clan territories	Community consultation	Not field verified
105	OKB-TAP2_019	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial area associated with ancestral clan members	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
106	OKB-TAP2_020	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	medium	Sacred rock feature associated with local mythology	Community consultation	Not field verified
107	OKB-TAP2_021	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement location described during consultation	Community consultation	Not field verified
108	OKB-TAP2_022	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	medium	Sacred riverbank used for traditional practices	Community consultation	Not field verified
109	OKB-TAP2_023	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Garden area used historically by nearby villages	Community consultation	Not field verified
110	OKB-TAP2_024	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	Medium	Sacred tree associated with spiritual beliefs	Community consultation	Not field verified
111	OKB-TAP2_025	Pipeline Route 2 Corridor	Settlement	Hunting ground	Medium	Traditional hunting ground identified by elders	Community consultation	Not field verified
112	OKB-TAP2_026	Pipeline Route 2 Corridor	Settlement	Burial site	Low	Former burial location associated with earlier settlement	Community consultation	Not field verified
113	OKB-TAP2_027	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape feature associated with clan stories	Community consultation	Not field verified
114	OKB-TAP2_028	Pipeline Route 2 Corridor	Settlement	Traditional pathway	High	Traditional pathway used historically between villages	Community consultation	Not field verified
115	OKB-TAP2_029	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	Low	Sacred hill associated with spiritual beliefs	Community consultation	Not field verified
116	OKB-TAP2_030	Pipeline Route 2 Corridor	Settlement	Burial site	High	Burial site associated with local clan lineage	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
117	OKB-TAP2_031	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement area identified during consultation	Community consultation	Not field verified
118	OKB-TAP2_032	Pipeline Route 2 Corridor	Oral Traditional	Sacred river	Medium	Sacred river location used during traditional rituals	Community consultation	Not field verified
119	OKB-TAP2_033	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Traditional gardening area used historically	Community consultation	Not field verified
120	OKB-TAP2_034	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Medium	Sacred forest location associated with ancestral spirits	Community consultation	Not field verified
121	OKB-TAP2_035	Pipeline Route 2 Corridor	Settlement	Burial site	High	Burial site identified by community representatives	Community consultation	Not field verified
122	OKB-TAP2_036	Pipeline Route 2 Corridor	Settlement	Hunting ground	Medium	Traditional hunting location within customary land	Community consultation	Not field verified
123	OKB-TAP2_037	Pipeline Route 2 Corridor	Settlement	Former village	Low	Former settlement associated with earlier village relocation	Community consultation	Not field verified
124	OKB-TAP2_038	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	High	Sacred rock feature associated with cultural stories	Community consultation	Not field verified
125	OKB-TAP2_039	Pipeline Route 2 Corridor	Settlement	Traditional pathway	High	Traditional pathway linking clan territories	Community consultation	Not field verified
126	OKB-TAP2_040	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	Medium	Sacred water source associated with spiritual beliefs	Community consultation	Not field verified
127	OKB-TAP2_041	Pipeline Route 2 Corridor	Settlement	Burial site	High	Burial area associated with ancestral clan members	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
128	OKB-TAP2_042	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	Low	Sacred hill associated with clan spiritual beliefs	Community consultation	Not field verified
129	OKB-TAP2_043	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location identified by elders during consultation	Community consultation	Not field verified
130	OKB-TAP2_044	Pipeline Route 2 Corridor	Settlement	Former village	Low	Former village settlement described in oral history	Community consultation	Not field verified
131	OKB-TAP2_045	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest area associated with ancestral spirits	Community consultation	Not field verified
132	OKB-TAP2_046	Pipeline Route 2 Corridor	Settlement	Hunting ground	Medium	Traditional hunting ground within clan territory	Community consultation	Not field verified
133	OKB-TAP2_047	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	Low	Sacred creek crossing used during ritual practices	Community consultation	Not field verified
134	OKB-TAP2_048	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Traditional garden area used historically by nearby communities	Community consultation	Not field verified
135	OKB-TAP2_049	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	Medium	Sacred rock feature linked to clan mythology	Community consultation	Not field verified
136	OKB-TAP2_050	Pipeline Route 2 Corridor	Settlement	Burial site	Low	Burial location associated with clan ancestors	Community consultation	Not field verified
137	OKB-TAP2_051	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement area identified through consultation	Community consultation	Not field verified
138	OKB-TAP2_052	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	Medium	Sacred tree associated with spiritual beliefs	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
139	OKB-TAP2_053	Pipeline Route 2 Corridor	Settlement	Traditional pathway	Medium	Traditional pathway connecting neighbouring villages	Community consultation	Not field verified
140	OKB-TAP2_054	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	Low	Sacred riverbank associated with cultural rituals	Community consultation	Not field verified
141	OKB-TAP2_055	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Garden area historically used for subsistence agriculture	Community consultation	Not field verified
142	OKB-TAP2_056	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location identified by community representatives	Community consultation	Not field verified
143	OKB-TAP2_057	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	Low	Sacred hill associated with clan oral traditions	Community consultation	Not field verified
144	OKB-TAP2_058	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement location associated with earlier village occupation	Community consultation	Not field verified
145	OKB-TAP2_059	Pipeline Route 2 Corridor	Settlement	Hunting ground	Low	Traditional hunting location identified during consultation	Community consultation	Not field verified
146	OKB-TAP2_060	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Medium	Sacred landscape feature associated with cultural narratives	Community consultation	Not field verified
147	OKB-TAP2_061	Pipeline Route 2 Corridor	Settlement	Traditional pathway	Medium	Traditional pathway linking clan territories	Community consultation	Not field verified
148	OKB-TAP2_062	Pipeline Route 2 Corridor	Settlement	Burial site	Low	Burial area associated with historical village settlement	Community consultation	Not field verified
149	OKB-TAP2_063	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest location associated with masalai presence	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
150	OKB-TAP2_064	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement area described by elders	Community consultation	Not field verified
151	OKB-TAP2_065	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	Medium	Sacred water source used in traditional practices	Community consultation	Not field verified
152	OKB-TAP2_066	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Garden area historically used by local clan groups	Community consultation	Not field verified
153	OKB-TAP2_067	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location identified through community consultation	Community consultation	Not field verified
154	OKB-TAP2_068	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	Medium	Sacred rock formation associated with local mythology	Community consultation	Not field verified
