

Executive Summary

“Cadangan Melombong Bijih Besi pada ML 06/2019, Lot 15523 (PA 287623), seluas 60.75 ha (150 ac), Mukim Kuala Tembeling, Daerah Jerantut, Pahang Darul Makmur”

Project Proponent:



鑫鴻集團
GOLDEN PROSPEROUS
GROUP OF COMPANIES

Golden Prosperous Resources Sdn Bhd
(Company Registration No : 1097672-U)
B-46, Jalan Semambu Baru 2
25300 Kuantan
Pahang Darul Makmur

Overview

Location : ML 06/2019, Lot 15532 (PA287623)

Type of Mineral : Iron Ore

Activity:

Logging

Iron Ore Mining (Phase 1 and Phase 2)

Zoning : Forest

EIA Consultant :



GARUDA SAMUDERA
CONSULTANCY AND SERVICES

No. 108, Dataran Pengkalan Barat 2,
Taman Temara, 31650,
Ipoh, Perak

Legislative Requirement

Environmental Quality Act (EQA, 1974), Environmental Impact Assessment (EIA, 2015):

First Schedule, Activity 13: Development in Slope Area

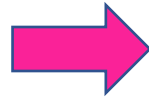
Second Schedule, Activity 8: Mining, b: Mining of minerals within or adjacent or near to environmentally sensitive area.

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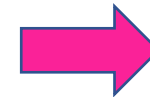
“The Proposed Iron Ore Mining Operation on ML 06/2019, Lot 15523 (PA 287623), covering an area 60.75 ha (150 ac), Mukim of Kuala Tembeling, District of Jerantut, Pahang Darul Makmur”

Project Background

Mining Lease Holder:
YAM. Tengku Nong Fatimah Binti Sultan Haji Ahmad Shah (TNF)



Sutera Manja Sdn. Bhd. (SMSB)



Mining & Logging Contractor: Golden Prosperous Resources Sdn. Bhd. (GPRSB)

Related Document

App. 1.A: Mining Lease from 25 July 2019 to 24 July 2021

App. 1.B: Government Gazzate (The area has been excised from the Hutan Rizab Som)

