Application form: Works Approval / Licence / Renewal / Amendment / Registration

Part V Division 3, *Environmental Protection Act 1986*
Environmental Protection Regulations 1987

Part 1: Application type

INSTRUCTIONS:

- **Completion of this form is a statutory requirement under s.54(1)(a) of the *Environmental Protection Act 1986* (WA) (EP Act) for works approval applications; s.57(1)(a) for licence and licence renewal applications; s.59B(1)(a) for applications for an amendment; and under r.5B(2)(a) of the Environmental Protection Regulations 1987 (WA) (EP Regulations) for applications for registration of premises.**
- **The instructions set out in this application form are general in nature.**
- **A reference to 'you' in these instructions is a reference to the applicant.**
- **The information provided to you by the Department of Water and Environmental Regulation (DWER) in relation to making applications does not constitute legal advice. DWER recommends that you obtain independent legal advice.**
- **Applicants seeking further information relating to requirements under the EP Act and/or EP Regulations are directed to the Parliamentary Counsel's Office website (www.legislation.wa.gov.au). Schedule 1 of the EP Regulations contains the categories of prescribed premises.**
- **For prescribed premises where activities fall within more than one category, ALL applicable categories must be identified. This applies for existing prescribed premises seeking renewal or amendment, as well as new prescribed premises.**
- **The application form must be completed with all relevant information attached. Attachments can be combined and submitted as one or more consolidated documents if desired, provided it is clear which section of the application form the information / attachments relate to. Where attachments are submitted separately, avoid duplicating information. Ensure that any cross-references between the application form and the supporting document(s) are accurate.**
- **If an application form has been submitted which is incomplete or materially incorrect, the Chief Executive Officer of DWER (CEO) will decline to deal with the application and advise the applicant accordingly.**
- **On completing this application form, please submit it to DWER in line with the instructions in Part 15 of the form.**

1.1	**This is an application for:** *[Select one option only. Your application may be returned if multiple options are selected.]* under Part V, Division 3 of the EP Act. Please see the: • *Guideline: Industry Regulation Guide to Licensing* • *Procedure: Prescribed premises works approvals and licences* for more information to assist in understanding DWER's regulatory regime for prescribed premises.	☐ Works approval ☐ Licence Existing registration number(s): [ ] Existing works approval number(s): [ ] ☐ Renewal Existing licence number: [ ] ☒ Amendment Number of the existing licence or works approval to be amended: [L9362/2022/1] ☐ Registration (works approval already obtained) Existing works approval number(s): [ ]
1.2	**For a works approval amendment or licence amendment, are there less than 90 business days until the expiry of the existing works approval or licence?** Only active instruments can be amended. Applications to amend a works approval or licence must be made 90 business days or more prior to the existing works approval or licence expiring to ensure there is adequate time to assess the amendment.	**Yes** ☐
1.3	**This application is for the following categories of prescribed premises:** *(specify all prescribed premises category numbers)*	Category 5: Processing of beneficiation of metallic or non-metallic ore Category 7: Vat or in situ leaching of material ☒ All activities that meet the definition of a prescribed premises as set out in Schedule 1 of the EP Regulations have been specified above (tick, if yes).

Completion Matrix
The matrix below explains what sections are required to be completed for different types of applications.

Application form section	New application / registration	Renewal	Amendment
Part 1: Application type	●	●	●
Part 2: Applicant details	●	●	●
Part 3: Premises details	●	●	Δ
Part 4: Proposed activities	●	●	●
Part 5: Index of Biodiversity Surveys for Assessment and Index of Marine Surveys for Assessment	If required.	If required.	If required.
Part 6: Other DWER approvals	●	●	●
Part 7: Other approvals and consultation	●	●	●
Part 8: Applicant history	●	●	Δ
Part 9: Emissions, discharges, and waste	●	●	Δ
Part 10: Siting and location	●	●	Δ
Part 11: Submission of any other relevant information	●	●	If required.
Part 12: Category checklist(s)	●	●	●
Part 13: Proposed fee calculation	●	●	●
Part 14: Commercially sensitive or confidential information	●	●	●
Part 15: Submission of application	●	●	●
Part 16: Declaration and signature	●	●	●
Attachment 1A: Proof of occupier status	●	●	N/A
Attachment 1B: ASIC company extract	●	●	N/A
Attachment 1C: Authorisation to act as a representative of the occupier	●	●	●
Attachment 2: Premises map/s	●	●	Δ
Attachment 3A: Environmental commissioning plan	If required.	N/A	If required
Attachment 3B: Proposed activities	●	●	Δ
Attachment 3C: Map of area proposed to be cleared (only applicable if clearing is proposed)	●	●	●
Attachment 3D: Additional information for clearing assessment	If required.	If required.	If required.
Attachment 4: Marine surveys (only applicable if marine surveys included in application)	●	●	●
Attachment 5: Other approvals and consultation documentation	●	●	Δ
Attachment 6A: Emissions and discharges	If required.	If required.	If required.
Attachment 6B: Waste acceptance	If required.	If required.	If required.
Attachment 7: Siting and location	●	●	Δ
Attachment 8: Additional information submitted	If required.	If required.	If required.
Attachment 9: Category-specific checklist(s)	●	If required.	If required.
Attachment 10: Proposed fee calculation	●	●	●
Attachment 11: Request for exemption from publication	If required.	If required.	If required.

Key:

●	**Must be completed / submitted.**
Δ	**To the extent changed / required in relation to the amendment.**
N/A	**Not required with application, but may be requested subsequently depending on DWER records.**
"If required"	**Sections for applicants to determine.**

Part 2: Applicant details

INSTRUCTIONS:

- **The applicant (the occupier of the premises) must be an individual(s), a company, body corporate, or public authority, but not a partnership, trust, or joint-venture name. Applications made by or on behalf of business names or unincorporated associations will not be accepted.**
- **If applying as an individual, your full legal name must be provided.**
- **If applying as a company, body corporate, or public authority, the full legal entity name must be inserted.**
- **Australian Company Number's (ACN) must be provided for all companies or body corporates.**
- **DWER prefers to send all correspondence electronically via email. We request that you consent to receiving all correspondence relating to instruments and notices under Part V of the EP Act (Part V documents) electronically via email, by indicating your consent in Section 2.3.**
- **Companies or body corporates making an application must nominate an authorised representative from within their organisation. Proof of authorisation must be submitted with the application (see Section 2.10). If you are applying as an individual, you are the representative.**
- **Details of a contact person must be provided for DWER enquiries in relation to your application. This contact person can be a consultant if authorised to represent the applicant. Written evidence of this authorisation must be provided.**
- **Details of the occupier of the premises must be provided. One of the options must be selected and if you have been asked to specify, please provide details. For example, if 'lease holder' has been selected, please specify the type of lease (for example, pastoral lease, mining lease, or general lease) and provide a copy of the lease document(s). Note that contracts for sale of land will not be sufficient evidence of occupancy status.**

2.1	**Applicant name/s (full legal name/s):** The proposed holder of the works approval, licence or registration.	Norton Gold Fields Pty Limited
	ACN (if applicable):	112 287 797
2.2	**Trading as (if applicable):**	
2.3	**Authorised representative details:** The person authorised to receive correspondence and Part V documents on behalf of the applicant under the EP Act. Where 'yes' is selected, all correspondence will be sent to you via email, to the email address provided in this section. Where 'no' has been selected, Part V documents will be posted to you in hard copy to the postal / business address specified in Section 2.4, below. Other general correspondence may still be sent to you via email.	[redacted]
	I consent to all written correspondence between myself (the applicant) and DWER, regarding the subject of this application, being exclusively via email, using the email address I have provided above.	**Yes** ☒ **No** ☐
2.4	**Registered office address, as registered with the Australian Securities and Investments Commission (ASIC):** This must be a physical address to which a Part V document may be delivered.	'Viskovich House', Level 1, 377 Hannan St, Kalgoorlie WA 6430
2.5	**Postal address for all other correspondence:** If different from Section 2.4.	PO Box 1653 Kalgoorlie WA 6430

Part 2: Applicant details			
2.6	**Contact person details for DWER enquiries relating to the application (if different from the authorised representative):** For example, could be a consultant or a site-based employee.	[redacted]	
2.7	**Occupier status:** Occupier is defined in s.3 of the EP Act and includes a person in occupation or control of the premises, or occupying a different part of the premises whether or not that person is the owner. Note: if a lease holder, the applicant must be the holder of an executed lease, not just an agreement to lease.	Registered proprietor on certificate of title.	☐
		Lease holder (please specify, including date of expiry of lease). M26/115 – exp. 16/03/2029 M26/243 – exp. 11/06/2032 M26/387 – exp. 10/12/2034 M26/420 – exp. 16/09/2035 M26/430 – exp. 24/10/2035 M26/445 – exp. 19/01/2037 M26/446 – exp. 29/11/2036 M26/447 – exp. 24/01/2037 M26/474 – exp. 03/11/2039 M26/629 – exp. 19/11/2042 M26/833 – exp. 27/01/2036	☒
		Public authority that has care, control, or management of the land.	☐
		Other evidence of legal occupation or control (please specify – for example, joint venture operating entity, contract, letter of operational control, or other legal document or evidence of legal occupation).	☐

Attachments			N/A	Yes
2.8	**Attachment 1A: Proof of occupier status**	Copies of certificate of title, lease, or other instruments evidencing proof of occupier status, including the expiry date or confirmation that there is no expiry date, have been provided and labelled as Attachment 1A.	☐	☒
2.9	**Attachment 1B: ASIC company extract**	A current company information extract (not the company information summary) purchased from the ASIC website(s) for all new applications / registrations has been provided and labelled as Attachment 1B.	☐	☒
2.10	**Attachment 1C: Authorisation to act as representative of the occupier**	A copy of the documentation authorising the applicant to act on the occupier's behalf as their authorised agent/representative has been provided and labelled as Attachment 1C.	☒	☐

Part 3: Premises details				
3.1	**Premises description (whole or part to be specified):** Include the land description (volume and folio number, lot, or location number/s); Crown lease or reserve number; pastoral lease number; or mining tenement number (as appropriate), of all properties, as shown on title details registered with Landgate.		No change	
	Premises street address Include the suburb.			
	Premises name (if applicable):			
3.2	**Local Government Authority area:** City, Town, or Shire.		No change	
3.3	**GPS (latitude and longitude) coordinates:** GPS coordinates determined using the GDA 2020 (Geographic latitude / longitude) coordinate system and datum must be provided for all points around the proposed premises boundary, where the entirety of the cadastre (land parcel) or mining tenements are not used as the premises boundary.		No change	
Attachments			**N/A**	**Yes**
3.4	**Attachment 2: Premises map(s)**	You must provide as an attachment to this application form, labelled Attachment 2, either: 1. an aerial photograph, map, and site plan of sufficient scale showing the proposed prescribed premises boundary *or* 2. where available, a map of the proposed premises boundary and site plan as an ESRI shapefile (accepted file types include .dbf, .shp, .prj, and .shx) with the following properties (provided on a suitable portable digital storage device, if submitting application in hard copy form): • Geometry type: Polygon Shape • Coordinate system: GDA 2020 (Geographic latitude / longitude) • Datum: GDA 2020 (Geocentric Datum of Australia 2020). You must also provide a map or maps of the prescribed premises, clearly identifying and labelling: • layout of key infrastructure and buildings, clearly labelled; • the premises boundary (where the premises boundary does not align with the entirety of the cadastral boundary, identify the Lot Number for which the premises is part of); • emission and discharge points (with precise GPS coordinates where available); • monitoring points (with precise GPS coordinates where available); • sensitive receptors and land uses • all areas proposed to be cleared (if applicable). Maps must contain a north arrow, clearly marking the area in which the activities are carried out. The map or maps must be of reasonable clarity and have a visible scale.		☐	☒

Part 4: Proposed activities

INSTRUCTIONS:

- **You must provide a description and the scope, size and scale of all prescribed activities of Schedule 1 to the EP Regulations including the maximum production or design capacity of each prescribed activity.**
- **If applying for a works approval or licence amendment involving the construction of new infrastructure, you must provide information on infrastructure to be constructed and how long construction is expected to take. You must confirm if commissioning is to occur and how long it will take.**
- **If applying for a works approval or licence amendment *not* involving the construction of new infrastructure, provide details of the proposed amendment.**
- **You must identify all emission sources on the premises map/s.**
- **You must also provide information on activities which directly relate to the prescribed premises category which have, or are likely to result in, an emission or discharge.**
- **If clearing activities are proposed provide a description and details. If a relevant exemption under Schedule 6 of the EP Act or r.5 of the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA) (Clearing Regulations) may apply, provide details.**
- **Note that in some cases, DWER may require that the clearing components of a works approval or licence (or amendment) application be submitted separately through the clearing permit application process. Refer to the *Procedure: Prescribed premises works approvals and licences* for further guidance.**
- **Please note that the requested information is critical to DWER's understanding of the proposed activities. The more accurate, specific, and complete the information provided in the application, the less uncertainty that DWER may identify in the application, therefore facilitating completion of the assessment in a more efficient and timely manner.**

4.1 Prescribed premises infrastructure and equipment

In Table 4.1 (below), provide a list of all items of infrastructure and equipment within the boundary of the prescribed premises relevant to this application, and include the following details for each:

- **relevant categories (if known) –** the categories of prescribed premises (as listed under Schedule 1 of the EP Regulations) that relate to that infrastructure or equipment;
- **site plan reference –** the location of that infrastructure or equipment (with reference to the site plan map or maps provided above in Section 3.4 and labelled as Attachment 2 – e.g. use GPS coordinates or a clear description such as *"labelled as [label on premises map] on Map A"*);
- **is it critical containment infrastructure (CCI)? –** indicate if the identified infrastructure or equipment would be categorised as CCI. Refer to the *Guideline: Industry Regulation Guide to Licensing* for further information on CCI; and
- **is environmental commissioning required? –** indicate if environmental commissioning is intended to be undertaken for that item of infrastructure or equipment. Refer to the *Guideline: Industry Regulation Guide to Licensing* for further information on environmental commissioning.

Add additional rows to Table 4.1 (below) as required.

Table 4.1: Infrastructure and equipment

	Infrastructure and equipment	Relevant categories (if known)	Site plan reference	CCI? (mark if yes)	Environmental commissioning? (mark if yes)
1.	Mobile crushing and screening plant	Category 5	'Amended – Mob. Crusher': Figure 2 and Figure 3 of Supporting Doc.	☐	☐
2.	Heap Leach	Category 7	'Cat 7 – Heap Leach Stage 2 – Amended': Figure 2 and Figure 5 of Supporting Doc.	☐	☐
3.				☐	☐
4.				☐	☐
5.				☐	☐
6.				☐	☐
7.				☐	☐
8.				☐	☐
9.				☐	☐
10.				☐	☐

Part 4: Proposed activities		
4.2	**Detailed description of proposed activities or proposed changes (if an amendment):** You must provide details of proposed activities relevant to this application within the boundary of the prescribed premises, identifying: • scope, size, and scale of the project, including details as to production or design capacity (and/or frequency, if applicable); • key infrastructure and equipment; • description of processes or operations (a process flow chart may be included as an attachment); • emission / discharge points; • locations of waste storage or disposal • activities occurring during construction, environmental commissioning, and operation (if applicable). If assessment and imposition of conditions to allow environmental commissioning to be undertaken are requested, please provide an environmental commissioning plan as Attachment 3A (see 4.11 below). Additional information relating to the proposed activities may be included in Attachment 3B (see 4.12 below).	
	Construction activities (if applicable):	
	Not applicable	
	Environmental commissioning activities (if applicable): Refer to the *Guideline: Industry Regulation Guide to Licensing* for further guidance.	
	Not applicable	
	Time limited operations activities (if applicable): Different elements of the premises may require time limited operations to commence at different times. In these circumstances, please specify the infrastructure and/or equipment for which time limited operations authorisation is being applied for. If time limited operations are expected to differ from future licensed operations, specify how and why this would be the case. Refer to the *Guideline: Industry Regulation Guide to Licensing* for further guidance.	
	Not applicable	
	Operations activities (for a licence):	
	Norton seeks to add mobile crushing plant under Category 5, and to increase Category 5 production limit from 5 MTPA to 7 MTPA. Category 7 Heap Leach production limit proposed to increase from 5 MTPA to 8 MTPA. Norton seeks to add Stage 2 of the Heap Leach to Licence 9362/2022/1. Supporting information detailed in Attachment 3B.	
4.3	**Estimated operating period of the project / premises (e.g. based on estimated infrastructure life):**	9 years
4.4	**Proposed date(s) for commencement of works (if applicable):**	1 August 2025
4.5	**Proposed date(s) for conclusion of works construction (if applicable):** This date should coincide with the submission to DWER of an Environmental Compliance Report(s) and/or a Critical Containment Infrastructure Report(s) as required. Refer to the *Guideline: Industry Regulation Guide to Licensing*.	Not applicable
4.6	**Proposed date(s) for environmental commissioning of works (if applicable):** Refer to the *Guideline: Industry Regulation Guide to Licensing*.	Not applicable
4.7	**Proposed date/s for commencement of time limited operations under works approval (if applicable):** Refer to the *Guideline: Industry Regulation Guide to Licensing*.	Not applicable
4.8	**Maximum production or design capacity for each category applied for (based on infrastructure operating 24 hours a day, 7 days a week):** Provide figures for all categories listed in Section 1.2. Units of measurement must be the same as the units of measurement associated with the relevant category as identified in Schedule 1 of the EP Regulations.	Category 5: 7 MTPA Category 7: 8 MTPA

Part 4: Proposed activities				
4.9	**Estimated / actual throughput for each category applied for:** Provide figures for all categories listed in Section 1.2. Units of measurement must be the same as the units of measurement associated with the relevant category as identified in Schedule 1 of the EP Regulations.	Category 5: 7 MTPA Category 7: 8 MTPA		
Attachments			**N/A**	**Yes**
4.10	**Attachment 2: Premises map**	Emission/discharge points are clearly labelled on the map/s required for Part 3.4 (Attachment 2).	☒	☐
4.11	**Attachment 3A: Environmental commissioning plan**	If applying to construct works or install equipment, and environmental commissioning of the works or equipment is planned, an environmental commissioning plan has been included in Attachment 3A. The environmental commissioning plan is expected to include, at minimum, identification of: • the sequence of commissioning activities to be undertaken, including details on whether they will be done in stages; • a summary of the timeframes associated with the identified sequence of commissioning activities; • the inputs and outputs that will be used in the commissioning process; • the emissions and/or discharges expected to occur during commissioning; • the emissions and/or discharges that will be monitored and/or confirmed to establish or test a steady-state operation (e.g. identifying emissions surrogates, etc.), including a detailed emissions monitoring program for the measurement of those emissions and/or discharges; • the controls (including management actions) that will be put in place to address the expected emissions and/or discharges; • any contingency plans for if emissions exceedances or unplanned emissions and/or discharges occur • how any of the above would differ from standard operations once commissioning is complete. Note that DWER will not include conditions on a granted instrument that authorise environmental commissioning activities where it is not satisfied that the risks associated with environmental commissioning can be adequately addressed.	☒	☐
4.12	**Attachment 3B: Proposed activities**	Additional information relating to the proposed activities has been included in Attachment 3B (if required).	☐	☒
Clearing activities 4.13 to 4.19 are only required if the application includes clearing of native vegetation.				
4.13	**Proposed clearing area (hectares and/or number of individual trees to be removed):**	0		
4.14	**Details of any relevant exemptions:** Refer to DWER's *A guide to the exemptions and regulations for clearing native vegetation*.	-		
4.15	**Proposed method of clearing:**	-		
4.16	**Period within which clearing is proposed to be undertaken:** For example, May 2020 – June 2020.	-		
4.17	**Purpose of clearing:**			
	-			
Clearing activities – Attachments			**N/A**	**Yes**

Part 4: Proposed activities				
4.18	**Attachment 3C: Map of area proposed to be cleared**	You must provide: an aerial photograph or map of sufficient scale showing the proposed clearing area and prescribed premises boundary *OR* if you have the facilities, a suitable portable digital storage device of the area proposed to be cleared as an ESRI shapefile with the following properties: • Geometry type: Polygon Shape • Coordinate system: GDA 2020 (Geographic latitude / longitude) • Datum: 2020 1994 (Geocentric Datum of Australia 2020).	☒	☐
4.19	**Attachment 3D: Additional information for clearing assessment**	Additional information to assist in the assessment of the clearing proposal may be attached to this application (for example, reports on salinity, fauna or flora studies or other environmental reports conducted for the site).	☒	☐

Part 5: Index of Biodiversity and Marine Surveys for Assessments (IBSA and IMSA)

INSTRUCTIONS:

- **Biodiversity surveys should be submitted through the IBSA Submissions Portal at ibsasubmissions.dwer.wa.gov.au**
- **Biodiversity surveys submitted to support this application must meet the requirements of the EPA's *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)*.**
- **Marine surveys submitted to support this application must meet the requirements of the EPA's Instructions for the preparation of data packages for the Index of Marine Surveys for Assessments (IMSA).**
- **If these requirements are not met, DWER will decline to deal with the application.**

Attachments				N/A	Yes
5.1	**Biodiversity surveys** Please provide the IBSA number(s) (or submission number(s) if IBSA number has not yet been issued) in the space provided. Note that a submission number is not confirmation of acceptance of a biodiversity survey and is not the same as an IBSA number. IBSA numbers are only issued once a survey has been accepted. Once an IBSA number is issued, please notify the department.	All biodiversity surveys submitted with this application meet the requirements of the EPA's *Instructions for the preparation of data packages for the Index of Biodiversity Surveys for Assessments (IBSA)*.		☒	☐
		Submission number(s)	-		
		IBSA number(s)	-		
5.2	**Attachment 4:** **Marine surveys**	All marine surveys submitted with this application meet the requirements of the EPA's *Instructions for the preparation of data packages for the Index of Marine Surveys for Assessments (IMSA)*.		☒	☐

Part 6: Other DWER approvals

INSTRUCTIONS:

- **If you have applied, or intend to apply, for other approvals within DWER that may be relevant to this application, you must provide relevant details.**
- **If you have referred, or intend to refer, your proposal to the Environmental Protection Authority (EPA), you must provide the requested details.**

Pre-application scoping

6.1	**Have you had any pre-application / pre-referral / scoping meetings with DWER regarding any planned applications?**	☒ No ☐ Yes – provide details:

Environmental impact assessment (Part IV of the EP Act)

6.2	**Have you referred or do you intend to refer the proposal to the EPA?** Section 37B(1) of the EP Act defines a 'significant proposal' as *"a proposal likely, if implemented, to have a significant effect on the environment"*. If DWER considers that the proposal in this application is likely to constitute a 'significant proposal', DWER is required under s.38(5) of the EP Act to refer the proposal to the EPA for assessment under Part IV, if such a referral has not already been made. If a relevant Ministerial Statement already exists, please provide the MS number in the space provided.	☐ Yes (referred) – reference (if known): [ ] ☐ Yes – intend to refer (proposal is a 'significant proposal')☐ Yes – intend to refer (proposal will require a s.45C amendment to the current Ministerial Statement): MS [ ] ☐ No – a valid Ministerial Statement applies: MS [ ] ☒ No – not a 'significant proposal'

Clearing of native vegetation (Part V Division 2 of the EP Act and *Country Area Water Supply Act 1947*)

6.3	**Have you applied or do you intend to apply for a native vegetation clearing permit?** In accordance with the *Guideline: Industry Regulation Guide to Licensing* and *Procedure: Native vegetation clearing permits*, where clearing of native vegetation: • is exempt under Schedule 6 of the EP Act or the Environmental Protection (Clearing of Native Vegetation) Regulations 2004 (WA) (refer to *A guide to the exemptions and regulations for clearing native vegetation*) • is being assessed by a relevant authority which would lead to an exemption under Schedule 6 of the EP Act, or • has been referred under s.51DA of the EP Act and a determination made that a clearing permit is not required (refer to the *Guideline: Native vegetation clearing referrals*), the clearing will not be reassessed by DWER or be subject to any additional controls by DWER. If the proposed clearing action is to be assessed in accordance with, or under, an *Environment Protection and Biodiversity Conservation Act* (Cth) (EPBC Act) accredited process, such as the assessment bilateral agreement, the clearing permit application *Form Annex C7 – Assessment bilateral agreement* must be completed and attached to your clearing permit application.	☐ Yes – clearing application reference (if known): CPS [ ] ☐ Yes – a valid EP Act clearing permit already applies: CPS [ ] ☐ No – this application includes clearing (please complete Sections 4.13 to 4.19 above) ☒ No – permit not required (no clearing of native vegetation) ☐ No – permit not required (clearing referral decision): CPS [ ] ☐ No – an exemption applies (explain why):

Part 6: Other DWER approvals

6.4	**Have you applied or do you intend to apply for a *Country Area Water Supply Act 1947* licence?** If a clearing exemption applies in a *Country Area Water Supply Act 1947* (CAWS Act) controlled catchment, or if compensation has previously been paid to retain the subject vegetation, a CAWS Act clearing licence is required. If yes, contact the relevant DWER regional office for a Form 1 *Application for licence*. Map of CAWS Act controlled catchments	☐ Yes – application reference (if known): [ ] ☐ No – a valid licence applies: [ ] ☒ No – licence not required
Water licences and permits (*Rights in Water and Irrigation Act 1914*)		
6.5	**Have you applied, or do you intend to apply for:** **1. a licence or amendment to a licence to take water (surface water or groundwater); or** **2. a licence to construct wells (including bores and soaks); or** **3. a permit or amendment to a permit to interfere with the bed and banks of a watercourse?** For further guidance on water licences and permits under the *Rights in Water and Irrigation Act 1914*, refer to the *Procedure: Water licences and permits*.	☐ Yes –application reference (if known): [ ] ☒ No – a valid licence / permit applies: [GWL167686] ☐ No – an exemption applies (explain why): ☐ No – licence / permit not required

Part 7: Other approvals and consultation

INSTRUCTIONS:

- **Please provide copies of all relevant documentation indicated below, including any conditions, exclusions, or expiry dates.**
- **"Major Project" means:**
  - **A State Development Project, where the lead agency is the Department of Jobs, Tourism, Science and Innovation (including projects to which a State Agreement applies); or**
  - **A Level 2 or 3 proposal, as defined in the Department of Premier and Cabinet's *Lead Agency Framework*.**

		N/A	No	Yes
7.1	**Is the proposal a Major Project?**		☒	☐
7.2	**Is the proposal subject to a State Agreement Act?**		☒	☐
	If yes, specify which Act:			
7.3	**Has the proposal been allocated to a "Lead Agency" (as defined in the *Lead Agency Framework*)?**		☒	☐
	If yes, specify Lead Agency contact details:			
7.4	**Has the proposal been referred and/or assessed under the EPBC Act (Commonwealth)?**	☐	☒	☐
	If yes, please specify referral, assessment and/or approval number:			
7.5	**Has the proposal obtained all relevant planning approvals?**	☒	☐	☐
	If planning approval is necessary but has not been obtained, please provide details indicating why:			
	If planning approval is not necessary, please provide details indicating why:			

Part 7: Other approvals and consultation				
7.6	**For renewals or amendment applications, are the relevant planning approvals still valid (that is, not expired)?**	☒	☐	☐
7.7	**Has the proposal obtained all other necessary statutory approvals (not including any other DWER approvals identified in Part 6 of this application)?**	☐	☒	☐
	If no, please provide details of approvals already obtained, outstanding approvals, and expected dates for obtaining these outstanding approvals:			
	Binduli North Mining Proposal Version 7 will be submitted to DEMIRS, proposing the function of additional crushing plant and the increase in production for the Heap Leach facility.			
		N/A	**No**	**Yes**
7.8	**Has consultation been undertaken with parties considered to have a direct interest in the proposal (that is, interested parties or persons who are considered to be directly affected by the proposal)?** DWER will give consideration to submissions from interested parties or persons in accordance with the *Guideline: Industry Regulation Guide to Licensing*.	☒	☐	☐
Attachments			**N/A**	**Yes**
7.9	**Attachment 5: Other approvals and consultation documentation** — Details of other approvals specified in Part 7 of this application, including copies of relevant decisions and any consultation undertaken with direct interest stakeholders have been provided and labelled Attachment 5.		☒	☐

Part 8: Applicant history				
Note: • **DWER will undertake an internal due diligence of the applicant's fitness and competency based on DWER's compliance records and the responses to Part 8 of the form.** • **If you wish to provide additional information for DWER to consider in making this assessment, you may provide that information as a separate attachment (see Part 11).**				
		N/A	**No**	**Yes**
8.1	If the applicant is an individual, has the applicant previously held, or do they currently hold, a licence or works approval under Part V of the EP Act?	☒	☐	☐
8.2	If the applicant is a corporation, has any director of that corporation previously held, or do they currently hold, a licence or works approval under Part V of the EP Act?	☐	☐	☒
8.3	If yes to 8.1 or 8.2 above, specify the name of company and/or licence or works approval number:			
	Licences and Works Approval associated with Binduli operation (Attachment 5) include: • L9362/2022/1 • W6504/2021/1 • W6730/2022/1 • W2873/2025/1 Norton Gold Field holds several additional licences and works approvals applicable to other operations.			
8.4	If the applicant is an individual, has the applicant ever been convicted, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☒	☐	☐
8.5	If the applicant is a corporation, has any director of that corporation ever been convicted, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐

Part 8: Applicant history				
8.6	If the applicant is a corporation, has any person concerned in the management of the corporation, as referred to in s.118 of the EP Act, ever been convicted of, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.7	If the applicant is a corporation, has any director of that corporation ever been a director of another corporation that has been convicted, or paid a penalty, for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.8	With regards to the questions posed in 8.4 to 8.7 above, have any legal proceedings been commenced, whether convicted or not, against the applicant for an offence under a provision of the EP Act, its subsidiary legislation, or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.9	Has the applicant had a licence or other authority suspended or revoked due to a breach of conditions or an offence under the EP Act or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.10	If the applicant is a corporation, has any director of that corporation ever had a licence or other authority suspended or revoked due to a breach of conditions or an offence under the EP Act or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.11	If the applicant is a corporation, has any director of that corporation ever been a director of another corporation that has ever had a licence or other authorisation suspended or revoked due to a breach of conditions or an offence under the EP Act or similar environmental protection or health-related legislation in Western Australia or elsewhere in Australia?	☐	☒	☐
8.12	If yes to any of 8.4 to 8.11 above, you must provide details of any charges, convictions, penalties paid for an offence, and/or licences or other authorisations suspended or revoked:			

Part 9: Emissions, discharges, and waste			
INSTRUCTIONS: • **Please see *Guideline: Risk Assessments* and provide all information relating to emission sources, pathways and receptors relevant to the application.** • **You must provide details on sources of emissions (for example, kiln stack, baghouses or discharge pipelines) including fugitive emissions (for example, noise, dust or odour), types of emissions (physical, chemical, or biological), and volumes, concentrations and durations of emissions.** • **The potential for emissions should be considered for all stages of the proposal (where relevant), including during construction, commissioning and operation of the premises.**			
		No	**Yes**
9.1	**Are there potential emissions or discharges arising from the proposed activities?**	☐	☒
	If yes, identify all potential emissions and discharges arising from the proposed activities and complete Table 9.1: Emissions and discharges (below).		

Part 9: Emissions, discharges, and waste

☐ Gaseous and particulate emissions (e.g. emissions from stacks, chimneys or baghouses)

☒ Dust (e.g. from equipment, unsealed roads and/or stockpiles, etc.)

☐ Wastewater discharges (e.g. treated sewage, wash water, or process water discharged to lands or waters)

☐ Waste and leachate (e.g. emissions through seepage, leaks and spills of waste from storage, process and handling areas, etc.)

☒ Noise (e.g. from machinery operations and/or vehicle operations)

☐ Odour (e.g. from wastes accepted at putrescible landfills, storage or processing of waste or other odorous materials, etc.)

☐ Contaminated or potentially contaminated stormwater (e.g. stormwater with the potential to come into contact with chemicals or waste materials, etc.)

☐ Electromagnetic radiation[1]

☐ Other (please specify): [ ]

[1] Note that for electromagnetic radiation, copies/details of other relevant approvals (such as from the Department of Mines, Industry Regulation and Safety or the Radiological Council) must be provided where applicable.

Details of any pollution control equipment or waste treatment system, including any control mechanisms used to ensure proper operation of this equipment, must be included in the proposed controls column of the 'Emissions and discharges table' below. Details of management measures employed to control emissions should also be included. Please provide / attach any relevant documents (e.g. management plans, etc.).

Additional rows may be added as required and/or further information may be included as an attachment (see Section 9.3).

Table 9.1: Emissions and discharges

	Source of emission or discharge	Emission or discharge type	Volume and frequency	Proposed controls (include in Attachment 6A if extensive or complex)	Location (on site layout plan – see 3.4)
1.	Mobile crusher and associated supporting equipment	Noise	Not quantified	As per existing licence conditions.	'Amended – Mob. Crusher': Figure 2 and Figure 3 of Supporting Doc.
2.		Dust			
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					

9.2	**Waste-related activities at the premises[2]** Answer "yes" or "no" for the following questions and complete Table 9.2 (below).	**No**	**Yes**
(a)	Is waste accepted at the premises?	☒	☐
(b)	Is waste produced on the premises?	☐	☒
(c)	Is waste processed on the premises?	☒	☐

Part 9: Emissions, discharges, and waste				
	(d)	Is waste stored on the premises?	☒	☐
	(e)	Is waste buried on the premises?	☒	☐
	(f)	Is waste recycled on the premises?	☒	☐
	(g)	Is any of the waste listed in Table 9.2 (below) also considered a 'dangerous good' for the purposes of the Dangerous Goods Safety (Storage and Handling of Non-Explosives) Regulations 2007?[3]	☒	☐
		Specify, if yes:		

[2] Copies / details of any other relevant approvals (e.g. from the Department of Health) must be provided where applicable.

[3] Wastes derived from the storage, handling, and use of dangerous goods may be considered hazardous and may need to be handled with the same precautions. Please refer to the Department of Mines, Industry Regulation and Safety's *Dangerous Goods Safety information sheet* for more information.