155	OKB-TAP2_069	Pipeline Route 2 Corridor	Settlement	Hunting ground	Medium	Traditional hunting ground within customary land	Community consultation	Not field verified
156	OKB-TAP2_070	Pipeline Route 2 Corridor	Settlement	Former village	Low	Former village site associated with clan relocation history	Community consultation	Not field verified
157	OKB-TAP2_071	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape location linked to ancestral stories	Community consultation	Not field verified
158	OKB-TAP2_072	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	Low	Sacred hill associated with ancestral clan stories	Community consultation	Not field verified
159	OKB-TAP2_073	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location identified by elders during consultation	Community consultation	Not field verified
160	OKB-TAP2_074	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement site associated with historical village occupation	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
161	OKB-TAP2_075	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest area associated with masalai presence	Community consultation	Not field verified
162	OKB-TAP2_076	Pipeline Route 2 Corridor	Settlement	Hunting ground	Low	Traditional hunting ground within clan territory	Community consultation	Not field verified
163	OKB-TAP2_077	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	Low	Sacred creek location used during ritual practices	Community consultation	Not field verified
164	OKB-TAP2_078	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Traditional gardening area used by nearby villages	Community consultation	Not field verified
165	OKB-TAP2_079	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	Medium	Sacred rock feature linked to local mythology	Community consultation	Not field verified
166	OKB-TAP2_080	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial area associated with ancestral clan members	Community consultation	Not field verified
167	OKB-TAP2_081	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former village settlement location described during consultation	Community consultation	Not field verified
168	OKB-TAP2_082	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	Medium	Sacred tree associated with traditional spiritual beliefs	Community consultation	Not field verified
169	OKB-TAP2_083	Pipeline Route 2 Corridor	Settlement	Traditional pathway	Medium	Traditional pathway linking clan territories	Community consultation	Not field verified
170	OKB-TAP2_084	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	Low	Sacred riverbank used in traditional ceremonies	Community consultation	Not field verified
171	OKB-TAP2_085	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Garden area historically used for subsistence agriculture	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
172	OKB-TAP2_086	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial site identified through consultation with elders	Community consultation	Not field verified
173	OKB-TAP2_087	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	Low	Sacred hill associated with clan oral traditions	Community consultation	Not field verified
174	OKB-TAP2_088	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement area linked to earlier village relocation	Community consultation	Not field verified
175	OKB-TAP2_089	Pipeline Route 2 Corridor	Settlement	Hunting ground	Low	Traditional hunting location identified during consultation	Community consultation	Not field verified
176	OKB-TAP2_090	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape feature associated with cultural narratives	Community consultation	Not field verified
177	OKB-TAP2_091	Pipeline Route 2 Corridor	Settlement	Traditional pathway	Medium	Traditional pathway between neighbouring clan lands	Community consultation	Not field verified
178	OKB-TAP2_092	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial site associated with historical village occupation	Community consultation	Not field verified
179	OKB-TAP2_093	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest area associated with ancestral spirits	Community consultation	Not field verified
180	OKB-TAP2_094	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement site described by community representatives	Community consultation	Not field verified
181	OKB-TAP2_095	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	Medium	Sacred water source used in traditional practices	Community consultation	Not field verified
182	OKB-TAP2_096	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Traditional gardening area used historically by local clans	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
183	OKB-TAP2_097	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location associated with clan lineage	Community consultation	Not field verified
184	OKB-TAP2_098	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	Medium	Sacred rock formation associated with oral traditions	Community consultation	Not field verified
185	OKB-TAP2_099	Pipeline Route 2 Corridor	Settlement	Hunting ground	Low	Traditional hunting ground within customary land boundaries	Community consultation	Not field verified
186	OKB-TAP2_100	Pipeline Route 2 Corridor	Settlement	Former village	Low	Former village site associated with clan relocation	Community consultation	Not field verified
187	OKB-TAP2_101	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape feature identified during consultation	Community consultation	Not field verified
188	OKB-TAP2_102	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	Low	Sacred hill associated with clan spiritual beliefs	Community consultation	Not field verified
189	OKB-TAP2_103	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial site identified by elders during consultation	Community consultation	Not field verified
190	OKB-TAP2_104	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement site described in oral history	Community consultation	Not field verified
191	OKB-TAP2_105	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest area associated with ancestral spirits	Community consultation	Not field verified
192	OKB-TAP2_106	Pipeline Route 2 Corridor	Settlement	Hunting ground	Medium	Traditional hunting ground within clan territory	Community consultation	Not field verified
193	OKB-TAP2_107	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	Low	Sacred creek crossing used during cultural rituals	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
194	OKB-TAP2_108	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Traditional gardening area used by nearby villages	Community consultation	Not field verified
195	OKB-TAP2_109	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	Medium	Sacred rock feature associated with clan mythology	Community consultation	Not field verified
196	OKB-TAP2_110	Pipeline Route 2 Corridor	Settlement	Burial site	Low	Burial location associated with ancestral clan members	Community consultation	Not field verified
197	OKB-TAP2_111	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former village settlement described during consultation	Community consultation	Not field verified
198	OKB-TAP2_112	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	Medium	Sacred tree associated with traditional beliefs	Community consultation	Not field verified
199	OKB-TAP2_113	Pipeline Route 2 Corridor	Settlement	Traditional pathway	Medium	Traditional pathway linking clan territories	Community consultation	Not field verified
200	OKB-TAP2_114	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	Medium	Sacred riverbank used for ceremonial practices	Community consultation	Not field verified
201	OKB-TAP2_115	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Garden area used historically for subsistence agriculture	Community consultation	Not field verified
202	OKB-TAP2_116	Pipeline Route 2 Corridor	Settlement	Burial site	Low	Burial site associated with earlier settlement	Community consultation	Not field verified
203	OKB-TAP2_117	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	Medium	Sacred hill associated with local oral traditions	Community consultation	Not field verified
204	OKB-TAP2_118	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement area linked to village relocation history	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