App 1.C: Notification Section 13 & Section 11

App 1.D: Agreement between TNF, SMSB & GPRSB

App 1.E: Approval of Exploration License (EL): No. PL.01/2017

App. 1.F: Permohonan Mengeluarkan Saki-Baki Kayu Balak

App. 1.G: Approval for removal of remaining timber and kayu jaras

App. 1.H: Approved plan amendment for logging application

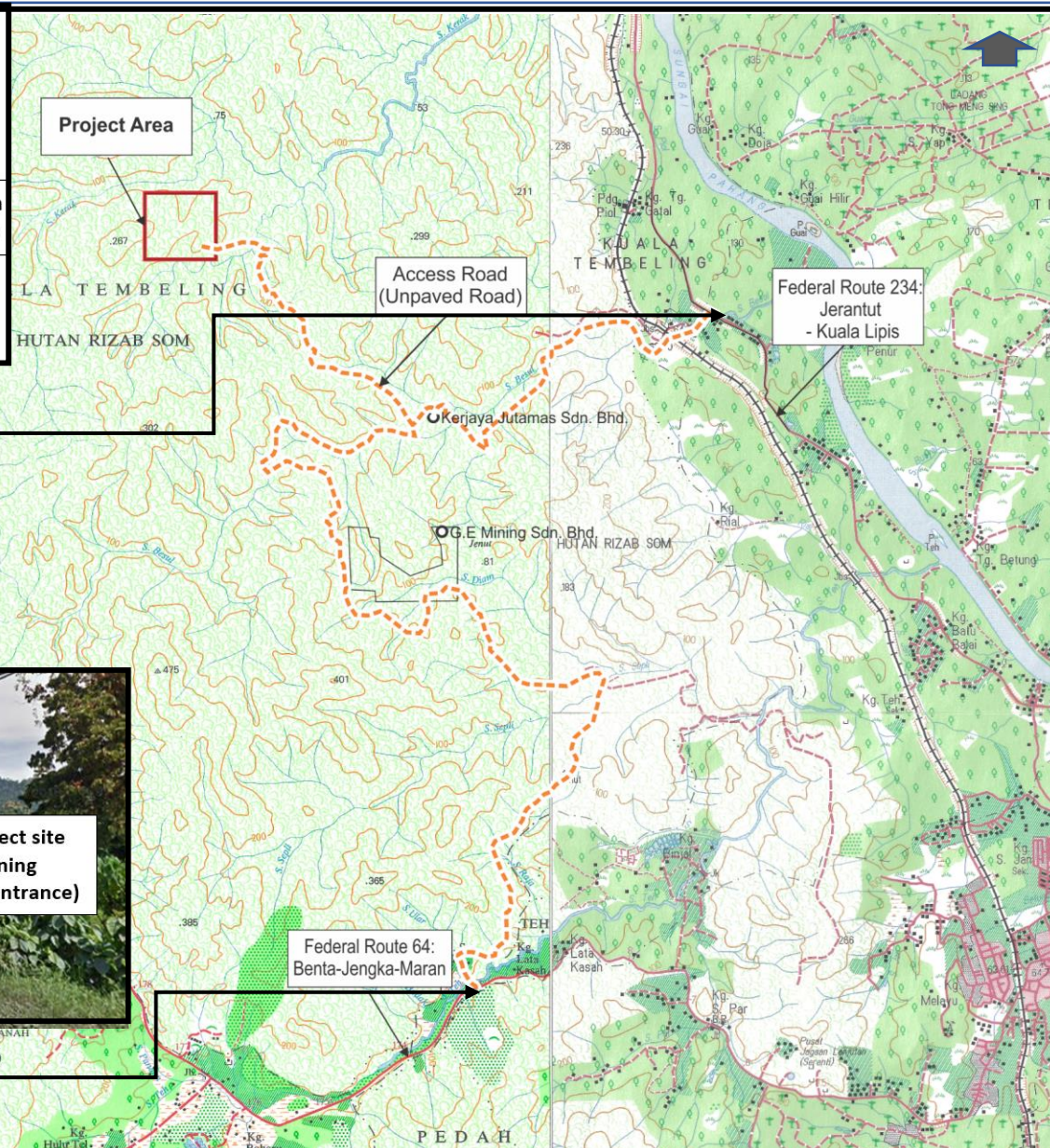
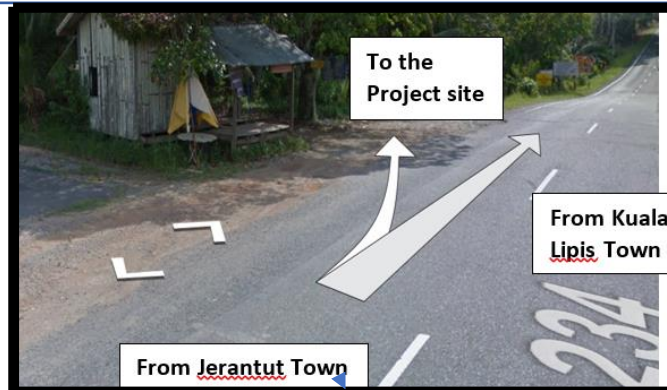
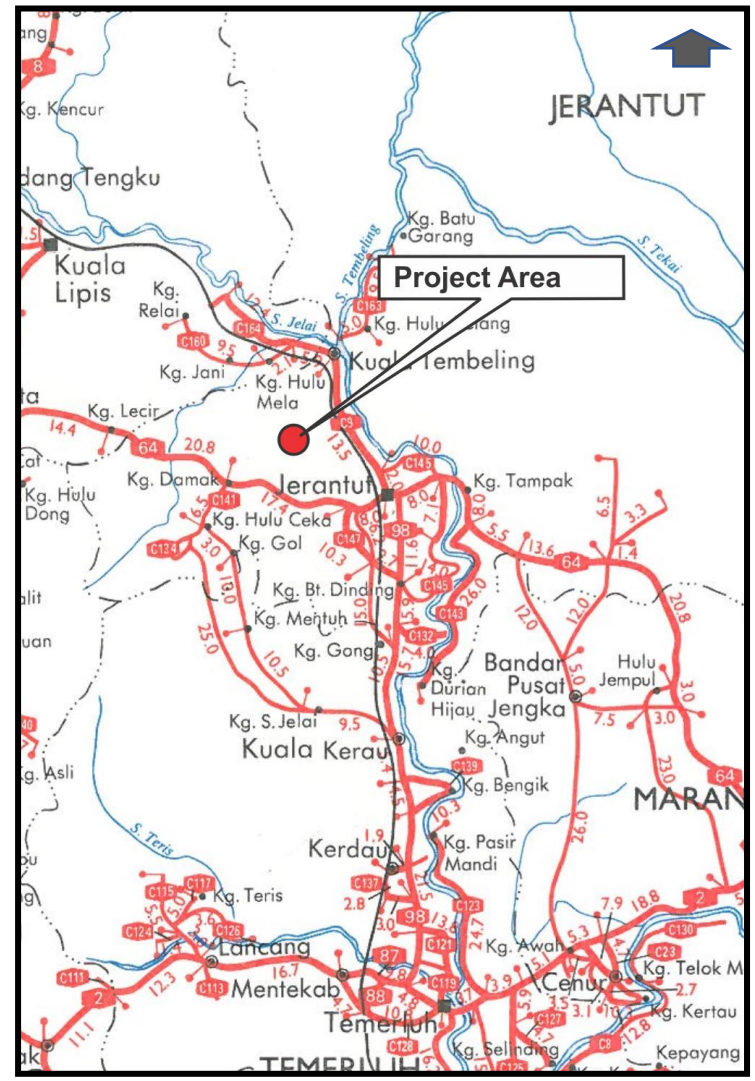
App 1.I: DOE Pahang's letter

App 1.J: Application of consent to access the G.E Mining Sdn. Bhd.