Solid waste types must be described with reference to *Landfill Waste Classification and Waste Definitions 1996* (as amended from time to time) and the Environmental Protection (Controlled Waste) Regulations 2004 (Controlled Waste Regulations).

Liquid waste types must be described with reference to the Controlled Waste Regulations.

For further guidance on the definition of waste, refer to *Fact Sheet: Assessing whether material is waste*.

Detail must be provided on storage type (for example, hardstand and containment infrastructure), capacity, likely storage volumes, and containment features (for example, lining and bunding).

Additional rows may be added as required and/or further information may be included as an attachment (see Section 9.4).

Table 9.2 Waste types

	Waste type	Quantity (e.g. tonnes, litres, cubic metres)	Waste activity infrastructure (including specifications)	Monitoring (if applicable)	Location (on site layout plan – see 3.4)
1.	N/A	N/A	N/A	N/A	N/A
2.					
3.					
4.					
5.					

Attachments			N/A	Yes
9.3	**Attachment 6A: Emissions and discharges** (if required)	If required, further information for Section 9.1 has been included as an attachment labelled Attachment 6A.	☒	☐
9.4	**Attachment 6B: Waste acceptance** (if required)	If required, further information for Section 9.2 has been included as an attachment labelled Attachment 6B.	☒	☐

Part 10: Siting and location		
10.1	**Sensitive land uses** What is/are the distance(s) to the nearest sensitive land use(s)? A sensitive land use is a residence or other land use which may be affected by an emission or discharge associated with the proposed activities.	N/A

10.2 **Nearby environmentally sensitive receptors and aspects**

Identify in Table 10.2 (below):

- all instances of environmentally sensitive receptors that are known or suspected to be present within, or within close proximity to, the proposed prescribed premises boundary;
- the nature of the sensitive receptors (e.g. type of Threatened Ecological Community, species or threatened flora or fauna, etc.);
- their actual or approximate known distance and direction from the premises boundary (at the closest point/s); and

Part 10: Siting and location

- if applicable, what measures have been or will be taken to ensure that sensitive receptors are not adversely impacted by any emissions or discharges from the premises.

Refer to the *Guideline: Environmental siting* for further guidance.

Table 10.2: Nearby environmentally sensitive receptors and aspects

Type / classification	Description	Distance + direction to premises boundary	Proposed controls to prevent or mitigate adverse impacts (if applicable)
Environmentally Sensitive Areas [1]	N/A		
Threatened Ecological Communities			
Threatened and/or priority fauna			
Threatened and/or priority flora			
Aboriginal and other heritage sites [2]			
Public drinking water source areas [3]			
Rivers, lakes, oceans, and other bodies of surface water, etc.			
Acid sulfate soils			
Other			

[1] Environmentally Sensitive Areas are as declared under the *Environmental Protection (Environmentally Sensitive) Notice 2005*. Refer to DWER's website ("Environmentally Sensitive Areas") for further information.

[2] Refer to the Department of Planning, Lands and Heritage website for further information about Aboriginal heritage and other heritage sites.

[3] Refer to *Water Quality Protection Note No.25: Land use compatibility tables for public drinking water source areas* for further information.

10.3 **Environmental siting context details**

Provide further information including details on topography, climate, geology, soil type, hydrology, and hydrogeology at the premises.

N/A

Attachments			N/A	Yes
10.4	**Attachment 7: Siting and location**	You must provide details and a map describing the siting and location of the premises, including identification of distances to sensitive land uses and/or any specified ecosystems.	☐	☒

Part 11: Submission of any other relevant information

Attachments			No	Yes
11.1	**Attachment 8: Additional information submitted**	Applicants seeking to submit further information may include information labelled Attachment 8. If submitting multiple additional attachments, label them 8A, 8B, etc. Where additional documentation is submitted, please specify the name of documents below.	☐	☒
	List title of additional document(s) attached:			

Part 12: Category checklist(s)				
Attachments			**N/A**	**Yes**
12.1	**Attachment 9: Category checklist(s)**	DWER has developed category checklists to assist applicants with preparing their application. These checklists are available on DWER's website. The relevant category-specific checklist(s) must be completed and included with the application, labelled as Attachment 9. If attaching multiple category checklists, label them 9A, 9B, etc. Do not select "N/A" unless: • a relevant category checklist is not yet published on DWER's website, or • the application is for an amendment that does not propose changes to the method of operation, or change the inputs, outputs, infrastructure, equipment, emissions, or discharges of / from the premises. Note that that a category checklist(s) may still be required for renewal applications. You will be advised in your renewal notification letter (sent approximately twelve months before the licence expiry date) if you are required to provide the information identified in a category checklist. Where a category checklist is submitted, please specify which checklist(s) in the space below.	☒	☐
	List title(s) of category checklists attached:			

Part 13: Proposed fee calculation

INSTRUCTIONS:

Different fee units apply for different fee components. Fee units may also have different amounts depending on the period in which the calculation is made.

Once DWER has confirmed that the application submitted meets the relevant requirements of the EP Act, you will be issued an invoice with instructions for paying your application fee.

Further information on fees can be found in the *Fact Sheet: Industry Regulation fees*, and on DWER's website.

13.1	Only the relevant fee calculations are to be completed as follows: *[mark the box to indicate section s completed]*	☐ Section 13.3 for works approval applications ☐ Section 13.4 for licence / renewal applications ☐ Section 13.5 for registration applications ☒ Section 13.6 for amendment applications ☐ Section 13.7 for applications requiring clearing of native vegetation
13.2	All information and data used for the calculation of proposed fees has been provided in accordance with Section 13.8.	☐

13.3 Proposed works approval fee

Proposed works approval fee (see Schedule 3 of the EP Regulations)

Fees relate to the cost of the works, including all capital costs (inclusive of GST) associated with the construction and establishment of the works proposed under the works approval application. This includes, for example, costs associated with earth works, hard stands, drainage, plant hire, equipment, processing plant, relocation of equipment and labour hire.

Costs exclude:

- the cost of land
- the cost of buildings to be used for purposes unrelated to the purposes in respect of which the premises are, or will become, prescribed premises
- costs for buildings unrelated to the prescribed premises activity or activities
- consultancy fees relating to the works.

Fee component	Proposed fee
Cost of works: $	$

13.4 **Proposed licence fee (new licences and licence renewals)**

Detailed licence fee calculations

Part 1 Premises component (see r.5D and Part 1 of Schedule 4 of the EP Regulations)

The production or design capacity should be the maximum capacity of the premises. For most categories, the production or design capacity refers to an annual rate. The figure should be based on 24 hour operation for 365 days, unless there is another regulatory approval or technical reason that restricts operation.

The premises component fee applies to the category in Part 1, Schedule 4 incurring the higher or highest amount of fee units in accordance with r.5D(2) of the EP Regulations.

List all categories (insert additional rows as required). Use only the higher or highest amount of fee units to determine the Part 1 fee component.

Category	Production or design capacity	Fee units
Using the higher or highest amount of fee units, Part 1 component subtotal		$

Part 2 Waste (see r.5D(1a)(b) and Part 2 of Schedule 4 of the EP Regulations)

If your premises includes one or more of the following categories specify any applicable Part 2 waste amounts. Do not include Part 3 waste components of these discharges in the below calculations.

Categories: 5, 6, 7, 8, 9, 12, 14, 44, 46, 53, 54A, 70, 80, or 85B

Part 2 waste means waste consisting of –

(a) tailings; or
(b) bitterns; or
(c) water to allow mining of ore; or
(d) flyash; or
(e) waste water from a desalination plant.

If the premises does not fall into one of the categories listed above, or there are no applicable Part 2 waste amounts, the sub total for this section will be $0.

Insert additional rows as required. Sum all Part 2 waste fees to determine the sub total.

Discharge quantity (tonnes/year)	Fee units
Part 2 component subtotal	$

Part 3 Waste – Discharges to air, onto land, into waters (see Part 3 of Schedule 4 of the EP Regulations)

Choose the appropriate location of the discharge and enter the discharge amount(s) in the units specified in the EP Regulations. This should be the amount of waste expected to be discharged over the next 12 months, expressed in the units and averaging period applicable for that waste kind (for example, g/minute or kg/day). Amounts can be measured, calculated, or estimated and can be based on data acquired over the previous 12 months, but should be based on the maximum premises capacity and not the forecast operating hours.

Where there are discharges, all prescribed waste types must be considered in the fee calculation. If a specified waste type is not present in the discharge, this must be justified using an appropriate emission estimation technique (for example, sampling data, industry sector guidance notes, National Pollution Inventory guides and emission factors).

Discharges to air			
Discharges to air	Discharge rate (g/min)	Discharges to air	Discharge rate (g/min)
Carbon monoxide		Nickel	
Oxides of nitrogen		Vanadium	
Sulphur oxides		Zinc	
Particulates (Total PM)		Vinyl chloride	
Volatile organic compounds		Hydrogen sulphide	
Inorganic fluoride		Benzene	
Pesticides		Carbon oxysulphide	
Aluminium		Carbon disulphide	
Arsenic		Acrylates	
Chromium		Beryllium	
Cobalt		Cadmium	
Copper		Mercury	
Lead		TDI (toluene-2, 4-di-iso-cyanate)	
Manganese		MDI (diphenyl-methane di-iso-cyanate)	
Molybdenum		Other waste	
Part 3 component subtotal		$	

Discharges onto land or into waters		Discharge rate
1. Liquid waste that can potentially deprive receiving waters of oxygen (for each kilogram discharged per day) —	(a) biochemical oxygen demand (in the absence of chemical oxygen demand limit)	
	(b) chemical oxygen demand (in the absence of total organic carbon limit)	
	(c) total organic carbon	
2. Bio-stimulants (for each kilogram discharged per day) —	(a) phosphorus	
	(b) total nitrogen	
3. Liquid waste that physically alters the characteristics of naturally occurring waters —	(a) total suspended solids (for each kilogram discharged per day)	
	(b) surfactants (for each kilogram discharged per day)	
	(c) colour alteration (for each platinum cobalt unit of colour above the ambient colour of the waters in each megalitre discharged per day)	
	(d) temperature alteration (for each 1°C above the ambient temperature of the waters in each megalitre discharged per day) — (i) in the sea south of the Tropic of Capricorn (ii) in other waters	

4. Waste that can potentially accumulate in the environment or living tissue (for each kilogram discharged per day) —	(a) aluminium	
	(b) arsenic	
	(c) cadmium	
	(d) chromium	
	(e) cobalt	
	(f) copper	
	(g) lead	
	(h) mercury	
	(i) molybdenum	
	(j) nickel	
	(k) vanadium	
	(l) zinc	
	(m) pesticides	
	(n) fish tainting wastes	
	(o) manganese	
5. *E. coli* bacteria as indicator species (in each megalitre discharged per day) —	(a) 1,000 to 5,000 organisms per 100 ml	
	(b) 5,000 to 20,000 organisms per 100 ml	
	(c) more than 20,000 organisms per 100 ml	
6. Other waste (per kilogram discharged per day) —	(a) oil and grease	
	(b) total dissolved solids	
	(c) fluoride	
	(d) iron	
	(e) total residual chlorine	
	(f) other	
Part 3 component subtotal		$
Summary – Proposed licence fee		
Part 1 Component		
Part 2 Component		
Part 3 Component		
Total proposed licence fees:		$

13.5 **Prescribed fee for registration**	
A fee of 24 units applies for an application for registration of premises, unless the occupier of the premises holds a licence in respect of the premises, in accordance with r.5B(2)(c) of the EP Regulations.	☐ (Tick to acknowledge)

13.6 **Amendment fee (works approval or licence)**	
The fee prescribed for an application for an amendment to a works approval or licence is calculated in accordance with r.5BB(1)(a) of the EP Regulations: • for a single category of prescribed premises to which the works approval or licence relates, by using the fee unit number corresponding to the prescribed premises category and relevant design capacity threshold in Schedule 4 Part 1 of the EP Regulations. • for multiple categories of prescribed premises to which the works approval or licence relates, by using the highest fee unit number corresponding to the prescribed premises categories and design capacity threshold in Schedule 4 Part 1 of the EP Regulations.	
Fee Units	Proposed fee
450	$ 6,120

13.7 **Prescribed fee for clearing permit**	
In accordance with the *Guideline: Industry Regulation Guide to Licensing* and *Procedure: Native vegetation clearing permits*, where approval to clear native vegetation is sought as part of an application for a works approval or licence, DWER may elect to either jointly or separately determine the clearing component of the application. Where DWER separately determines the clearing component of an application, the application will be deemed to be an application for a clearing permit under s.51E of the EP Act and processed accordingly. Note: If a clearing permit application has been separately submitted and accepted by DWER, a refund for the clearing permit application will not be provided where DWER determines to address clearing requirements as part of a related works approval application.	☐ (Tick to acknowledge)

13.8 **Information and data used to calculate proposed fees**	
The detailed calculations of fee components, including all information and data used for the calculations are to be provided as attachments to this application, labelled as **Attachment 10**, with an appropriate suffix (for example 10A, 10B etc.). Please specify the relevant attachment number in the space/s provided below.	
Proposed fee for works approval	Attachment No.
Details for cost of works	-
Proposed fee for licence	Attachment No.
Part 1: Premises	-
Part 2: Waste types	-
Part 3: Discharges to air, onto land, into waters	-

Part 14: Commercially sensitive or confidential information

NOTE:
Information submitted as part of this application will be made publicly available. If you wish to submit commercially sensitive or confidential information, please identify the information in Attachment 11, and include a written statement of reasons why you request each item of information be kept confidential.

Information submitted later in the application process may also be made publicly available at DWER's discretion. For any commercially sensitive or confidential information, please follow the same process as described above.

DWER will take reasonable steps to protect genuinely confidential or commercially sensitive information. However, please note that DWER cannot commit to redacting all personal information from all supporting documents. You are advised to ensure that all personal information, including signatures, are removed from supporting documents prior to submitting them to the department. Please note that all submitted information may be the subject of an application for release under the *Freedom of Information Act 1992*.

	Attached	N/A
All information which you would propose to be exempt from public disclosure has been separately placed in a redacted version of the application form and its supporting documentation. Note that this is in addition to the unredacted version(s) provided to DWER for its assessment. Grounds for claiming exemption in accordance with Schedule 1 to the *Freedom of Information Act 1992* must be specified in **Attachment 11** (located at the end of this form).	☐	☒

Part 15: Submission of application	
INSTRUCTIONS: **Check one of the boxes below to nominate how you will submit your application.** **Files larger than 50MB cannot be received via email by DWER. Files larger than 50MB can be sent via File Transfer. Alternatively, email DWER to make other arrangements.**	
A full, signed, electronic copy of the application form including all attachments has been submitted via email to info@dwer.wa.gov.au; **OR**	☒
A signed, electronic copy of the application form has been submitted via email to info@dwer.wa.gov.au and attachments have been submitted via File Transfer, or electronically by other means as arranged with DWER; **OR**	☐
A full, signed hard copy has been sent to: APPLICATION SUBMISSIONS Department of Water and Environmental Regulation Locked Bag 10 Joondalup DC WA 6919	☐

Part 16: Declaration and signature

General

I / We confirm and acknowledge that:

- the information contained in this application is true and correct;
- I / we have legal authority to sign on behalf of the applicant (where authorisation provided);
- I / we have not altered the requirements and instructions set out in this application form;
- I / we have provided a valid email address in Section 2.3 for receipt of correspondence electronically via email from DWER in relation to this application;
- that successful delivery to my / our server constitutes receipt of correspondence sent electronically via email from DWER in relation to this application; and
- I / we have provided a valid postal and/or business address in Section 2.4 for the service of all Part V documents.
- giving or causing to be given information that to my knowledge is false or misleading is an offence under s.112 of the EP Act and may incur a penalty of up to $100,000.

Publication

I / We confirm and acknowledge:

- this application (including all attachments apart from the sections identified in Attachment 11) is a public document and may be published;
- marine surveys provided in accordance with Part 5 will be published and used, for the purposes of the IMSA project, in accordance with your declaration made in the *Metadata and Licensing Statement*;
- all necessary consents for the publication of information have been obtained from third parties;
- information considered exempt from public disclosure has been noted by redaction of a separately provided copy of the completed application form and its supporting documentation (in accordance with Part 14), with reasons as to why the information should be exempt in accordance with the grounds specified in Schedule 1 to the *Freedom of Information Act 1992* (WA) being provided in Attachment 11;
- subsequent information provided in relation to this application will be a public document and may be published unless written notice has been given to DWER by the applicant, at the time the information is provided, claiming that the information is considered exempt from public disclosure; and
- the decision to not publish information will be at the discretion of the CEO of DWER and will be made consistently with the provisions of the *Freedom of Information Act 1992* (WA).

[redacted]

18/04/2025

Date

18/04/2025

Date

NOTE: This form may be signed:

- **if the applicant is an individual, by the individual;**
- **if the applicant is a corporation, by:**
  - **the common seal being affixed in accordance with the *Corporations Act 2001* (Cth); or**
  - **two directors; or**
  - **a director and a company secretary; or**
  - **if a proprietary company has a sole director who is also the sole company secretary, by that director; and**
- **by a person with legal authority to sign on behalf of the applicant.**

ATTACHMENT 11 – Confidential or commercially sensitive information

Request for exemption from publication			
Information which you consider should not be published, on the grounds of a relevant exemption found in Schedule 1 to the *Freedom of Information Act 1992* (WA), must be specified in this Attachment. Add additional rows as required.			
NOT FOR PUBLICATION IF GROUNDS FOR EXEMPTION ARE DETERMINED TO BE ACCEPTABLE			
Section of this form:		Grounds for claiming exemption:	
Section of this form:		Grounds for claiming exemption:	
Section of this form:		Grounds for claiming exemption:	

_____

Full Name

_____ _____

Signature Date

TO: Department of Water and Environmental Regulation

SUBJECT: Supporting Information for Licence Amendment Application (L9362/2022/1) – Binduli Operation.

DATE: 18 April 2025

To whom it may concern

Norton Gold Fields owns and operates the Binduli operation and is applying for a Licence Amendment to install new mobile equipment and to increase the annual throughput for Category 5 and Category 7.

The proposed amendments to Category 5 include installing and operating a mobile crushing and feeding circuit and an increase in throughput from 5Mpta to 7Mpta.

The amendments to Category 7 include the addition of stage 2 heap leach cells 6-15 and an increase in throughput from 5Mtpa to 8Mtpa.

Should you have any questions associated with this Licence Amendment, please contact Adrian Lally at adrian.lally@padgold.com.au or (08) 9080 6866 or Cassie Woods via cassie.woods@padgold.com.au /environment@padgold.com.au or 08 9088 0964.

[redacted]

Environment Superintendent

Norton Gold Fields

Paddington Gold Pty Limited

Norton Gold Fields Pty Ltd

Binduli - Licence Amendment Application Cat 5 and Cat 7 - Supporting Information Package

Authorised Representative:

Adrian Lally

Environment Superintendent

Level 1, Viskovich House 377 Hannan Street

Kalgoorlie WA, 6430

Telephone: (08) 9080 6866

Email: adrian.lally@padgold.com.au / environment@padgold.com.au

Contents

1. APPLICANT DETAILS

Norton Gold Fields Pty Ltd (ABN 23 112 287 797) and its wholly owned subsidiary Bellamel Mining Pty Ltd (ABN: 55 125 443 076) own and operate the Binduli Operation.

This licence amendment application is being applied for by Norton Gold Fields Pty Ltd (Norton).

Proof of Occupier Status (Attachment 1A)

The tenements associated with the Binduli operation are owned and operated by Norton and Bellamel Mining. Please refer to Appendix A for summary reports on mining tenements associated with the licence amendment.

ASIC Company Extract (Attachment 1B)

Please refer to Appendix B.

2. PREMISES DETAILS (Attachment 2)

Norton operates the Binduli operation under L9362/2022/1, which is located approximately 10km by road west of the City of Kalgoorlie-Boulder city centre and to the north of the Great Eastern Highway and the Trans-Australia rail line (Figure 1). The operation is licenced under L9362/2022/1.

Mining at the site commenced in 2002 and was placed on care and maintenance in 2019. Construction of the heap leach and processing facilities commenced in June 2021, with mining recommencing in July 2022 and processing commencing in September 2022.

The Binduli operation comprises eleven mining leases, as detailed in Table 1 and Figure 1.

Table 1 - Tenements associated with Cat.5 Licence Amendment Application.

Tenements	Holder	Expiry Date
M26/115	Bellamel Mining Pty Ltd	16/03/2029
M26/243	Bellamel Mining Pty Ltd	11/06/2032
M26/387	Bellamel Mining Pty Ltd	10/12/2034
M26/420	Bellamel Mining Pty Ltd	16/09/2035
M26/430	Bellamel Mining Pty Ltd	24/10/2035
M26/445	Bellamel Mining Pty Ltd	19/01/2037
M26/446	Norton Gold Fields Pty Ltd	29/11/2036
M26/447	Bellamel Mining Pty Ltd	24/01/2037
M26/474	Bellamel Mining Pty Ltd	03/11/2039
M26/629	Bellamel Mining Pty Ltd	19/11/2042
M26/833	Norton Gold Fields Pty Ltd	27/01/2036

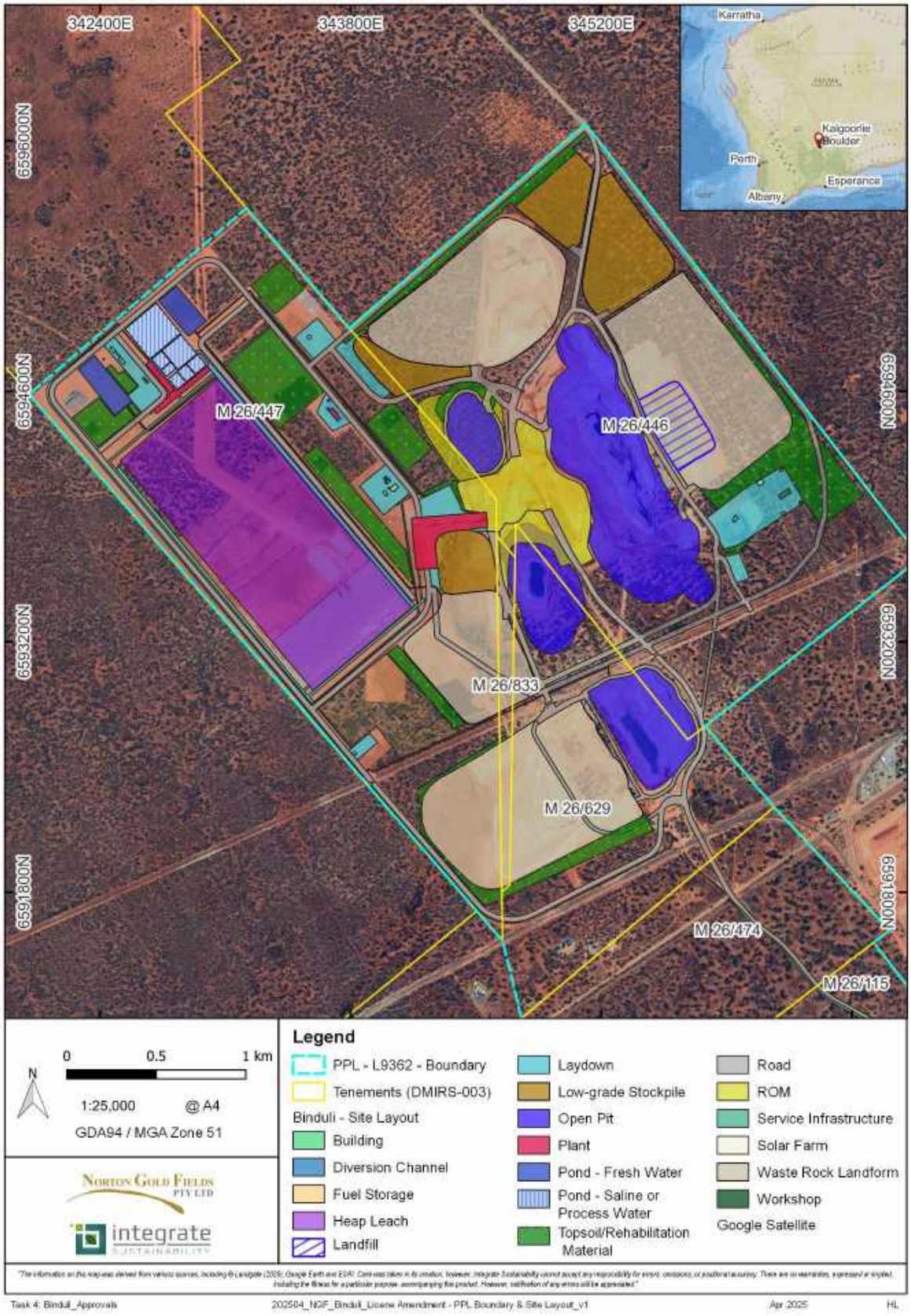


Figure 1 – Binduli operation tenements and site layout

3. PROPOSED ACTIVITIES (Attachment 3B)

The approved categories associated with the Binduli operation and authorized under Prescribed Premises Licence (L9362/2022/1) are outlined in Table 2.

Table 2 - Prescribed premises approved categories.

Prescribed premises category description (Schedule 1, Environmental Protection Regulations 1987)	Assessed production/design capacity
Category 5: Processing and Beneficiation	5,000,000 tonnes per annual period
Category 6: Mine dewatering	1,500,000 tonnes per annual period
Category 7: Heap leach	5,000,000 tonnes per annual period
Category 12: Crushing and Screening	800,000 tonnes per annual period
Category 52: Electric power generation	13 MW per annual period

This licence amendment will enable Nortons to increase their processing capacity, efficiency, and provide operational flexibility and cost savings. The proposed amendments include the addition of a mobile crushing and feeding circuit on the ROM under Cat. 5 and request an increase in throughput from 5Mtpa to 7Mtpa. Plus, additions to the stage 2 heap leach cells 6-15 and an increase in the through-put from 5Mtpa to 8Mtpa for Cat. 7. The proposed activity location amendments are presented in Figure 2.

No amendments are proposed to Cat. 6, 12 and 52.

Norton believes the proposed amendments do not alter the environmental risk associated with the proposed activities, given that the additional activities are similar to activities currently authorised and are not expected to produce additional emissions compared to what is already authorised.

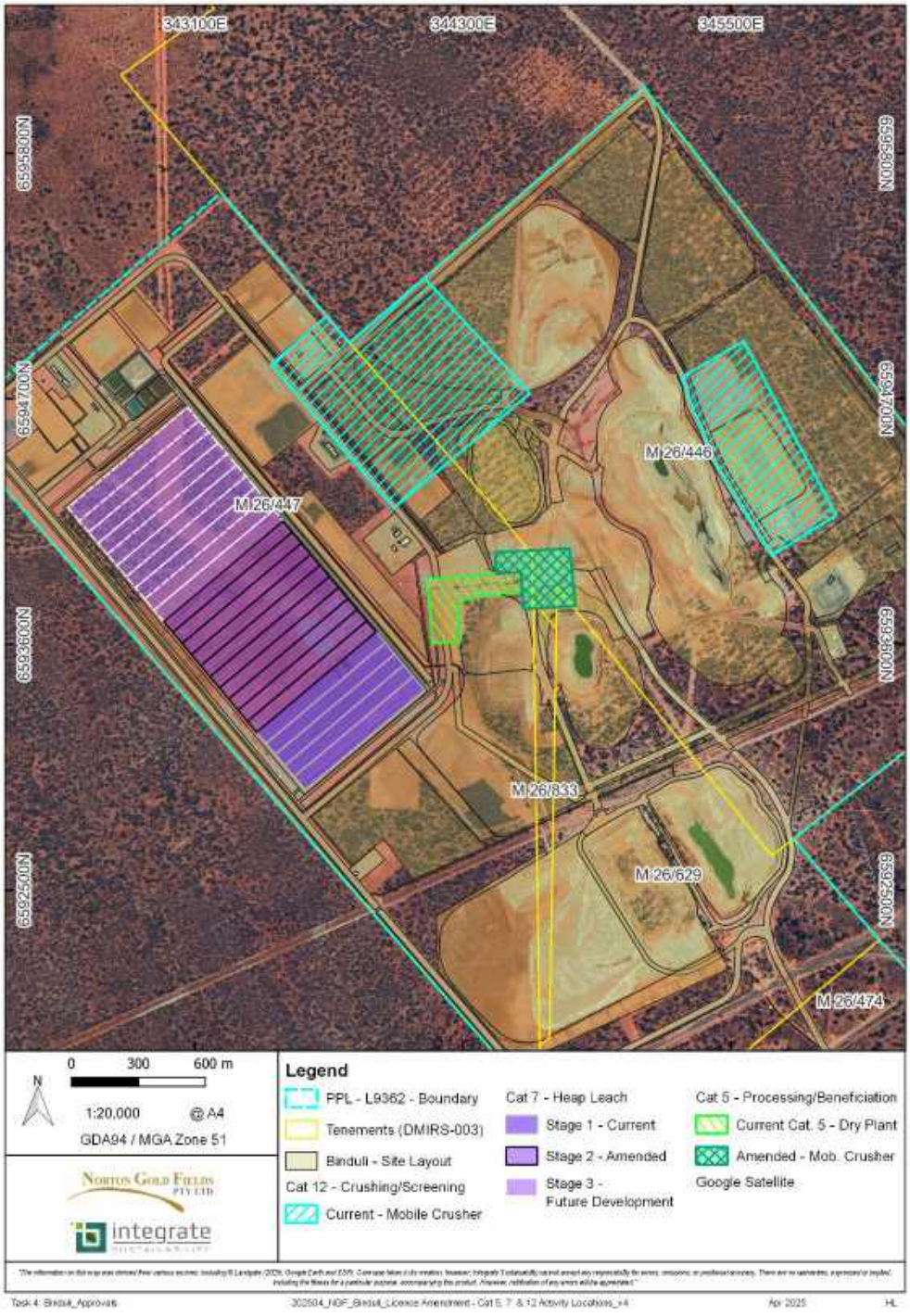


Figure 2 – Activity locations, PPL boundary and associated tenements.

3.1. Category 5

The proposed installation and operation of a mobile crushing/feeding circuit under Cat 5 aims to provide greater processing capacity, efficiency, operational flexibility and cost savings for the operation. The addition of a crushing and feeding circuit will increase the dry plant operation capacity and provide Norton with an alternative feeding mechanism to the one currently implemented (dozer/loader feeding). It would reduce travel time between the ROM

pad and the dry plant and allow for better utilisation of the plant's capacity by increasing its throughput to 7Mtpa. The mobile sizing and feeding circuit will be located on tenements M26/446, M26/447, M26/629 and M26/833, as detailed in Figure 2, Figure 3 and Table 3.

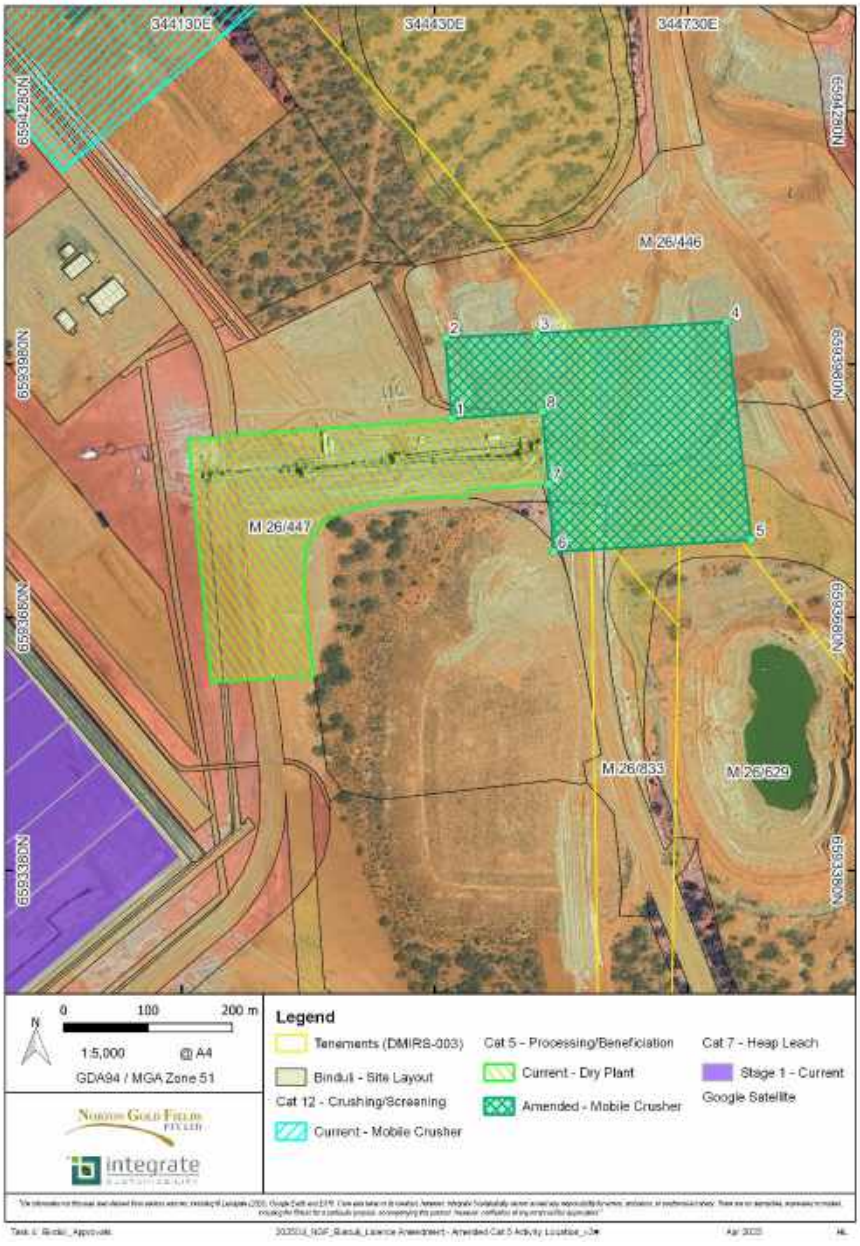


Figure 3 – Amended Cat 5 activity location boundary.