205	OKB-TAP2_119	Pipeline Route 2 Corridor	Settlement	Hunting ground	Low	Traditional hunting location identified during consultation	Community consultation	Not field verified
206	OKB-TAP2_120	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Medium	Sacred landscape feature associated with clan narratives	Community consultation	Not field verified
207	OKB-TAP2_121	Pipeline Route 2 Corridor	Settlement	Traditional pathway	Low	Traditional pathway connecting neighbouring territories	Community consultation	Not field verified
208	OKB-TAP2_122	Pipeline Route 2 Corridor	Settlement	Burial site	Low	Burial area associated with historical village occupation	Community consultation	Not field verified
209	OKB-TAP2_123	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest associated with masalai presence	Community consultation	Not field verified
210	OKB-TAP2_124	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former settlement location described by community elders	Community consultation	Not field verified
211	OKB-TAP2_125	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	low	Sacred water source used in traditional practices	Community consultation	Not field verified
212	OKB-TAP2_126	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Traditional gardening area used by local clan groups	Community consultation	Not field verified
213	OKB-TAP2_127	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location identified through consultation	Community consultation	Not field verified
214	OKB-TAP2_128	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	Medium	Sacred rock formation associated with oral traditions	Community consultation	Not field verified
215	OKB-TAP2_129	Pipeline Route 2 Corridor	Settlement	Hunting ground	Low	Traditional hunting ground within customary land	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
216	OKB-TAP2_130	Pipeline Route 2 Corridor	Settlement	Former village	Low	Former village site associated with clan relocation	Community consultation	Not field verified
217	OKB-TAP2_131	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape feature identified during consultation	Community consultation	Not field verified
218	OKB-TAP2_132	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	low	Sacred hill associated with ancestral clan narratives	Community consultation	Not field verified
219	OKB-TAP2_133	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location identified by elders during consultation	Community consultation	Not field verified
220	OKB-TAP2_134	Pipeline Route 2 Corridor	Settlement	Former settlement	Low	Former village settlement described in oral history	Community consultation	Not field verified
221	OKB-TAP2_135	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest associated with ancestral spirit presence	Community consultation	Not field verified
222	OKB-TAP2_136	Pipeline Route 2 Corridor	Settlement	Hunting ground	Low	Traditional hunting ground within clan territory	Community consultation	Not field verified
223	OKB-TAP2_137	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	Medium	Sacred creek location used for ritual practices	Community consultation	Not field verified
224	OKB-TAP2_138	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Traditional garden area used historically by local villagers	Community consultation	Not field verified
225	OKB-TAP2_139	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	Medium	Sacred rock formation associated with clan mythology	Community consultation	Not field verified
226	OKB-TAP2_140	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location associated with ancestral clan members	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
227	OKB-TAP2_141	Pipeline Route 2 Corridor	Settlement	Former settlement	medium	Former settlement area identified during consultation	Community consultation	Not field verified
228	OKB-TAP2_142	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	medium	Sacred tree associated with traditional beliefs	Community consultation	Not field verified
229	OKB-TAP2_143	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway linking neighbouring clan lands	Community consultation	Not field verified
230	OKB-TAP2_144	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	medium	Sacred riverbank used for ceremonial practices	Community consultation	Not field verified
231	OKB-TAP2_145	Pipeline Route 2 Corridor	Settlement	Garden area	Low	Garden area used historically for subsistence agriculture	Community consultation	Not field verified
232	OKB-TAP2_146	Pipeline Route 2 Corridor	Settlement	Burial site	low	Burial site associated with earlier settlement	Community consultation	Not field verified
233	OKB-TAP2_147	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	low	Sacred hill associated with clan oral traditions	Community consultation	Not field verified
234	OKB-TAP2_148	Pipeline Route 2 Corridor	Settlement	Former settlement	medium	Former settlement location linked to village relocation history	Community consultation	Not field verified
235	OKB-TAP2_149	Pipeline Route 2 Corridor	Settlement	Hunting ground	Hunting	Traditional hunting location identified during consultation	Community consultation	Not field verified
236	OKB-TAP2_150	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape feature associated with cultural narratives	Community consultation	Not field verified
237	OKB-TAP2_151	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway connecting neighbouring territories	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
238	OKB-TAP2_152	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial area associated with historic village occupation	Community consultation	Not field verified
239	OKB-TAP2_153	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	Low	Sacred forest associated with masalai presence	Community consultation	Not field verified
240	OKB-TAP2_154	Pipeline Route 2 Corridor	Settlement	Former settlement	medium	Former settlement location described by community elders	Community consultation	Not field verified
241	OKB-TAP2_155	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	medium	Sacred water source used in traditional practices	Community consultation	Not field verified
242	OKB-TAP2_156	Pipeline Route 2 Corridor	Settlement	Garden area	low	Traditional gardening area used by clan members	Community consultation	Not field verified
243	OKB-TAP2_157	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location associated with clan lineage	Community consultation	Not field verified
244	OKB-TAP2_158	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	medium	Sacred rock feature associated with local mythology	Community consultation	Not field verified
245	OKB-TAP2_159	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within customary land	Community consultation	Not field verified
246	OKB-TAP2_160	Pipeline Route 2 Corridor	Settlement	Former village	medium	Former village site associated with clan relocation history	Community consultation	Not field verified
247	OKB-TAP2_161	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape location identified through consultation	Community consultation	Not field verified
248	OKB-TAP2_162	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	medium	Sacred hill associated with ancestral clan traditions	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
249	OKB-TAP2_163	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial site identified by community elders	Community consultation	Not field verified
250	OKB-TAP2_164	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former settlement location described during consultation	Community consultation	Not field verified
251	OKB-TAP2_165	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	low	Sacred forest associated with spiritual beliefs	Community consultation	Not field verified
252	OKB-TAP2_166	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within customary land	Community consultation	Not field verified
253	OKB-TAP2_167	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	low	Sacred creek crossing associated with ritual practices	Community consultation	Not field verified
254	OKB-TAP2_168	Pipeline Route 2 Corridor	Settlement	Garden area	medium	Traditional gardening area used historically by nearby villagers	Community consultation	Not field verified