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Project Location

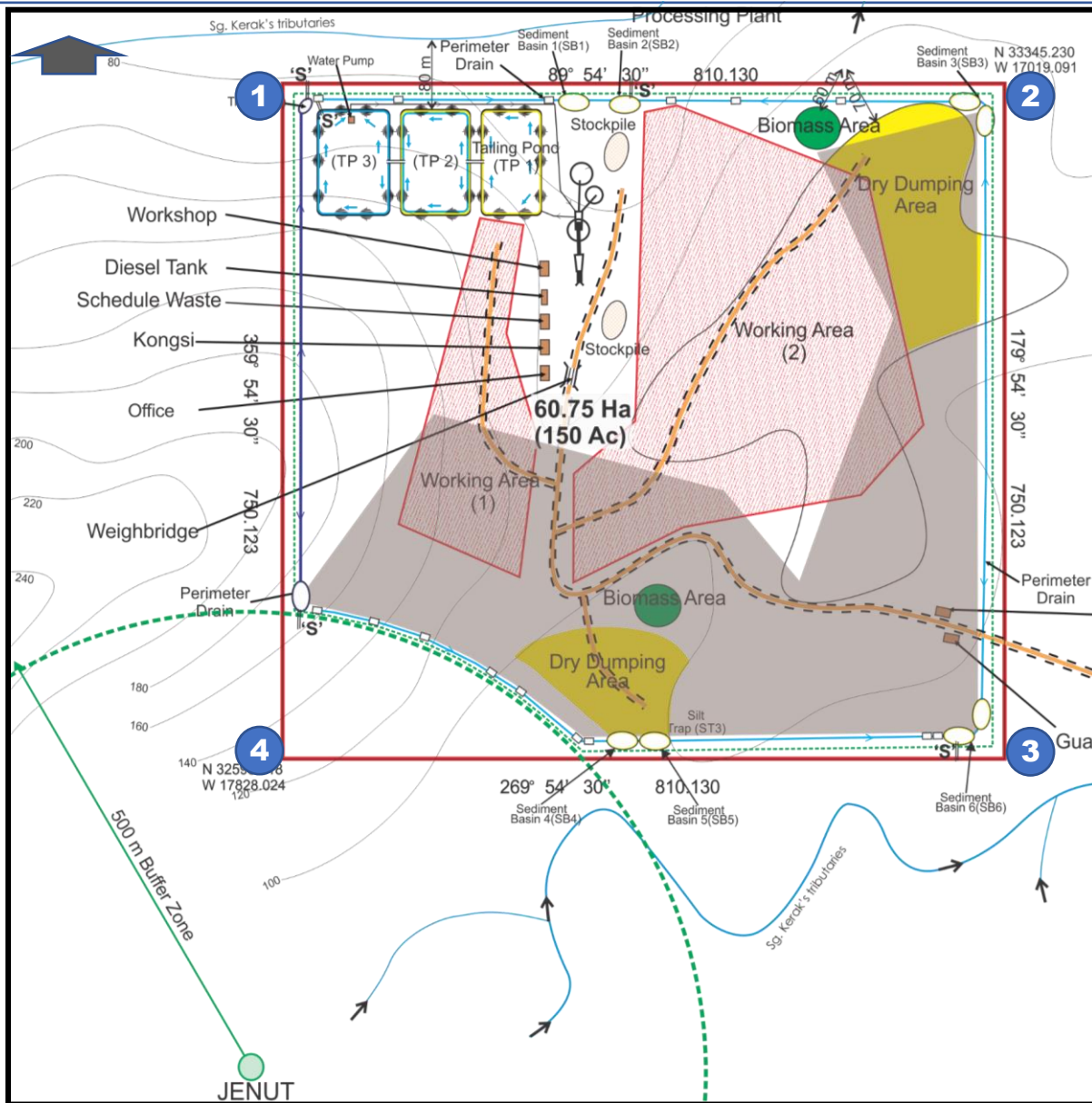


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Project Layout

| Area | 5.61 ha | 32.48 ha | 29.76 | 34 | 9.73 |
|-------------------------------------------------|---------|----------|-------|----|------|
| Buffer Zone (Border) + Buffer Zone (Jenut Area) | | | | | |
| Logging Area | | | | | |
| Logging Area (minus Buffer Zone of Jenut Area) | | | | | |
| Extraction areas/Working area 1 | | | | | |
| Extraction areas/Working area 2 | | | | | |