Table 3 - Coordinates associated with Cat 5 mobile sizing and feeding circuit.

Mobile Sizer and Feeder Circuit – Cat 5 Activity Location (GDA94 - Zone 51)					
ID	Easting	Northing	ID	Easting	Northing
1	344449.70	6593915.36	5	344805.28	6593771.78
2	344442.82	6594011.43	6	344570.82	6593757.58
3	344550.44	6594016.56	7	344564.61	6593838.17
4	344776.50	6594030.25	8	344557.79	6593923.81

Request to increase Cat. 5 Through-put

This Licence Amendment requests an increase in throughput for Cat 5 from 5Mtpa to 7Mtpa to allow Norton to increase processing capacity at the existing dry plant.

Norton believes the additional equipment and capacity increase does not alter the environmental risk associated with the proposed activities, given that Cat.5 activities are already licensed.

Addition of crusher and feeder circuit to Category 5 activities.

The licence amendment to install and operate a mobile crushing and feeding circuit to Cat. 5 aims to provide greater operational efficiency on the ROM pad by providing an alternative to dozer/loader feeding to the dry plant, and a more efficient feeding mechanism without producing additional emissions or discharges compared to what is already authorised.

The mobile crushing and feeding equipment also allows Norton to increase the processing capacity of gold-bearing material at the existing dry plant's annual throughput from 5Mtpa to 7Mtpa. Of the proposed 7Mtpa capacity, 6Mtpa will be deposited on the Binduli heap leach facility, and the 1Mtpa will be trucked to Paddington Mill for processing. The proposed crushing circuit comprises a semi-mobile hopper and semi-mobile crusher, along with grasshopper conveyors to transport the ore into the dry plant circuit. The general arrangement and activity location are detailed in Figure 2 and Figure 4. The crusher circuit consists of the equipment (or equivalent) detailed in Table 4.

Table 4 – ROM Pad Mobile Sizing and feeding equipment proposed.

Equipment	Description
Mobile Crusher	Crusher c/w semi-mobile arrangement - up to 7Mtpa (MMD Mobile Sizer, FLSmidth ERC Crusher, Jaw Crusher for example or equivalent)
Mobile Crusher Feed Feeder	Feeder c/w Feed Hopper and semi-mobile arrangement - up to 7Mtpa (Chain Feeder, Low Profile Feeder, Apron Feeder for example or equivalent
Crusher Discharge Conveyor	Conveyor c/w semi mobile arrangement - up tp 7Mtpa
Crusher Discharge Transfer Conveyor	30m long Mobile Conveyor - up to 7Mtpa (1.8m belt Grasshopper Conveyor or equivalent)
ROM Bin Feed Conveyor	30m long Mobile Conveyor - up to 7Mtpa (1.8m belt Grasshopper Conveyor or equivalent)

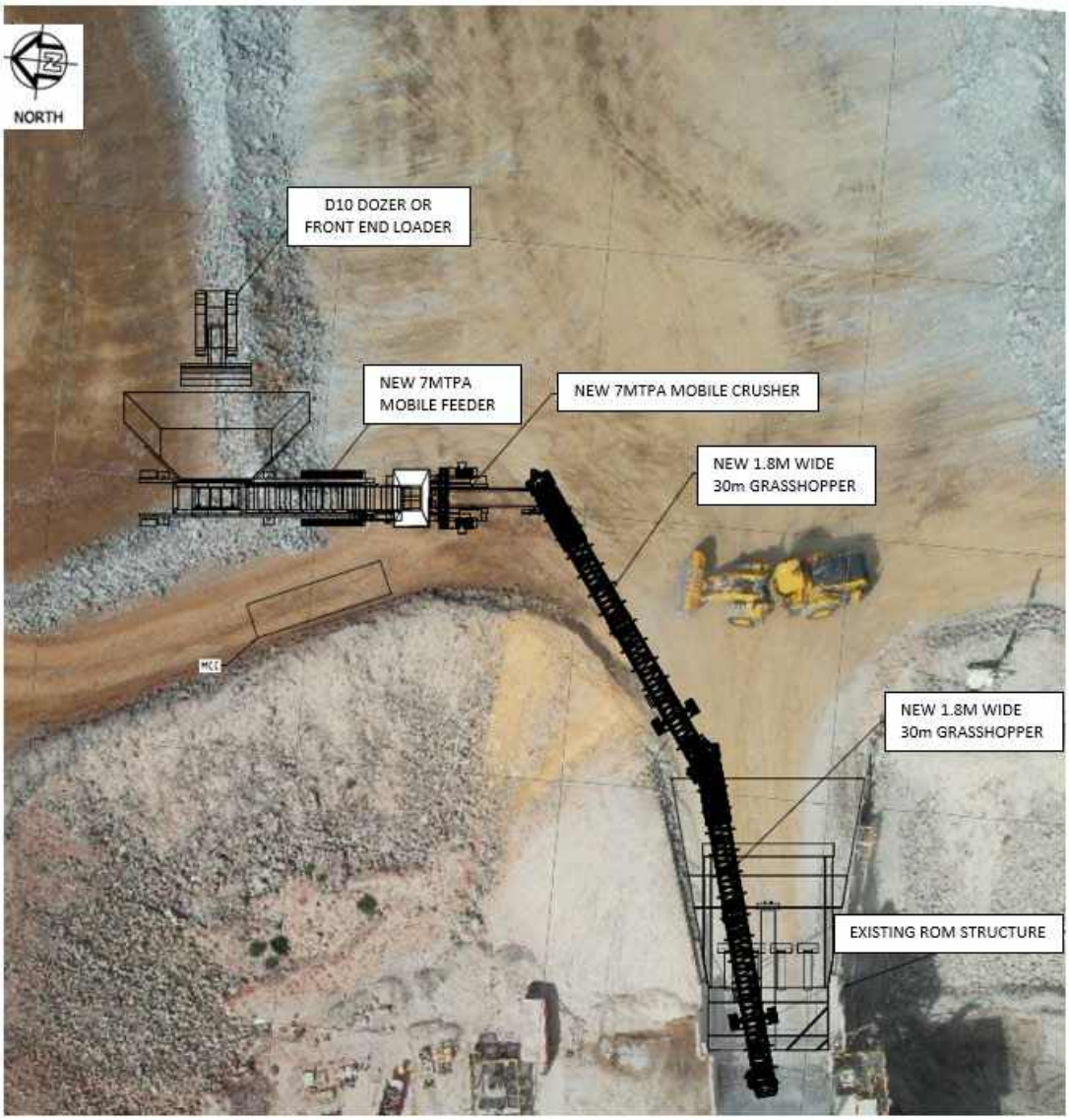


Figure 4 – Crusher and Feeder circuit general arrangement.

3.2. Category 7

The amendments to Cat 7 include the stage 2 heap leach cells 6-15 constructed under W6730/2022/1 and increase the design capacity from 5Mtpa to 8Mtpa.

Request to increase Category 7 design capacity

Norton proposes to increase the annual throughput of gold-bearing material to the heap leach facility from 5Mtpa to 8Mtpa.

Addition of stage 2 of heap leach facility to Cat 7 activities.

Norton proposes to amend the Licence to include and use the stage 2 constructed heap leach cells 6-15 (currently authorised cells 1-5). Heap Leach Stage 2 was built under W6730/2022/1, and the Environmental Compliance Reports (Appendix D and Appendix E) and Environmental Commissioning Reports (Appendix F and Appendix G) for heap leach cells 6-15 were submitted to DWER on 19 September 2024 and 30 December 2024, respectively.

The proposed Stage 2 of the heap leach facility is located in M26/447, as detailed in Figure 2, Figure 5 and Table 5.

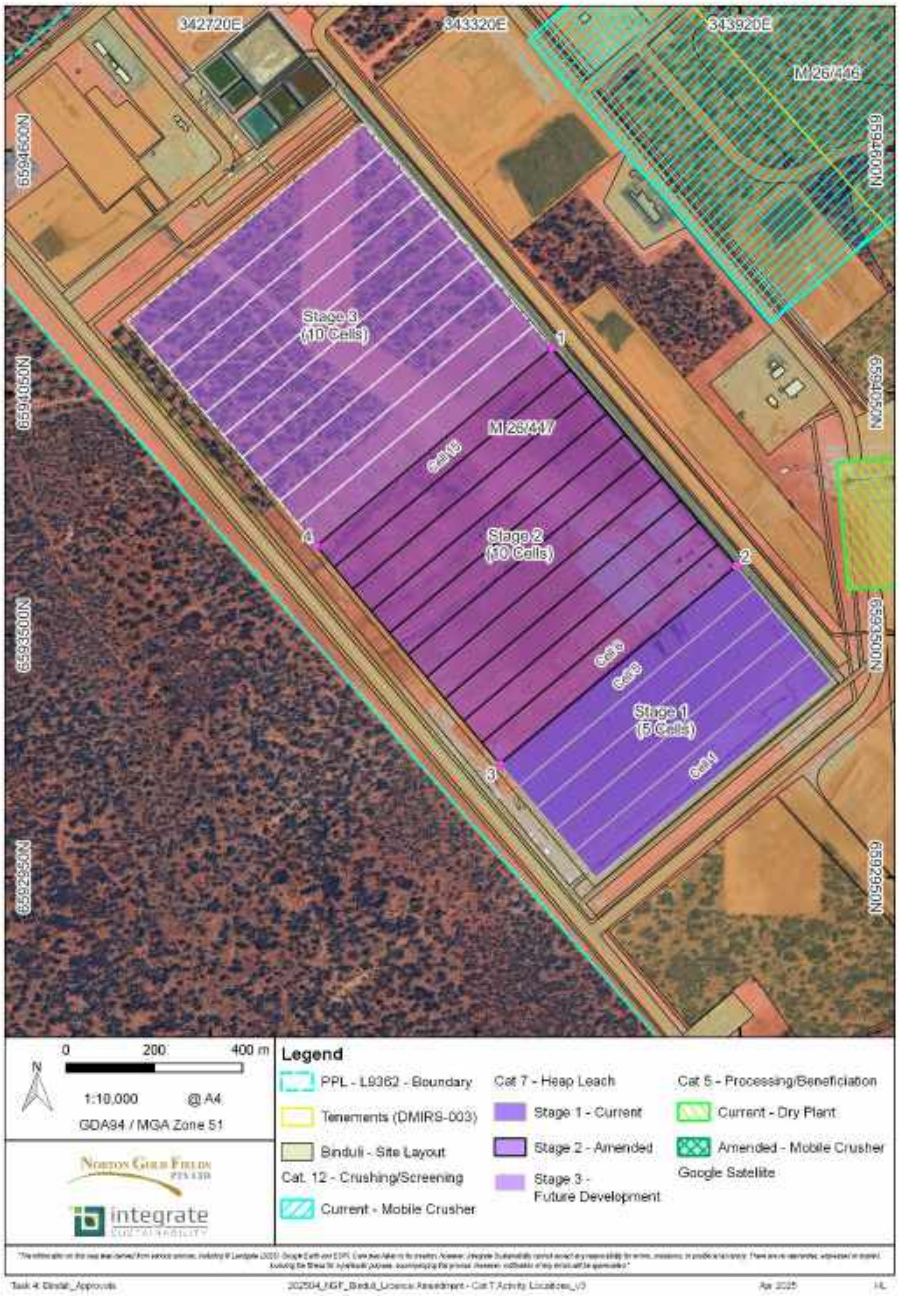


Figure 5 - Heap Leach facility stage 2.

Table 5 - Coordinates associated with Cat 7 - Stage 2 of the heap leach facility.

Stage 2 of Heap Leach – Cat 7 Activity Location (GDA94 - Zone 51)		
ID	Easting	Northing
1	343911.57	6593656.06
2	343375.75	6593205.98
3	343493.61	6594151.92
4	342959.97	6593701.77

4. OTHER EP ACT APPROVALS (Attachment 5)

Work Approval (W6504/2021/1)

Norton holds Works Approval W6504/2021/1 for constructing the dry plant and associated infrastructure (Cat.5), dewatering infrastructure (Cat.6), heap leach facility and associated infrastructure (Cat.7), crushing and screening plant (Cat.12), diesel power generation plant (Cat.52) and landfill (Cat.64). W6504/2021/1 expires on 21 July 2026

Work Approval (W6730/2022/1)

Norton holds Works Approval W6730/2022/1 for the setup and use of a Cat 12 mobile crushing and screening plant. W6730/2022/1 expires on 14 December 2025.

Work Approval (W2873/2025/1)

Norton holds a current Works Approval (W6730/2022/1) for constructing Cat 5 dry plant crushing and screening equipment, which expires on 05 March 2028.

Native vegetation clearing (CPS 8950/1)

The area to install and operate the mobile crushing and screening plant is covered by Native Vegetation Clearing Permit CPS 8950/1.

5. CONSULTATION (Attachment 5)

Stakeholder Consultation

Norton regularly consults with key stakeholders such as pastoralist and the City of Kalgoorlie-Boulder. As this licence amendment is already associated with activities and infrastructure at Binduli, no specific consultation has occurred. The consultation will happen in due course, given that the proposed activity locations are approximately 4.2km from the city.

6. APPLICANT HISTORY

Norton nor its directors or management team have been charged, convicted, paid a penalty for an offence or had a licence/ work approval suspended or revoked.

7. EMISSIONS, DISCHARGES AND WASTE (Attachment 6A & 7)

Mobile Crushing and Feeding Circuit

Dust and noise are the only emissions expected from the mobile sizer and feeder circuit.

Dust

The volume of dust has not been quantified, but visual inspections will be conducted daily as required on condition 1, Table 2 of L9362/2022/1. Additional management controls will include:

- Application of water on stockpiles and high-traffic areas via a water cart.
- Daily visual monitoring of dust emissions.
- Complaints management.
- Adoption of controls as outlined in the company Dust Management Plan; and

- Alignment with DWER guideline for managing the impacts of dust and associated contaminants from land development sites, remediation of contaminated sites, and other related activities was published in January 2011.

Noise

The proposed activity location is approximately 4.2km from the nearest receptor. Noise emissions are not expected to differ from the current operational levels measured predicted to be 88dB from the Cone crusher and 100db from the Jaw crusher.

In support of the Works Approval W6504/2021/1 a noise assessment was completed by Talis Consultants (Appendix H), which found receivers R3 and R4 to be non-compliant (Talis Noise Consultants, 2020). Norton has since purchased those properties. All remaining receivers were identified as unaffected due to the shielding characteristic of the Waste Rock Landforms and/or Stockpiles and other activities. Figure 6 was adapted from the 2022 assessment to demonstrate that those results will likely translate to the proposed mobile sizing and feeding circuit.

Figure 6 - Worst Case Noise Model Results (LA10) - 2022 Assessment - adapted.

Norton's sought out Talis Consultants to conduct a dust impact assessment of the two prosposed mobile crushing plants. Both plants achieve the assigned levels with the crushers by themselves. Cumulatively, the noise levels comply with the assigned levels. The Dust Impact Assessment will be available to the Department upon request.

Norton advises that the mobile sizing and feeding circuit will be behind mine waste stockpiles, which will act as a noise barrier. Norton will regularly maintain the plant to further reduce noise issues and plan routes that utilise existing features to shield noise. Norton also keeps a register of complaints and investigated as soon as practicable.

Heap Leach Facility

Seepage / Leak or Spill

The heap leach facility is not expected to emit contaminants associated with seepage, leakage or spills. The monitoring bores records show no indication of seepage and impacts on water quality or levels due to seepage. Additionally, the water balance shows no indication of seepage.

The heap leach and processing ponds will continue to be inspected as required under conditions 2 and 3 of Table 2 of L9362/2022/1

8. SITING AND LOCATION

One lodged Aboriginal Heritage site (ID 21047 – Binduli Rock Hole) has been identified next to the Binduli Prescribed Premises Licence (L9362/2022/1) boundary (Figure 7) and located approximately 2km from the closest proposed activity (mobile sizer). The proposed activities are not envisaged to impact this lodged site.

This Licence Amendment application is located at Mt Burges Pastoral Station and will have no additional impact on pastoral activities.

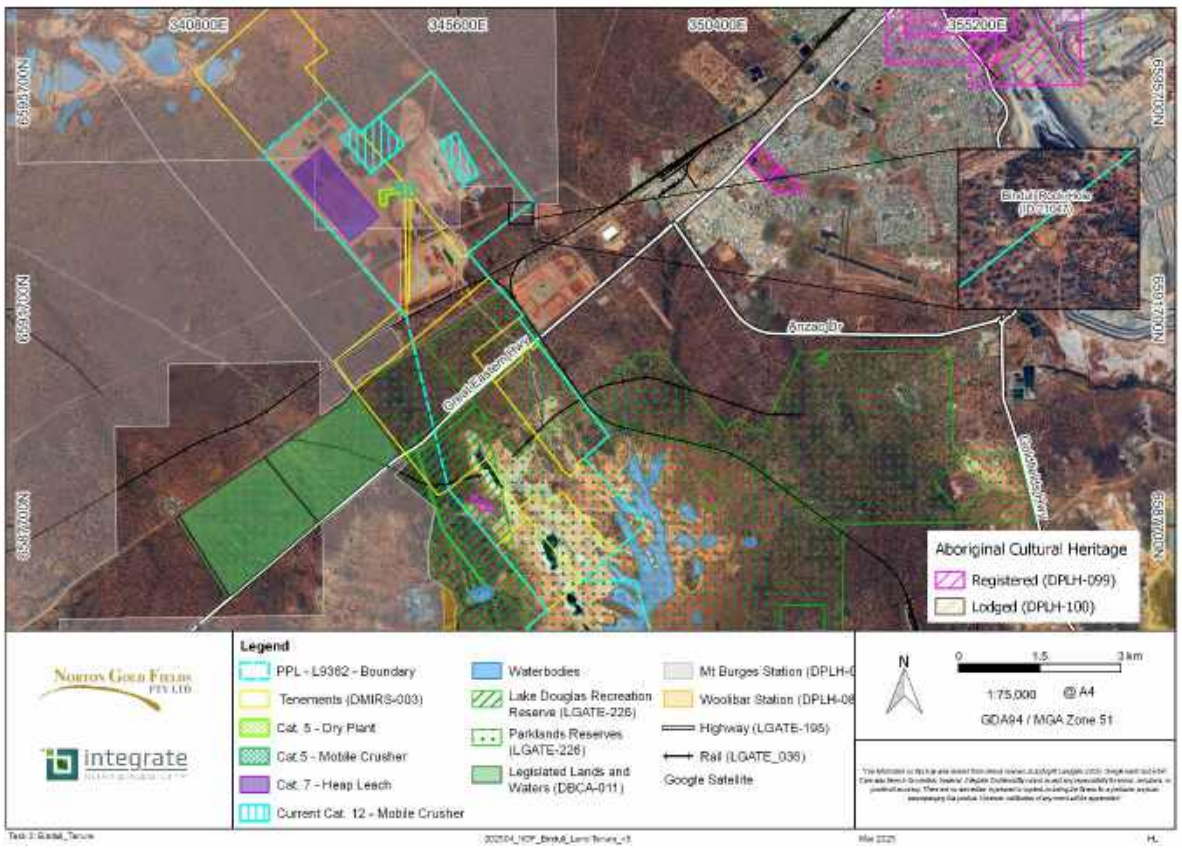


Figure 7 – Binduli operation surrounding land tenure.

9. PROPOSED FEE CALCULATION (Attachment 10)

The total fees for this Licence Amendment Application are calculated to be $6,120.00.

Regulation 5BB(1) requires that Licence Amendment fees be determined based on the unit number, prescribed premises category and relevant design capacity threshold detailed in Schedule 4 Part 1 of the EP Regulations. Given that this Licence Amendment Application involves multiple categories, the highest fee unit number was applied to calculate the fee, as detailed in Table 6.

Table 6 - Licence Amendment fee calculation.

Amendment application fee calculator (effective as of 1 July 2022)	**Instrument No.**	L9362/2022/1
	Unit value ($)	13.60
Categories	**Units**	**Fee**
5 - Processing or beneficiation of metallic or non-metallic ore: More than 5 000 000 tonnes per year	450	$6,120.00
7 - Vat or in situ leaching of metal: More than 5 000 000 tonnes per year	~~450~~	
Note: Amendment fee is determined by the category with the largest	**Fee payable**	**$6,120.00**

Appendix A – Proof of Occupier Status

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

eMITS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/115 **Status: Live**

TENEMENT SUMMARY

Area: 66.39000 HA
Mark Out : 30/06/1986 15:38:00
Received : 04/07/1986 11:30:00
Term Granted : 21 Years (Renewed)
Death Reason :
Death Date :
Commence : 17/03/1987
Expiry : 16/03/2029

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: SEVEN MILE HILL
Datum: DP SIT 3750M BRG 155DEG FROM SW CNR LATE SURV GML 5144E
Boundary: THENCE: 5500 metres bearing 320 degrees 2000 metres bearing 50 degrees 900 metres bearing 140 degrees 750 metres bearing 50 degrees 1550 metres bearing 140 degrees

Area :

Type	Dealing No	Start Date	Area
Surveyed		31/07/1993	66.39000 HA
Dealing	Partial Surrender - Conditional KA107/923	30/07/1993	66.39000 HA
Granted		17/03/1987	925.35000 HA
Applied For		30/06/1986	925.35000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
KALGOORLIE-BOULDER CITY	4280	04/07/1986		66.39000 HA

RENT STATUS

Due For Year End 16/03/2026: PAID IN FULL
Due For Year End 16/03/2027: $1,916.20

EXPENDITURE STATUS

Expended Year End 16/03/2025: No Expenditure Lodged
Current Year Commitment : $10,000.00

Created 03/04/2025 10:07:12 Requested By: [redacted] Page 1 of 1

Department of Energy, Mines, Industry Regulation and Safety

GOVERNMENT OF WESTERN AUSTRALIA

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/243

Status: Live

TENEMENT SUMMARY

Area:	228.80000 HA	**Death Reason :**	
Mark Out :	14/03/1988 13:47:00	**Death Date :**	
Received :	15/03/1988 11:22:00	**Commence :**	12/06/1990
Term Granted :	21 Years (Renewed)	**Expiry :**	11/06/2032

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: BINDULI

Datum: Datum Peg situated 860 metres bearing 346 degrees from north east corner of late surveyed GML 26/7190

Boundary: THENCE: 2131 metres bearing 142 degrees 22 minutes along the eastern boundary of P26/919 797 metres bearing 228 degrees 12 minutes along the southern boundary of P26/919 65 metres bearing 135 degrees 36 minutes along the eastern boundary of GML26/7040 244 metres bearing 226 degrees 14 minutes along the southern boundary of GML26/7040 204 metres bearing 313 degrees 49 minutes along the western boundary of GML26/7040 17 metres bearing 46 degrees 38 minutes along the northern boundary of GML26/7040 2005 metres bearing 322 degrees 2 minutes along the western boundary of P26/919 669 metres bearing 48 degrees 32 minutes along the northern boundary of P26/919 100 metres bearing 327 degrees 55 minutes along the western boundary of P26/1176 254 metres bearing 58 degrees 23 minutes along the northern boundary P26/1176 56 metres bearing 152 degrees 18 minutes along the eastern boundary of P26/1176 135 metres bearing 48 degrees 12 minutes along the northern boundary of P26/919 BACK TO DATUM NOTE: Pursuant to Section 49 Mining Act 1978 and conditional surrenders of GML's 26/7040, 7136 and 7190

Area :

Type	Dealing No	Start Date	Area
Surveyed		27/04/1993	228.80000 HA
Granted		12/06/1990	227.50000 HA
Applied For		14/03/1988	227.50000 HA

Created 03/04/2025 10:11:38 Requested By: [redacted] Page 1 of 2

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/387

Status: Live

TENEMENT SUMMARY

Area: 111.20000 HA
Mark Out : 13/12/1991 11:08:00
Received : 13/12/1991 14:25:00
Term Granted : 21 Years (Renewed)
Death Reason :
Death Date :
Commence : 11/12/1992
Expiry : 10/12/2034

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: SEVEN MILE HILE
Datum: DATUM POST SITUATED APPROXIMATELY 300 METRES BEARING 320 DEGREES FROM THE NORTH EAST CORNER OF LATE SURVEYED GOLD MINING LEASE 26/3790
Boundary: THENCE 1500 METRES BEARING 140 DEGREES
THENCE 800 METRES BEARING 230 DEGREES
THENCE 1500 METRES BEARING 320 DEGREES
THENCE 800 METRES BEARING 050 DEGREES BACK TO DATUM

Area :

Type	Dealing No	Start Date	Area
Surveyed		27/10/1997	111.20000 HA
Granted		11/12/1992	120.00000 HA
Applied For		13/12/1991	120.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
KALGOORLIE-BOULDER CITY	4280	13/12/1991		111.20000 HA

RENT STATUS

Due For Year End 10/12/2025: PAID IN FULL
Due For Year End 10/12/2026: $3,203.20

EXPENDITURE STATUS

Expended Year End 10/12/2024: EXPENDED IN FULL

Created 03/04/2025 10:12:28 Requested By: [redacted] Page 1 of 2

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

eMITS MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/420

Status: Live

TENEMENT SUMMARY

Area:	121.20000 HA	**Death Reason :**	
Mark Out :	21/04/1993 17:30:00	**Death Date :**	
Received :	27/04/1993 16:10:00	**Commence :**	17/09/1993
Term Granted :	21 Years (Renewed)	**Expiry :**	16/09/2035

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: SEVEN MILE HILL

Datum: DATUM POST IS SITUATED 1120 METRES BEARING 165 DEGREES FROM THE MOST SOUTHERN CORNER OF LATE SURVEYED GOLD MINING LEASE 26/3790

Boundary: THENCE 800 METRES BEARING 050 DEGREES
THENCE 1500 METRES BEARING 140 DEGREES
THENCE 800 METRES BEARING 230 DEGREES
THENCE 1500 METRES BEARING 320 DEGREES
BACK TO DATUM

Area :

Type	Dealing No	Start Date	Area
Surveyed		29/09/1993	121.20000 HA
Granted		17/09/1993	120.00000 HA
Applied For		21/04/1993	120.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
KALGOORLIE-BOULDER CITY	4280	21/04/1993		121.20000 HA

RENT STATUS

Due For Year End 16/09/2025: PAID IN FULL
Due For Year End 16/09/2026: $3,489.20

EXPENDITURE STATUS

Expended Year End 16/09/2024: EXPENDED IN FULL

Created 03/04/2025 10:13:05 Requested By: [redacted] Page 1 of 2

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/430

Status: Live

TENEMENT SUMMARY

Area:	130.55000 HA	**Death Reason :**	
Mark Out :	20/08/1993 14:40:00	**Death Date :**	
Received :	20/08/1993 15:10:00	**Commence :**	25/10/1993
Term Granted :	21 Years (Renewed)	**Expiry :**	24/10/2035

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: SEVEN MILE HILL

Datum: DATUM POST IS SITUATED 326.956 METRES BEARING 206 DEGREES 34 MINUTES 17 SECONDS FROM THE SOUTH WEST CORNER OF SURVEYED MINING LEASE 26/243 ON NORTHERN BOUNDARY OF PROSPECTING LICENCE 26/2442

Boundary: THENCE 1600 METRES BEARING 140 DEGREES TO SOUTHERN BOUNDARY OF PROSPECTING LICENCE 26/2442 THENCE 880 METRES BEARING 230 DEGREES TO SOUTH EAST CORNER OF MINING LEASE 26/420 THENCE 1900 METRES BEARING 320 DEGREES ALONG EASTERN BOUNDARY OF MINING LEASE 26/420 AND PART OF MINING LEASE 26/387 THENCE 460 METRES BEARING 50 DEGREES TO EASTERN BOUNDARY OF PROSPECTING LICENCE 26/2445 THENCE 300 METRES BEARING 140 DEGREES TO SOUTH WEST CORNER OF PROSPECTING LICENCE 26/2448 THENCE 420 METRES BEARING ALONG NORTHERN BOUNDARY OF PROSPECTING LICENCE 26/2442 BACK TO DATUM

Area :

Type	Dealing No	Start Date	Area
Surveyed		26/10/1993	130.55000 HA
Granted		25/10/1993	130.55000 HA
Applied For		20/08/1993	155.00000 HA

Created 03/04/2025 10:13:42 Requested By: [redacted] Page 1 of 2

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/445

Status: Live

TENEMENT SUMMARY

Area:	207.20000 HA	**Death Reason :**	
Mark Out :	19/05/1994 11:44:00	**Death Date :**	
Received :	23/05/1994 12:00:00	**Commence :**	20/01/1995
Term Granted :	21 Years (Renewed)	**Expiry :**	19/01/2037

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: Seven Mile Hill

Datum: Datum is situated 90.717 metres bearing 275 degrees 53 minutes 27 seconds from north west corner of late surveyed M 15/72

Boundary: THENCE: 308.377 metres bearing 3 degrees 21 minutes 50 seconds 486.370 metres bearing 50 degrees 56 minutes 22 seconds 818.274 metres bearing 50 degrees 56 minutes 17 seconds along southern boundary of surveyed M 26/420 999.775 metres bearing 90 degrees 16 minutes 49 seconds 1203.639 metres bearing 164 degrees 39 minutes 22 seconds 2344.406 metres bearing 270 degrees 43 minutes 6 seconds Back to Datum Being identical to pegging of P 26/2261 which is being conditionally surrendered

Area :

Type	Dealing No	Start Date	Area
Granted		20/01/1995	207.20000 HA
Surveyed		23/05/1994	207.20000 HA
Applied For		19/05/1994	208.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
COOLGARDIE SHIRE	1960	19/05/1994		2.54860 HA
KALGOORLIE-BOULDER CITY	4280	19/05/1994		204.65140 HA

RENT STATUS

Due For Year End 19/01/2026: PAID IN FULL

Created 03/04/2025 10:14:22 Requested By: [redacted] Page 1 of 2

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Energy, Mines, Industry Regulation and Safety**

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/446

Status: Live

TENEMENT SUMMARY

Area: 510.35000 HA
Mark Out : 25/05/1994 14:00:00
Received : 26/05/1994 12:05:00
Term Granted : 21 Years (Renewed)
Death Reason :
Death Date :
Commence : 30/11/1994
Expiry : 29/11/2036

CURRENT HOLDER DETAILS

Name and Address
NORTON GOLD FIELDS PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxxx977

DESCRIPTION

Locality: Binduli
Datum: Datum is situated 80 metres bearing 90 degrees from the north west corner of Crown Grant (CG) Location No. 43
Boundary: THENCE: 1600 metres bearing 230 degrees 3000 metres bearing 320 degrees 1600 metres bearing 50 degrees 3000 metres bearing 140 degrees Back to Datum

Area :	Type	Dealing No	Start Date	Area
	Surveyed		16/11/1996	510.35000 HA
	Granted		30/11/1994	480.00000 HA
	Applied For		25/05/1994	480.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
KALGOORLIE-BOULDER CITY	4280	25/05/1994		510.35000 HA

RENT STATUS

Due For Year End 29/11/2025: PAID IN FULL
Due For Year End 29/11/2026: $14,614.60

EXPENDITURE STATUS

Expended Year End 29/11/2024: EXPENDED IN FULL
Current Year Commitment : $51,100.00

Created 24/03/2025 14:20:30 Requested By: [redacted] Page 1 of 1

GOVERNMENT OF WESTERN AUSTRALIA

Department of **Energy, Mines, Industry Regulation and Safety**

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/447

Status: Live

TENEMENT SUMMARY

Area: 876.40000 HA
Mark Out : 27/05/1994 10:10:00
Received : 27/05/1994 15:00:00
Term Granted : 21 Years (Renewed)
Death Reason :
Death Date :
Commence : 25/01/1995
Expiry : 24/01/2037

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: White Dam
Datum: Datum is situated 4708.216 metres bearing 126 degrees 44 minutes 43 seconds from the most westerly corner of late surveyed MC 1079E
Boundary: THENCE: 2500 metres bearing 180 degrees 5900 metres bearing 320 degrees 2106.969 metres bearing 50 degrees 1484.889 metres bearing 140 degrees 500 metres bearing 230 degrees 2500 metres bearing 140 degrees Back to Datum Being part of E 26/45, which is being partially surrendered

Area :

Type	Dealing No	Start Date	Area
Surveyed		13/08/1996	876.40000 HA
Granted		25/01/1995	869.00000 HA
Applied For		27/05/1994	869.00000 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
KALGOORLIE-BOULDER CITY	4280	27/05/1994		876.40000 HA

RENT STATUS

Due For Year End 24/01/2026: PAID IN FULL
Due For Year End 24/01/2027: $25,082.20

EXPENDITURE STATUS

Expended Year End 24/01/2025: No Expenditure Lodged

Created 24/03/2025 14:19:40 Requested By: [redacted] Page 1 of 2

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/474

Status: Live

TENEMENT SUMMARY

Area:	893.55000 HA	**Death Reason :**	
Mark Out :	23/02/1995 15:38:00	**Death Date :**	
Received :	24/02/1995 09:30:00	**Commence :**	04/11/1997
Term Granted :	21 Years (Renewed)	**Expiry :**	03/11/2039

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: Binduli
Datum: Datum situated at the southern most corner of surveyed M 26/243
Boundary: THENCE: 243.71 metres bearing 45 degrees 49 minutes along surveyed boundary M 26/243 61.31 metres bearing 317 dergees 14 minutes along surveyed boundary M 26/243 194.6 metres bearing 48 degrees 48 minutes along surveyed boundary of M 26/243 1830 metres bearing 140 degrees along boundary of P 26/2442 740 metres bearing 230 degrees along boundary of P 26/2442 to the eastern most corner of surveyed M 26/430 1477.71 metres bearing 320 degrees along surveyed boundary of M 26/430 410 metres bearing 230 degrees along surveyed boundary of M 26/430 300 metres bearing 320 degrees along surveyed boundary of M 26/430 391.9 metres bearing 230 degrees along surveyed boundary of M 26/430 to the westernmost corner of surveyed M 26/430 1262.29 metres bearing 320 degrees along boundary of M 26/387 1020 metres bearing 230 degrees along boundaries of M 26/387 and P 26/2446 2480 metres bearing 325 degrees along boundaries of P 26/2447 and P 26/2448 3280 metres bearing 50 degrees along boundaries of P 26/2448 and P 26/2444 900 metres bearing 140 degrees along boundary of P 26/2444 110 metres bearing 230 degrees along boundary of P 26/2444 to the northernmost corner of surveyed M 26/115 1072.66 metres bearing 233 degrees 17 minutes along surveyed boundary of M 26/115 2679.28 metres bearing 142 degrees 43 minutes along surveyed boundaries of M 26/115 and M 26/243 15.59 metres bearing 211 degrees 45 minutes along surveyed boundary of M 26/243 202.62 metres bearing

Created 03/04/2025 10:15:10 Requested By: [redacted] Page 1 of 2

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/629

Status: Live

TENEMENT SUMMARY

Area: 295.25000 HA
Mark Out : 07/05/1997 08:33:00
Received : 07/05/1997 11:00:00
Term Granted : 21 Years (Renewed)
Death Reason :
Death Date :
Commence : 20/11/2000
Expiry : 19/11/2042

CURRENT HOLDER DETAILS

Name and Address
BELLAMEL MINING PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxx977

DESCRIPTION

Locality: Binduli
Datum: Datum situated at AMG CO ords 346028.400E 6592118.500N (zone 51)being most northern corner of surv M 26/474
Boundary: THENCE: AMG Co ords 343551.239E 6590047.600N being the most NW cnr of surv M 26/474 343179.000E 6590570.000N 344367.648E 6591537.010N on the western bdy of surv M26/447 344511.129E 6591371.369N being the most southern cnr of surv M 26/447 344507.075E 6591650.439N along the eastern bdy of surv M 26/447 344551.001E 6591686.175N along the bdy of ground available to P 26/2701 344584.706E 6593702.564N along the bdy of P 26/2372 and surv M 26/446 345545.976E 6592495.624N to the most southern cnr of surv M 26/446 345646.308E 6592573.859N along the body of surv M 26/446 346028.400E 6592118.500N BACK TO DATUM
Application is a section 49 conversion of P 26/2372 and 2449 and has either been accurately marked out with DGPS AMG co ord (zone 51) or has adopted existing surv corners.