255	OKB-TAP2_169	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	low	Sacred rock formation associated with clan mythology	Community consultation	Not field verified
256	OKB-TAP2_170	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial area associated with ancestral clan members	Community consultation	Not field verified
257	OKB-TAP2_171	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former village site identified during community consultation	Community consultation	Not field verified
258	OKB-TAP2_172	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	low	Sacred tree associated with spiritual beliefs	Community consultation	Not field verified
259	OKB-TAP2_173	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway linking neighbouring clan territories	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
260	OKB-TAP2_174	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	medium	Sacred riverbank associated with ceremonial practices	Community consultation	Not field verified
261	OKB-TAP2_175	Pipeline Route 2 Corridor	Settlement	Garden area	low	Garden area used historically for subsistence agriculture	Community consultation	Not field verified
262	OKB-TAP2_176	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial site associated with former settlement	Community consultation	Not field verified
263	OKB-TAP2_177	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	medium	Sacred hill referenced in clan oral traditions	Community consultation	Not field verified
264	OKB-TAP2_178	Pipeline Route 2 Corridor	Settlement	Former settlement	medium	Former settlement area linked to village relocation history	Community consultation	Not field verified
265	OKB-TAP2_179	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting location identified during consultation	Community consultation	Not field verified
266	OKB-TAP2_180	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	low	Sacred landscape feature associated with cultural narratives	Community consultation	Not field verified
267	OKB-TAP2_181	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway connecting neighbouring territories	Community consultation	Not field verified
268	OKB-TAP2_182	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial site associated with historical village occupation	Community consultation	Not field verified
269	OKB-TAP2_183	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	low	Sacred forest associated with masalai presence	Community consultation	Not field verified
270	OKB-TAP2_184	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former settlement site described by elders	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
271	OKB-TAP2_185	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	low	Sacred water source used during traditional practices	Community consultation	Not field verified
272	OKB-TAP2_186	Pipeline Route 2 Corridor	Settlement	Garden area	medium	Traditional gardening area used by clan groups	Community consultation	Not field verified
273	OKB-TAP2_187	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location identified through consultation	Community consultation	Not field verified
274	OKB-TAP2_188	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	medium	Sacred rock formation associated with clan mythology	Community consultation	Not field verified
275	OKB-TAP2_189	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within customary territory	Community consultation	Not field verified
276	OKB-TAP2_190	Pipeline Route 2 Corridor	Settlement	Former village	medium	Former village site associated with clan relocation history	Community consultation	Not field verified
277	OKB-TAP2_191	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	low	Sacred landscape location identified through consultation	Community consultation	Not field verified
278	OKB-TAP2_192	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	medium	Sacred hill associated with ancestral clan narratives	Community consultation	Not field verified
279	OKB-TAP2_193	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial site identified by elders during consultation	Community consultation	Not field verified
280	OKB-TAP2_194	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former settlement site described in oral history	Community consultation	Not field verified
281	OKB-TAP2_195	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	low	Sacred forest associated with ancestral spirit presence	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
282	OKB-TAP2_196	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within clan territory	Community consultation	Not field verified
283	OKB-TAP2_197	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	low	Sacred creek location associated with ritual practices	Community consultation	Not field verified
284	OKB-TAP2_198	Pipeline Route 2 Corridor	Settlement	Garden area	low	Traditional garden area used historically by nearby villagers	Community consultation	Not field verified
285	OKB-TAP2_199	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	medium	Sacred rock formation associated with clan mythology	Community consultation	Not field verified
286	OKB-TAP2_200	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location associated with ancestral clan members	Community consultation	Not field verified
287	OKB-TAP2_201	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former village settlement location identified during consultation	Community consultation	Not field verified
288	OKB-TAP2_202	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	low	Sacred tree associated with spiritual beliefs	Community consultation	Not field verified
289	OKB-TAP2_203	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway linking neighbouring clan lands	Community consultation	Not field verified
290	OKB-TAP2_204	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	low	Sacred riverbank used for ceremonial practices	Community consultation	Not field verified
291	OKB-TAP2_205	Pipeline Route 2 Corridor	Settlement	Garden area	low	Garden area used historically for subsistence agriculture	Community consultation	Not field verified
292	OKB-TAP2_206	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location associated with earlier settlement	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
293	OKB-TAP2_207	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	medium	Sacred hill associated with clan oral traditions	Community consultation	Not field verified
294	OKB-TAP2_208	Pipeline Route 2 Corridor	Settlement	Former settlement	medium	Former settlement area linked to village relocation history	Community consultation	Not field verified
295	OKB-TAP2_209	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting location identified during consultation	Community consultation	Not field verified
296	OKB-TAP2_210	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	Low	Sacred landscape feature associated with cultural narratives	Community consultation	Not field verified
297	OKB-TAP2_211	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway connecting neighbouring territories	Community consultation	Not field verified
298	OKB-TAP2_212	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial area associated with historical village occupation	Community consultation	Not field verified
299	OKB-TAP2_213	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	low	Sacred forest associated with masalai presence	Community consultation	Not field verified
300	OKB-TAP2_214	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former settlement site described by community elders	Community consultation	Not field verified
301	OKB-TAP2_215	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	low	Sacred water source used in traditional practices	Community consultation	Not field verified
302	OKB-TAP2_216	Pipeline Route 2 Corridor	Settlement	Garden area	medium	Traditional gardening area used by clan groups	Community consultation	Not field verified
303	OKB-TAP2_217	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location associated with clan lineage	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
304	OKB-TAP2_218	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	low	Sacred rock formation associated with oral traditions	Community consultation	Not field verified