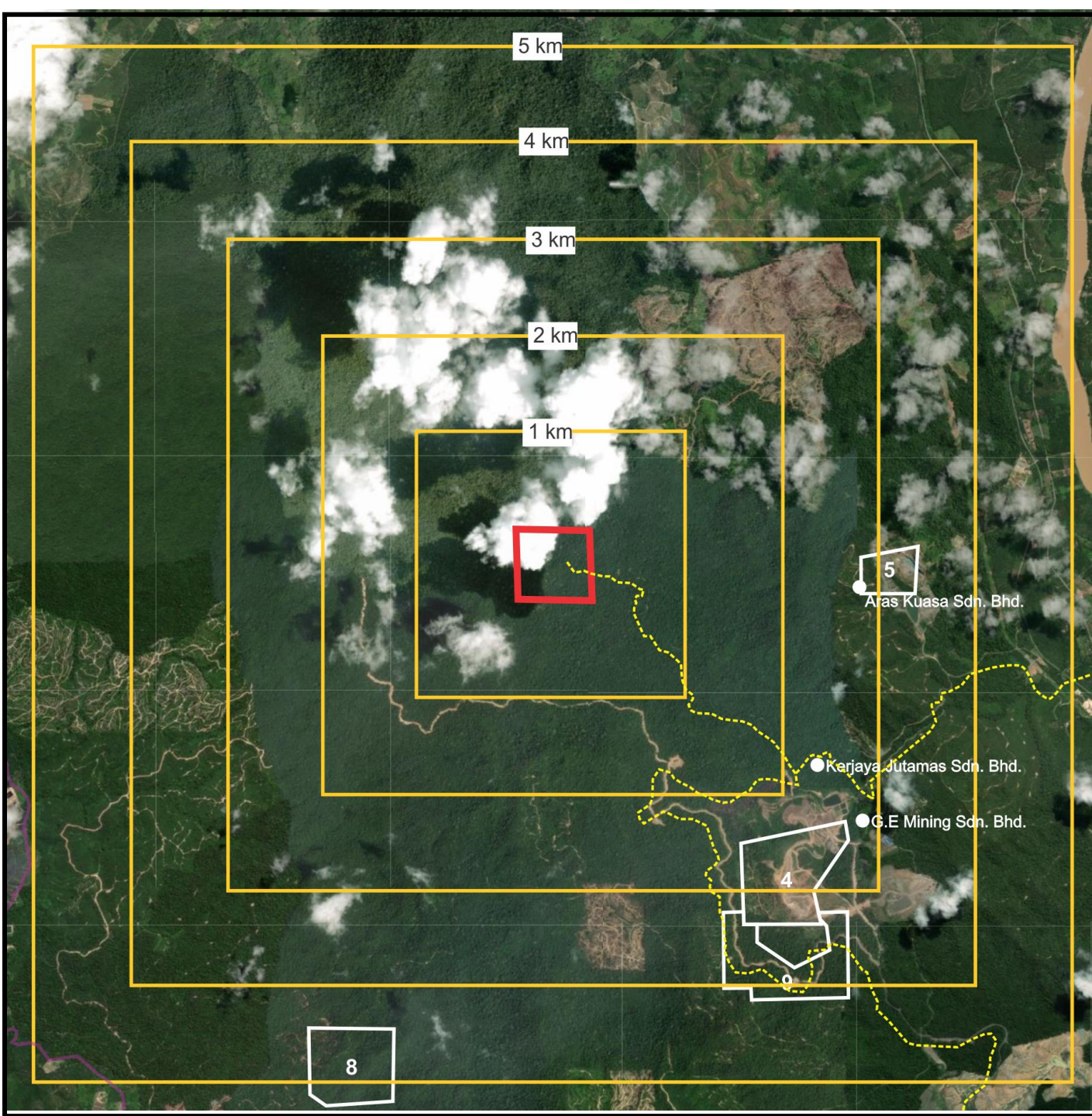
LEGEND

- Project Area
- Working Area for Iron Ore
- Proposed Logging Area
- Dry Dumping Area
- Tailing Pond
- River / River tributaries / Waterway
- Contour
- Access Road
- Perimeter Drain
- Silt Trap
- Biomass Area
- Spillway
- River Flow Direction
- Buffer Zone (5 meter)

| Point | Coordinates | |
|-------|---------------------|-------------------|
| | Longitude | Latitude |
| 1 | 102° 16' 28.9637" E | 4° 00' 42.6689" N |
| 2 | 102° 16' 52.5556" E | 4° 00' 42.7112" N |
| 3 | 102° 16' 52.5962" E | 4° 00' 19.8379" N |
| 4 | 102° 16' 29.0045" E | 4° 00' 19.7956" N |

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Nearest Sensitive Receptor within 4 km to 5 km from Project Site

* No water intake point in 1 km radius from the Project site.