Area :

Type	Dealing No	Start Date	Area
Surveyed		01/08/2001	295.25000 HA
Granted		20/11/2000	295.08700 HA
Applied For		07/05/1997	295.08700 HA

Created 03/04/2025 10:15:53 Requested By: [redacted] Page 1 of 2

Department of **Energy, Mines, Industry Regulation and Safety**

GOVERNMENT OF WESTERN AUSTRALIA

MINERAL TITLES ONLINE

MINING TENEMENT SUMMARY REPORT

MINING LEASE 26/833

Status: Live

TENEMENT SUMMARY

Area:	14.00500 HA	**Death Reason :**	
Mark Out :	21/05/2014 11:04:00	**Death Date :**	
Received :	22/05/2014 16:15:56	**Commence :**	28/01/2015
Term Granted :	21 Years	**Expiry :**	27/01/2036

CURRENT HOLDER DETAILS

Name and Address
NORTON GOLD FIELDS PTY LTD
HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, C/- HETHERINGTON EXPLORATION & MINING TITLE SERVICES PTY LTD, SUITE 404, GROUND FLOOR, 50 ST GEORGES TERRACE, PERTH, WA, 6000, xxxxx@hemts.com.au, xxxxxxx977

DESCRIPTION

Locality: Binduli - 5km north of:
Datum: Datum situated at MGA 94 Zone 51, 6591803N, 344644E,
Boundary: Thence to 6593792N 344615E, Thence to 6593670N 344718E, Thence to 6591841N 344688E, Thence to 6591803N, 344644E, back to datum.

Area :

Type	Dealing No	Start Date	Area
Surveyed		18/03/2021	14.00500 HA
Granted		28/01/2015	14.04870 HA
Applied For		21/05/2014	14.04870 HA

SHIRE DETAILS

Shire	Shire No	Start	End	Area
KALGOORLIE-BOULDER CITY	4280	22/05/2014		14.04870 HA

RENT STATUS

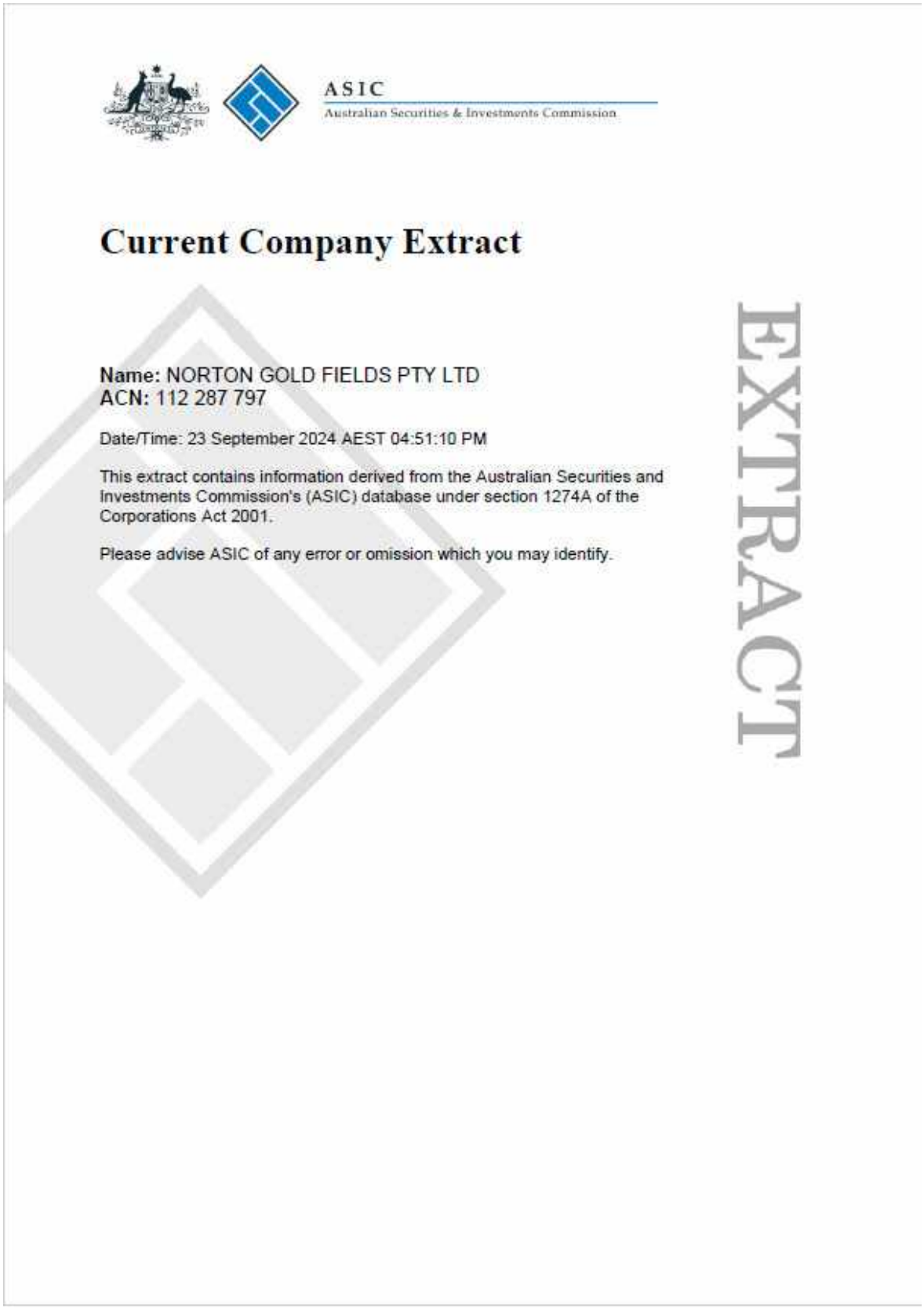
Due For Year End 27/01/2026: PAID IN FULL
Due For Year End 27/01/2027: $429.00

EXPENDITURE STATUS

Expended Year End 27/01/2025: UNDEREXPENDED $5,257.57
Current Year Commitment : $10,000.00

Created 03/04/2025 10:17:42 Requested By: [redacted] Page 1 of 1

Appendix B – ASIC Company Extract



ASIC
Australian Securities & Investments Commission

Current Company Extract

EXTRACT

Name: NORTON GOLD FIELDS PTY LTD
ACN: 112 287 797

Date/Time: 23 September 2024 AEST 04:51:10 PM

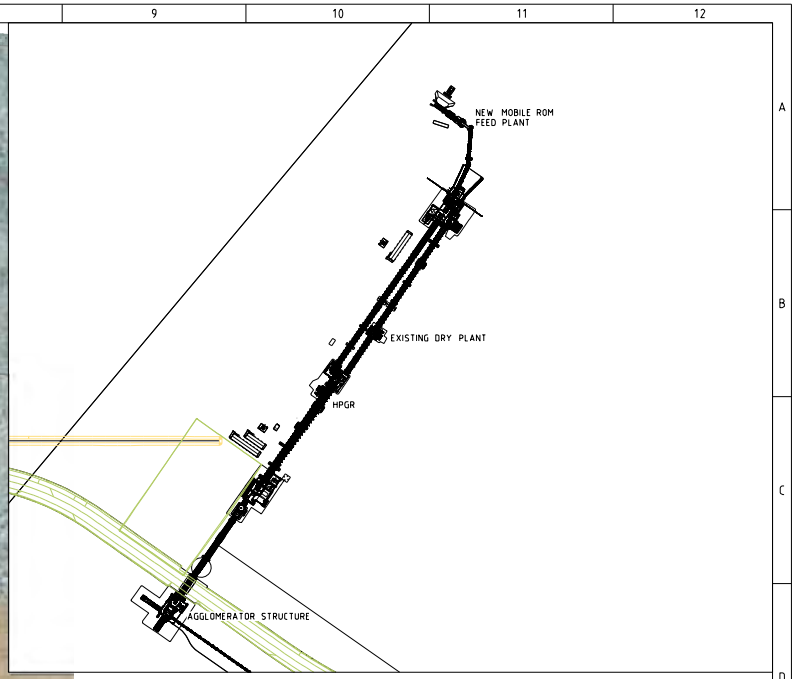
This extract contains information derived from the Australian Securities and Investments Commission's (ASIC) database under section 1274A of the Corporations Act 2001.

Please advise ASIC of any error or omission which you may identify.

Appendix C – Mobile Crushing and Screening Plant - General Arrangement

DO NOT SCALE - WORK TO DIMENSIONS

NORTH



KEY PLAN

NO	DATE	DRN	CHD	ENG	PM	REVISION
B	11.04.25	DA				ISSUED FOR INFORMATION
A	05.03.25	DA				PRELIMINARY ISSUE

REFERENCE DRAWING TITLE	DRAWING NUMBER
BINDULI NORTH HEAP LEACH PROJECT OVERALL LAYOUT -40m HIGH HEAP LEACH	814E-300-MG-001
BINDULI NORTH HEAP LEACH PROJECT OVERALL SITE ARRANGEMENT	588-300-MG-001

Norton Gold Fields Pty Ltd

MACA Interquip mintrex

814E

ABN 64 084 105 488
ph. (618) 9442 3333
fax.(618) 9442 3399

PROJECT			
NORTON GOLD FIELD PTY LTD			
DRAWN DA	CHECKED	APPROVED	DATE
DESIGN ENG	DESIGN CHK		

TITLE

BINDULI NORTH HEAP LEACH PROJECT 8MTPA EXPANSION SCOPING STUDY ROM FEED UPGRADE GA

SCALE	DRAWING No	REV
1:200	814E-300-MG-003	B

A1

FILE NAME:24017 - DRAWING BORDER FILE.DGN DATE:04/06/2024 @11:14:37 AM PLOTTED BY:DANIEL ORCHARD

Appendix D – Attachment 8A: W6504/2021/1 Heap Leach Cells 6 & 7 Environmental Compliance Report

Menzies Highway, PO Box 1653, Kalgoorlie,
Western Australia 6430
Tel (08) 9080 6800 • Fax (08) 9080 6893
ABN: 98 008 585 886 • www.nortongoldfields.com.au

Director General
Department administering the *Environmental Protection Act 1986*
Locked Bag 10
Joondalup DC WA 6919
info@dwer.wa.gov.au

RE: Environmental Compliance Report for W6504/2021/1

This Environmental Compliance Report has been prepared by Norton Gold Fields Pty Limited (Norton) to detail compliance with Condition 2 and Condition 3 (Compliance Reporting) of Works Approval W6504/2021/1. Licence details are provided in Table 1.

Table 1 – Licence details			
Works Approval number:	W6504/2021/1	Works Approval file number:	DER2018/001042-4
Holder name:	Norton Gold Fields Pty Limited		
Trading as:	Norton Gold Fields Pty Limited		
ACN:	112 287 797		
Registered business address:	'Viskovich House' Level 1, 377 Hannan Street Kalgoorlie WA 6430		
Premises details:	Binduli North Minesite Mining tenements: M26/115, M 26/243, M 26/387, M 26/420, M 26/430, M 26/445, M 26/446, M 26/447, M 26/468, M 26/474, M 26/629, M 26/833		
Reporting date:	19 September 2024		

1. Purpose

Norton has prepared this report to comply with Conditions 2 and 3 of Works Approval W6504/2021/1 which states:

2. *The works approval holder must within 60 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed:*
    - *(a) undertake an audit of their compliance with the requirements of condition 1; and*
    - *(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.*
3. *The Environmental Compliance Report required by condition 2, must include as a minimum the following:*
    - *(a) certification by a suitably qualified* professional engineer or builder that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
    - *(b)* as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and
    - *(c)* be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

This report is applicable only to heap leach cells 6 and 7 of which is detailed under item number 2 of Table 1, 'Heap leach pad'.

Menzies Highway, PO Box 1653, Kalgoorlie,
Western Australia 6430
Tel (08) 9080 6800 • Fax (08) 9080 6893
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2. Design and construction/installation requirements

As per Condition 1 of Works Approval W6504/2021/1, Norton must construct and/or install the infrastructure and/or equipment in accordance with the corresponding design and construction/installation requirements at the corresponding infrastructure location.

It is a requirement of the Works Approval that the heap leach pad is constructed with a compacted soil layer and a 1.5 mm High Density Polyethylene (HDPE) liner to maintain a minimum permeability of 3.5×10^{-15} m/s.

3. Proof of Compliance

Heap leach cells 6 and 7 has been constructed within the heap leach pad 'stage 2' boundary (Figure 1, Figure 2). The two heap leach cells have been constructed with compacted soil layer of 150mm, a 1.5mm HDPE liner and compacted soil topped with crushed rock to provide separation between the liner and plant. A certificate from the construction contractor Red Dust Holdings has been supplied in Appendix A, which has also been signed off from the Norton Gold Fields Binduli North Project Manager.

Permeability testing of the HDPE liner was completed by manufacturer Hiutex before delivery to Nortons (Appendix B). The two liners were compliant with the liner construction permeability requirement (minimum of 3.5×10^{-15} m/s), with test values of 3.6×10^{-15} m/s and 5.2×10^{-15} m/s respectively.

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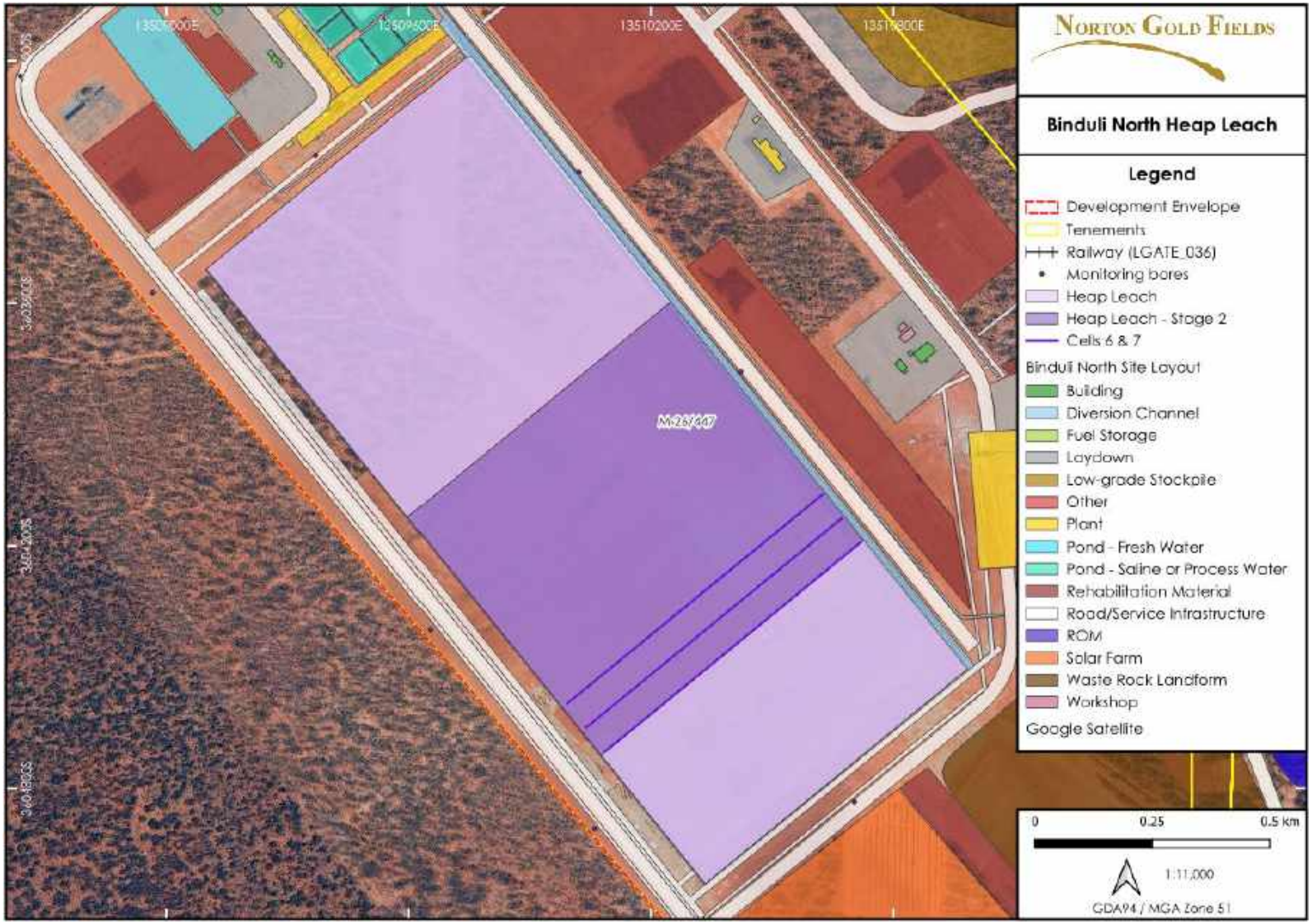

Figure 1. Binduli North Heap Leach

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Western Australia 6430
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ABN: 98 008 585 886 • www.nortongoldfields.com.au

Figure 2. Heap Leach Cells 6 & 7

4. Other Applicable Conditions

This Compliance Report also signifies Norton's intention to commence Environmental Commissioning on heap leach cells 6 & 7 as per Conditions 7 and 8 of the Works Approval W6504/2021/1. Norton understands, as per Condition 7 and 8, heap leach pad activities on cells 7 and 8 during environmental commissioning is to involve conducting the following tests of the liner's integrity:

- High-load puncture test;
- High-load permeability test; and
- High-load interface shear test.

Environmental commissioning will commence at the submission of this Compliance Report and will not exceed 180 calendar days. An Environmental Commissioning Report for heap leach cells 6 & 7 will be submitted within 60 calendar days of the completion date of environmental commissioning.

5. Declaration

I declare that the information in this Environmental Compliance Report is true and correct. As a person authorised to represent the works approval holder (Norton) I certify that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1 of Works Approval W6504/2021/1.

[redacted]

Position: Environmental Advisor
Date: 19/09/2024

Norton Gold Fields

Menzies Highway, PO Box 1653, Kalgoorlie,
Western Australia 6430
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APPENDIX A

Binduli North Heap Leach Phase 2 Project

NORTON GOLD FIELDS

Area Handover Certificate

Project: BNHLP

From (sub)Contract:	RDH - Bulk Earthworks
To Client:	Norton Gold Fields
Report Number:	002
Location:	Binduli North Heap Leach
Area of Zone	Heap Leach Pad Cell 6 & Cell 7
Design Documents:	IFC Drawings 801-395-A2003- 001, 002, 010, 025, 050, 100, 110, 120, 130, 140, 301, 302, 303, 304
Facility Structure:	300mm F2 Drainage Material / Pipework 300mm Compacted Zone A Cushion Layer 1.5mm Smooth/Textured HDPE Liner 150mm Compacted Zone A Soil Liner Trenches, Divider Berms, Perimeter Berms Subgrade/Cut&Fill/ Foundation Prepration
Date of Submission:	11 September 2024
Document Submission:	MDR Cell 6-7 Closed TQs, ITPs, Lot Maps, Material Cerificate & Test Reports, Survey Reports, Welders Competency Statement, Liner Placement/Test Records, Punchlist

Date: 12-Sep-24

Revision: 0

A.1 Attachments

Plot Plan (Area Delivered)	MDR Cell 6-7
Engineering Instructions	Project Specificaiton PE801-00395/10 IFC Drawings 801-395-A2003- 001, 002, 010, 025, 050, 100, 110, 120, 130, 140, 301, 302, 303, 304
Others	N/A

A.2 Remarks

This Certificate certifies that the construction work for Heap Leach Pad Cell 6 & Cell 7 has been carried out in accordance with project specification, IFC design documents and relevant Regulations. Heap Leach Pad Cell 6 & Cell 7 is completed and the work site is deemed to be safe for NGF Operations.

A.3 Acceptance

Outgoing Area Owner - Red Dust Holdings

Supervisor

Name:	Gavin McBride		
Date:	12-Sep-24	Signature	[redacted] 12/09/2024.

Norton Gold Fields

Supervisor			**Punch List Items Identified**	
Name:	Stone (Qingjun) Yu		☑ YES	☐ No
Date:	12-Sep-24	Signature:	[redacted]	

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Western Australia 6430
Tel (08) 9080 6800 • Fax (08) 9080 6893
ABN: 98 008 585 886 • www.nortongoldfields.com.au

APPENDIX B

Huikwang Corporation

Quality Statement

To: Norton Gold Fields Pty Ltd.
PO NO: NGF-2024-142
Subject: Test results of water vapor transmission (ASTM E96)

This is to certify that the following delivery items meet the quality requirement of water vapor transmission (ASTM E96).

Item	Test value	Unit	Specification	Result
HUITEX HP150 HDPE Smooth 1.5mm Liner Roll Size: 8m(W) x 140m(L)	3.6×10^{-15}	g.cm/(cm^2.s.Pa)	$\leq 1.0 \times 10^{-13}$	Pass
HUITEX HX150 HDPE DST Textured 1.5mm Liner Roll Size:8m(W) x 128m(L)	5.2×10^{-15}	g.cm/(cm^2.s.Pa)	$\leq 1.0 \times 10^{-13}$	Pass

Yours sincerely,

[redacted]

R&D Department

259 Section 1 Majia Road, Madou, Tainan 721010, Taiwan
Phone: +886-6-570-2181 Fax: +886-6-570-0065
www.huitex.com geo@huitex.com

Appendix E – Attachment 8B: W6504/2021/1 Heap Leach Cells 8-15 Environmental Compliance Report

NORTON GOLD FIELDS

Menzies Highway, PO Box 1653, Kalgoorlie,
Western Australia 6430
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ABN: 98 008 585 886 • www.nortongoldfields.com.au

Director General
Department administering the *Environmental Protection Act 1986*
Locked Bag 10
Joondalup DC WA 6919
info@dwer.wa.gov.au

RE: Environmental Compliance Report for W6504/2021/1

This Environmental Compliance Report has been prepared by Norton Gold Fields Pty Limited (Norton) to detail compliance with Condition 2 and Condition 3 (Compliance Reporting) of Works Approval W6504/2021/1. Licence details are provided in Table 1.

Table 1 – Licence details			
Works Approval number:	W6504/2021/1	Works Approval file number:	DER2018/001042-4
Holder name:	Norton Gold Fields Pty Limited		
Trading as:	Norton Gold Fields Pty Limited		
ACN:	112 287 797		
Registered business address:	'Viskovich House' Level 1, 377 Hannan Street Kalgoorlie WA 6430		
Premises details:	Binduli North Minesite Mining tenements: M26/115, M 26/243, M 26/387, M 26/420, M 26/430, M 26/445, M 26/446, M 26/447, M 26/468, M 26/474, M 26/629, M 26/833		
Reporting date:	30 December 2024		

1. Purpose

Norton has prepared this report to comply with Conditions 2 and 3 of Works Approval W6504/2021/1 which states:

2. *The works approval holder must within 60 calendar days of an item of infrastructure or equipment required by condition 1 being constructed and/or installed:*
    - *(a) undertake an audit of their compliance with the requirements of condition 1; and*
    - *(b) prepare and submit to the CEO an Environmental Compliance Report on that compliance.*
3. *The Environmental Compliance Report required by condition 2, must include as a minimum the following:*
    - *(a) certification by a suitably qualified* professional engineer or builder that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1;
    - *(b)* as constructed plans and a detailed site plan for each item of infrastructure or component of infrastructure specified in condition 1; and
    - *(c)* be signed by a person authorised to represent the works approval holder and contains the printed name and position of that person.

This report is applicable only to heap leach cells 8 - 15 of which is detailed under item number 2 of Table 1, 'Heap leach pad'.

NORTON GOLD FIELDS

Menzies Highway, PO Box 1653, Kalgoorlie,
Western Australia 6430
Tel (08) 9080 6800 • Fax (08) 9080 6893
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2. Design and construction/installation requirements

As per Condition 1 of Works Approval W6504/2021/1, Norton must construct and/or install the infrastructure and/or equipment in accordance with the corresponding design and construction/installation requirements at the corresponding infrastructure location.

It is a requirement of the Works Approval that the heap leach pad is constructed with a compacted soil layer and a 1.5 mm High Density Polyethylene (HDPE) liner to maintain a minimum permeability of 3.5×10^{-15} m/s.

3. Proof of Compliance

Heap leach cells 8 - 15 has been constructed within the heap leach pad 'stage 2' boundary (Figure 1, Figure 2). The two heap leach cells have been constructed with compacted soil layer of 150mm, a 1.5mm HDPE liner and compacted soil topped with crushed rock to provide separation between the liner and plant. An area handover certificate has been supplied in Appendix A, which has been signed off from the Norton Gold Fields Binduli North Project and Plant Operations Managers. A construction plan for Binduli North Heap Leach Stage 2 has been supplied in Appendix B.

Permeability testing of the HDPE liner was completed by manufacturer Hiutex before delivery to Nortons (Appendix C). The liners were compliant with the liner construction permeability requirement (minimum of 3.5×10^{-15} m/s), with test values of 3.6×10^{-15} m/s and 5.2×10^{-15} m/s respectively.

NORTON GOLD FIELDS

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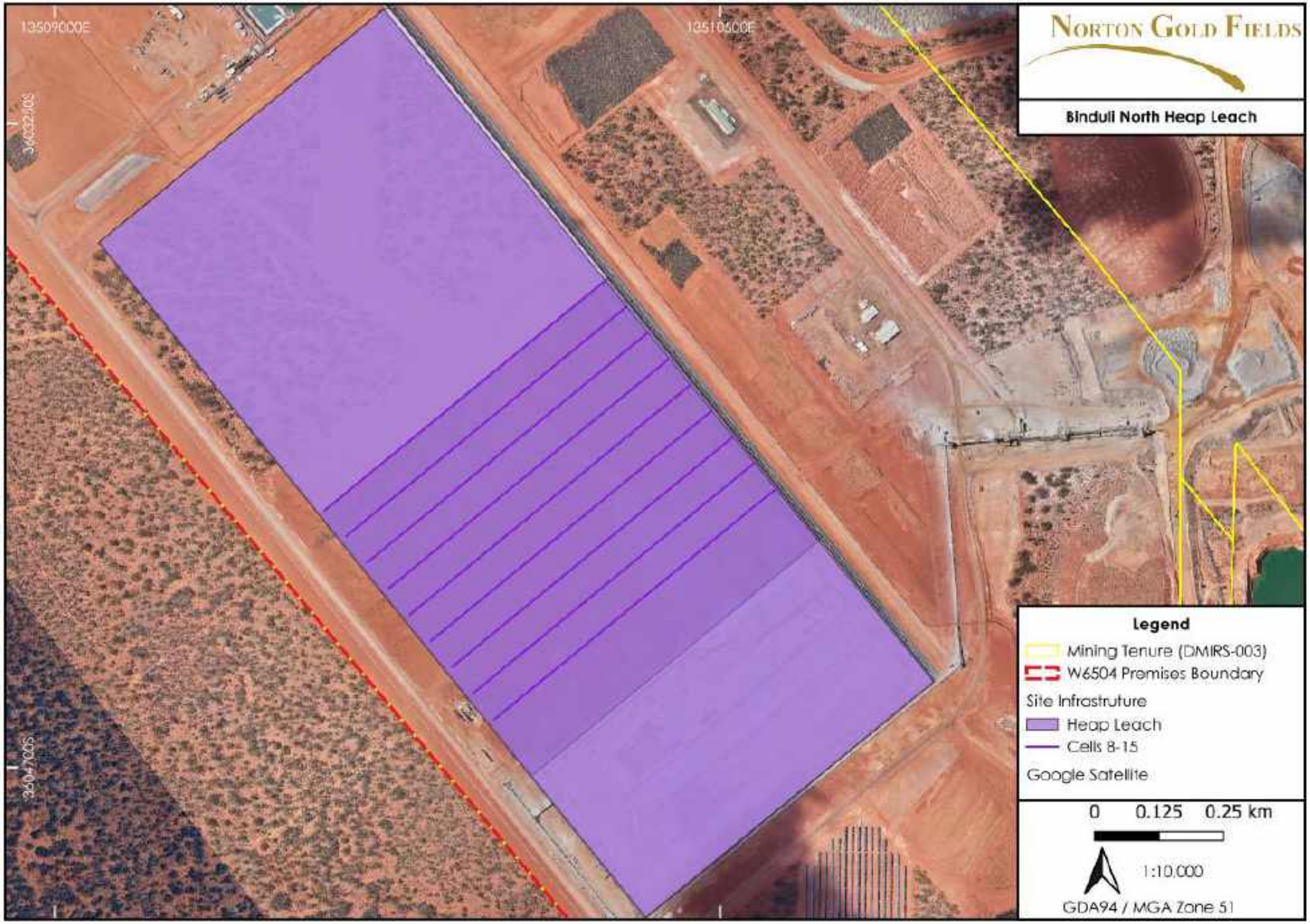

Figure 1. Binduli North Heap Leach

NORTON GOLD FIELDS

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Western Australia 6430
Tel (08) 9080 6800 • Fax (08) 9080 6893
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Figure 2. Heap Leach Cells 8-15

4. Other Applicable Conditions

This Compliance Report also signifies Norton's intention to commence Environmental Commissioning on heap leach cells 8-15 as per Conditions 7 and 8 of the Works Approval W6504/2021/1. Norton understands, as per Condition 7 and 8, heap leach pad activities on cells 8-15 during environmental commissioning is to involve conducting the following tests of the liner's integrity:

- High-load puncture test;
- High-load permeability test; and
- High-load interface shear test.

Environmental commissioning will commence at the submission of this Compliance Report and will not exceed 180 calendar days. An Environmental Commissioning Report for heap leach cells 8-15 will be submitted within 60 calendar days of the completion date of environmental commissioning.

5. Declaration

I declare that the information in this Environmental Compliance Report is true and correct. As a person authorised to represent the works approval holder (Norton) I certify that the items of infrastructure or component(s) thereof, as specified in condition 1, have been constructed in accordance with the relevant requirements specified in condition 1 of Works Approval

[redacted]

Position: Environmental Advisor
Date: 30/12/2024

Norton Gold Fields

Menzies Highway, PO Box 1653, Kalgoorlie,
Western Australia 6430
Tel (08) 9080 6800 • Fax (08) 9080 6893
ABN: 98 008 585 886 • www.nortongoldfields.com.au

Appendix A

Binduli North Heap Leach Phase 2 Project

NORTON GOLD FIELDS

Area Handover Certificate		Project: NGF-2023-125
From (Department):	NGF Project Development	Date: 19-Dec-2024
To (Department):	NGF Processing Operation	Revision: 0
Report Number:	01	
Location:	Binduli North Heap Leach Pad - stage 2	
Area of Zone:	10 cells from cell 6 to 15, Emergency Pond, Sediment Pond	
Design Documents:	As per attached final docs	
Facility Structure:	Binduli North Heap Leach Pad stage 2 including 10 cells from cell 6 to 15, emergency pond, sediment pond etc.	
Date of Submission:	19 December 2024	
Document Submission:	MDR Closed TQs, ITPs, Lot Maps, Material Certificate & Test Reports, Survey Reports, Welders Competency Statement, Liner Placement/Test Records, Punchlist etc.	

A.1 Attachments

Plot Plan: (Area Delivered)	Binduli North Heap Leach Pad - stage 2
Engineering Instructions:	As per attached final docs
Others:	N/A

A.2 Remarks

This Certificate certifies that the construction work for Binduli North Heap Leach Pad of Stage 2 has been carried out in accordance with project specification, IFC design documents and relevant Regulations.
Binduli North Heap Leach Pad of Stage 2 is completed, and the work site is deemed to be safe for NGF Processing Operations.