305	OKB-TAP2_219	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within customary land	Community consultation	Not field verified
306	OKB-TAP2_220	Pipeline Route 2 Corridor	Settlement	Former village	medium	Former village site associated with clan relocation history	Community consultation	Not field verified
307	OKB-TAP2_221	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	low	Sacred landscape location identified through consultation	Community consultation	Not field verified
308	OKB-TAP2_222	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	medium	Sacred hill associated with ancestral clan traditions	Community consultation	Not field verified
309	OKB-TAP2_223	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location identified during consultation with elders	Community consultation	Not field verified
310	OKB-TAP2_224	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former settlement site described through oral history	Community consultation	Not field verified
311	OKB-TAP2_225	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	low	Sacred forest associated with ancestral spirit presence	Community consultation	Not field verified
312	OKB-TAP2_226	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within clan territory	Community consultation	Not field verified
313	OKB-TAP2_227	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	low	Sacred creek location associated with ritual practices	Community consultation	Not field verified
314	OKB-TAP2_228	Pipeline Route 2 Corridor	Settlement	Garden area	low	Traditional gardening area used historically by villagers	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
315	OKB-TAP2_229	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	medium	Sacred rock formation associated with clan mythology	Community consultation	Not field verified
316	OKB-TAP2_230	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial site associated with ancestral clan members	Community consultation	Not field verified
317	OKB-TAP2_231	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former village settlement identified during consultation	Community consultation	Not field verified
318	OKB-TAP2_232	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	low	Sacred tree associated with spiritual beliefs	Community consultation	Not field verified
319	OKB-TAP2_233	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway linking neighbouring clan lands	Community consultation	Not field verified
320	OKB-TAP2_234	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	low	Sacred riverbank associated with ceremonial practices	Community consultation	Not field verified
321	OKB-TAP2_235	Pipeline Route 2 Corridor	Settlement	Garden area	low	Garden area used historically for subsistence agriculture	Community consultation	Not field verified
322	OKB-TAP2_236	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location associated with earlier settlement	Community consultation	Not field verified
323	OKB-TAP2_237	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	medium	Sacred hill referenced in clan oral traditions	Community consultation	Not field verified
324	OKB-TAP2_238	Pipeline Route 2 Corridor	Settlement	Former settlement	medium	Former settlement area linked to village relocation history	Community consultation	Not field verified
325	OKB-TAP2_239	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting location identified during consultation	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
326	OKB-TAP2_240	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	low	Sacred landscape feature associated with cultural narratives	Community consultation	Not field verified
327	OKB-TAP2_241	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway connecting neighbouring territories	Community consultation	Not field verified
328	OKB-TAP2_242	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial site associated with historic village occupation	Community consultation	Not field verified
329	OKB-TAP2_243	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	low	Sacred forest associated with masalai presence	Community consultation	Not field verified
330	OKB-TAP2_244	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former settlement location described by elders	Community consultation	Not field verified
331	OKB-TAP2_245	Pipeline Route 2 Corridor	Oral Traditional	Sacred water source	low	Sacred water source used in traditional practices	Community consultation	Not field verified
332	OKB-TAP2_246	Pipeline Route 2 Corridor	Settlement	Garden area	medium	Traditional gardening area used by clan groups	Community consultation	Not field verified
333	OKB-TAP2_247	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location associated with clan lineage	Community consultation	Not field verified
334	OKB-TAP2_248	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	low	Sacred rock formation associated with oral traditions	Community consultation	Not field verified
335	OKB-TAP2_249	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within customary territory	Community consultation	Not field verified
336	OKB-TAP2_250	Pipeline Route 2 Corridor	Settlement	Former village	medium	Former village site associated with clan relocation history	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
337	OKB-TAP2_251	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	low	Sacred landscape feature identified during consultation	Community consultation	Not field verified
338	OKB-TAP2_252	Pipeline Route 2 Corridor	Oral Traditional	Sacred hill	medium	Sacred hill associated with ancestral clan narratives	Community consultation	Not field verified
339	OKB-TAP2_253	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial site identified during consultation with elders	Community consultation	Not field verified
340	OKB-TAP2_254	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former settlement site described through oral history	Community consultation	Not field verified
341	OKB-TAP2_255	Pipeline Route 2 Corridor	Oral Traditional	Sacred forest	low	Sacred forest area associated with ancestral spirit presence	Community consultation	Not field verified
342	OKB-TAP2_256	Pipeline Route 2 Corridor	Settlement	Hunting ground	low	Traditional hunting ground within clan territory	Community consultation	Not field verified
343	OKB-TAP2_257	Pipeline Route 2 Corridor	Oral Traditional	Sacred creek	low	Sacred creek location associated with ritual practices	Community consultation	Not field verified
344	OKB-TAP2_258	Pipeline Route 2 Corridor	Settlement	Garden area	medium	Traditional gardening area used historically by nearby villagers	Community consultation	Not field verified
345	OKB-TAP2_259	Pipeline Route 2 Corridor	Oral Traditional	Sacred rock	medium	Sacred rock formation associated with clan mythology	Community consultation	Not field verified
346	OKB-TAP2_260	Pipeline Route 2 Corridor	Settlement	Burial site	Medium	Burial location associated with ancestral clan members	Community consultation	Not field verified
347	OKB-TAP2_261	Pipeline Route 2 Corridor	Settlement	Former settlement	low	Former village settlement identified during consultation	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
348	OKB-TAP2_262	Pipeline Route 2 Corridor	Oral Traditional	Sacred tree	low	Sacred tree associated with spiritual beliefs	Community consultation	Not field verified
349	OKB-TAP2_263	Pipeline Route 2 Corridor	Settlement	Traditional pathway	medium	Traditional pathway linking neighbouring clan territories	Community consultation	Not field verified
350	OKB-TAP2_264	Pipeline Route 2 Corridor	Oral Traditional	Sacred riverbank	low	Sacred riverbank associated with ceremonial practices	Community consultation	Not field verified
351	OKB-TAP2_265	Pipeline Route 2 Corridor	Settlement	Garden area	low	Garden area historically used for subsistence agriculture	Community consultation	Not field verified
352	OKB-TAP2_266	Pipeline Route 2 Corridor	Settlement	Burial site	medium	Burial location associated with earlier settlement	Community consultation	Not field verified
353	OKB-TAP2_267	Pipeline Route 2 Corridor	Oral Traditional	Sacred landscape	medium	Sacred landscape feature linked to clan oral traditions	Community consultation	Not field verified
354	OKB-TAP2_268	Pipeline Route 2 Corridor	Settlement	Former village	medium	Former village site associated with clan relocation history	Community consultation	Not field verified