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Statement of Need



**Product / Mineral:
Iron Ore**



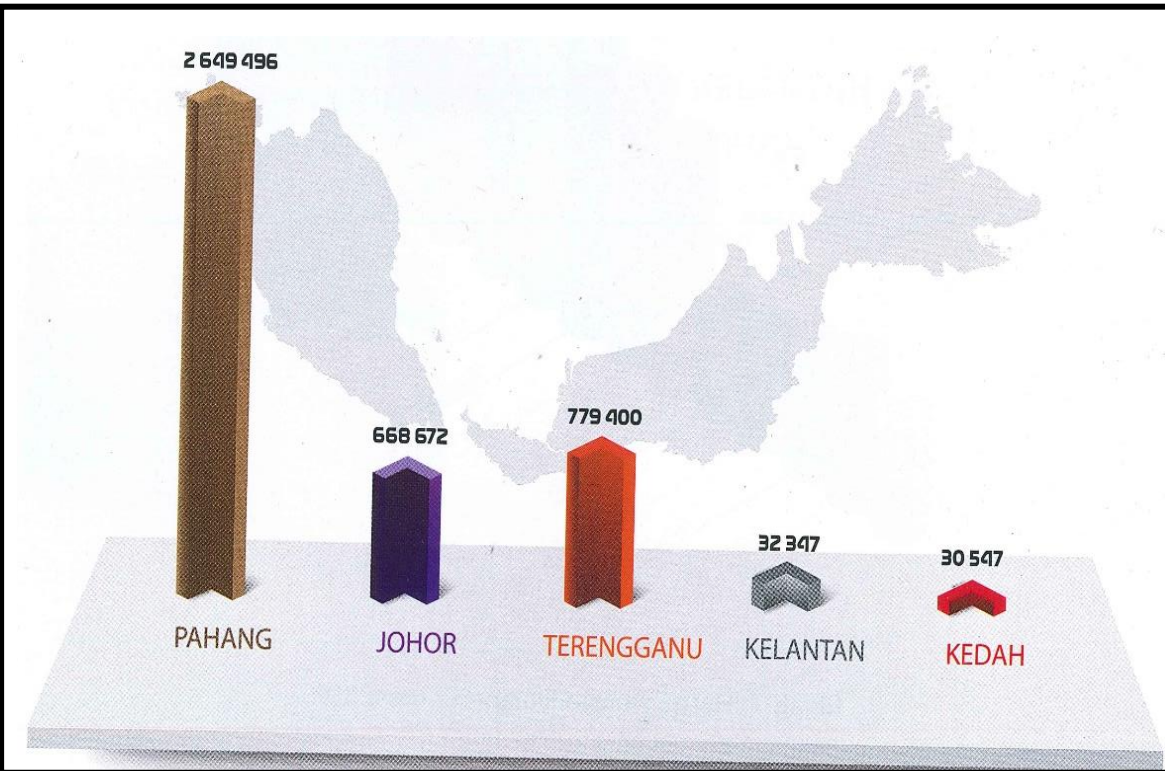
Pig Iron



Sponge Iron

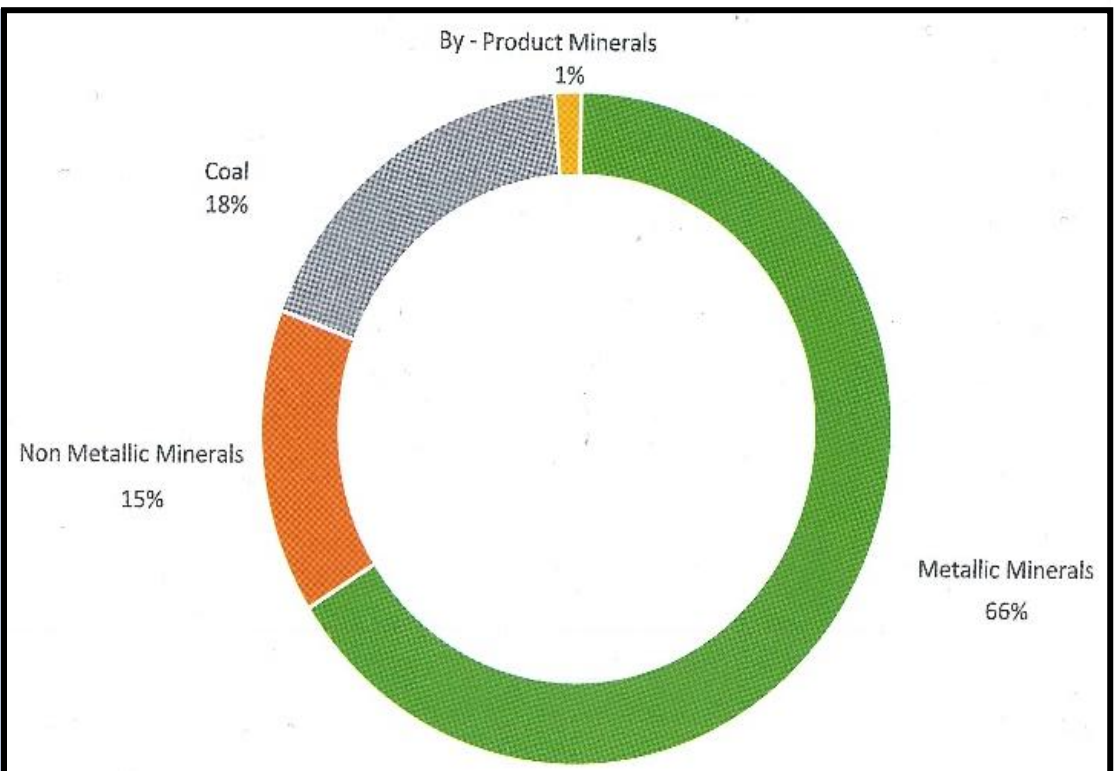


Steel Iron



Iron Ore Production by states, 2019

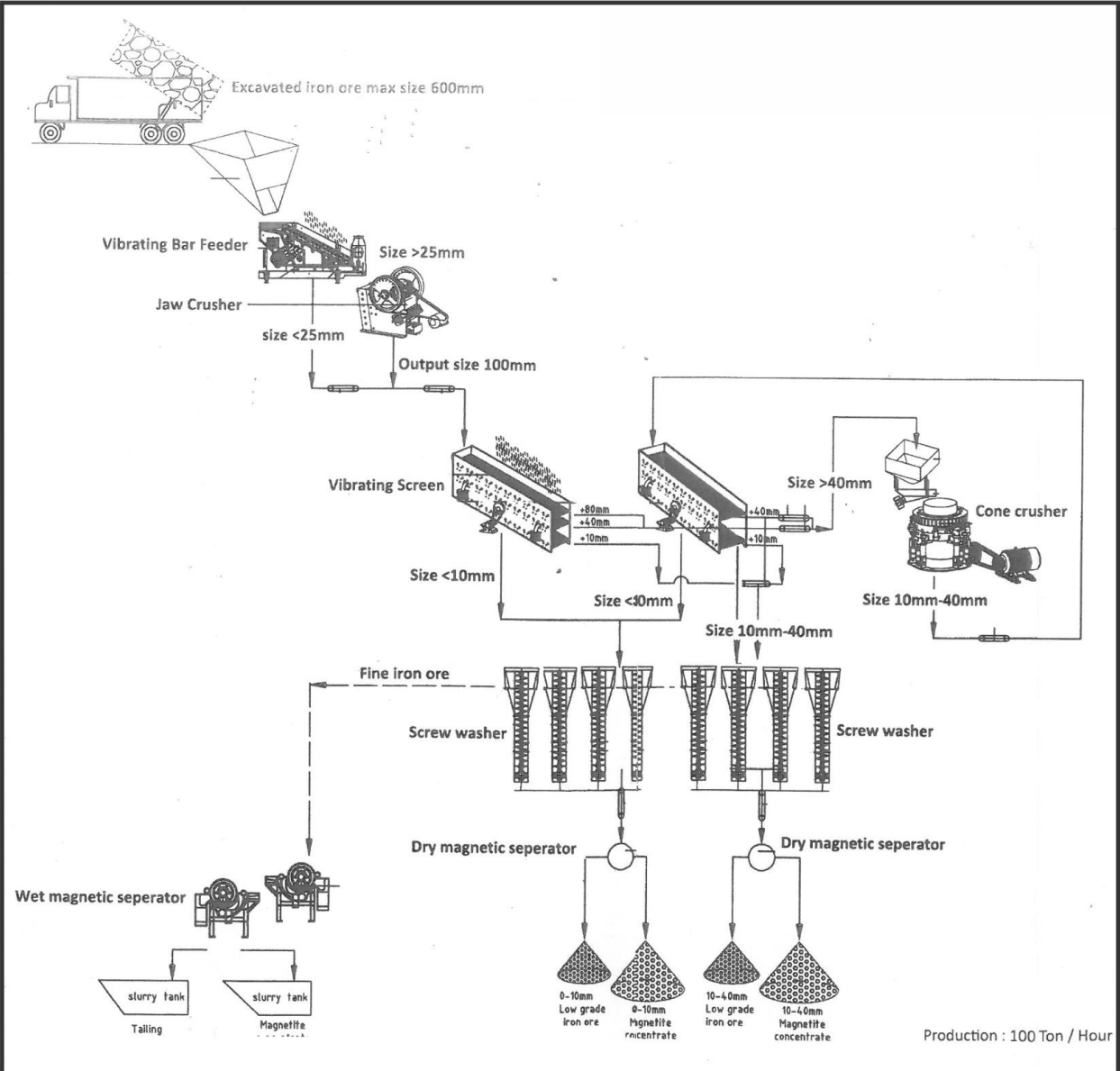
Percentage of Minerals Production Value, 2019



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Iron Ore Processing



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Project Activities



Development Stage

- Site Clearing
- Improvement & Construction of Haulage Road
- Construction of drainage system & sedimentation pond
- Overburden removal and dumping
- Logging of Timber Trees and and kayu jaras
- Installation of mining facilities
- Managing wastes at the Project site.



During Operation

- Removal overburden in phases
- Excavation operation in phases
- Crushing, screening, and washing of mineral to the desired size
- Handling and stockpile
- Transportation of iron ore
- Production
- Sales
- Waste Disposal



Abandonment


- Removal of buildings / infrastructures / facilities
- Level the dry dumping area
- Backfill the wet tailing ponds
- Managing wastes

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Existing Environment

Topography




- Mixed terrain, undulating & hilly
- Elevation range of 80 m – 180 m.

Soil




- presence of rhyolite among the soil samples.
- Silt Loam

Geology