A.3 Acceptance

Norton Gold Fields - Project Development

Project Manager - Binduli			
Name:	Stone (Qingjun) Yu		
Date: 19/12/2024		Signature: [redacted]	

Norton Gold Fields - Processing Operation

Plant Operations Manager - Binduli Plant			Punch List Items Identified	
Name:	Shehan Morseth		☑ YES	☐ No
Date:	20/12/24	Signature: [redacted]		

NORTON GOLD FIELDS

Menzies Highway, PO Box 1653, Kalgoorlie,
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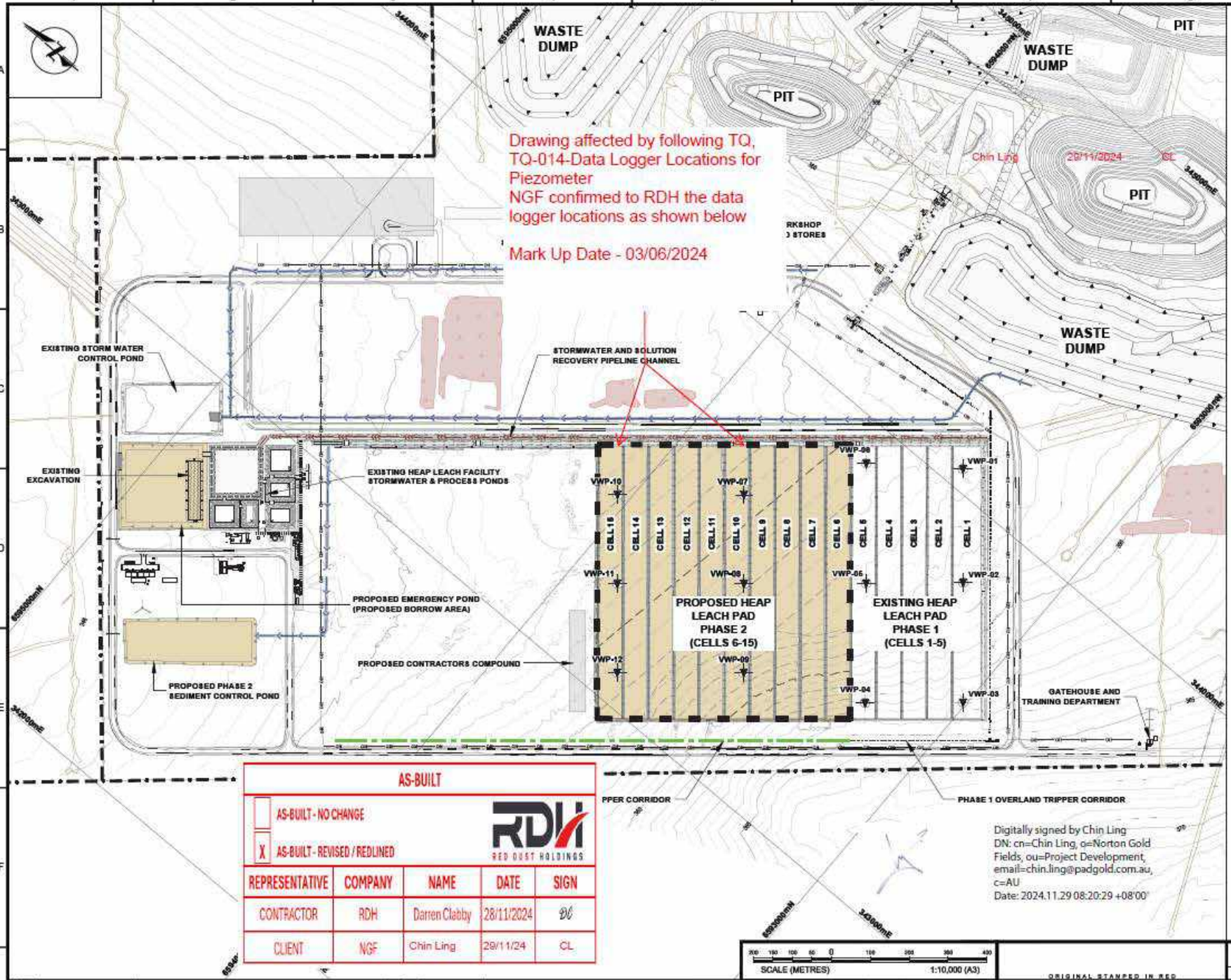
Appendix B



LEGEND:

- EXISTING ROAD
- EXISTING TENEMENT BOUNDARY
- EXISTING SECURITY FENCE
- EXISTING OVERHEAD POWERLINE
- EXISTING TOPSOIL STOCKPILE
- EXISTING SURFACE WATER MANAGEMENT DIVERSION CHANNEL
- EXISTING HLP SOLUTION CHANNEL
- PHASE 2 CONSTRUCTION WORKS
- PHASE 2 OVERLAND TRIPPER CONVEYOR CORRIDOR ALIGNMENT (SEE NOTE 2)
- VIBRATING WIRE PIEZOMETER LOCATION

NOTES:

1. 0.5m CONTOUR INTERVALS SHOWN.
2. PHASE 2 OVERLAND TRIPPER CONVEYOR CORRIDOR TO BE CONSTRUCTED TO FINAL PHASE 3 EXTENT (BY OTHERS).
3. FOR MONITORING INSTRUMENTATION DETAILS REFER DRAWING 801-395-A2003-925.
4. PIEZOMETER CABLES TO BE INSTALLED AS PER MANUFACTURER'S SPECIFICATIONS TO DATA LOGGER LOCATIONS AS REQUIRED BY NORTON GOLD FIELDS LIMITED.

VIBRATING WIRE PIEZOMETER LOCATIONS

PIEZOMETER I.D.	EASTING (m)	NORTHING (m)	STATUS
VWP-01	344050.3	6593394.6	INSTALLED
VWP-02	343827.1	6593206.6	INSTALLED
VWP-03	343591.5	6593008.6	INSTALLED
VWP-04	343428.4	6593199.9	INSTALLED
VWP-05	343665.3	6593396.0	INSTALLED
VWP-06	343901.2	6593594.1	INSTALLED
VWP-07	343637.4	6593782.4	PROPOSED
VWP-08	343462.2	6593635.4	PROPOSED
VWP-09	343287.1	6593488.5	PROPOSED
VWP-10	343428.5	6594031.4	PROPOSED
VWP-11	343253.3	6593884.4	PROPOSED
VWP-12	343078.2	6593737.4	PROPOSED

AS-BUILT

- [ ] AS-BUILT - NO CHANGE
- [X] AS-BUILT - REVISED / REDLINED

RDH RED DUST HOLDINGS

REPRESENTATIVE	COMPANY	NAME	DATE	SIGN
CONTRACTOR	RDH	Darren Clabby	28/11/2024	DC
CLIENT	NGF	Chin Ling	29/11/24	CL

Digitally signed by Chin Ling
DN: cn=Chin Ling, o=Norton Gold Fields, ou=Project Development, email=chin.ling@padgold.com.au, c=AU
Date: 2024.11.29 08:20:29 +08'00'

SHEET SIZE A3	REFERENCES	DRAWING No.	DRAWING TITLE
		801-395-A2003-925	MONITORING INSTRUMENTATION DETAILS

REVISIONS	REV	DATE	DESCRIPTION	DRN	DESIGN	CKD	APP	CLIENT APP
	0	20/09/2023	ISSUED FOR CONSTRUCTION	TK	PDM	SL	DJTM	

	DATE	DESIGNED	CHECKED	APPROVED	CLIENT APP'D
ORIGINAL STAMPED IN RED					

Knight Piésold CONSULTING

NORTON GOLD FIELDS LIMITED
BINDULI NORTH HEAP LEACH PROJECT
HEAP LEACH FACILITY (PHASE 2)
VIBRATING WIRE PIEZOMETERS LOCATION PLAN

SCALE 1:10,000
STATUS: FOR CONSTRUCTION
DRAWING NUMBER **801-395-A2003-900**
REV **0**

NORTON GOLD FIELDS

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Appendix C

Huikwang Corporation

Quality Statement

To: Norton Gold Fields Pty Ltd.
PO NO: NGF-2024-142
Subject: Test results of water vapor transmission (ASTM E96)

This is to certify that the following delivery items meet the quality requirement of water vapor transmission (ASTM E96).

Item	Test value	Unit	Specification	Result
HUITEX HP150 HDPE Smooth 1.5mm Liner Roll Size: 8m(W) x 140m(L)	3.6×10^{-15}	$g.cm/(cm^2.s.Pa)$	$\leq 1.0 \times 10^{-13}$	Pass
HUITEX HX150 HDPE DST Textured 1.5mm Liner Roll Size:8m(W) x 128m(L)	5.2×10^{-15}	$g.cm/(cm^2.s.Pa)$	$\leq 1.0 \times 10^{-13}$	Pass

Yours sincerely,

[redacted]

R&D Department

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Appendix F - Attachment 8C: W6504/2021/1 Heap Leach Cells 6 & 7 Environmental Commissioning Report

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Director General
Department administering the *Environmental Protection Act 1986*
Locked Bag 10
Joondalup DC WA 6919
info@dwer.wa.gov.au

RE: Environmental Commissioning Report for W6504/2021/1

This Environmental Commissioning Report has been prepared by Norton Gold Fields Pty Limited (Norton) to detail compliance with Condition 9 (Compliance Reporting) of Works Approval W6504/2021/1. Licence details are provided in Table 1.

Table 1 – Licence details			
Works Approval number:	W6504/2021/1	Works Approval file number:	DER2018/001042-4
Holder name:	Norton Gold Fields Pty Limited		
Trading as:	Norton Gold Fields Pty Limited		
ACN:	112 287 797		
Registered business address:	'Viskovich House' Level 1, 377 Hannan Street Kalgoorlie WA 6430		
Premises details:	Binduli North Minesite Mining tenements: M26/115, M 26/243, M 26/387, M 26/420, M 26/430, M 26/445, M 26/446, M 26/447, M 26/468, M 26/474, M 26/629, M 26/833		
Reporting date:	19 September 2024		

1. Purpose

Norton has prepared this report to comply with Condition 9 of Works Approval W6504/2021/1 which states:

> *The works approval holder must submit to the CEO an Environmental Commissioning Report within 60 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 3.*

This report is applicable only to the Heap Leach Pad as included in Table 3 which includes the following commissioning requirements:

- Undertake the following tests of the Heap Leach liner's integrity:
  - High-load puncture test;
  - High-load permeability test; and
  - High-load interface shear test.

2. Commissioning Testing

As part of the environmental commissioning requirements, as per condition 8, Norton is required to undertake high-load puncture, permeability, and interface shear testing to test the integrity of the heap leach liner. The 1.5mm HDPE liner used for the construction of the heap leach was permeability tested upon purchase prior to delivery to Norton. It is understood that the Works Approval requests for the above-mentioned testing to be carried out during the commissioning phase, post construction, however, as part of installation the liner is covered insitu and therefore inaccessible for further testing.

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The quality test certificates are provided in Appendix A and Appendix B.

Norton is of the opinion that the undertaken analysis and supplied test certificates meet the requirements of the commissioning test work. The test work shows the liner:

- Permeability at a minimum of 3.5 x 10^{-15} m/s
- Puncture resistance is equal to >592N which complies with ASTM D4833
- Tear resistance is equal to >223N which complies with ASTM D1004.

Compaction testing and liner inspections were undertaken frequently throughout the construction period by suitably qualified engineers. Inspection registers have been provided via the below link.

W6504-2021-1 - Heap Leach Commissioning Inspection Register - OneDrive (sharepoint.com)

All infield non-destructive testing passed.

3. Time Limited Operations

Norton believes the commissioning requirements for the heap leach have been met. Test work was undertaken by the manufacturer prior to supply to Norton to ensure the liner complied with the appropriate standards. This testing included puncture, permeability, and shear testing. During the installation of the liner, non-destructive testing and weld inspections were conducted to ensure the integrity of the liner. Norton is of the opinion the undertaken testing meets the requirements of the commissioning test work required, despite not being undertaken during a traditional commissioning phase.

As the required commissioning test work has been undertaken Norton wishes to commence time limited operations. During time limited operations, Norton will ensure that the 1.5mm heap leach liner will be maintained, as per Table 4 of the Works Approval.

4. Declaration

I declare that the information in this Environmental Commissioning Report is true and correct. As a person authorised to represent the works approval holder (Norton) I certify that the commission requirements thereof, as specified in condition 8, have been achieved.

[redacted]

Position: Environmental Advisor
Date: 19/09/2024

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Appendix A – HDPE Liner Water Vapour Transmission Quality Certificate

Huikwang Corporation

Quality Statement

To: Norton Gold Fields Pty Ltd.
PO NO: NGF-2024-142
Subject: Test results of water vapor transmission (ASTM E96)

This is to certify that the following delivery items meet the quality requirement of water vapor transmission (ASTM E96).

Item	Test value	Unit	Specification	Result
HUITEX HP150 HDPE Smooth 1.5mm Liner Roll Size: 8m(W) x 140m(L)	3.6×10^{-15}	g.cm/(cm^2.s.Pa)	$\leq 1.0 \times 10^{-13}$	Pass
HUITEX HX150 HDPE DST Textured 1.5mm Liner Roll Size:8m(W) x 128m(L)	5.2×10^{-15}	g.cm/(cm^2.s.Pa)	$\leq 1.0 \times 10^{-13}$	Pass

Yours sincerely,

[redacted]
R&D Department

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www.huitex.com geo@huitex.com

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ABN: 98 008 585 886 • www.nortongoldfields.com.au

Appendix B – HDPE Liner Certificate of Quality

Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400014

Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22440701	1.51	0.95	32	60	17	880	265	595	Cat1	2.5	135	>65	>55	>600
22440702	1.53	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440703	1.54	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440704	1.53	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440705	1.52	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440706	1.53	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440707	1.51	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440708	1.51	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440709	1.52	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440710	1.52	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440801	1.53	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440802	1.53	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600
22440803	1.52	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600
22440804	1.54	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600
22440805	1.54	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600

Hong Yi Lin

Laboratory Leader

HUIKWANG CORPORATION HKC www.huikwang.com

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238 (190℃,2.16kg)	0.12
Supplier:	Qatar Chemical			

No : 240400015

Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22440504	1.51	0.95	30	57	15	878	265	607	Cat1	2.5	137	>65	>55	>600
22440505	1.51	0.95	30	57	15	878	265	607	Cat1	2.5	137	>65	>55	>600
22440506	1.50	0.95	30	57	15	878	265	607	Cat1	2.5	137	>65	>55	>600
22440507	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440508	1.51	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440509	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440510	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440601	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440602	1.51	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440603	1.52	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440604	1.53	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440605	1.53	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440606	1.52	0.95	31	55	17	835	266	595	Cat1	2.5	137	>65	>55	>600
22440607	1.52	0.95	32	60	17	884	266	595	Cat1	2.5	137	>65	>55	>600
22440110	1.51	0.949	31	56	17	840	266	619	Cat1	2.6	142	>65	>55	>600

Hong Yi Lin

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232001	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400016

Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22440201	1.52	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440202	1.52	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440203	1.53	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440204	1.53	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440205	1.53	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440405	1.52	0.949	31	57	16	862	265	594	Cat1	2.4	143	>65	>55	>600
22440406	1.53	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440407	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440408	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440409	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440501	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440502	1.51	0.95	30	57	15	878	265	607	Cat1	2.5	141	>65	>55	>600
22433101	1.51	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22433102	1.53	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22433103	1.52	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600

Hong Yi Lin

Laboratory Leader

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400017

Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22433104	1.50	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22433105	1.50	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22440105	1.52	0.949	30	57	18	880	269	617	Cat1	2.4	142	>65	>55	>600
22440107	1.52	0.949	31	56	17	840	266	619	Cat1	2.6	141	>65	>55	>600
22440108	1.52	0.949	31	56	17	840	266	619	Cat1	2.6	141	>65	>55	>600
22440206	1.53	0.949	30	58	17	871	270	610	Cat1	2.4	141	>65	>55	>600
22440207	1.54	0.949	30	58	17	871	270	610	Cat1	2.4	141	>65	>55	>600
22440307	1.52	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440308	1.53	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440309	1.52	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440310	1.52	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440401	1.53	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600
22440402	1.53	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600
22440403	1.53	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600
22440404	1.52	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600

Hong Yi Lin

Laboratory Leader

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.937
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.1
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400020

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441602	1.46	0.948	0.44	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441603	1.46	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441604	1.46	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441608	1.45	0.949	0.52	32	42	13	614	314	622	Cat1	2.4	134	65	70	>600
22441609	1.45	0.949	0.52	32	42	13	614	314	622	Cat1	2.4	134	65	70	>600
22441610	1.45	0.949	0.40	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600
22441701	1.47	0.949	0.40	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441702	1.47	0.949	0.39	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441703	1.46	0.949	0.39	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441704	1.46	0.949	0.41	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441705	1.46	0.947	0.41	33	39	13	525	314	634	Cat1	2.4	134	65	70	>600
22441706	1.46	0.947	0.37	33	39	13	525	314	634	Cat1	2.4	134	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400021

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441407	1.46	0.949	0.44	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600
22441408	1.45	0.949	0.34	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600
22441505	1.45	0.948	0.32	32	40	13	586	315	631	Cat1	2.4	134	65	70	>600
22441506	1.46	0.948	0.31	32	40	13	614	314	622	Cat1	2.4	134	65	70	>600
22441507	1.45	0.948	0.31	32	40	13	614	314	622	Cat1	2.4	134	65	70	>600
22441508	1.45	0.948	0.40	32	40	13	586	315	631	Cat1	2.4	134	65	70	>600
22441509	1.45	0.948	0.40	32	40	13	586	315	631	Cat1	2.4	134	65	70	>600
22441510	1.45	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441601	1.47	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441605	1.46	0.949	0.41	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600
22441606	1.46	0.949	0.41	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600
22441607	1.46	0.949	0.52	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400022

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441309	1.46	0.948	0.40	32	40	13	590	324	635	Cat1	2.5	139	65	70	>600
22441310	1.47	0.948	0.40	32	40	13	590	324	635	Cat1	2.5	139	65	70	>600
22441311	1.46	0.948	0.33	32	42	13	606	324	637	Cat1	2.4	139	65	70	>600
22441401	1.45	0.948	0.33	32	42	13	614	314	622	Cat1	2.4	139	65	70	>600
22441402	1.46	0.948	0.34	32	42	13	614	314	622	Cat1	2.4	139	65	70	>600
22441403	1.45	0.948	0.34	32	42	13	606	324	635	Cat1	2.4	139	65	70	>600
22441409	1.45	0.949	0.29	32	41	13	599	313	636	Cat1	2.4	139	65	70	>600
22441410	1.45	0.949	0.29	32	41	13	599	313	636	Cat1	2.4	139	65	70	>600
22441501	1.45	0.949	0.32	33	35	13	445	310	647	Cat1	2.4	139	65	70	>600
22441502	1.45	0.949	0.32	33	35	13	445	310	647	Cat1	2.4	139	65	70	>600
22441503	1.46	0.949	0.29	33	35	13	445	310	647	Cat1	2.4	139	65	70	>600
22441504	1.46	0.949	0.29	33	35	13	445	310	647	Cat1	2.5	139	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400023

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441209	1.47	0.948	0.31	32	40	12	572	324	644	Cat1	2.4	139	65	70	>600
22441210	1.46	0.948	0.31	32	40	12	572	324	644	Cat1	2.4	139	65	70	>600
22441301	1.46	0.948	0.38	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441302	1.45	0.948	0.38	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441303	1.45	0.948	0.39	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441304	1.46	0.948	0.39	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441305	1.47	0.948	0.40	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441306	1.46	0.948	0.40	32	40	13	591	324	641	Cat1	2.5	139	65	70	>600
22441307	1.46	0.948	0.41	32	40	13	591	324	641	Cat1	2.5	139	65	70	>600
22441404	1.46	0.948	0.33	32	42	13	606	324	635	Cat1	2.4	139	65	70	>600
22441405	1.46	0.949	0.34	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600
22441406	1.46	0.949	0.34	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009/33232011	Density, g/cm^3	ASTM D792	0.938/0.937
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12/0.1
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400026

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441108	1.46	0.95	0.31	33	45	13	640	304	635	Cat1	2.4	135	65	70	>600
22441109	1.47	0.95	0.30	33	45	13	640	304	635	Cat1	2.4	135	65	70	>600
22441110	1.47	0.95	0.30	33	45	13	640	304	635	Cat1	2.4	135	65	70	>600
22441201	1.46	0.95	0.32	32	40	12	568	324	636	Cat1	2.4	137	65	70	>600
22441202	1.45	0.948	0.32	32	40	12	568	324	636	Cat1	2.3	137	65	70	>600
22441308	1.46	0.948	0.40	32	40	13	591	324	635	Cat1	2.5	139	65	70	>600
22441802	1.45	0.947	0.34	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441803	1.45	0.947	0.33	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441804	1.45	0.947	0.33	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441805	1.45	0.947	0.34	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441806	1.46	0.947	0.34	33	36	13	458	314	630	Cat1	2.4	133	65	70	>600
22441807	1.45	0.947	0.33	33	36	13	458	314	630	Cat1	2.4	133	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009/33232011	Density, g/cm^3	ASTM D792	0.938/0.937
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12/0.1
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400027

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441203	1.46	0.948	0.32	32	40	12	568	324	644	Cat1	2.3	138	65	70	>600
22441204	1.45	0.948	0.32	32	40	12	568	324	644	Cat1	2.3	137	65	70	>600
22441205	1.45	0.948	0.31	32	40	12	568	324	644	Cat1	2.3	139	65	70	>600
22441206	1.45	0.948	0.31	32	40	12	572	325	640	Cat1	2.4	138	65	70	>600
22441207	1.45	0.948	0.35	32	40	12	572	325	640	Cat1	2.4	139	65	70	>600
22441208	1.47	0.948	0.35	32	40	12	572	325	640	Cat1	2.4	138	65	70	>600
22441707	1.45	0.947	0.37	33	39	13	525	314	634	Cat1	2.4	134	65	70	>600
22441708	1.45	0.947	0.37	33	39	13	525	314	634	Cat1	2.4	135	65	70	>600
22441709	1.45	0.947	0.34	33	39	13	525	314	634	Cat1	2.4	136	65	70	>600
22441710	1.45	0.947	0.34	33	36	13	447	314	637	Cat1	2.4	134	65	70	>600
22441711	1.45	0.947	0.36	33	36	13	447	314	637	Cat1	2.4	137	65	70	>600
22441801	1.45	0.947	0.36	33	36	13	447	314	637	Cat1	2.4	134	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400033

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441808	1.46	0.945	0.35	33	43	14	605	312	642	Cat1	2.4	136	65	70	>600
22441809	1.46	0.945	0.38	33	43	14	605	312	642	Cat1	2.4	136	65	70	>600
22441810	1.46	0.945	0.38	33	43	14	605	312	642	Cat1	2.4	136	65	70	>600
22441901	1.46	0.946	0.37	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441902	1.46	0.946	0.37	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441903	1.46	0.946	0.38	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441904	1.45	0.947	0.38	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441905	1.45	0.947	0.35	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441906	1.45	0.948	0.35	32	43	14	627	312	642	Cat1	2.4	136	65	70	>600
22441907	1.45	0.948	0.36	32	43	14	627	312	642	Cat1	2.4	136	65	70	>600
22441908	1.45	0.948	0.36	32	43	14	627	312	642	Cat1	2.4	136	65	70	>600
22441909	1.46	0.948	0.34	32	41	12	597	312	642	Cat1	2.4	136	65	70	>600

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Huikwang Corporation

CERTIFICATE OF QUALITY

No: 240400033-1

Roll Identification: Date: 2024.04.29

Product HUITEX® HDPE Welding Rod WR050

Size 5 Kg / Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232004	Density, g/cm^3	ASTM D792	0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.10
Supplier:	Qatar Chemical		(190℃,2.16kg)	

Property	Units	Test Method	Specification	Test Results
WR Lot#				HGSNS-240300002
Diameter	mm	caliper	5.0±0.3	4.87
Density	g/cm^3	ASTM D792	0.940	0.946
Carbon Black Content	%	ASTM D1603	2～3	2.43
Melt Flow Index	g/10min	ASTM D1238 190℃, 2.16kg	<1.00	0.112

Hong Yi Lin

Laboratory Leader

HUITEX®

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Huikwang Corporation

CERTIFICATE OF QUALITY

No: 240400033-2

Roll Identification: Date: 2024.04.29

Product HUITEX® HDPE Welding Rod WR050

Size 5 Kg / Roll

Resin Information:

Lot Number: 33223589

Type: TR400

Supplier: Qatar Chemical

Resin Test Data:

Density, g/cm^3	ASTM D792	0.9379
M.I., g/ 10 min. (190℃,2.16kg)	ASTM D1238	0.11

Property	Units	Test Method	Specification	Test Results
WR Lot#				HGSNS-230700001
Diameter	mm	caliper	5.0±0.3	4.71
Density	g/cm^3	ASTM D792	0.940	0.946
Carbon Black Content	%	ASTM D1603	2～3	2.68
Melt Flow Index	g/10min	ASTM D1238 190℃, 2.16kg	<1.00	0.603

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400034

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
													Std-OIT		
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442301	1.45	0.948	0.48	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442302	1.45	0.948	0.48	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442303	1.45	0.948	0.47	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442304	1.45	0.948	0.47	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442307	1.46	0.948	0.42	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442308	1.45	0.948	0.42	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442309	1.45	0.948	0.45	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442310	1.46	0.948	0.45	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442311	1.46	0.948	0.39	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600
22442401	1.45	0.948	0.39	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600
22442402	1.46	0.948	0.37	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600
22442403	1.46	0.948	0.37	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400035

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442202	1.45	0.947	0.37	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442203	1.45	0.947	0.36	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442204	1.45	0.947	0.36	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442205	1.45	0.947	0.39	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442206	1.46	0.949	0.39	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442207	1.46	0.949	0.38	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442208	1.46	0.949	0.38	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442209	1.45	0.949	0.37	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442210	1.46	0.949	0.37	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442211	1.45	0.948	0.38	31	39	13	535	223	631	Cat1	2.4	140	65	70	>600
22442305	1.46	0.947	0.47	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442306	1.46	0.948	0.47	32	41	13	560	228	643	Cat1	2.3	140	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400036

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442009	1.45	0.949	0.41	32	40	13	529	242	642	Cat1	2.3	136	65	70	>600
22442010	1.45	0.949	0.41	32	40	13	529	242	642	Cat1	2.3	136	65	70	>600
22442011	1.45	0.948	0.42	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442101	1.45	0.948	0.42	33	43	13	602	231	647	Cat1	2.4	136	65	70	>600
22442102	1.45	0.948	0.36	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442103	1.45	0.948	0.38	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442104	1.47	0.948	0.38	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442107	1.46	0.949	0.36	33	42	13	595	235	645	Cat1	2.4	136	65	70	>600
22442108	1.46	0.949	0.36	33	42	13	595	2.35	645	Cat1	2.4	136	65	70	>600
22442109	1.46	0.949	0.37	33	42	13	595	235	645	Cat1	2.4	136	65	70	>600
22442110	1.45	0.948	0.36	33	42	13	595	235	645	Cat1	2.4	136	65	70	>600
22442201	1.45	0.948	0.36	33	42	13	595	235	645	Cat1	2.4	140	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400037

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441910	1.46	0.948	0.34	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22441911	1.46	0.948	0.38	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22442001	1.45	0.948	0.34	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22442002	1.45	0.948	0.34	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22442003	1.45	0.948	0.35	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442004	1.45	0.948	0.35	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442005	1.45	0.948	0.36	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442006	1.45	0.948	0.36	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442007	1.45	0.948	0.41	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442008	1.45	0.948	0.41	33	39	13	529	239	640	Cat1	2.4	136	65	70	>600
22442105	1.47	0.948	0.36	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442106	1.46	0.948	0.36	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400038

Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22433106	1.52	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22433107	1.51	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22440208	1.53	0.949	30	58	17	871	270	610	Cat1	2.5	135	>65	>55	>600
22440209	1.54	0.949	30	58	17	871	270	610	Cat1	2.5	135	>65	>55	>600
22440210	1.53	0.949	30	58	17	871	270	610	Cat1	2.5	135	>65	>55	>600
22440301	1.51	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440302	1.51	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440303	1.51	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440304	1.52	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440305	1.53	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440306	1.54	0.948	31	60	17	886	269	611	Cat1	2.5	135	>65	>55	>600
22440503	1.52	0.95	30	57	15	878	265	607	Cat1	2.5	135	>65	>55	>600
22440608	1.53	0.95	31	59	16	875	266	595	Cat1	2.5	135	>65	>55	>600
22440609	1.53	0.95	31	59	16	875	266	595	Cat1	2.5	135	>65	>55	>600
22440610	1.53	0.95	31	59	16	875	266	595	Cat1	2.5	135	>65	>55	>600

Hong Yi Lin

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CERTIFICATE OF QUALITY

Roll Identification:
Product HUITEX® HP150
Size 140m(Length)×8m(Width)×1.50mm(Thickness)
Area 1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400039
Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22433001	1.55	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433002	1.54	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433003	1.51	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433004	1.51	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433005	1.52	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433006	1.52	0.949	32	62	16	872	276	627	Cat1	2.5	135	>65	>55	>600
22433007	1.52	0.949	32	62	16	872	276	627	Cat1	2.5	135	>65	>55	>600
22433108	1.50	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22433109	1.52	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22433110	1.52	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22440101	1.54	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440102	1.51	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440103	1.50	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440104	1.51	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440109	1.54	0.949	31	56	17	840	266	619	Cat1	2.5	135	>65	>55	>600

Hong Yi Lin
Laboratory Leader

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400040
Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22432806	1.52	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432807	1.52	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432808	1.53	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432809	1.51	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432810	1.54	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432901	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432902	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432903	1.52	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432904	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432905	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432906	1.53	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22432907	1.53	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22433008	1.53	0.95	31	57	16	872	275	629	Cat1	2.5	135	>65	>55	>600
22433009	1.51	0.95	31	57	16	872	275	629	Cat1	2.5	135	>65	>55	>600
22433010	1.53	0.95	31	57	16	872	275	629	Cat1	2.5	135	>65	>55	>600

Hong Yi Lin
Laboratory Leader

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HUITEX®

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232007/33232009	Density, g/cm^3	ASTM D792	0.9379/0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238 (190℃,2.16kg)	0.11/0.12
Supplier:	Qatar Chemical			

No : 240400041

Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22432612	1.54	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432701	1.52	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432702	1.53	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432703	1.52	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432704	1.54	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432705	1.54	0.948	32	56	17	835	270	622	Cat1	2.5	135	>65	>55	>600
22432706	1.54	0.948	32	56	17	835	270	622	Cat1	2.5	135	>65	>55	>600
22432801	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432802	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432803	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432804	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432805	1.52	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432908	1.54	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22432909	1.53	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22432910	1.51	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600

Hong Yi Lin

Laboratory Leader

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HUITEX®

Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232007/33232009/33223	Density, g/cm³	ASTM D792	0.9379/0.9381 /0.9380
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11/0.12/0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400042

Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
												Std-OIT		
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm³	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22432707	1.52	0.948	32	56	17	845	270	622	Cat1	2.5	135	>65	>55	>600
22432708	1.52	0.948	32	56	17	845	270	622	Cat1	2.5	135	>65	>55	>600
22432709	1.51	0.948	32	56	17	845	270	622	Cat1	2.5	135	>65	>55	>600
32362305	1.52	0.948	31	60	16	922	235	596	Cat1	2.4	141	>65	>55	>600
32362306	1.53	0.948	31	60	16	922	235	596	Cat1	2.4	141	>65	>55	>600
32362307	1.52	0.948	31	60	16	922	235	596	Cat1	2.4	141	>65	>55	>600
32362308	1.52	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362309	1.51	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362310	1.51	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362311	1.52	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362401	1.53	0.948	31	59	16	895	235	596	Cat1	2.4	141	>65	>55	>600
32362402	1.54	0.948	30	60	17	914	234	609	Cat1	2.4	141	>65	>55	>600
32362403	1.53	0.948	30	60	17	914	234	609	Cat1	2.4	141	>65	>55	>600
32362404	1.51	0.948	30	60	17	914	234	609	Cat1	2.4	141	>65	>55	>600

Hong Yi Lin

Laboratory Leader

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Appendix G - Attachment 8D: W6504/2021/1 Heap Leach Cells 8-15 Environmental Commissioning Report

Menzies Highway, PO Box 1653, Kalgoorlie,
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Tel (08) 9080 6800 • Fax (08) 9080 6893
ABN: 98 008 585 886 • www.nortongoldfields.com.au

Director General
Department administering the *Environmental Protection Act 1986*
Locked Bag 10
Joondalup DC WA 6919
info@dwer.wa.gov.au

RE: Environmental Commissioning Report for W6504/2021/1

This Environmental Commissioning Report has been prepared by Norton Gold Fields Pty Limited (Norton) to detail compliance with Condition 9 (Compliance Reporting) of Works Approval W6504/2021/1. Licence details are provided in Table 1.

Table 1 – Licence details			
Works Approval number:	W6504/2021/1	Works Approval file number:	DER2018/001042-4
Holder name:	Norton Gold Fields Pty Limited		
Trading as:	Norton Gold Fields Pty Limited		
ACN:	112 287 797		
Registered business address:	'Viskovich House' Level 1, 377 Hannan Street Kalgoorlie WA 6430		
Premises details:	Binduli North Minesite Mining tenements: M26/115, M 26/243, M 26/387, M 26/420, M 26/430, M 26/445, M 26/446, M 26/447, M 26/468, M 26/474, M 26/629, M 26/833		
Reporting date:	30 December 2024		

1. Purpose

Norton has prepared this report to comply with Condition 9 of Works Approval W6504/2021/1 which states:

> *The works approval holder must submit to the CEO an Environmental Commissioning Report within 60 calendar days of the completion date of environmental commissioning for each item of infrastructure specified in Table 3.*

This report is applicable only to the Heap Leach Pad (cells 8-15) as included in Table 3 which includes the following commissioning requirements:

- Undertake the following tests of the Heap Leach liner's integrity:
  - High-load puncture test;
  - High-load permeability test; and
  - High-load interface shear test.