A8. Kungim

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
355	OKB-KUN_001	Kungim	Settlement	Garden area	Medium	Mix garden plots owned by communities.	Community consultation	Not field verified
356	OKB-KUN_002	Kungim	Settlement	Betel nut (Buai) Garden	Medium	Betel nut garden for consumption and for local trade, the palm tree is introduced plant to the area which is recognised as an economical commodity.	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
357	OKB-KUN_003	Kungim	Settlement	Sago Garden	Medium	Sacred sago garden site which the community source to sustain livelihood.	Community consultation	Not field verified
358	OKB-KUN_004	Kungim	Settlement	Eaglewood grove	High	A highly regarded economical tree species, which the local community members recounted that wood is harvested and sold to neighbouring buyers, especially to Indonesia.	Community consultation	Not field verified
359	OKB-KUN_005	Kungim	Oral Traditional site	Burial site	Medium	Ancestral burial site: The elders said that there is an ancestral burials site in the community. The clan's assistance required to lead to site.	Community consultation	Not field verified
360	OKB-KUN_006	Kungim	Settlement	Rubber plots	Medium	Rubber gardens: Introduced cash crop that is widely cultivated by the community, it is said that most members of each clan own a plot.	Community consultation	Not field verified
361	OKB-KUN_007	Kungim	Oral Traditional site	Hunting ground	Low	Hunting ground: There is a certain spot which the Community allude to as hunting zones.	Community consultation	Not field verified
362	OKB-KUN_008	Kungim	Oral Traditions	Ancestry tracks	Low	Ancient foot tracks leading to neighbouring villages.	Community consultation	Not field verified
363	OKB-KUN_009	Kungim	Oral Traditions	Boundary markers	High	There are certain plants and landform features which the clan claim as indicator of traditional land boundaries.	Community consultation	Not field verified
364	OKB-KUN_010	Kungim	Oral Traditions	scared site	Low	A sacred area known for the presence of the invisible being.	Community consultation	Not field verified
365	OKB-KUN_011	Kungim	Oral Traditions	Eel Fishing river site	Medium	A certain special creek which the community normally catch eel fish.	Community consultation	Not field verified
366	OKB-KUN_012	Kungim	Oral Traditions	Sago gardens	Medium	Sacred creek in which rare species of sago plants are cultivated.	Community consultation	Not field verified
367	OKB-KUN_013	Kungim	Settlement	Vanilla gardens	Medium	Introduced cash crop widely cultivated by the community members.	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
368	OKB-KUN_014	Kungim	Settlement	Basa gardens	Medium	Another introduced cash crop cultivated by the community.	Community consultation	Not field verified
369	OKB-KUN_015	Kungim	Settlement	Cocoa gardens	Medium	Another introduced cash crop cultivated by the community.	Community consultation	Not field verified
370	OKB-KUN_016	Kungim	Archaeological	World War 2 historical sites	High	The elders said that during WW2, the Kungim community went to take shelter at that hideout area, this site was described for a rock shelter.	Community consultation	Not field verified
371	OKB-KUN_017	Kungim	Oral Traditions	Raggiana Hunting sites	Medium	There is a certain area in the community which the elders said is known as the singing spot for the Bird of Paradise (<i>Paradisaea raggiana</i>). When the community members need feathers for ceremonial events especially singing, the hunter will go to that spot and shoot only the bird required for the event.	Community consultation	Not field verified
372	OKB-KUN_018	Kungim	Oral Traditions	Sacred sites	Medium	The elders recounted certain special areas which they normally source resources for the ceremonial events. Traditional bilas resources: limbum, sago/ cane toad are harvested from specific sites.	Community consultation	Not field verified

A9. Kungembit

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
373	OKB-KBIT_001	Kungembit	Settlement	Cemetery	High	Bury/Pole erected and roast to keep the skull) to remove a feast is made to remove.	Community consultation	Not field verified
374	OKB-KBIT_002	Kungembit	Oral Traditions	Sacred site	Low	A sacred area known for the presence of the invisible being	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
375	OKB-KBIT_003	Kungembit	Oral Traditions	Hunting zone	Medium	Belief that masalai are in charge and look after animals and give as per ritual consensus	Community consultation	Not field verified
376	OKB-KBIT_004	Kungembit	Oral Traditions	Invisible Beings	Medium	There are certain areas which the Invisible Beings or Masalai are called up to provide security for the clan members.	Community consultation	Not field verified
377	OKB-KBIT_005	Kungembit	Oral Traditions	Raggiana lekking sites	High	There is a certain area in the community which the elders said is known as the singing spot for the Bird of Paradise. When the community members need feathers for ceremonial events, the hunters go to the spot to shoot birds only required for the event.	Community consultation	Not field verified
378	OKB-KBIT_006	Kungembit	Settlement	Garden area	Medium	Recent garden plots with mixed crops.	Community consultation	Not field verified
379	OKB-KBIT_007	Kungembit	Settlement	Settlement location	High	Fore fathers have used and still maintained. They are said to migrate from one area to the other area.	Community consultation	Not field verified

A10. Putmambin

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
380	OKB-PUT_001	Putmambin	Oral Traditions	Burial site	High	The Putmabin community also recounted that there's ancestral burials site in the community. The clan's assistance required to lead to site.	Community consultation	Not field verified
381	OKB-PUT_002	Putmambin	Settlement	Garden area	Medium	Recent garden plots with mixed food crops.	Community consultation	Not field verified
382	OKB-PUT_003	Putmambin	Oral Traditions	Temporary hut/camp site	Low	Temporarily shelter site where small huts are said to be built by community members during hunting for transit to the village.	Community consultation	Not field verified

No.	Site Code	Area	Cultural Heritage Category	Site Type	Local Site Significance	Consultation Description	Source	Verification Status
383	OKB-PUT_004	Putmambin	Settlement	Garden area	Medium	Betelnut garden: Introduced cash crop which are cultivated in the community and used for social events and even sales to generate income.	Community consultation	Not field verified
384	OKB-PUT_005	Putmambin	Settlement	Garden area	Medium	An important dietary supplement for the community-sago harvested from sage palm trees. Each sub-clan has its own historical account of the sago garden in their respective territory. Sago gardens, partly cultivated by villagers and some wild	Community consultation	Not field verified
385	OKB-PUT_006	Putmambin	Settlement	Rubber plots	Medium	Another introduced cash crop which the community have offered large piece of land for its cultivation. On average, each clan seems to offer a hectare of land for the crop like what their other clan members have done especially in Ambaga, Kungim and Putmambin.	Community consultation	Not field verified
386	OKB-PUT_007	Putmambin	Oral Traditions	Hunting grounds	medium	There is a certain spot which the Community allude to as hunting zones.	Community consultation	Not field verified
387	OKB-PUT_008	Putmambin	Oral Traditions	Ancestry tracks	Medium	Ancient foot track leading to neighbouring villages especially Kungim, Kungembit, Ambaga and Birimkamba.	Community consultation	Not field verified
388	OKB-PUT_009	Putmambin	Oral Traditions	Boundary markers	High	There are certain plants and landform features which a clan claim as indicator of traditional land boundaries. Similar land markers were recounted by other neighbouring villages.	Community consultation	Not field verified
389	OKB-PUT_010	Putmambin	Oral Traditions	sacred areas	Medium	A sacred area known for the presence of the invisible being.	Community consultation	Not field verified
390	OKB-PUT_012	Putmambin	Oral Traditions	Eel fishing zones	High	Similar to those in Kungim, certain water course spot along a river which the community normally use often to catch eel fish.	Community consultation	Not field verified
391	OKB-PUT_012	Putmambin	Settlement	Sacred site	Medium	Similar to Kungim recounts, sacred creek in which rare species of sago plants are cultivated for use.	Community consultation	Not field verified

APPENDIX B: FIELDWORK DIARY FOR JULY 19 – AUGUST 16, 2025

OK BIRIM TAILINGS STORAGE FACILITY (TSF) CULTURAL HERITAGE ASSESSMENT

The following field diary provides a chronological record of Cultural Heritage (CH) activities undertaken during the Ok Birim TSF Cultural Heritage Assessment. The diary documents daily field movements, survey activities, consultations with local communities, logistical constraints, and associated outcomes.