- Underlain by Triassic aged of interbedded sandstone, siltstone and volcanic rocks especially rhyolite, which belong to the Semantan Formation

Land use



Within 5km, dominant land use is logging area, mining area, Hutan Rizab Som (*hutan pengeluaran*)

Hydrology



- Located middle stretch of the Sg. Kerak catchment
- Upstream of Sg. Pahang river basin
- Nearest Water Intake Point is Meteorological Station Batu Embun which is approximately 20 km upstream from the Project site


Hydrogeology

IKAT Score: the groundwater in the study area is categorised as medium and good.


Upper stream: potential use of drinking water.

The presence of high content of chemicals in groundwater believe due to natural processes of mineral breakdown.

The contaminants will flow to reach Sungai Kerak in 20 years.



Climate



Rainfall

- Highest average in Dec.(281.3mm)
- Lowest average in Feb. (81.4 mm)

24-Hour Temperature

- Highest average in April (28.0 °C)
- Lowest mean in January (25.9°C)

Relative Humidity

- Maximum mean in Dec (88.3 %)
- Lowest in March (80.2 %)

Surface Winds

- Dominant from North (13.00 %)

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Existing Environment

Air Quality

3 sampling station for ambient air monitoring.
Results for PM₁₀, PM_{2.5}, SO₂, NO₂, CO and O₃ were within the MAAQS 2020

Noise

3 sampling analysis on ambient noise level (L_{Aeq})
Result of L_{Aeq} were within the recommended limit as per Guidelines for Environmental Noise Limits and Control, Third Edition, DOE (2019).