2. Commissioning Testing

As part of the environmental commissioning requirements, as per condition 8, Norton is required to undertake high-load puncture, permeability, and interface shear testing to test the integrity of the heap leach liner. The 1.5mm HDPE liner used for the construction of the heap leach was permeability tested upon purchase prior to delivery to Norton. It is understood that the Works

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Approval requests for the above-mentioned testing to be carried out during the commissioning phase, post construction, however, as part of installation the liner is covered insitu and therefore inaccessible for further testing.

The quality test certificates are provided in Appendix A and Appendix B.

Norton is of the opinion that the undertaken analysis and supplied test certificates meet the requirements of the commissioning test work. The test work shows the liner:

- Permeability at a minimum of 3.5 x 10^{-15} m/s
- Puncture resistance is equal to >592N which complies with ASTM D4833
- Tear resistance is equal to >220N which complies with ASTM D1004.

Compaction testing and liner inspections were undertaken frequently throughout the construction period by suitably qualified engineers. Inspection registers will be provided with access to DWER's shared folder.

All infield non-destructive testing passed.

3. Time Limited Operations

Norton believes the commissioning requirements for the heap leach have been met. Test work was undertaken by the manufacturer prior to supply to Norton to ensure the liner complied with the appropriate standards. This testing included puncture, permeability, and shear testing. During the installation of the liner, non-destructive testing and weld inspections were conducted to ensure the integrity of the liner. Norton is of the opinion the undertaken testing meets the requirements of the commissioning test work required, despite not being undertaken during a traditional commissioning phase.

As the required commissioning test work has been undertaken Norton wishes to commence time limited operations. During time limited operations, Norton will ensure that the 1.5mm heap leach liner will be maintained, as per Table 4 of the Works Approval.

4. Declaration

I declare that the information in this Environmental Commissioning Report is true and correct. As a person authorised to represent the works approval holder (Norton) I certify that the commission requirements thereof, as specified in condition 8, have been achieved.

Name: Cassie Woods
Position: Environmental Advisor
Date: 30/12/2024

Norton Gold Fields

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Appendix A

Huikwang Corporation

Quality Statement

To: Norton Gold Fields Pty Ltd.
PO NO: NGF-2024-142
Subject: Test results of water vapor transmission (ASTM E96)

This is to certify that the following delivery items meet the quality requirement of water vapor transmission (ASTM E96).

Item	Test value	Unit	Specification	Result
HUITEX HP150 HDPE Smooth 1.5mm Liner Roll Size: 8m(W) x 140m(L)	3.6×10^{-15}	g.cm/(cm^2.s.Pa)	$\leq 1.0 \times 10^{-13}$	Pass
HUITEX HX150 HDPE DST Textured 1.5mm Liner Roll Size:8m(W) x 128m(L)	5.2×10^{-15}	g.cm/(cm^2.s.Pa)	$\leq 1.0 \times 10^{-13}$	Pass

Yours sincerely,

[redacted]
R&D Department

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Appendix B

Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400014

Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22440701	1.51	0.95	32	60	17	880	265	595	Cat1	2.5	135	>65	>55	>600
22440702	1.53	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440703	1.54	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440704	1.53	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440705	1.52	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440706	1.53	0.949	29	56	16	865	260	601	Cat1	2.4	136	>65	>55	>600
22440707	1.51	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440708	1.51	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440709	1.52	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440710	1.52	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440801	1.53	0.949	30	55	16	860	263	599	Cat1	2.4	135	>65	>55	>600
22440802	1.53	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600
22440803	1.52	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600
22440804	1.54	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600
22440805	1.54	0.948	31	57	16	865	268	604	Cat1	2.4	134	>65	>55	>600

Hong Yi Lin

Laboratory Leader

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238 (190℃,2.16kg)	0.12
Supplier:	Qatar Chemical			

No : 240400015

Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22440504	1.51	0.95	30	57	15	878	265	607	Cat1	2.5	137	>65	>55	>600
22440505	1.51	0.95	30	57	15	878	265	607	Cat1	2.5	137	>65	>55	>600
22440506	1.50	0.95	30	57	15	878	265	607	Cat1	2.5	137	>65	>55	>600
22440507	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440508	1.51	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440509	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440510	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440601	1.52	0.95	30	56	16	860	267	609	Cat1	2.5	138	>65	>55	>600
22440602	1.51	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440603	1.52	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440604	1.53	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440605	1.53	0.95	31	55	17	835	266	595	Cat1	2.4	137	>65	>55	>600
22440606	1.52	0.95	31	55	17	835	266	595	Cat1	2.5	137	>65	>55	>600
22440607	1.52	0.95	32	60	17	884	266	595	Cat1	2.5	137	>65	>55	>600
22440110	1.51	0.949	31	56	17	840	266	619	Cat1	2.6	142	>65	>55	>600

Hong Yi Lin

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:
Product HUITEX® HP150
Size 140m(Length)×8m(Width)×1.50mm(Thickness)
Area 1120 m²/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232001	Density, g/cm³	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400016
Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm³	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22440201	1.52	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440202	1.52	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440203	1.53	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440204	1.53	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440205	1.53	0.949	30	58	16	889	270	610	Cat1	2.4	142	>65	>55	>600
22440405	1.52	0.949	31	57	16	862	265	594	Cat1	2.4	143	>65	>55	>600
22440406	1.53	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440407	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440408	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440409	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440501	1.52	0.949	31	56	16	853	264	592	Cat1	2.4	142	>65	>55	>600
22440502	1.51	0.95	30	57	15	878	265	607	Cat1	2.5	141	>65	>55	>600
22433101	1.51	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22433102	1.53	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22433103	1.52	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600

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Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400017

Date : 04/24/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22433104	1.50	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22433105	1.50	0.95	30	56	16	874	273	621	Cat1	2.4	141	>65	>55	>600
22440105	1.52	0.949	30	57	18	880	269	617	Cat1	2.4	142	>65	>55	>600
22440107	1.52	0.949	31	56	17	840	266	619	Cat1	2.6	141	>65	>55	>600
22440108	1.52	0.949	31	56	17	840	266	619	Cat1	2.6	141	>65	>55	>600
22440206	1.53	0.949	30	58	17	871	270	610	Cat1	2.4	141	>65	>55	>600
22440207	1.54	0.949	30	58	17	871	270	610	Cat1	2.4	141	>65	>55	>600
22440307	1.52	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440308	1.53	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440309	1.52	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440310	1.52	0.949	30	60	17	886	269	608	Cat1	2.5	141	>65	>55	>600
22440401	1.53	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600
22440402	1.53	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600
22440403	1.53	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600
22440404	1.52	0.949	31	57	16	862	264	592	Cat1	2.4	141	>65	>55	>600

Hong Yi Lin

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.937
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.1
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400020

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441602	1.46	0.948	0.44	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441603	1.46	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441604	1.46	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441608	1.45	0.949	0.52	32	42	13	614	314	622	Cat1	2.4	134	65	70	>600
22441609	1.45	0.949	0.52	32	42	13	614	314	622	Cat1	2.4	134	65	70	>600
22441610	1.45	0.949	0.40	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600
22441701	1.47	0.949	0.40	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441702	1.47	0.949	0.39	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441703	1.46	0.949	0.39	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441704	1.46	0.949	0.41	32	42	13	613	313	623	Cat1	2.3	134	65	70	>600
22441705	1.46	0.947	0.41	33	39	13	525	314	634	Cat1	2.4	134	65	70	>600
22441706	1.46	0.947	0.37	33	39	13	525	314	634	Cat1	2.4	134	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400021

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441407	1.46	0.949	0.44	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600
22441408	1.45	0.949	0.34	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600
22441505	1.45	0.948	0.32	32	40	13	586	315	631	Cat1	2.4	134	65	70	>600
22441506	1.46	0.948	0.31	32	40	13	614	314	622	Cat1	2.4	134	65	70	>600
22441507	1.45	0.948	0.31	32	40	13	614	314	622	Cat1	2.4	134	65	70	>600
22441508	1.45	0.948	0.40	32	40	13	586	315	631	Cat1	2.4	134	65	70	>600
22441509	1.45	0.948	0.40	32	40	13	586	315	631	Cat1	2.4	134	65	70	>600
22441510	1.45	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441601	1.47	0.948	0.41	32	40	13	583	315	631	Cat1	2.5	134	65	70	>600
22441605	1.46	0.949	0.41	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600
22441606	1.46	0.949	0.41	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600
22441607	1.46	0.949	0.52	32	42	13	613	313	623	Cat1	2.4	134	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400022

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441309	1.46	0.948	0.40	32	40	13	590	324	635	Cat1	2.5	139	65	70	>600
22441310	1.47	0.948	0.40	32	40	13	590	324	635	Cat1	2.5	139	65	70	>600
22441311	1.46	0.948	0.33	32	42	13	606	324	637	Cat1	2.4	139	65	70	>600
22441401	1.45	0.948	0.33	32	42	13	614	314	622	Cat1	2.4	139	65	70	>600
22441402	1.46	0.948	0.34	32	42	13	614	314	622	Cat1	2.4	139	65	70	>600
22441403	1.45	0.948	0.34	32	42	13	606	324	635	Cat1	2.4	139	65	70	>600
22441409	1.45	0.949	0.29	32	41	13	599	313	636	Cat1	2.4	139	65	70	>600
22441410	1.45	0.949	0.29	32	41	13	599	313	636	Cat1	2.4	139	65	70	>600
22441501	1.45	0.949	0.32	33	35	13	445	310	647	Cat1	2.4	139	65	70	>600
22441502	1.45	0.949	0.32	33	35	13	445	310	647	Cat1	2.4	139	65	70	>600
22441503	1.46	0.949	0.29	33	35	13	445	310	647	Cat1	2.4	139	65	70	>600
22441504	1.46	0.949	0.29	33	35	13	445	310	647	Cat1	2.5	139	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.938
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400023

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441209	1.47	0.948	0.31	32	40	12	572	324	644	Cat1	2.4	139	65	70	>600
22441210	1.46	0.948	0.31	32	40	12	572	324	644	Cat1	2.4	139	65	70	>600
22441301	1.46	0.948	0.38	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441302	1.45	0.948	0.38	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441303	1.45	0.948	0.39	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441304	1.46	0.948	0.39	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441305	1.47	0.948	0.40	32	40	13	589	324	646	Cat1	2.4	139	65	70	>600
22441306	1.46	0.948	0.40	32	40	13	591	324	641	Cat1	2.5	139	65	70	>600
22441307	1.46	0.948	0.41	32	40	13	591	324	641	Cat1	2.5	139	65	70	>600
22441404	1.46	0.948	0.33	32	42	13	606	324	635	Cat1	2.4	139	65	70	>600
22441405	1.46	0.949	0.34	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600
22441406	1.46	0.949	0.34	32	41	13	599	310	647	Cat1	2.4	139	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009/33232011	Density, g/cm^3	ASTM D792	0.938/0.937
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12/0.1
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400026

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441108	1.46	0.95	0.31	33	45	13	640	304	635	Cat1	2.4	135	65	70	>600
22441109	1.47	0.95	0.30	33	45	13	640	304	635	Cat1	2.4	135	65	70	>600
22441110	1.47	0.95	0.30	33	45	13	640	304	635	Cat1	2.4	135	65	70	>600
22441201	1.46	0.95	0.32	32	40	12	568	324	636	Cat1	2.4	137	65	70	>600
22441202	1.45	0.948	0.32	32	40	12	568	324	636	Cat1	2.3	137	65	70	>600
22441308	1.46	0.948	0.40	32	40	13	591	324	635	Cat1	2.5	139	65	70	>600
22441802	1.45	0.947	0.34	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441803	1.45	0.947	0.33	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441804	1.45	0.947	0.33	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441805	1.45	0.947	0.34	33	36	13	447	314	634	Cat1	2.4	134	65	70	>600
22441806	1.46	0.947	0.34	33	36	13	458	314	630	Cat1	2.4	133	65	70	>600
22441807	1.45	0.947	0.33	33	36	13	458	314	630	Cat1	2.4	133	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009/33232011	Density, g/cm^3	ASTM D792	0.938/0.937
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12/0.1
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400027

Date : 4/24/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441203	1.46	0.948	0.32	32	40	12	568	324	644	Cat1	2.3	138	65	70	>600
22441204	1.45	0.948	0.32	32	40	12	568	324	644	Cat1	2.3	137	65	70	>600
22441205	1.45	0.948	0.31	32	40	12	568	324	644	Cat1	2.3	139	65	70	>600
22441206	1.45	0.948	0.31	32	40	12	572	325	640	Cat1	2.4	138	65	70	>600
22441207	1.45	0.948	0.35	32	40	12	572	325	640	Cat1	2.4	139	65	70	>600
22441208	1.47	0.948	0.35	32	40	12	572	325	640	Cat1	2.4	138	65	70	>600
22441707	1.45	0.947	0.37	33	39	13	525	314	634	Cat1	2.4	134	65	70	>600
22441708	1.45	0.947	0.37	33	39	13	525	314	634	Cat1	2.4	135	65	70	>600
22441709	1.45	0.947	0.34	33	39	13	525	314	634	Cat1	2.4	136	65	70	>600
22441710	1.45	0.947	0.34	33	36	13	447	314	637	Cat1	2.4	134	65	70	>600
22441711	1.45	0.947	0.36	33	36	13	447	314	637	Cat1	2.4	137	65	70	>600
22441801	1.45	0.947	0.36	33	36	13	447	314	637	Cat1	2.4	134	65	70	>600

Hong Yi Lin

Laboratory Leader

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400033

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441808	1.46	0.945	0.35	33	43	14	605	312	642	Cat1	2.4	136	65	70	>600
22441809	1.46	0.945	0.38	33	43	14	605	312	642	Cat1	2.4	136	65	70	>600
22441810	1.46	0.945	0.38	33	43	14	605	312	642	Cat1	2.4	136	65	70	>600
22441901	1.46	0.946	0.37	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441902	1.46	0.946	0.37	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441903	1.46	0.946	0.38	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441904	1.45	0.947	0.38	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441905	1.45	0.947	0.35	32	42	13	624	313	639	Cat1	2.5	136	65	70	>600
22441906	1.45	0.948	0.35	32	43	14	627	312	642	Cat1	2.4	136	65	70	>600
22441907	1.45	0.948	0.36	32	43	14	627	312	642	Cat1	2.4	136	65	70	>600
22441908	1.45	0.948	0.36	32	43	14	627	312	642	Cat1	2.4	136	65	70	>600
22441909	1.46	0.948	0.34	32	41	12	597	312	642	Cat1	2.4	136	65	70	>600

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CERTIFICATE OF QUALITY

No: 240400033-1

Roll Identification: Date: 2024.04.29

Product HUITEX® HDPE Welding Rod WR050

Size 5 Kg / Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232004	Density, g/cm^3	ASTM D792	0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.10
Supplier:	Qatar Chemical		(190℃,2.16kg)	

Property	Units	Test Method	Specification	Test Results
WR Lot#				HGSNS-240300002
Diameter	mm	caliper	5.0±0.3	4.87
Density	g/cm^3	ASTM D792	0.940	0.946
Carbon Black Content	%	ASTM D1603	2～3	2.43
Melt Flow Index	g/10min	ASTM D1238 190℃, 2.16kg	<1.00	0.112

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CERTIFICATE OF QUALITY

No: 240400033-2

Roll Identification: Date: 2024.04.29

Product HUITEX® HDPE Welding Rod WR050

Size 5 Kg / Roll

Resin Information:

Lot Number: 33223589

Type: TR400

Supplier: Qatar Chemical

Resin Test Data:

Density, g/cm^3	ASTM D792	0.9379
M.I., g/ 10 min. (190℃,2.16kg)	ASTM D1238	0.11

Property	Units	Test Method	Specification	Test Results
WR Lot#				HGSNS-230700001
Diameter	mm	caliper	5.0±0.3	4.71
Density	g/cm^3	ASTM D792	0.940	0.946
Carbon Black Content	%	ASTM D1603	2～3	2.68
Melt Flow Index	g/10min	ASTM D1238 190℃, 2.16kg	<1.00	0.603

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400034

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
													Std-OIT		
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442301	1.45	0.948	0.48	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442302	1.45	0.948	0.48	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442303	1.45	0.948	0.47	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442304	1.45	0.948	0.47	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442307	1.46	0.948	0.42	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442308	1.45	0.948	0.42	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442309	1.45	0.948	0.45	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442310	1.46	0.948	0.45	32	41	13	560	229	642	Cat1	2.3	140	65	70	>600
22442311	1.46	0.948	0.39	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600
22442401	1.45	0.948	0.39	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600
22442402	1.46	0.948	0.37	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600
22442403	1.46	0.948	0.37	33	39	13	574	224	644	Cat1	2.3	140	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400035

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442202	1.45	0.947	0.37	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442203	1.45	0.947	0.36	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442204	1.45	0.947	0.36	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442205	1.45	0.947	0.39	31	41	13	606	223	631	Cat1	2.4	140	65	70	>600
22442206	1.46	0.949	0.39	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442207	1.46	0.949	0.38	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442208	1.46	0.949	0.38	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442209	1.45	0.949	0.37	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442210	1.46	0.949	0.37	32	38	13	522	225	629	Cat1	2.5	140	65	70	>600
22442211	1.45	0.948	0.38	31	39	13	535	223	631	Cat1	2.4	140	65	70	>600
22442305	1.46	0.947	0.47	31	40	13	575	228	643	Cat1	2.4	140	65	70	>600
22442306	1.46	0.948	0.47	32	41	13	560	228	643	Cat1	2.3	140	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400036

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442009	1.45	0.949	0.41	32	40	13	529	242	642	Cat1	2.3	136	65	70	>600
22442010	1.45	0.949	0.41	32	40	13	529	242	642	Cat1	2.3	136	65	70	>600
22442011	1.45	0.948	0.42	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442101	1.45	0.948	0.42	33	43	13	602	231	647	Cat1	2.4	136	65	70	>600
22442102	1.45	0.948	0.36	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442103	1.45	0.948	0.38	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442104	1.47	0.948	0.38	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442107	1.46	0.949	0.36	33	42	13	595	235	645	Cat1	2.4	136	65	70	>600
22442108	1.46	0.949	0.36	33	42	13	595	2.35	645	Cat1	2.4	136	65	70	>600
22442109	1.46	0.949	0.37	33	42	13	595	235	645	Cat1	2.4	136	65	70	>600
22442110	1.45	0.948	0.36	33	42	13	595	235	645	Cat1	2.4	136	65	70	>600
22442201	1.45	0.948	0.36	33	42	13	595	235	645	Cat1	2.4	140	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400037

Date : 4/29/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22441910	1.46	0.948	0.34	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22441911	1.46	0.948	0.38	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22442001	1.45	0.948	0.34	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22442002	1.45	0.948	0.34	32	41	12	597	312	639	Cat1	2.4	136	65	70	>600
22442003	1.45	0.948	0.35	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442004	1.45	0.948	0.35	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442005	1.45	0.948	0.36	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442006	1.45	0.948	0.36	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442007	1.45	0.948	0.41	32	42	13	613	242	642	Cat1	2.4	136	65	70	>600
22442008	1.45	0.948	0.41	33	39	13	529	239	640	Cat1	2.4	136	65	70	>600
22442105	1.47	0.948	0.36	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600
22442106	1.46	0.948	0.36	33	43	13	603	231	647	Cat1	2.4	136	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm^3	ASTM D792	0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400038

Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22433106	1.52	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22433107	1.51	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22440208	1.53	0.949	30	58	17	871	270	610	Cat1	2.5	135	>65	>55	>600
22440209	1.54	0.949	30	58	17	871	270	610	Cat1	2.5	135	>65	>55	>600
22440210	1.53	0.949	30	58	17	871	270	610	Cat1	2.5	135	>65	>55	>600
22440301	1.51	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440302	1.51	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440303	1.51	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440304	1.52	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440305	1.53	0.948	30	59	16	905	269	608	Cat1	2.5	135	>65	>55	>600
22440306	1.54	0.948	31	60	17	886	269	611	Cat1	2.5	135	>65	>55	>600
22440503	1.52	0.95	30	57	15	878	265	607	Cat1	2.5	135	>65	>55	>600
22440608	1.53	0.95	31	59	16	875	266	595	Cat1	2.5	135	>65	>55	>600
22440609	1.53	0.95	31	59	16	875	266	595	Cat1	2.5	135	>65	>55	>600
22440610	1.53	0.95	31	59	16	875	266	595	Cat1	2.5	135	>65	>55	>600

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 m²/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232009	Density, g/cm³	ASTM D792	0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400039

Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm³	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22433001	1.55	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433002	1.54	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433003	1.51	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433004	1.51	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433005	1.52	0.95	31	56	17	853	275	629	Cat1	2.5	135	>65	>55	>600
22433006	1.52	0.949	32	62	16	872	276	627	Cat1	2.5	135	>65	>55	>600
22433007	1.52	0.949	32	62	16	872	276	627	Cat1	2.5	135	>65	>55	>600
22433108	1.50	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22433109	1.52	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22433110	1.52	0.949	30	59	16	913	273	621	Cat1	2.5	135	>65	>55	>600
22440101	1.54	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440102	1.51	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440103	1.50	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440104	1.51	0.948	31	57	18	880	266	619	Cat1	2.5	135	>65	>55	>600
22440109	1.54	0.949	31	56	17	840	266	619	Cat1	2.5	135	>65	>55	>600

Hong Yi Lin

Laboratory Leader

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CERTIFICATE OF QUALITY

Roll Identification:
Product HUITEX® HP150
Size 140m(Length)×8m(Width)×1.50mm(Thickness)
Area 1120 ㎡/Roll

Resin Information:
Lot Number: 33232009
Type: TR400
Supplier: Qatar Chemical

Resin Test Data:
Density, g/cm³ ASTM D792 0.9381
M.I., g/ 10 min. ASTM D1238 (190℃,2.16kg) 0.12

No : 240400040
Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm³	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22432806	1.52	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432807	1.52	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432808	1.53	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432809	1.51	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432810	1.54	0.946	29	55	16	852	272	607	Cat1	2.5	135	>65	>55	>600
22432901	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432902	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432903	1.52	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432904	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432905	1.53	0.948	30	55	16	863	266	603	Cat1	2.5	135	>65	>55	>600
22432906	1.53	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22432907	1.53	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22433008	1.53	0.95	31	57	16	872	275	629	Cat1	2.5	135	>65	>55	>600
22433009	1.51	0.95	31	57	16	872	275	629	Cat1	2.5	135	>65	>55	>600
22433010	1.53	0.95	31	57	16	872	275	629	Cat1	2.5	135	>65	>55	>600

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Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232007/33232009	Density, g/cm³	ASTM D792	0.9379/0.9381
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11/0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400041

Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm³	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22432612	1.54	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432701	1.52	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432702	1.53	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432703	1.52	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432704	1.54	0.949	31	58	16	880	274	609	Cat1	2.5	135	>65	>55	>600
22432705	1.54	0.948	32	56	17	835	270	622	Cat1	2.5	135	>65	>55	>600
22432706	1.54	0.948	32	56	17	835	270	622	Cat1	2.5	135	>65	>55	>600
22432801	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432802	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432803	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432804	1.51	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432805	1.52	0.946	31	56	17	849	272	607	Cat1	2.5	135	>65	>55	>600
22432908	1.54	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22432909	1.53	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600
22432910	1.51	0.948	30	57	17	900	266	603	Cat1	2.5	135	>65	>55	>600

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Roll Identification:	
Product	HUITEX® HP150
Size	140m(Length)×8m(Width)×1.50mm(Thickness)
Area	1120 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232007/33232009/33223	Density, g/cm³	ASTM D792	0.9379/0.9381 /0.9380
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11/0.12/0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240400042

Date : 04/29/24

Property	Thickness Average	Density	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
												Std-OIT		
Test Method	ASTM D5199	ASTM D792	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm³	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.50	0.94	22	40	12	700	187	480	Cat1,2	2～3	100	55	50	500
Test Results														
22432707	1.52	0.948	32	56	17	845	270	622	Cat1	2.5	135	>65	>55	>600
22432708	1.52	0.948	32	56	17	845	270	622	Cat1	2.5	135	>65	>55	>600
22432709	1.51	0.948	32	56	17	845	270	622	Cat1	2.5	135	>65	>55	>600
32362305	1.52	0.948	31	60	16	922	235	596	Cat1	2.4	141	>65	>55	>600
32362306	1.53	0.948	31	60	16	922	235	596	Cat1	2.4	141	>65	>55	>600
32362307	1.52	0.948	31	60	16	922	235	596	Cat1	2.4	141	>65	>55	>600
32362308	1.52	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362309	1.51	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362310	1.51	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362311	1.52	0.948	31	59	16	895	235	598	Cat1	2.3	141	>65	>55	>600
32362401	1.53	0.948	31	59	16	895	235	596	Cat1	2.4	141	>65	>55	>600
32362402	1.54	0.948	30	60	17	914	234	609	Cat1	2.4	141	>65	>55	>600
32362403	1.53	0.948	30	60	17	914	234	609	Cat1	2.4	141	>65	>55	>600
32362404	1.51	0.948	30	60	17	914	234	609	Cat1	2.4	141	>65	>55	>600

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Huikwang Corporation

CERTIFICATE OF QUALITY

No: 240500004-1

Roll Identification: Date: 2024.05.08

Product HUITEX® HDPE Welding Rod WR050

Size 5 Kg / Roll

Resin Information:

Lot Number: 33232004

Type: TR400

Supplier: Qatar Chemical

Resin Test Data:

Density, g/cm^3	ASTM D792	0.9381
M.I., g/ 10 min. (190℃,2.16kg)	ASTM D1238	0.10

Property	Units	Test Method	Specification	Test Results
WR Lot#				HGSNS-240300002
Diameter	mm	caliper	5.0±0.3	4.87
Density	g/cm^3	ASTM D792	0.940	0.946
Carbon Black Content	%	ASTM D1603	2～3	2.43
Melt Flow Index	g/10min	ASTM D1238 190℃, 2.16kg	<1.00	0.112

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240500004

Date : 5/08/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442404	1.46	0.949	0.33	32	39	13	574	224	644	Cat1	2.4	140	65	70	>600
22442405	1.46	0.948	0.32	33	37	13	519	230	656	Cat1	2.4	140	65	70	>600
22442406	1.46	0.948	0.33	33	37	13	519	230	656	Cat1	2.4	140	65	70	>600
22442407	1.47	0.948	0.32	33	37	13	519	230	656	Cat1	2.4	140	65	70	>600
22442408	1.45	0.948	0.33	33	37	13	519	230	656	Cat1	2.4	140	65	70	>600
22442409	1.45	0.948	0.32	33	37	13	519	230	656	Cat1	2.4	140	65	70	>600
22442410	1.45	0.948	0.33	33	42	13	598	231	665	Cat1	2.3	140	65	70	>600
22442411	1.45	0.948	0.33	33	42	13	598	231	665	Cat1	2.3	140	65	70	>600
22442501	1.45	0.948	0.33	33	42	13	598	231	665	Cat1	2.3	140	65	70	>600
22442502	1.45	0.948	0.33	33	42	13	598	231	665	Cat1	2.3	140	65	70	>600
22442503	1.45	0.948	0.33	33	42	13	598	231	665	Cat1	2.3	140	65	70	>600
22442504	1.45	0.949	0.33	32	39	12	569	228	657	Cat1	2.4	140	65	70	>600

Hong Yi Lin

Laboratory Leader

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232014	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240500005

Date : 5/8/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22443001	1.45	0.948	0.34	32	41	14	592	226	639	Cat1	2.4	136	65	70	>600
22443002	1.45	0.948	0.33	32	41	14	592	226	639	Cat1	2.4	136	65	70	>600
22443003	1.45	0.948	0.35	32	41	14	592	226	639	Cat1	2.4	136	65	70	>600
22443004	1.46	0.948	0.34	32	41	14	592	226	639	Cat1	2.4	136	65	70	>600
22443005	1.45	0.948	0.34	32	41	14	592	226	639	Cat1	2.4	136	65	70	>600
22443006	1.45	0.948	0.33	32	41	13	591	226	639	Cat1	2.4	136	65	70	>600
22450102	1.45	0.948	0.33	31	37	12	538	222	640	Cat1	2.4	136	65	70	>600
22450103	1.45	0.948	0.34	31	37	12	538	222	640	Cat1	2.4	136	65	70	>600
22450104	1.46	0.948	0.34	31	37	12	538	222	640	Cat1	2.4	136	65	70	>600
22450105	1.45	0.949	0.33	32	38	13	630	226	633	Cat1	2.4	136	65	70	>600
22450106	1.45	0.949	0.33	32	38	13	630	226	633	Cat1	2.4	136	65	70	>600
22450107	1.45	0.949	0.34	32	38	13	630	226	633	Cat1	2.4	136	65	70	>600

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Huikwang Corporation

CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232014	Density, g/cm^3	ASTM D792	0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240500006

Date : 5/8/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442903	1.45	0.948	0.34	31	37	13	538	230	614	Cat1	2.4	136	65	70	>600
22442908	1.46	0.948	0.35	32	42	13	617	232	617	Cat1	2.4	136	65	70	>600
22442909	1.46	0.948	0.33	32	42	13	617	232	617	Cat1	2.4	136	65	70	>600
22442910	1.46	0.948	0.33	32	42	13	617	232	617	Cat1	2.4	136	65	70	>600
22442911	1.45	0.948	0.34	32	42	13	617	232	617	Cat1	2.4	136	65	70	>600
22443007	1.45	0.948	0.34	32	41	13	591	226	639	Cat1	2.4	136	65	70	>600
22443008	1.45	0.948	0.35	32	41	13	591	226	639	Cat1	2.4	136	65	70	>600
22443009	1.45	0.948	0.33	32	41	13	591	226	639	Cat1	2.4	136	65	70	>600
22443010	1.45	0.948	0.33	32	41	13	591	226	639	Cat1	2.4	136	65	70	>600
22443011	1.45	0.948	0.33	31	37	12	538	222	640	Cat1	2.4	136	65	70	>600
22450101	1.46	0.948	0.34	31	37	12	538	222	640	Cat1	2.4	136	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011/33232014	Density, g/cm^3	ASTM D792	0.9378/0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11/0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240500007

Date : 5/8/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442711	1.45	0.95	0.33	33	42	13	606	224	638	Cat1	2.4	139	65	70	>600
22442807	1.46	0.949	0.32	33	42	12	598	226	632	Cat1	2.4	139	65	70	>600
22442808	1.46	0.949	0.33	33	42	12	598	226	632	Cat1	2.4	139	65	70	>600
22442809	1.46	0.949	0.33	33	42	12	598	226	632	Cat1	2.4	139	65	70	>600
22442810	1.46	0.949	0.33	33	42	12	598	226	632	Cat1	2.4	139	65	70	>600
22442901	1.46	0.949	0.34	33	42	12	598	226	632	Cat1	2.4	139	65	70	>600
22442902	1.45	0.948	0.34	31	37	13	538	232	617	Cat1	2.4	136	65	70	>600
22442904	1.45	0.948	0.34	31	37	13	538	232	617	Cat1	2.4	136	65	70	>600
22442905	1.45	0.948	0.34	31	37	13	538	232	617	Cat1	2.4	136	65	70	>600
22442906	1.45	0.948	0.33	31	37	13	538	232	617	Cat1	2.4	136	65	70	>600
22442907	1.45	0.948	0.33	32	42	13	617	235	619	Cat1	2.4	136	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011/33232014	Density, g/cm^3	ASTM D792	0.9378/0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11/0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240500008

Date : 5/8/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442706	1.45	0.95	0.33	32	38	12	556	223	635	Cat1	2.4	139	65	70	>600
22442707	1.45	0.95	0.33	32	38	12	556	223	635	Cat1	2.4	139	65	70	>600
22442708	1.46	0.95	0.30	33	42	13	606	224	638	Cat1	2.4	139	65	70	>600
22442709	1.45	0.95	0.33	33	42	13	606	224	638	Cat1	2.4	139	65	70	>600
22442710	1.46	0.95	0.33	33	42	13	606	224	638	Cat1	2.4	139	65	70	>600
22442801	1.46	0.95	0.34	33	42	13	606	224	638	Cat1	2.4	139	65	70	>600
22442802	1.46	0.949	0.34	33	39	12	556	226	632	Cat1	2.4	139	65	70	>600
22442803	1.46	0.949	0.35	33	39	12	556	226	632	Cat1	2.4	139	65	70	>600
22442804	1.45	0.949	0.33	33	39	12	556	226	632	Cat1	2.4	139	65	70	>600
22442805	1.45	0.949	0.33	33	39	12	556	226	632	Cat1	2.4	139	65	70	>600
22442806	1.45	0.949	0.33	33	39	12	556	226	632	Cat1	2.4	139	65	70	>600

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Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011/33232014	Density, g/cm^3	ASTM D792	0.9378/0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11/0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240500009

Date : 5/8/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442604	1.45	0.948	0.33	31	38	12	532	220	636	Cat1	2.4	139	65	70	>600
22442605	1.45	0.948	0.34	31	38	12	532	220	636	Cat1	2.4	139	65	70	>600
22442606	1.45	0.948	0.34	31	38	12	532	220	636	Cat1	2.4	139	65	70	>600
22442607	1.45	0.948	0.35	31	38	12	532	220	636	Cat1	2.4	139	65	70	>600
22442608	1.45	0.948	0.35	33	36	13	520	222	639	Cat1	2.4	139	65	70	>600
22442609	1.45	0.948	0.34	33	36	13	520	222	639	Cat1	2.4	139	65	70	>600
22442610	1.45	0.948	0.33	33	36	13	520	222	639	Cat1	2.4	139	65	70	>600
22442701	1.45	0.948	0.33	33	36	13	520	222	639	Cat1	2.4	139	65	70	>600
22442703	1.45	0.95	0.33	32	38	12	556	224	638	Cat1	2.4	139	65	70	>600
22442704	1.46	0.95	0.33	32	38	12	556	224	638	Cat1	2.4	139	65	70	>600
22442705	1.45	0.95	0.33	32	38	12	556	224	638	Cat1	2.4	139	65	70	>600

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CERTIFICATE OF QUALITY

Roll Identification:	
Product	HUITEX® HX150
Standard Size	128m(Length)×8m(Width)×1.50mm(Thickness)
Area	1024 ㎡/Roll

Resin Information:		Resin Test Data:		
Lot Number:	33232011/33232014	Density, g/cm^3	ASTM D792	0.9378/0.9378
Type:	TR400	M.I., g/ 10 min.	ASTM D1238	0.11/0.12
Supplier:	Qatar Chemical		(190℃,2.16kg)	

No : 240500010

Date : 5/8/2024

Property	Thickness Average	Density	Asperity Height	Yield Strength	Break Strength	Yield Elongation	Break Elongation	Tear Resistance	Puncture Resistance	Carbon Black Dispersion	Carbon Black Content	Standard OIT	Oven Aging 85℃ - retained after 90 days Std-OIT	UV Resistance - 1600hrs High Pressure OIT	ESCR-SPNCTL
Test Method	ASTM D5994	ASTM D792	ASTM D7466	ASTM D6693 Type IV Specimen at 50 mm/min				ASTM D1004	ASTM D4833	ASTM D5596	ASTM D1603	ASTM D3895	ASTM D5721 ASTM D3895	ASTM D7238 ASTM D5885	ASTM D5397
Units	mm	g/cm^3	mm	kN/m		%		N	N	Cat.	%	min	%	%	hr
Test Frequency	per roll	9000 kg	every 2nd roll	every 5 roll (9000kg)				9000 kg				Per lot	per formulation		
Specification	1.43	0.94	0.25	22	16	12	150	187	400	Cat1,2	2～3	100	55	50	500
Test Results															
22442505	1.45	0.949	0.35	32	39	12	569	229	652	Cat1	2.4	140	65	70	>600
22442506	1.45	0.949	0.34	32	39	12	569	229	652	Cat1	2.4	140	65	70	>600
22442507	1.45	0.949	0.35	32	39	12	569	229	652	Cat1	2.4	140	65	70	>600
22442508	1.45	0.949	0.36	32	39	12	569	229	652	Cat1	2.4	140	65	70	>600
22442509	1.45	0.949	0.34	32	41	13	610	228	657	Cat1	2.4	140	65	70	>600
22442510	1.45	0.949	0.35	32	41	13	610	228	657	Cat1	2.4	140	65	70	>600
22442511	1.46	0.949	0.34	32	41	13	610	228	657	Cat1	2.4	140	65	70	>600
22442601	1.45	0.949	0.33	32	41	13	610	228	657	Cat1	2.4	140	65	70	>600
22442602	1.45	0.949	0.34	32	41	13	610	228	657	Cat1	2.4	140	65	70	>600
22442603	1.45	0.948	0.33	31	38	12	532	222	639	Cat1	2.4	139	65	70	>600
22442702	1.45	0.948	0.33	33	36	13	520	224	636	Cat1	2.4	139	65	70	>600

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Appendix H - Binduli Gold Mining Operations - Environmental Noise Impact Assessment

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Assets | Engineering | Environment | Noise | Spatial | Waste

Binduli Gold Mining Operations

Environmental Noise Impact Assessment

Prepared for Norton Gold Fields Limited

November 2020

Project Number: TN20011-6

DOCUMENT CONTROL

Version	Description	Date	Author	Reviewer
0	Draft – Issued for internal review	02/09/20	LA	GB
1	Draft – Issued for client comment	15/09/20	GB	JH
2	Updated with LOM3 and FW pit HR Updates	03/11/20	GB	JH/WJ
3	Updated with minor comments.	27/11/20	GB	

Executive Summary

Norton Gold Fields Ltd (Norton) is proposing to develop the Binduli North mine and Heap Leach Gold Project, located approximately 3km West of Kalgoorlie. This report summarises an environmental noise impact assessment for the development.