The diary forms part of the ESIA documentation and provides transparency on the methodology, field coverage, and consultation undertaken during the assessment.

Day	Date	Location	Activity / Tasks	Personnel	Outcome	Deliverable / Notes
1	19 Jul 2025	Port Moresby – Kiunga	Mobilisation of Cultural Heritage team from Port Moresby to Kiunga to commence Ok Birim TSF Cultural Heritage field program.	RM / CA	Field team successfully mobilised to project area.	Field program initiated
2	20 Jul 2025	Tabubil	Field planning and logistical coordination meeting conducted in Tabubil. Discussion of survey strategy, community engagement approach, and helicopter logistics.	RM / CA	Fieldwork plan confirmed and operational schedule prepared.	Survey planning completed
3	21 Jul 2025	Tabubil	Continuation of operational planning and coordination meetings with project stakeholders to finalise field logistics and community engagement schedule.	RM / CA	Operational readiness confirmed for field deployment.	Survey planning finalised
4	22 Jul 2025	Access Road / Tailings Pipeline Corridor	Reconnaissance survey conducted from Alice Pit back toward the Mine/Mill at Tabubil to familiarise the team with the proposed access road and pipeline corridor.	RM / CA	Initial understanding of landscape context and potential heritage sensitivities obtained.	Reconnaissance completed
5	23 Jul 2025	Ningerum / Bige	Transfer of CH team from Tabubil to field camps in the Ningerum and Bige areas in preparation for community consultation and mapping activities.	RM / CA	Field team established at operational camps.	Field operations commenced
6	24 Jul 2025	Ok Birim TSF Area – Birimkamba / Karandimok	Cultural Heritage Mapping at proposed Ok Birim TSF area including community consultation and participatory mapping with Karandimok community representatives.	RM / CA	Community interviews conducted and culturally significant locations identified and mapped.	Community consultation record
7	25 Jul 2025	Ok Birim TSF Area – Karandimok	Continuation of Cultural Heritage mapping and community interviews with Karandimok community representatives to	RM / CA	Additional cultural sites and oral traditions documented.	Site register updates

Day	Date	Location	Activity / Tasks	Personnel	Outcome	Deliverable / Notes
			identify sacred areas, historical settlement locations, and clan territories.			
8	26 Jul 2025	Ok Birim TSF Area – Kungim	Cultural Heritage mapping and community consultation conducted with Kungim village representatives to identify cultural sites and landscape features of significance.	RM / CA	Kungim community provided oral histories and site information.	Mapping completed
9	27 Jul 2025	Ningerum – Tabubil	Return travel from Ningerum/Bige field camps to Tabubil. Data entry and preliminary consolidation of consultation notes and mapping results.	RM / CA	Field notes and mapping data digitised.	Data management
10	28 Jul 2025	Ok Birim TSF Area – Putmambin	Cultural Heritage mapping and consultation undertaken with Putmambin community representatives to identify areas of cultural and historical significance within the TSF footprint.	RM / CA	Community interview and mapping completed.	Site information recorded
11	29 Jul 2025	Tabubil	Planned helicopter deployment cancelled due to logistical constraints. Time utilised for data analysis and consolidation of community consultation records.	RM / CA	Field data reviewed and organised.	Data analysis completed
12	30 Jul 2025	Ambaga	Cultural Heritage mapping and consultation conducted with Ambaga village representatives regarding sacred locations, settlement history, and culturally significant landscape features.	RM / CA	Community knowledge documented and mapped.	Site documentation updated
13	31 Jul 2025	Kungembit	Community consultation and cultural heritage mapping undertaken with Kungembit village representatives.	RM / CA	Local knowledge recorded regarding culturally important areas.	Mapping completed
14	01 Aug 2025	Kiunga	Consultation meeting held with Buseki community representatives to discuss cultural heritage values associated with the broader project area.	RM / CA	Traditional knowledge recorded regarding ancestral land use.	Consultation record
15	02 Aug 2025	Alice Pit	Cultural Heritage mapping and consultation conducted with Mendua community representatives regarding Alice Pit area.	RM / CA	Community knowledge recorded regarding heritage features and land use history.	Site information recorded
16	03 Aug 2025	Tabubil	Data entry, compilation of interview notes, and preliminary reporting undertaken.	RM / CA	Field information consolidated.	Database updated
17	04 Aug 2025	Komokpin	Cultural Heritage mapping and consultation undertaken with Komokpin community representatives.	RM / CA	Community interviews completed and heritage locations recorded.	Site register updated

Day	Date	Location	Activity / Tasks	Personnel	Outcome	Deliverable / Notes
18	05 Aug 2025	Field Area	Planned archaeological survey cancelled due to helicopter being deployed to emergency operations.	RM / CA	Fieldwork postponed. Data entry undertaken instead.	Operational delay
19	06 Aug 2025	Access Road / TSF Corridor	Systematic archaeological transect survey conducted covering approximately 5 km of the proposed access road and TSF footprint with Birimkamba community members.	RM / CA	Archaeological survey completed with community participation.	Sites documented
20	07 Aug 2025	TSF – Karandimok	Systematic archaeological survey conducted with Karandimok representatives. Survey documented burial locations, bush track and sacred sites. Due to time limitations not all identified sites were visited.	RM / CA	Partial survey coverage achieved.	Sites documented
21	08 Aug 2025	TSF – Komokpin	Systematic archaeological transect survey undertaken with Komokpin community members. All known sites identified by the community were successfully inspected and documented.	RM / CA	Survey completed successfully.	Site register updated
22	09 Aug 2025	TSF – Kungim	Planned archaeological survey with Kungim community members cancelled due to adverse weather conditions preventing helicopter deployment.	RM / CA	Survey postponed.	Weather constraint
23	10 Aug 2025	TSF – Kungembit	Planned archaeological survey with Kungembit community members cancelled due to adverse weather conditions preventing helicopter deployment.	RM / CA	Survey postponed.	Weather constraint
24	11 Aug 2025	TSF – Ambaga	Systematic archaeological survey undertaken within Ambaga area of the proposed TSF footprint.	RM / CA	Archaeological survey completed.	Sites recorded
25	12 Aug 2025	TSF Area	Field survey activities cancelled due to ongoing adverse weather conditions preventing safe helicopter deployment.	RM / CA	Survey postponed.	Weather constraint
26	13 Aug 2025	TSF Area	Adverse weather conditions prevented field operations. Time utilised for data entry, internal meetings, and consolidation of survey results.	RM / CA	Data processing completed.	Data consolidation
27	14 Aug 2025	TSF Area	Continued adverse weather conditions prevented fieldwork. Data management and internal coordination meetings conducted.	RM / CA	Field notes and mapping reviewed.	Data processing