Water Quality

- Water quality study at 7 points along Sg. Kerak and Sungai Pahang
- Data analysis a& Result:
pH value: 6.2 – 7
Temperature: 28.1°C to 28.7°C
DO: 6.7 mg/L to 7.2 mg/L
COD : 19 mg/L to 28 mg/L
BOD : 2 mg/L to 6 mg/L
TSS: 4 mg/L to 7 mg/L
Turbidity: Less 50 NTU except W4 & W6
Heavy Metals: Low and ND.

Groundwater Quality

- 2 sampling points in Project Site vicinity.
- The result indicate non-compliance for COD, Ammoniacal Nitrogen, Cadmium, Iron, Lead, Manganese as per Standards and Groundwater Index Malaysia, DOE (2019)
- BH1: potential use for irrigation
- BH2: potential use drinking water

Fauna

- Salt-lick; Jenut is approximately 450 m from the Project border.
- Mamalia: Chiroptera, Rodentia, Carnivora, Primates, Prosboidea, Perissodactyla, Artiodactyla
- Birds
- Other vertebrata

Flora

- lowland mixed forest formation with high floristic composition of lowland dipterocarp forests
- Expected as having high native forest tree species composition and biomass value
- The forested land were undergone vegetation changes due to previous logging operations and anthropogenic disturbances.

Existing Environment

Traffic

Existing Road Network

Main route: Federal Route 234

Traffic Survey

Peak hour:

Morning (0700 – 0800)

Afternoon (1600 – 1700)

Traffic Composition

Car: >70%; heavy vehicle:3%-8%

Human Environment and Socio Economic

- District of Jerantut is divided into 10 Mukim with total area of 756,044 hectar
- The population in Mukim Kuala Tembeling is 3,701.
- In one (1) to five (5) km radius there are no residential area located. The nearest are is located (5) km radius from the project site. Due to the location, the socio economy study in this Project is not significant

Water Quality Modelling

- Operation of the mining site is not expected to cause significant changes if the proper “zero discharge
- Worst case and worst case with low flow conditions: heavy metals at the end of modelling channel a.k.a before the intake point of the LRA Batu Embun are still lower than the Class IIA Limits
- The operation of the Project is not expected to disturb the ambient TSS and pH levels in the Sungai Pahang

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Evaluation of Impact

Development Stage

Site Clearing and Earthwork:

- Significant Loss of vegetation and generation of vegetative waste
- Air pollution
- Significant increase in runoff
- Potentially significant increase in soil erosion

Mobilization of workforce:

- Safety and health of workers
- Disposal of domestic waste

Placement of Machineries:

- Insignificant increase in noise pollution
- Insignificant increase in air pollution (dust and exhaust emission)
- Safety and health construction workers
- Disposal of construction waste and debrisators

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Evaluation of Impact **Operation Stage**

Maintenance of Access Road:

- Insignificant as the work only involves grading and surfacing with crusher run, and de-silting of existing earth drains
- Minor air pollution due to mobilization of machinery.

Haulage of Overburden

- Hazard to the operators as the excavated area might be in steep terrain
- Potential dust problem affecting the health of operators

Storage and Stockpile of overburden

- Potential erosion problem
- Potential minor dust and emission problem

Overburden stripping: Abandonment Stage:

- Hazard to the operators as the excavated area might be in a steep terrain
- Potential dust problem
- Potential soil erosion

Crushing Operation

- Noise emission
- Workers health and safety
- Dust and particulate dispersion and emission
- Potential water pollution
- Potential noise problem to on-site workers

Transportation and Loading of Sales and Products

- Potential dust and particulate emission and dispersion

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Evaluation of Impact

Abandonment Stage

Abandonment of Mining:

- Un-aesthetically acceptable if the site is left without proper decommissioning and rehabilitation

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Mitigating Measure (During Construction)

Soil Erosion & Siltation

- Site clearing done in dry season.
- Prepare construction schedule.
- Minimized exposure of bare area
- The development should establish cover crop as soon as possible
- The benches or platform should be constructed with a very slight reverse gradient sloping towards the hillside.
- All filled areas must be firmly consolidated and compacted.
- Control of surface runoff
- filter the runoff before it is discharged into the stream downstream

Overburden Stockpile

- Mitigating measures as recommended in the LDP2M2
- Progressive overburden removal and staging system
- Site levelling on the low laying areas
- Compacted and graded and maintain a suitable angle
- Construct permanent drain and other protective works

Hydrological Regime

- Redirect storm water around working area using drains, collection and diversion ditches
- sedimentation pond for collection and treatment of site runoff
- Cease operation during period of high rainfall
- Reduce site runoff
- Minimise exposed area
- Riparian buffer
- Monitoring of water quality at point of discharges from the Project site
- “zero-discharge “approach
- AMD: aquatic plants in the tailing ponds

Mitigating Measure (During Construction)

Sedimentation

- Construction of earth drain within the Project site
- Discharged water is directed into sedimentation basins.
- The exposed overburden materials that temporarily at the overburden dumping area for future rehabilitation work.
- Maintenance of drainage system shall be regularly carried out.
- Monitoring of water quality

Waste Management

- Do not accumulate & burn waste.
- Provision of designated collection point and waste bin.
- Prohibit biomass open burning
- Manage scheduled waste based on EQA 2005.
- Container of scheduled waste shall be labelled & stored in separate storage.
- Trained on the safety and ERP at least once a year.
- Inspection of storage area conducted on weekly basis