The aim of this study is to assess the potential noise impacts of the development on surrounding noise sensitive receivers and determine noise control measures required to comply with the noise Regulations.

Noise modelling has been undertaken using worst-case operational and night-time meteorological conditions. The study found that the predicted received noise from the mine complies with the night-time assigned levels for most of the sensitive receivers, including the more densely populated residential areas in the Town of Kalgoorlie Boulder. The receivers that do not comply are given in Table E 1 which shows the received levels for years 1 to 3 which is considered the worst-case mine year according to the mine plan. Noise mitigation is therefore required to reduce the received noise levels at non-compliant receivers to below the assigned level.

Table E 1 Binduli Predicted Received LA10 level with no noise control

Receiver	LA10 Noise Levels		Exceedance (dB)
	Assigned (night-time)[1]	Predicted	
R3	31	48	17
R4	30	46	16
R6	31	34	3

Detailed analysis of the noise modelling outputs, project layout and design were used to identify noise control opportunities. The noise control measures which will be implemented by the project are detailed in section 6 and are listed in Table E 2, which consists of strategically placed bunds to offer shielding to the surrounding sensitive receivers.

[1] Includes a -5dB adjustment to account for non-significant contributor.

Table E 2 Summary of Project Noise Controls

	Noise Control	Comments
Pit to ROM	FW Pit-to-ROM Haul Road Western Noise Bund 2 (height 25 m)	Provides shielding to R3 and R4. Bund on the western side of haul road and starts approximately after windrow.
	JI Pit-to-ROM Haul Road Noise Bund 1 (height 25 m)	Provides shielding to R3 and R4. An existing landform feature will be increased in height to 25 m.
Waste Rock Dumps	Southern Waste Rock Noise Bund 3 (height 25 m)	Provides shielding to R3 and R4. Bund will be constructed on the southern side of Southern Waste Rock Landform.
	Eastern Waste Rock Noise Bund 4 (height 25 m)	Provides shielding to R3 and R4. Bund will be constructed on the southern and western side of the waste rock landform. Additionally operations in this area will be limited to day time only.
Fixed Plant	Fixed Plant Noise Bund 2 (height 25 m)	Provides shielding to R3 and R4. Bund will be constructed along the southern side of the fixed plant.

With the noise control measures implemented, as shown in **Table E** 3, the mine is predicted to comply with the assigned noise levels at all sensitive receivers.

Table E 3 Predicted LA10 Received level with noise control

Receiver	LA10 Noise Levels		Exceedance (dB)
	Assigned (night-time)	Predicted	
R3	31	31	Nil
R4	30	29	Nil
R6	31	27	Nil

All construction activities related to the fixed plant and noise bunds will be managed in accordance with Regulation 13.

Table of Contents

Tables

Figures

Appendices

1 Introduction

Norton Gold Fields Ltd (Norton) is proposing to develop the Binduli North mine and Heap Leach Gold Project, located approximately 3km West of Kalgoorlie. This report summarises an environmental noise impact assessment for the development.

1.1 Aim

The aim of this study is to assess the potential noise impacts of the development on surrounding noise sensitive receivers and determine noise control measures required to comply with the noise Regulations [2].

1.2 Scope

The scope of this report includes an overview of the proposed mine and heap leach processing plant, model setup, model outcomes and noise control requirements for the mine to comply with the noise Regulations.

1.3 Applicable Documents

[1] *Environmental Protection Act 1986*.
[2] Environmental Protection (Noise) Regulations 1997.
[3] Draft Guidance Note 8 Guideline on Environmental Noise for Prescribed Premises.

1.4 Overview

Binduli North is located approximately 3 km West of the City of Kalgoorlie-Boulder on the North side of Great Eastern Highway. The closest noise sensitive receivers are approximately 900m South of the closest pit and 2.5km from the fixed plant (see Figure 1-1). The more densely populated residential areas in the Town of Kalgoorlie Boulder are located approximately 5km East of the mine.

The layout of the mine and fixed plant is shown in Figure 1-2. The mine and processing plant will operate 24 hours a day, 7 days a week. The mine will consist of four pits[2] (JI, FW, FS and KL), three Waste Rock Landforms (WRL), a mobile equipment fleet and fixed plant infrastructure including ROM, crushing, and screening, stacking and reclaiming equipment.

[2] Janet Ivy (JI), Fort William (FW), Fort Scott (FS) and Karen Louise (KL).

Figure 1-1 Location of proposed operations and receiver locations

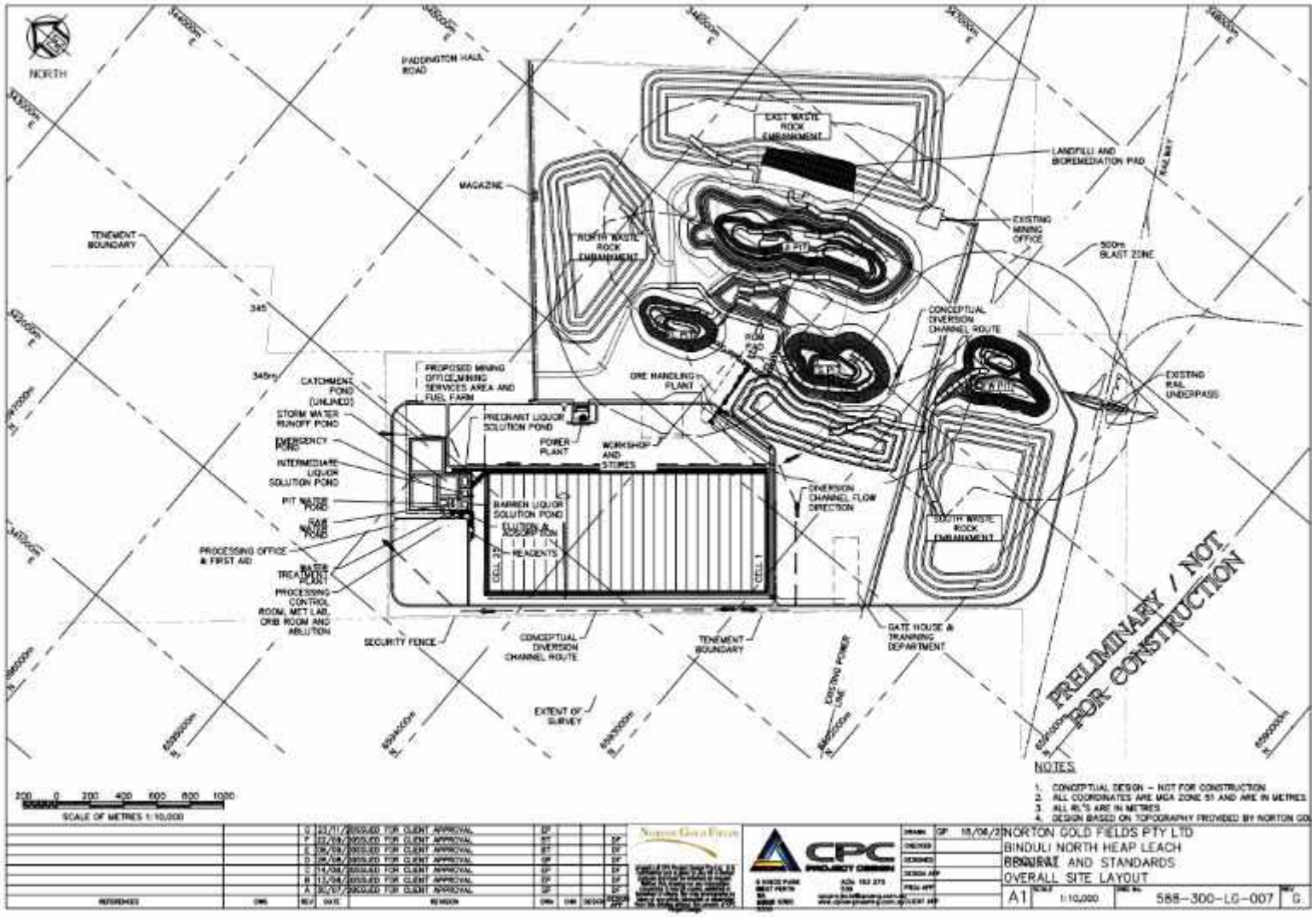


Figure 1-2 Site Layout Drawing

2 Assessment Criteria

2.1 Environmental Protection (Noise) Regulations

Noise management in Western Australia is implemented through the Environmental Protection (Noise) Regulations 1997 (the Regulations), which operate under the Environmental Protection Act 1986.

The Regulations define maximum allowable noise levels which apply to noise received at noise sensitive premises, such as residential areas. These are determined by a combination of a base noise level plus an Influencing Factor (IF). The result is termed the "assigned level".

The assigned noise levels include L_{A1}, L_{A10} and L_{AMAX} noise parameters, defined as:

- L_{ASMAX} means an assigned level which is not to be exceeded at any time.
- L_{AS1} means an assigned level which is not to be exceeded for more than 1% of time.
- L_{AS10} means an assigned level which is not to be exceeded for more than 10% of time.

The L_{A10} noise level is most applicable noise emissions from the Project.

For noise sensitive premises, the time of day also affects the assigned noise levels. As the Project will operate 24 hours a day, 7 days a week, noise emissions have been assessed against the most stringent night-time assigned levels (10pm-7am).

Based on the above, this study will assess the Project against the night-time L_{A10} assigned level.

2.2 Assigned Noise Levels

Table 2-1 presents the assigned noise levels defined in the Regulations.

Table 2-1 : Assigned Noise Levels as defined in the Environmental Protection (Noise) Regulations

Sensitive Receiver	Time of day	Assigned Levels (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise Sensitive Premises	0700 to 1900 hours Monday to Saturday	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sundays and public holidays	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays	35 + influencing factor	45 + influencing factor	55 + influencing factor
Boundary	all times	65	80	90

2.2.1 Influencing Factor

The Influencing Factor (IF) is based on the surrounding land use adjacent to each of the noise sensitive receivers, including the amount (%) of industrial and commercial premises as well as the number and proximity of major and secondary roads. Table 2-2 presents a summary of the IF which have been calculated for each receiver and used in this assessment.

Table 2-2 Calculated Influencing Factors

Receiver	Influencing Factor	Receiver	Influencing Factor
R1	**12**	R9	**4**
R2	**14**	R10	**4**
R3	**1**	R11	**4**
R4	**0**	R12	**1**
R5	**9**	R13	**3**
R6	**1**	R14	**2**
R7	**6**	R15	**6**
R8	**2**	R16	**0**

2.2.2 Non-Significant Contributor

The Regulations require that *"noise emitted from any premises when received at other premises must not cause, or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind".*

A noise emission is taken to significantly contribute to a level of noise if the received noise exceeds a value which is **5 dB below the assigned level** at the point of reception.

As the nearest surrounding sensitive receivers are in an area where other industrial operations are proposed, a 5dB adjustment has been applied to the assigned levels used to assess the mines noise impacts.

2.2.3 Adjustments for intrusive or dominant characteristics

As a 5 dB non-significant contributor penalty has been applied (see section 2.2.2), no additional adjustments have been made for characteristic noise such as tonality.

2.3 Applicable Project Assessment Criteria

Table 2-3 presents the assigned LA10 noise levels, including influencing factors and adjustments, which have been used for this assessment.

Table 2-3 Applicable LA10 Assigned Noise Levels (night-time)

Receiver	Base Assigned LA10 Noise Level	Influencing Factor (IF)	Non-significant contributor adjustment	Assigned LA10 Noise Level (includes IF and non-significant contributor)
R1	35	+12	-5	**42**
R2	35	+14	-5	**44**
R3	35	+1	-5	**31**
R4	35	0	-5	**30**
R5	35	+9	-5	**39**
R6	35	+1	-5	**31**
R7	35	+6	-5	**36**
R8	35	+2	-5	**32**
R9	35	+4	-5	**34**
R10	35	+4	-5	**34**
R11	35	+4	-5	**34**
R12	35	+1	-5	**31**
R13	35	+3	-5	**33**
R14	35	+2	-5	**32**
R15	35	+6	-5	**36**
R16	35	0	-5	**30**

2.4 Construction Noise

Site preparation and construction activities, such as construction of conveyors, haul roads and noise bunds, fall under Regulation 13 of the Noise Regulations. Regulation 13 does not require noise from a construction site to comply with the prescribed standard for noise emissions set in Regulations 7[3] if the following is adhered to[4]:

1. Construction work is carried out in accordance with control of environmental noise practices set out in section 4 of AS2436-2010.
2. The equipment used on the premises is the quietest reasonably available.
3. An approved construction management plan is in place that includes the following:

[3] Note: Regulation 13 – Construction Sites, Noise Regulation Fact Sheet includes not only Regulation 7, but also Regulation 8 as an exclusion. The exclusion of Regulation 7 and 8 implies that the assigned levels are not applicable.

[4] If the requirements are not met, the noise must comply with the assigned levels.

a. Details of, and reasons for, construction work on the construction site.
b. Details of, and the duration of, activities on the construction site likely to result in noise emissions that fail to comply with the standard prescribed under regulation 7.
c. Predictions of noise emissions of the construction site.
d. Details of measures to be implemented to control noise (including vibration) emissions.
e. Procedures to be adopted for monitoring noise (including vibration) emissions.
f. Complaint response procedures to be adopted.

Unless requested by the CEO of DWER[5], a construction noise management plan is only to be submitted for approval if construction activities are carried out between 19:00 and 07:00 hours on any day or on a Sunday or public holiday. The plan must be prepared in accordance with Regulation 13, subregulation 6 and be given to the CEO of DWER not later than 7 days before construction work commences. As a result, construction noise for fixed plant and noise bunds has not been included in this assessment as it will be managed under Regulation 13.

[5] Chief Executive Officer (the CEO) of the Department of Water and Environment Regulation (DWER) or any employee of the Local Government under the LGA who is appointed as an authorised person under section 87 of the Environmental Protection Act 1986 (EP Act).

3 Mining and Processing Plant Overview

3.1 Mining Operations

Drilling and digging activities were considered in this study as they are representative of typical mining operations. These activities were considered in 4 pits, namely; Janet Ivy (JI), Karen Louise (KL), Fort Scott (FS) and Fort William (FW).

The digging operations were further subdivided into pit-to-ROM and pit-to-waste rock activities. The size of the pit determined the number of haul trucks associated with each digging activity.

Each activity consisted of the following equipment:

- **Digging Pit-to-ROM in Pits FW, FS and KL**
  - Excavator (x1) in pit.
  - Haul Trucks (x3 – one at ROM, one at excavator and one on haul road).
- **Digging Pit-to-Waste in Pits FW, FS and KL**
  - Excavator (x1) in pit.
  - Haul Trucks (x3) – one at Waste Dump, one at excavator and one on haul road).
  - Dozer (x1) at waste dump.
- **Drilling in Pits FW, FS and KL**
  - Drill rig (x1) in pit.
- **Digging Pit-to-ROM in JI Pit**
  - Excavator (x1) in pit.
  - Haul Trucks (x4 – one or two at ROM, one or two at the excavator and one or two on haul road).
- **Digging Pit-to-Waste in JI Pit**
  - Excavator (x1) in pit.
  - Haul Trucks (x4 – one or two at ROM, one or two at the excavator and one or two on haul road).
  - Dozer (x1) at waste dump.
- **Drilling in JI Pit**
  - Drill rig (x2) in pit all other pits will only have one.

JI Pit is the only pit where pit-to-ROM and pit-to-waste activities will be taking place simultaneously.

3.2 Mine Plan

A summary of the nine-year mine plan indicating which years each pit will be mined is provided in Table 3-1. As can be seen from the table, JI pit will be mined continuously over the nine years and years 1 to 3 are the mine years where mining operations will be taking place in JI and FW pits, which are the closest pits to the sensitive receivers. These years are therefore considered the worst-case mining years.

Table 3-1 Mine Plan Overview

Year	Year								
	1	2	3	4	5	6	7	8	9
Janet Ivy (JI)	X	X	X	X	X	X	X	X	X
Karen Louise (KL)				X	X				
Fort Scott (FS)					X	X	X	X	X
Fort William (FW)	X	X	X						

Note: X indicates pits that are mined in each year.

3.3 Process Plant

The processing plant consists of a:

- **Crushing Circuit**. The crushing circuit consists of a primary, secondary and HPGR crushers and an interconnecting conveyor belt system.
- **Stacking and Reclaiming Circuits**. The stacking and reclaiming circuit consisting of conveyor belts, drives, radial stackers and reclaimers. Conveyor speeds are approximately 1.8 m/s.
- **Leaching Area**. The leaching area consists of pumps and tanks.

4 Noise Modelling Overview

4.1 Noise Model Software

A desktop environmental noise model was created to simulate the proposed operations using SoundPlan v8 software program and Nexus noise management software. This software packages calculate sound pressure levels at nominated receiver locations and produces noise contours over a defined area of interest. SoundPlan can be used to model different types of noises, such as industrial noise, traffic noise and aircraft noise.

The inputs required by the SoundPlan modelling software are noise sources, ground topographical and absorption data, meteorological data and sensitive receiver point locations. SoundPlan utilises ISO9613 for calculating the attenuation of sound during outside propagation in combination with CONCAWE[6,7]. The CONCAWE algorithm has been used for this assessment. CONCAWE is accepted by the Department of Water and Environment Regulation (DWER).

The model has been used to predict received noise levels at noise sensitive receiver locations and to generate noise contour maps for the surrounding area.

4.2 Noise Model Inputs

4.2.1 Noise Sensitive Receivers

Table 3-1 and Figure 1-1 provide details of the locations of noise sensitive receivers assessed.

Table 4-1 Noise Sensitive Receivers

Reference	GPS Location (UTM MGA94, Zone51)	
	Northings	Eastings
R1	347245	6592737
R2	346886	6592502
R3	345151	6591473
R4	344787	6591178
R5	351047	6593385
R6	348949	6594301
R7	349129	6594146

[6] CONCAWE (Conservation of Clean Air and Water in Europe) was established in 1963 by a group of oil companies to carry out research on environmental issues relevant to the oil industry.

[7] The propagation of noise from petroleum and petrochemical complexes to neighbouring communities, CONCAWE Report 4/81, 1981.

Reference	GPS Location (UTM MGA94, Zone51)	
	Northings	Eastings
R8	349253	6594398
R9	350033	6594421
R10	350079	6594445
R11	350260	6594389
R12	350297	6594337
R13	350226	6594550
R14	350316	6594465
R15	350413	6594357
R16	351690	6594330

4.2.2 Topography and Ground Absorption

Topographical information for the noise model was provided by Norton, which was imported into the noise model to create a Digital Ground Map (DGM).

The acoustic properties of the ground surface influence the propagation of noise. Flat non-porous surfaces such as concrete, asphalt and water are more reflective whereas soft, porous surfaces such as foliage and grass are more absorptive. A CONCAWE ground factor of G=0.8 was applied to the model.

4.2.3 Meteorological Conditions

The SoundPlan noise model has a range of algorithms that it can use to calculate noise levels for user defined meteorological conditions.

Table 4-2 presents the worst-case meteorological conditions applied to the model, which are defined in the Department of Water and Environment Regulation (DWER) “Draft Guideline on Environmental Noise for Prescribed Premises”.

Table 4-2 : Worst-Case Meteorological Conditions for Noise Propagation

Time of day	Temperature	Relative Humidity	Wind Speed	Wind Direction	Pasquil Stability Category (PSC)
Night (19:00 - 07:00)	15° Celsius	50%	3 m/s	worst case	F

Night-time meteorological conditions include the refraction effects of sound waves during propagation in the parts of the atmosphere close to the ground. Worst case conditions occur during night-time when downward refraction bends the sound waves towards the ground, increasing the noise levels at the receiver. Night-time conditions were applied to the model as this represents the worst-case conditions.

4.2.4 Noise Sources

Noise source Sound Power Levels (SWLs) have been calculated for fixed plant and mobile equipment using a combination of drawings, mechanical equipment lists, engineering data, specifications and equivalent equipment measured noise data from other mine sites.

Table 4-3 presents a summary of SWL for equipment types and quantities modelled. Detailed SWL data including octave band levels, can be found in Appendix B.

Table 4-3 Noise Source Levels

Type	Description	Quantity	Sound Power Level Per Item in dB(A)
Mobile Equipment			
Drill Rig	Atlas Copco	1 to 2	116
Excavator	Hitachi 3600	1 to 2	117
Haul Truck	CAT 789/777 working	2 to 4	115
Haul Truck	CAT 789/777 idle		107
Dozer	CAT D10	2	114
Fixed Plant			
Conveyors	Various	11	104 – 112
Drives	Various	11	106
Chutes	Various	9	104
Pumps	Various	8	104 – 109
Primary Crusher	Jaw Crusher Metso	1	118
Secondary Crusher	CH870i / MP800	1	118
Secondary Crusher Feeder		1	108
High Pressure Grinding Rollers	HPGR 630	1	115
Dust Control System		1	102
Screens	Vibrating screens	2	104
Stacker	Heap radial stacker	1	109

4.3 Noise Model Scenarios

Based on the mine plan (see Table 3-1) and the mining operations, the following scenarios were modelled for mine years 1 to 9:

1. **Year 1 and 3**. With the following activities:
   a. Pit to ROM operations in pits FW and JI.
   b. Waste operations in pit JI.
   c. Waste operations in pits JI and FW, no Pit to ROM operations in FW pit.
   d. Processing Plant.
2. **Year 4**. With the following activities:
   a. Pit to ROM operations in pits KL and JI.
   b. Waste operations in pit JI.
   c. Processing Plant.
3. **Year 5**. With the following activities:
   a. Pit to ROM operations in pits KL, FS and JI.
   b. Waste operations in pit JI.
   c. Waste operations in pits JI and FW, no Pit to ROM operations in FW pit.
   d. Processing Plant.
4. **Year 6,7, 8 and 9**. With the following activities:
   a. Pit to ROM operations in pits FS and JI.
   b. Waste operations in pit JI.
   c. Processing Plant.

Each activity had the relevant equipment listed in section 3 assigned to it.

5 Noise Model Results (No Noise Controls)

The following section provides a summary of the worst-case mine year (i.e. year 1 to 3) noise model results with no noise control, including a compliance assessment against the Regulations. The base case noise model assumes no noise controls, or bunds (i.e. no noise shielding or protection from bunds or Waste Dumps). It is also based on the original mine and processing plant layout.

5.1 Model Results

Table 5-1 and Figure 5-1 provide the worst case predicted noise levels and assessment for the worst case modelled scenario (i.e. year 1 to 3 with Pit to ROM operations in FW and JI pits and Waste Rock removal in JI and FW pits).

As can be seen from the table, received noise from the Binduli mining operations complies with the night-time assigned levels at most sensitive receivers, including the more densely populated residential areas in the Town of Kalgoorlie Boulder (R9-R16 located East of the operations).

Four receivers (R3, R4, R6 and R8) exceed the assigned night-time levels, with the most significant exceedances occurring at R3 (17.4 dB) and R4 (15.7 dB). As a result, noise mitigation is required to reduce received noise levels at non-compliant receivers to below the assigned level (see section 6).

Table 5-1 Noise Model Results- No Noise Controls

Receiver	LA10 Noise Levels		Exceedance (dB)
	Assigned (night-time)	Predicted	
R1	42	42.0	Nil
R2	44	43.9	Nil
R3	31	48.4	17.4
R4	30	45.7	15.7
R5	39	27.0	Nil
R6	31	33.9	2.9
R7	36	33.4	Nil
R8	32	32.8	0.8
R9	34	29.9	Nil
R10	34	29.5	Nil
R11	34	29.5	Nil
R12	31	29.6	Nil
R13	33	30.1	Nil
R14	32	29.3	Nil
R15	36	29.1	Nil
R16	30	25.6	Nil

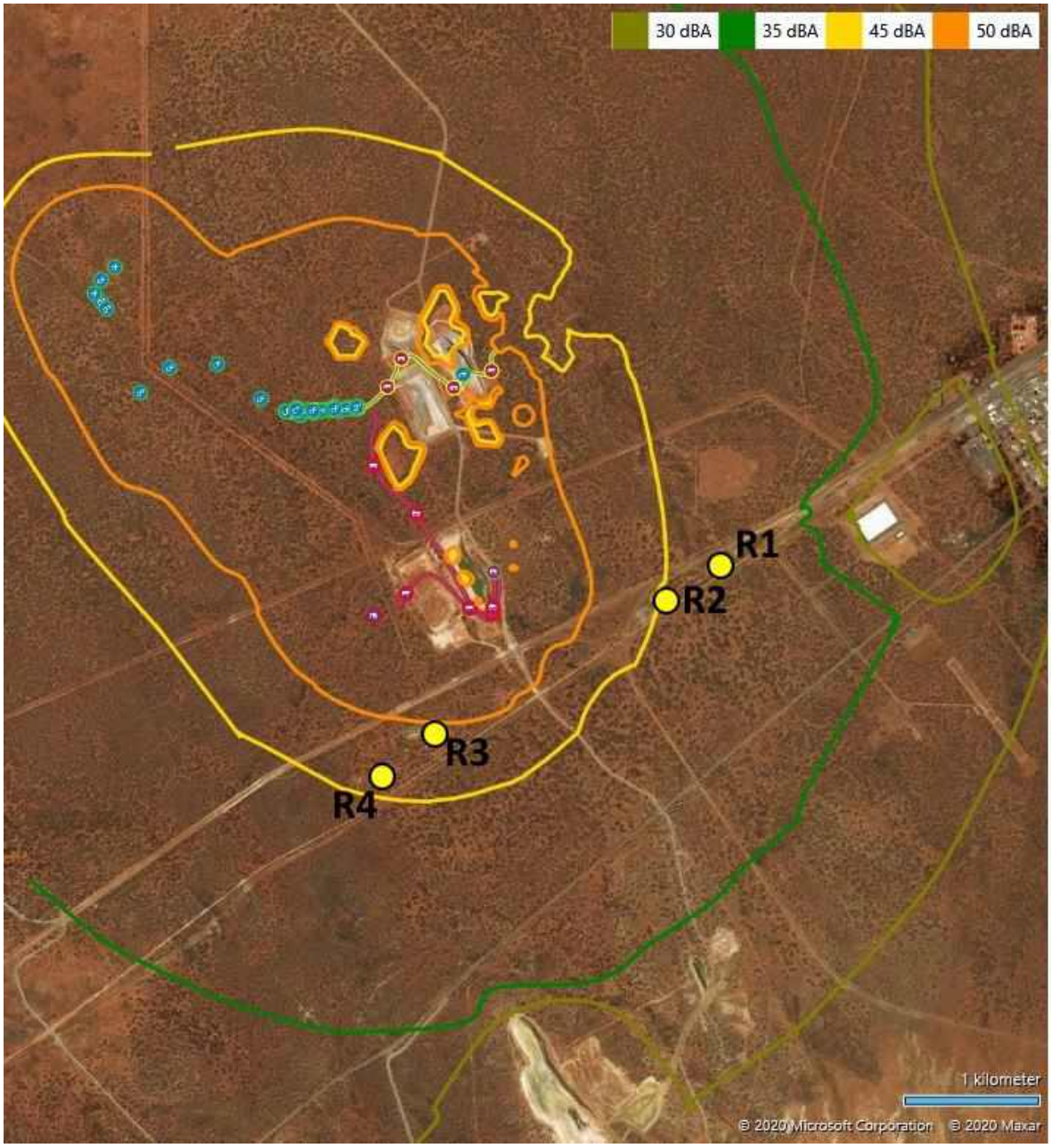


Figure 5-1 Worst case Noise Contour Map

6 Noise Control

Noise modelling results of the base case show that noise mitigation is required to achieve the assigned levels at various receivers. The noise control methodology followed in this report uses an integrated approach, taking the following factors into account:

- Equipment noise source contribution rankings.
- Assigned noise levels.
- Investigation, selection and prioritisation of noise controls.

6.1 Noise Control Approach

Effective noise control starts with determining which noise sources are contributing significantly to the noise level at a receiver. To effectively reduce received noise levels, it is necessary to first address the most significant contributing noise sources before addressing the less significant noise sources. This is important, because without addressing the top contributors, the overall noise level will not be significantly reduced. As a result, the top contributing noise sources at each of the exceeding receivers were investigated and noise control was targeted around these noise sources.

To achieve compliance requires a multi-faceted noise control approach. A number of potential noise control options have been investigated to determine which controls are effective and reasonably practicable. The options investigated included bunds, engineering noise control for mobile equipment, fixed plant specifications, haul road layout changes and operational/administrative measures.

Analysis of each noise control was undertaken to evaluate the effectiveness and practicability of undertaking the control, and the combinations of various control measures. From the analysis and modelling undertaken, noise controls were selected aimed at reducing the received noise levels to achieve the assigned levels.

6.2 Top Contributing Noise Sources

The base case modelling results found that the following noise sources where the highest contributors at receivers R1 to R4:

- **Haul trucks**: Operating along the pit to ROM and pit to waste rock routes for FW, FS and JI pits.
- **Dozers**: Operating at the Southern and Eastern Waste Rock areas.
- **Fixed Plant Crushers:** The primary, secondary and HPGR crushers operating close to the ROM.

6.3 Noise Controls Considered

To reduce received noise levels (see Table 6-1) the following noise control packages were considered:

- **Mobile Equipment**. Mobile equipment noise control packages were considered for haul trucks. The controls were divided into the following two groups:
  - Noise Control Package that would not affect heating. It was found that this could provide ~2dB reduction.