Day	Date	Location	Activity / Tasks	Personnel	Outcome	Deliverable / Notes
28	15 Aug 2025	TSF Area	Continued weather disruption. Data entry and project meetings undertaken.	RM / CA	All field data consolidated.	Survey preparation
29	16 Aug 2025	Kiunga – Port Moresby	Demobilisation of Cultural Heritage team from Kiunga to Port Moresby following completion of fieldwork program.	RM / CA	Field team successfully demobilised.	Field program completed

APPENDIX C: NMAG PERMIT COPIES

 **PNG NATIONAL MUSEUM AND ART GALLERY**
P.O. BOX 5560, BOROKE, PAPUA NEW GUINEA
Telephone: 3252405 Fax: 3251779 Email: nationalmuseum@museumprg.gov.pg Webpage: www.museumprg.gov.pg

PERMIT FOR CULTURAL HERITAGE MAPPING IN PAPUA NEW GUINEA

PERMIT **0101**
☐ Extension

Permission is granted to Robert Timothy Membis

(as required by the National Cultural Property Schedule for 18 May 1987) for consultation and physical cultural heritage mapping of tangible and intangible cultural heritage inclusive of archaeological, traditional, social, historical, natural sites at both marine and terrestrial environments in

OK Brim TSP Project ESIA

Providing you agree to the following conditions:

1. Conduct (a) total documentation of spatial arrangements of cultural properties, and (b) physical cultural heritage landscape mapping only.
2. Provide to NMAG a proposal specifying plans for documentation of intangible and tangible components of indigenous cultural heritage and living components.
3. Applicable only for field site (s) covered in application and only for period specified in this permit document.
4. Permit will only be issued under an individual's name and to persons with cultural heritage management background.
5. Provide resumes of archaeologists and anthropologist and/or competent cultural heritage specialists.
6. Provide material evidence of valid visa and work permit if you are participating in consultancy work.
7. Submit report of your field activities and findings to Curator of Prehistory within one month of completion of your fieldwork.
8. Ensure impartial and independent reporting to NMAG upon discovery of cultural properties including reporting on deliberate and/or accidental damages to known (existing) or undocumented cultural heritage properties.
9. Unrestricted accessibility for inspection and monitoring by officers and/or authorized agents of the NMAG.
10. Subsequent publications, thesis, reports and/or a representative selection of black/white photographs and slides taken should be sent as and when they become available. A copy of any unpublished formal lectures and seminars on your fieldwork and field findings should also be sent.
11. The cultural heritage mapping permit shall not be used to conduct archaeological surveys and/or excavations, neither should be used to collect, move, relocate and modify, deface any cultural properties and/or content of a site.
12. Person (s) who breach conditions of a permit and/or who have been blacklisted will not be issued permit.
13. NMAG reserves the right to refuse, cancel or withdraw the permit at any time if the terms and conditions of the permit are abused, or changed at any time.

Validity period of Permit: 18 July - 18 September 2025

Permission is granted by Kenneth Mianba

I accept the above conditions

Chief Curator Prehistory

18 July 2025

Address: C/ EBC Health Inc
P.O. Box 823 Goroka
Eastern Highlands Province

Date: _____

 **PNG NATIONAL MUSEUM AND ART GALLERY**
P.O. BOX 5560, BOROKE, PAPUA NEW GUINEA
Telephone: 3252405 Fax: 3251779 Email: nationalmuseum@museumprg.gov.pg Webpage: www.museumprg.gov.pg

PERMIT FOR ARCHAEOLOGICAL SURVEY IN PAPUA NEW GUINEA

PERMIT **0110**
☐ Extension

Permission is granted to Robert Timothy Membis

(as required by the National Cultural Property Schedule for 18 May 1987) for survey only to document cultural heritage inclusive of archaeological, traditional, historical, natural sites both marine and terrestrial environments in

OK Tech Brim TSP Project ESIA

Providing you agree to the following conditions:

1. Permit applicable only for archaeological survey for field site (s) covered in application and only for period specified in this permit document.
2. Undertake not to excavate a site and/or collect, move, relocate and modify, deface any cultural properties and/or content of a site.
3. Provide to NMAG a proposal specifying plans (including names of participating researchers) for documentation of archaeological surveys of intangible and tangible cultural heritage.
4. Permit is issued under an individual's name and restricted to persons with background in archaeology and/or cultural heritage management. No open permit to be issued to persons (including corporate persons) with no background in archaeology or cultural heritage management.
5. Provide to the Curator of Prehistory resume of principle and lead investigators/researchers.
6. Provide material evidence of valid visa and work permit if you are participating in consultancy work.
7. Return to the Curator of Prehistory all completed cultural heritage site recording forms which may include map, sketches, photos and reports.
8. A report of your field activities and findings should be submitted to Curator of Prehistory within one month of completion of your fieldwork.
9. Subsequent publications, thesis, reports and/or a representative selection of black/white photographs and slides taken should be sent as and when they become available. A copy of any unpublished formal lectures and seminars on your fieldwork and field findings should also be sent.
10. Ensure impartial and independent reporting to NMAG upon discovery of cultural properties including the reporting of deliberate and/or accidental damages to known (existing) or undocumented cultural heritage properties.
11. Unrestricted accessibility for inspection and monitoring by officers and/or agents of the NMAG.
12. Person (s) who breach conditions of a permit and/or who have been blacklisted will not be issued permit.
13. NMAG reserves the right to refuse, cancel or withdraw the permit at any time if the terms and conditions of the permit are abused or changed at any time.

Validity period of Permit: 18 July - 18 September 2025

Permission is granted by Chief Curator Prehistory

Kenneth Mianba

I accept the above conditions

18 July 2025

Address: C/ EBC Health Inc
P.O. Box 823 Goroka
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Date: _____