Traffic & Transportation

- Speed limit and warning signboard.
- Road network condition maintained regularly
- Road spraying shall be undertaken regularly during dry spells
- Development of transport/traffic safety plans

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Mitigating Measure (During Construction)

Air

- Avoidance of unnecessary running of vehicle and equipment.
- Regular damping on the exposed area.
- Transport vehicles shall not be overloaded.
- Before work commences, the contractor will prepare a dust control strategy

Noise

- Transportation and machinery that may be intermittent shall be throttled to minimum;
- Monitoring of ambient noise quality
- Low noise equipment
- Corrective actions
- Investigate complaints promptly with remedial measures implemented.
- Complaints, investigations and corrective actions shall be documented

Solid and Biomass Wastes

Cut Vegetation

- Organic materials shall be disposed of via mulching/composting in a suitable area within the Project site
- Open burning shall be prohibited

General Refuse

- It should be stored in enclosed bins separate from hazardous wastes
- Minimize the solid waste generation.

Operational Waste

- Scrap metal shall be recovered and sent for recycling as scrap
- Waste should be collected disposed of via local dumpsites

Solid and Biomass Wastes (2)

Waste Management

- Waste management plan must be prepared by the contractor before starting the work
- Waste is to be stored in appropriate design and marked areas
- Recovery and recycling shall take place wherever possible
- Schedule’s waste must be treated and disposed of according to relevant laws, guidelines and best practice;
- the contractor shall bear the full liability for any further clean-up costs.

Mitigating Measure (During Construction)

Hazardous Wastes

Sewage

- Workers shall be provided with adequate sanitation facilities
- Regular cleaning is required to ensure that the toilet is cleaned
- The wastes shall be properly stored and managed to minimize contaminated run-off to water bodies.
- Untreated raw wastewater shall not be discharged out of the Project site

Hazardous Wastes (2)

Hazardous Waste

- Hazardous waste materials shall be stored in a secure area
- Scheduled waste shall be handled in a proper manner
- Scheduled wastes must be stored and disposed off accordingly by licensed scheduled waste contractor
- Notification and inventory of scheduled waste must be documented
- Relevant government authorities shall be immediately informed of any accidental spills.

Fuel Oil Storage

- Fuel tanks and storage areas shall be sited on bund enclosure provided with drip collection devices and capable containing 110% of the largest tank
- Fuel storage in dumps shall be set back 30 meter from any water body and located on relatively flat land
- All fuel containers shall be handled carefully
- Dedicated maintenance and refueling areas shall be identified and provided with bund hard standing with provision of oil trap and oil interceptor.

Wastewater Discharge

- Workers shall be provided with adequate sanitation facilities
- Regular site visits to collect the accumulated waste for off-site disposal
- At least 2 toilets shall be provided for every 15 workers
- The waste shall be properly stored and managed to minimize contaminated run-off and avoid from flowing to the water body

Mitigating Measure (During Construction)

Flora

Planning of Site Clearing Activities

- Vegetation cover shall not be removed until the physical works are ready to begin
- Site clearing shall be limited to the areas designated for each phases as shown in the mining scheme plan

Biomass Management

- Felled trees and other biomass can be used as filling material or mulch at suitable area
- Dumping of biomass along streams is not allowed

Flora (2)

Restriction of Open Burning

- Strictly no burning
- Signboards showing strictly no burning must be set up at suitable location
- Workers especially non-locals (foreigners) must be briefed before any work commence that strictly no burning is allowed

Fauna

- Team Preparation
- Prohibition of Wildlife Poaching and Trapping
- Wildlife-Human Conflict: Elephants, Tapirs and Wild Boars
- Disturbance to wildlife
- Wildlife-Human Conflict Management Strategies: Phasing / Directional Clearing, trenches, electrified fences, guarding, contingency plan

Occupational Safety and Health

- Training
- Workers shall be provided with adequate sanitation facilities
- Establish effective on-site safety procedures and emergency response plan
- Sufficient training for pollution control safety measures first aid and fire- fighting
- No employment of illegal immigrant workers is permitted
- Establish a health surveillance system for workers.

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Mitigating Measure (During Construction)

Socio-Economics

- Opportunity for local communities
- Movements of equipment and machinery shall be planned and closely monitored

Rehabilitation

- PERHILITAN, project proponent need to plant Napier crops and other suitable plants in the disturbed area during rehabilitation stage Innovation
- Excavated pond at the proposed site (if 4-meter depth) shall be reclaimed during post operation
- Project proponent shall consider the compensation for the loss of income/ properties from human-wildlife conflict.

Abandonment

- The area shall be tidied up; all facilities not otherwise required shall be removed.
- Building structures, machinery and wastes shall be removed

LD-P2M2

- Scheduled Site Meeting
- Construction Markers
- Stabilized Construction Entrance
- Perimeter Control
- Sediment Pond
- Runoff Management
- Temporary or permanent watercourse crossing
- Temporary Stabilization
- Discharge
- Corrective Actions
- Site Inspections
- Maintenance and Monitoring
- Provision of Funds for Land- Disturbing Pollution Prevention and Mitigation
- Measures (LD-P2M2)