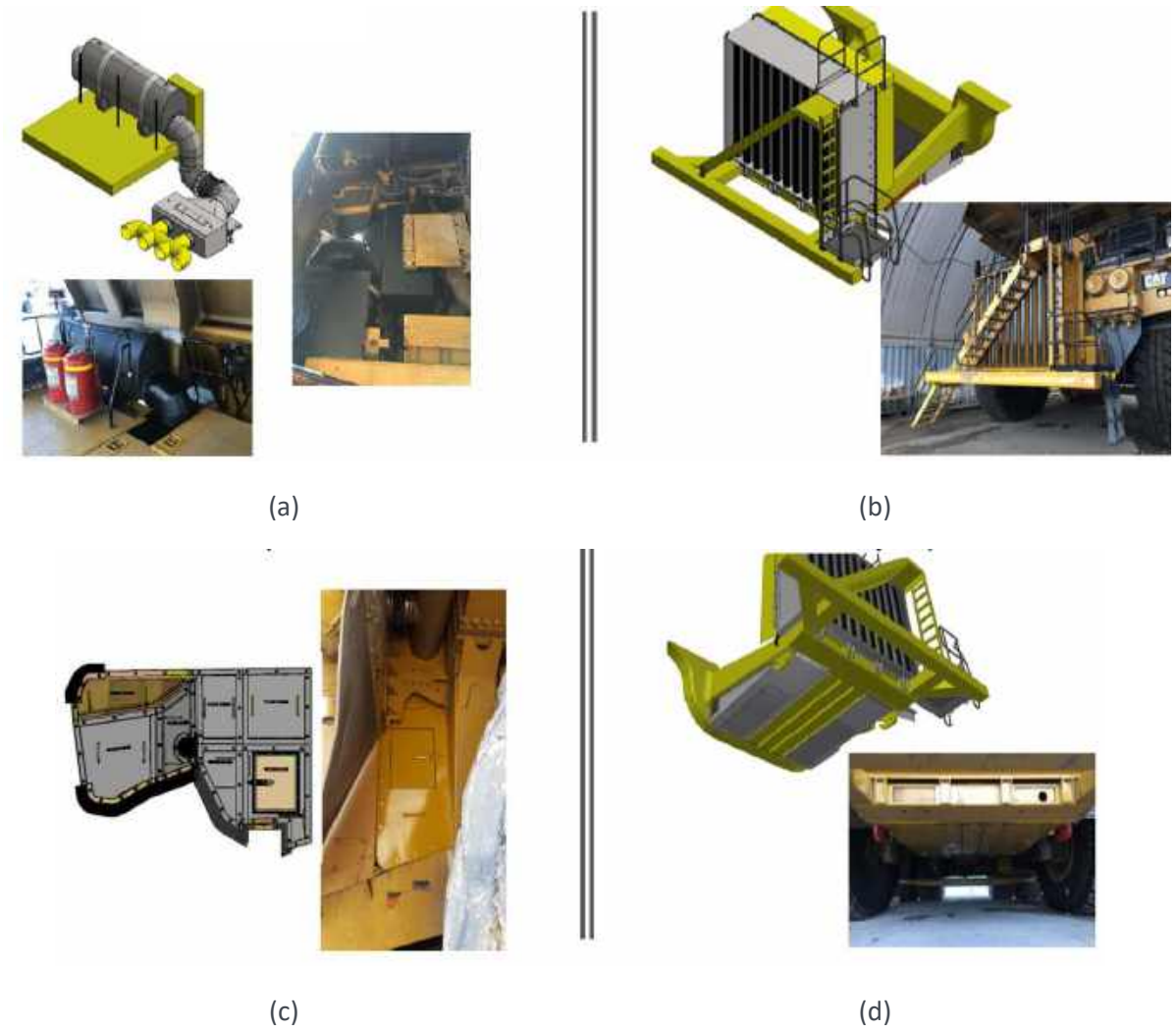
- Noise Control Package that would affect heating. It was found that this could provide ~6dB reduction.

The analysis found that a minimum 6 dB reduction was required and it was therefore only this package that was considered further. Further investigation found that the noise control package that affected heating was impracticable due to high capital costs and the significant impact that the controls will have on asset life expectancy and maintenance. As a result this option was not included as a viable option.

- **Haul Road Layout**. Alternate haul routes were considered for the four pits. Where possible, these were altered to reduce noise impacts on R3 and R4.
- **Haul Road Bunds**. A number of different bund solutions were considered for the pit-to-ROM haul roads from FW and JI pit (see Figure 6-2). The following haul road bunds have been included in the mine design:
  - *FW Pit-to-ROM Haul Road*. A 25 m bund (i.e. Noise Bund 2) will be constructed on the western side of the haul road.
  - *JI Pit-to-ROM Haul Road*. A 25 m high bund (i.e. Noise Bund 1) will be constructed along the top part of the JI Pit-to-ROM haul road. It is noted that there is an existing 16 m high waste dump within this area that will be built up to 25 m high.
- **Waste Rock Bunds**
  - *Southern Waste Rock Bund*. A 25 m high bund (i.e. Noise Bund 3) will be constructed along the Southern Waste Rock bund. The purpose of this bund will be to shield the dozer and incoming haul trucks from the southern receivers R3 and R4.
  - *Eastern Waste Rock Bund*. Due to the extent of this area and proximity to receivers R3 and R4 a 25m high bund (i.e. Noise Bund 4) will be constructed on the southern and south western side of the waste rock dump. Additionally waste rock will only be dumped in this area during day shift..
- **Fixed Plant**. A 25m high bund (i.e. Noise Bund 2) will be constructed along the southern side of the fixed plant extending to the east from the southern corner of the ROM. The purpose of the bund is to shield the crushing circuit from the receivers to the south of the mine.

Table 6-1 Noise Controls Considered

	Noise Control	Comments	Figure reference	Included Y/N
Mobile Equipment (Haul Trucks)	Acoustic Exhaust Attenuation Radiator Fan Low Noise Louvres Engine panels and belly plate	High capital investment required. High operational costs due to increased maintenance requirements. Expected reduction in life of asset.	**Figure 6-1**	N
Pit to ROM	FW Pit-to-ROM Haul Road Western Noise Bund 2 (height 25 m)	Provides shielding to R3 and R4. Bund on the western side of haul road and starts approximately after windrow.	Figure 6-2	Y
	JI Pit-to-ROM Haul Road Noise Bund 1 (height 25 m)	Provides shielding to R3 and R4. An existing landform feature will be increased in height to 25 m.		
Waste Rock Dumps	Southern Waste Rock Noise Bund 3 Bund (height 25 m)	Provides shielding to R3 and R4. Bund will be constructed on the southern side of Southern Waste Rock Landform.	Figure 6-2	Y
	Eastern Waste Rock Noise Bund 4 (height 25 m)	Provides shielding to R3 and R4. Bund will be constructed on the southern and western side of the waste rock landform.		
Fixed Plant	Fixed Plant Noise Bund 2 (height 25 m)	Provides shielding to R3 and R4. Bund will be constructed along the southern side of the fixed plant.	Figure 6-2	Y



(a) (b)

(c) (d)

Figure 6-1 Haul Truck Noise Controls: Exhaust (a), acoustic grill (b), engine bay enclosure (c), underbelly plating (d).

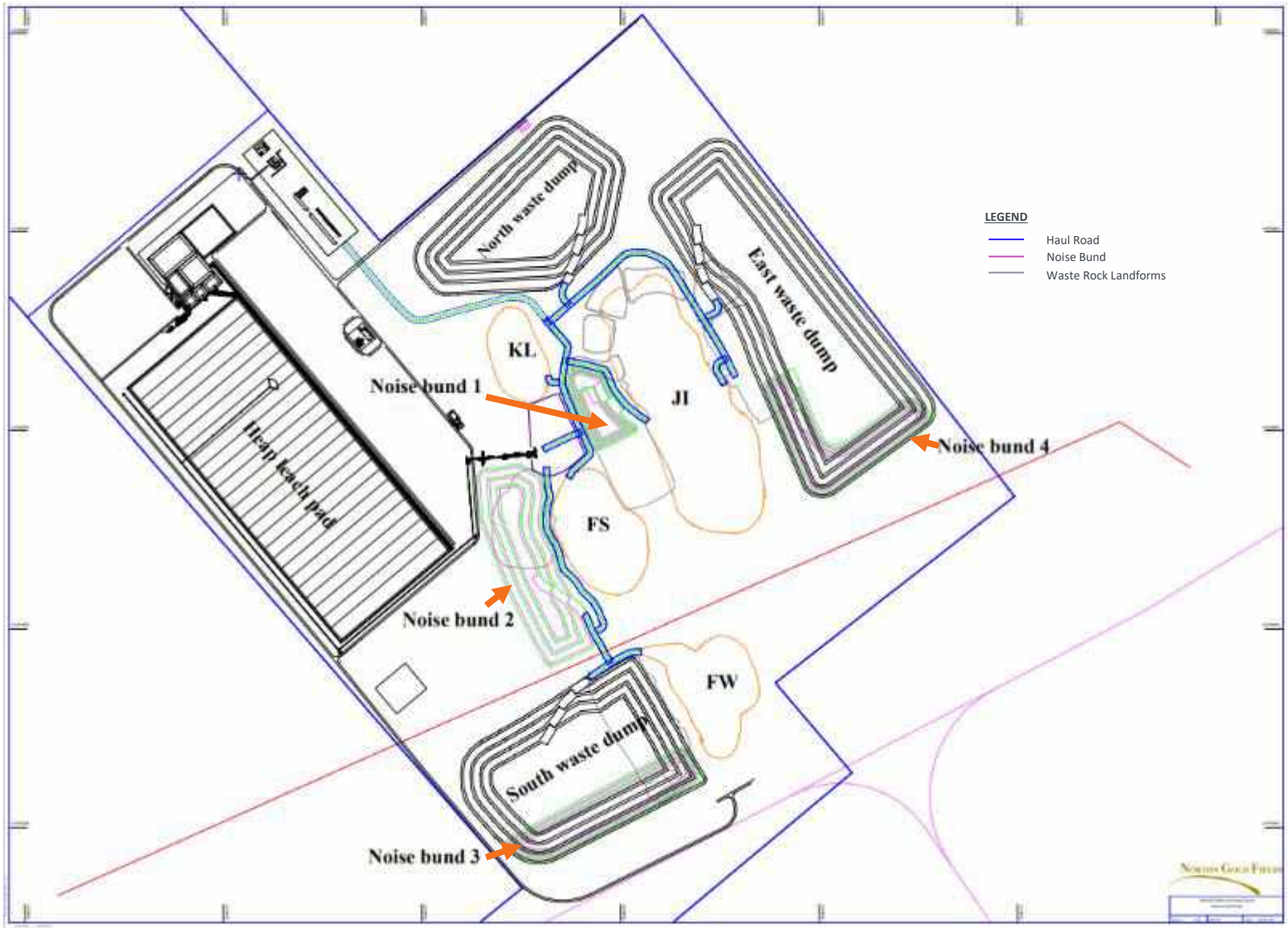


Figure 6-2 Bund Locations, Haul Roads and Pit locations.

7 Noise Control Outcomes

Table 7-1 and Figure 7-1 show the resultant received noise levels with all noise controls implemented for each mine year. As can be seen from the results, the mine is compliant with the night-time assigned noise levels at all sensitive receivers.

Noise contour maps for the post noise control results are presented in Figure 7-3 to Figure **7-5**.

Table 7-1 Predicted Received Noise Levels AFTER Noise Control Implementation

Mine Year	R1	R2	R3	R4	R6
Year 1 and 3	34	33	30	29	26
Year 4	30	31	31	30	25
Year 5	31	32	30	29	28
Year 6 to 9	30	31	30	29	25
Assigned Level	**36**	**39**	**31**	**30**	**31**

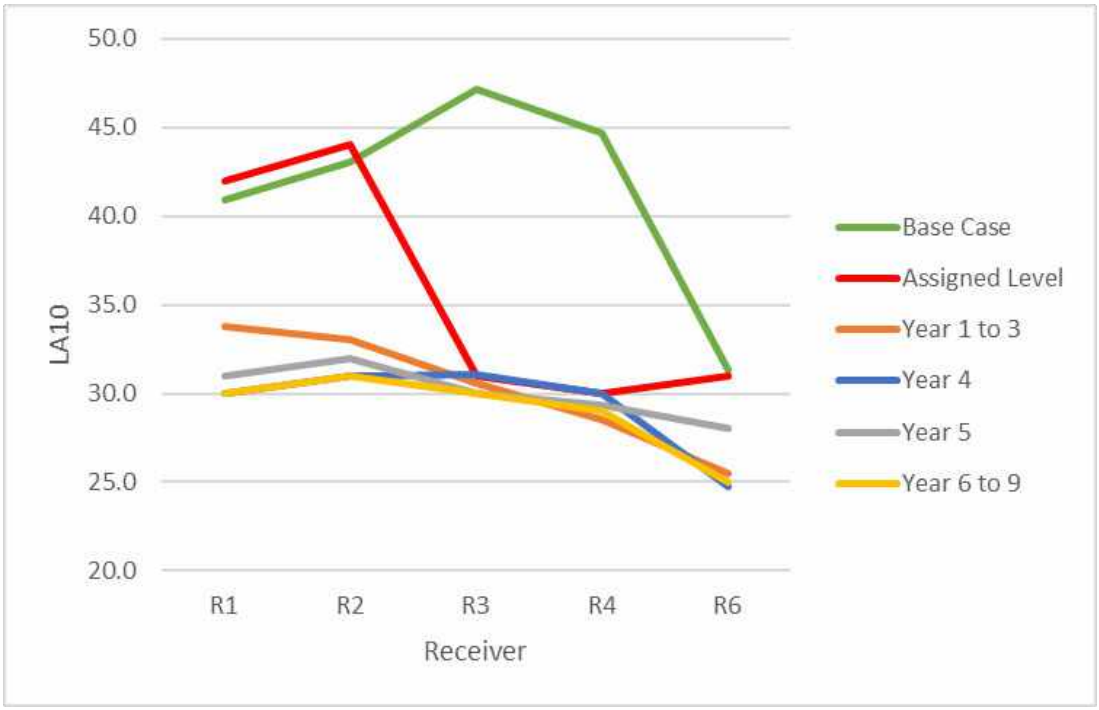


Figure 7-1 Predicted levels for the different mine years compared with the Base Case (i.e. no noise control) and the Assigned Noise Levels.

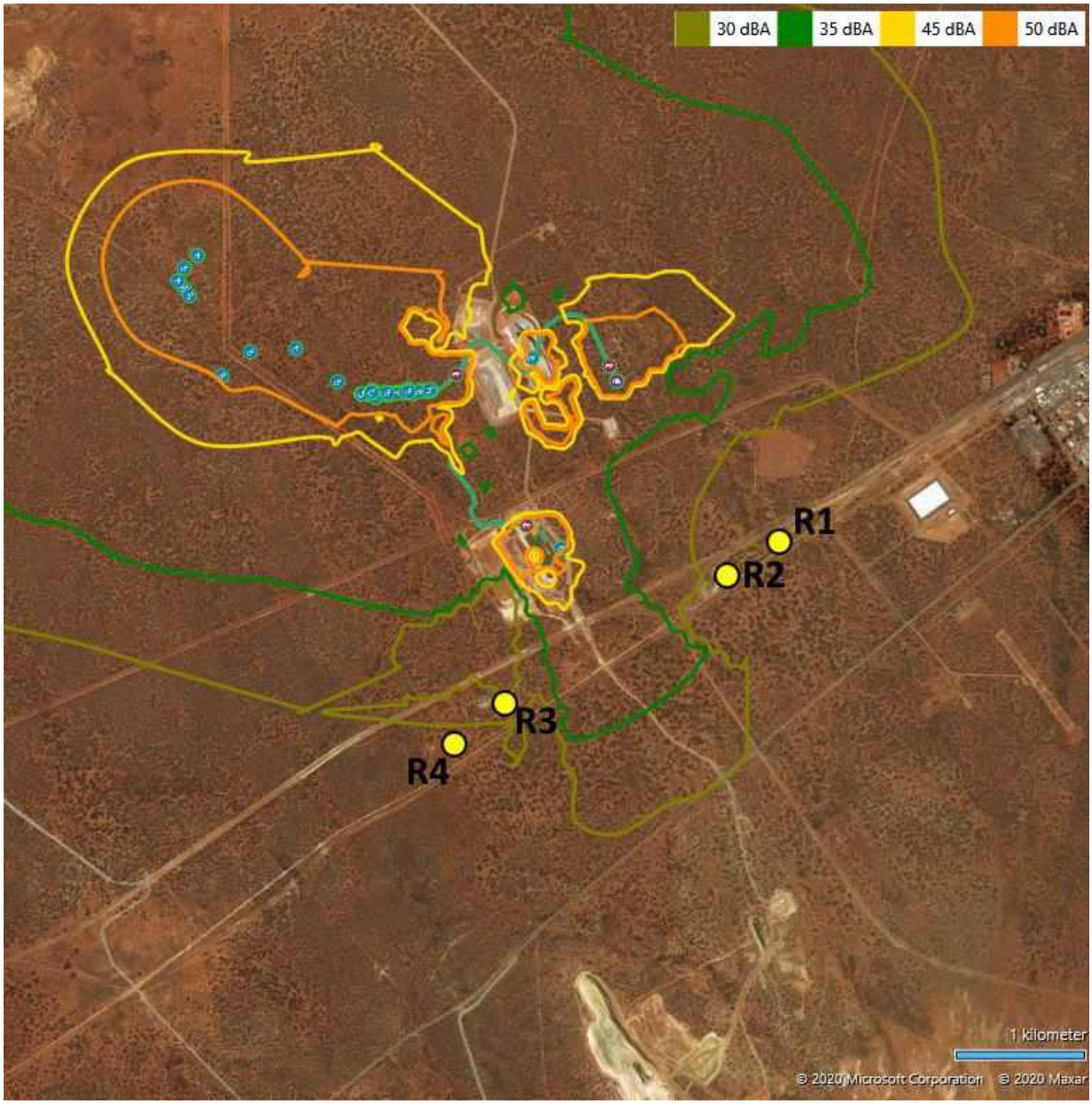


Figure 7-2 Noise Contour Map (after noise control) Year 1 to 3 (FW and JI Pit to ROM. JI pit to East Waste Rock Landform)

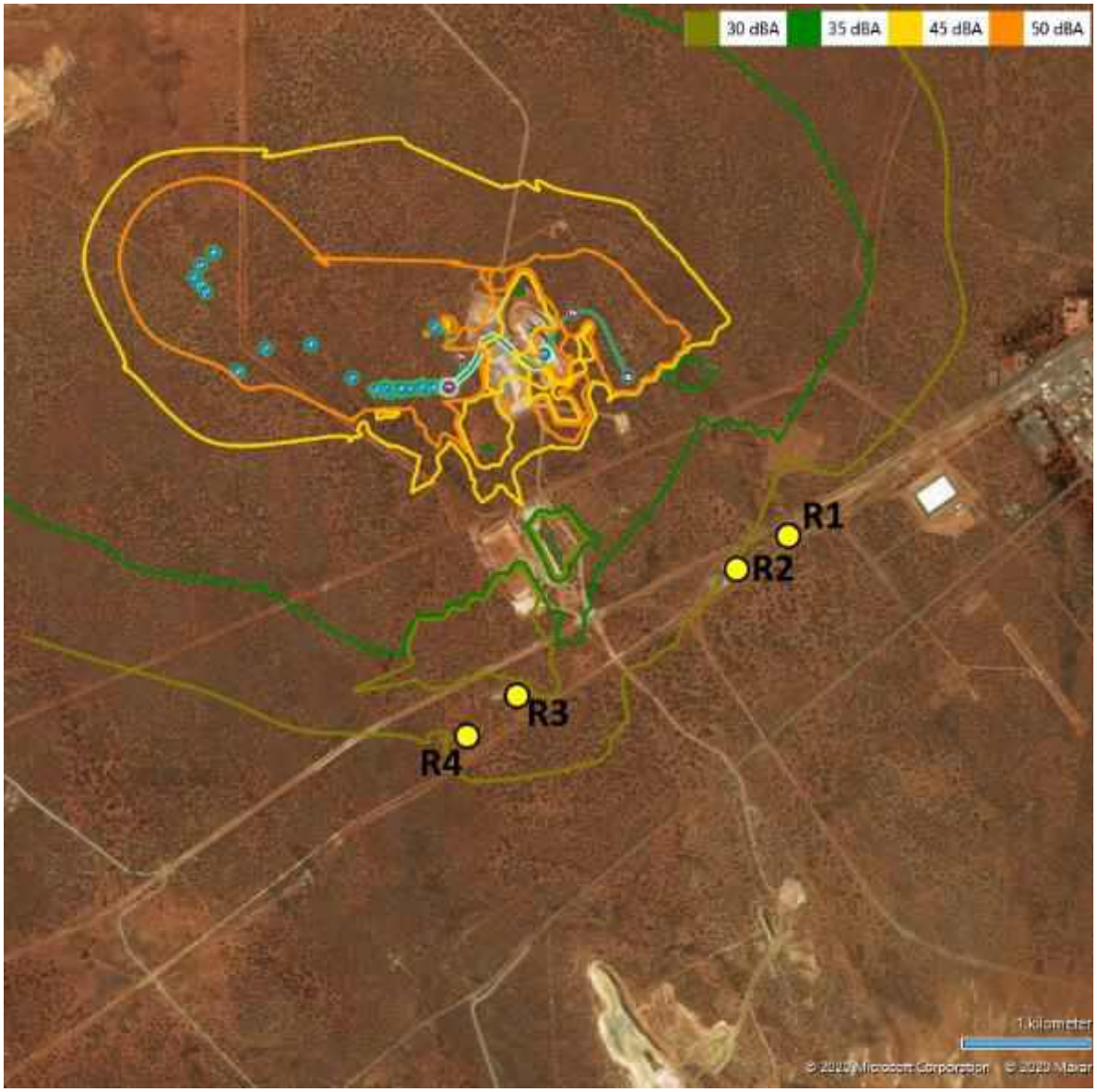


Figure 7-3 Noise Contour Map (after noise control) Year 4 (KL and JI Pit to ROM. JI pit to East Waste Rock Landform).

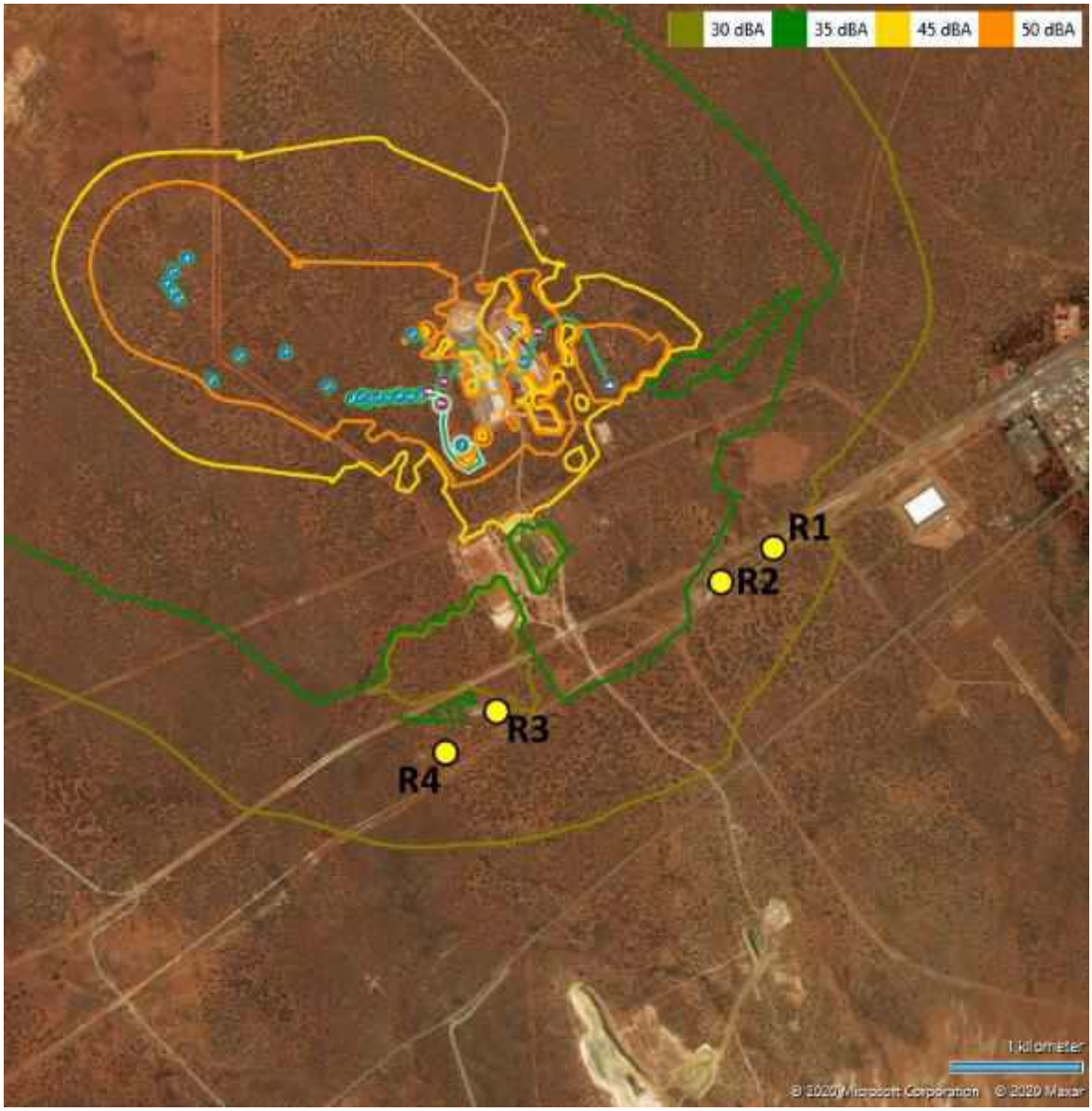


Figure 7-4 Noise Contour Map (after noise control) Year 5 (FS, KL and JI Pit to ROM. JI pit to East Waste Rock Landform)

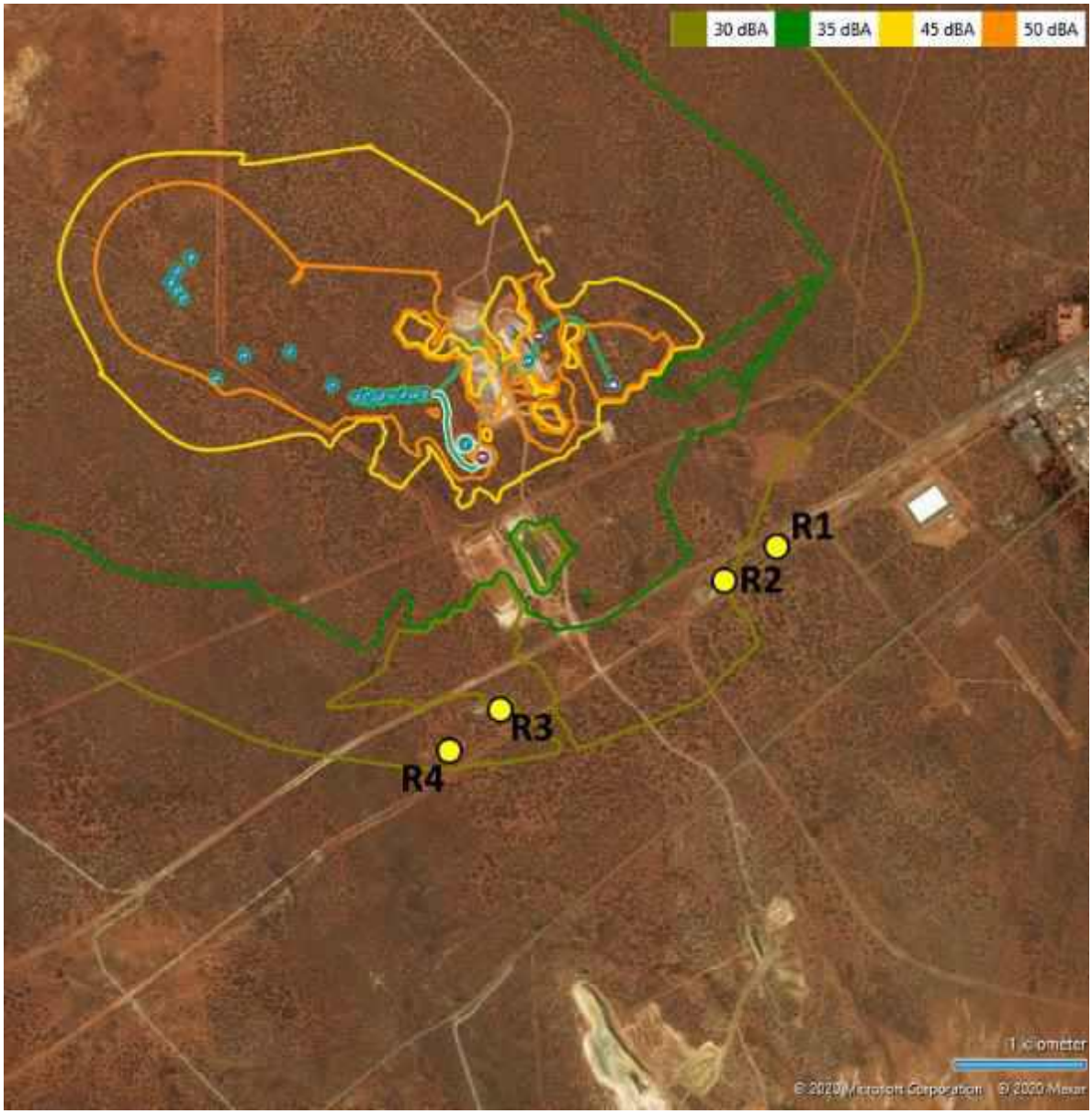


Figure 7-5 Noise Contour Map (after noise control) Year 6 to 9 (FS and JI Pit to ROM. JI pit to East Waste Rock)

8 Conclusions

With the noise control measures outlined in section 6 implemented, the Project is predicted to comply with the assigned noise levels at all sensitive receivers.

Appendix A Noise Legislation

Noise management in Western Australia is implemented through the Environmental Protection (Noise) Regulations 1997 (the Regulations), which operate under the Environmental Protection Act 1986. The Regulations specify maximum noise levels (assigned noise levels) which are the highest noise levels that can be received at noise-sensitive (residential), commercial and industrial premises.

Assigned noise levels are defined differently for noise sensitive premises, commercial premises, and industrial premises. For noise sensitive premises, an Influencing Factor (IF) is included in the assigned noise levels. The IF depends on the presence of major/minor roads and commercial/industrial land use zonings within circles of 100 metres and 450 metres radius from the noise receiver.

For noise sensitive residences, the time of day also affects the assigned levels. The regulations define three types of assigned noise level:

- L_{ASMAX} means an assigned level that is not to be exceeded at any time;
- L_{AS1} means an assigned level that is not to be exceeded for more than 1% of time;
- L_{AS10} means an assigned level that is not to be exceeded for more than 10% of time.

Table A1 : Assigned Noise Levels for Noise Sensitive Receivers

Type of premises receiving noise	Time of day	Assigned Levels (dB)		
		L_{A10}	L_{A1}	L_{Amax}
Noise sensitive premises: highly sensitive area	0700 to 1900 hours Monday to Saturday	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial premises	All hours	60	75	80
Industrial and utility premises other than those in the Kwinana Industrial Area	All hours	65	80	90
Industrial and utility premises in the Kwinana Industrial Area	All hours	75	85	90

Environmental Protection (Noise) Regulations 1997

Appendix B Equipment Noise Source Levels (SWLs)

Table B 1 - Modelled Equipment, Sound Power Levels (SWLs)

Item	dBA									
CV HEAD CHUTE	**104.4**	66	79	88	93	99	99	99	90	80
AGGLOMERATION LIQUOR PUMP	**103.7**	60	73	84	92	97	99	97	92	85
AGGLOMERATOR DRUM	**100.5**	64	75	84	93	95	96	92	87	77
AGGLOMERATOR FEED CONVEYOR	**112.4**	74	87	96	101	107	107	107	98	88
CONVEYOR Drive	**106.0**	69	81	90	98	100	101	98	92	83
CONVEYOR Drive (small)	**103.0**	66	78	87	95	97	98	95	89	80
BLS RETIC PUMP	**103.7**	60	73	84	92	97	99	97	92	85
CARBON FINES REMOVAL SCREEN	**93.5**	47	60	72	80	85	89	88	83	77
Conveyor Grasshopper	**104.4**	66	79	88	93	99	99	99	90	80
DUST CONTROL SYSTEM	**101.5**	58	71	82	90	95	97	95	90	83
Grasshopper Conveyor2	**104.4**	66	79	88	93	99	99	99	90	80
Grasshopper Conveyor3	**104.4**	66	79	88	93	99	99	99	90	80
HEAP RADIAL STACKER	**109.4**	71	84	93	98	104	104	104	95	85
HPGR	**114.8**	83	93	101	106	111	108	105	99	88
HPGR BIN FEED CONVEYOR	**102.4**	64	77	86	91	97	97	97	88	78
HPGR RECYCLE CONVEYOR	**97.4**	59	72	81	86	92	92	92	83	73
ILS TRANSFER PUMP	**109.0**	65	78	90	97	103	104	102	97	90
PLS TRANSFER PUMP	**109.0**	65	78	90	97	103	104	102	97	90
PRIMARY CRUSHER	**117.8**	86	96	104	109	114	111	108	102	91

RAW WATER PUMP	**103.7**	60	73	84	92	97	99	97	92	85
SCREEN BIN FEED CONVEYOR	**104.4**	68	79	88	93	99	99	99	90	80
SECONDARY CRUSHER	**117.8**	86	96	104	109	114	111	108	102	91
SECONDARY CRUSHER FEED CONVEYOR	**102.4**	64	77	86	91	97	97	97	88	78
SECONDARY CRUSHER BLET FEEDER	**107.5**	61	74	86	94	99	103	102	97	91
SIZING SCREEN	**103.5**	57	70	82	90	95	99	98	93	87
STORMWATER POND TRANSFER PUMP	**109.0**	65	78	90	97	103	104	102	97	90
SURGE BIN FEED CONVEYOR	**96.4**	58	71	80	85	91	91	91	82	72
PIT WATER PUMP	**103.7**	60	73	84	92	97	99	97	92	85
TANK WATER PUMP	**103.7**	60	73	84	92	97	99	97	92	85
Haul Truck (idle)	**106.5**	71	86	90	95	98	104	100	90	74
Haul Truck	**115.1**	62	86	98	106	111	109	108	99	85
Loader	**112.5**	65	77	101	101	106	107	107	101	92
Dozer	**113.7**	78	81	99	105	110	108	105	99	89
Water Cart	**111.1**	60	84	94	102	107	105	104	95	83
Grader	**111.8**	60	75	94	100	105	108	106	97	88
Drill Rig	**116.0**	67	85	100	109	111	111	107	100	91
Excavator	**116.5**	69	82	102	108	111	111	110	102	92
Excavator (small)	**106.5**	59	72	92	98	101	101	100	92	82