	ENVIRONMENTAL IMPACT ASSESSMENT (EIA) (SECOND SCHEDULE)	
	Proposed Gold Mining (Alluvial) At ML16/2022 With An Area of 200.0 Hectares On Lot 10562 At Hutan Simpan Kekal Gunung Stong, Mukim Ulu Nenggiri, Daerah Bertam, Jajahan Gua Musang, Kelantan Darul Naim	REV:00

## EXECUTIVE SUMMARY

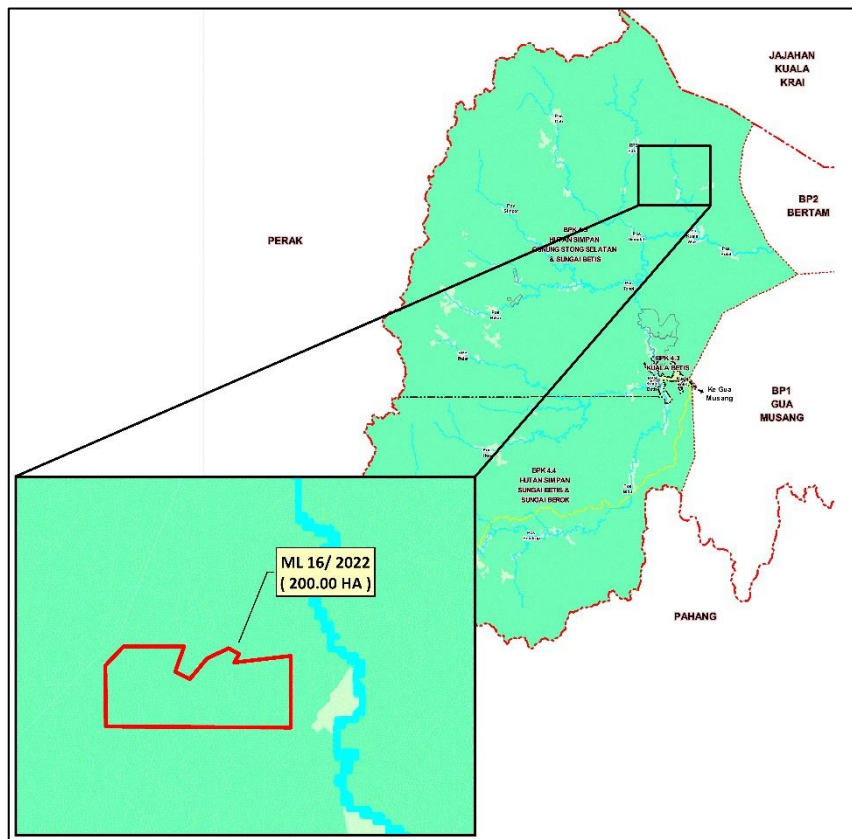
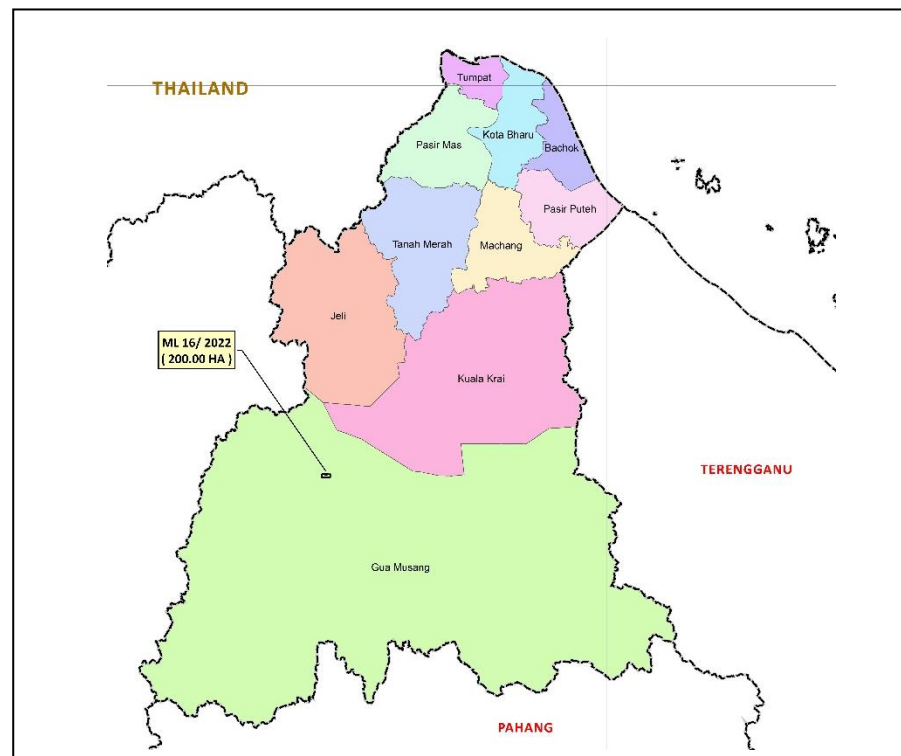
### 1.0 INTRODUCTION

Project Title:  
**“PROPOSED GOLD MINING (ALLUVIAL) AT ML16/2022 WITH AN AREA OF 200.0 HECTARES ON LOT 10562 AT HUTAN SIMPAN KEKAL GUNUNG STONG, MUKIM ULU NENGGIRI, DAERAH BERTAM, JAJAHAN GUA MUSANG, KELANTAN DARUL NAIM ” -SECOND SCHEDULE-**

Project Operation:  
**Gold (Alluvial) Mining Project**

Location:  
**Hutan Simpan Kekal Gunung Stong, Mukim Ulu Nenggiri, Daerah Bertam, Jajahan Gua Musang**

Project size:  
**200.0 hectares**




Based on *Rancangan Tempatan Jajahan Jajahan 2020 (Pengubahan Kali Ke-6: Bil. 1/2021 (Tarikh Warta:13 Julai 2023, No. Warta: G.N.No.109)*: The project located within *Blok Perancangan Kecil 4.5: Hutan Simpan Gunung Stong Selatan & Sungai Betis*, the zoning for the proposed project area is

**FORESTRY**

**However**, mining activity is permitted with the permission and approval from **state government and relevant authorities**.

### 2.0 PROJECT PROPONENT & ENVIRONMENTAL CONSULTANT

MINING LEASEHOLDER (PROJECT PROPONENT) AND MINING OPERATOR	ENVIRONMENTAL CONSULTANT
 <b>KUMNARA HOLDING SDN BHD</b> 48-2, Jalan MR 1/3, M-Residence Business Centre, 48020 Rawang, Selangor  Contact Person: Puan Sharifah Shuriana Binti Syed Abdul Aziz  Tel. No.: 019-2923312 E-mail: sharifahshuriana@gmail.com	 <b>NILAIMAS SERVICES (001953513-D)</b> No.17, Jalan Equine 10D, Taman Equine, 43300 Seri Kembangan, Selangor  Contact Person: Dato' Seri Ts. Hj. Mohd Nawahidudin Bin Mahamad Isa  Tel/Fax:03-89409959 / 03-89409958 E-mail: nilaimas@gmail.com

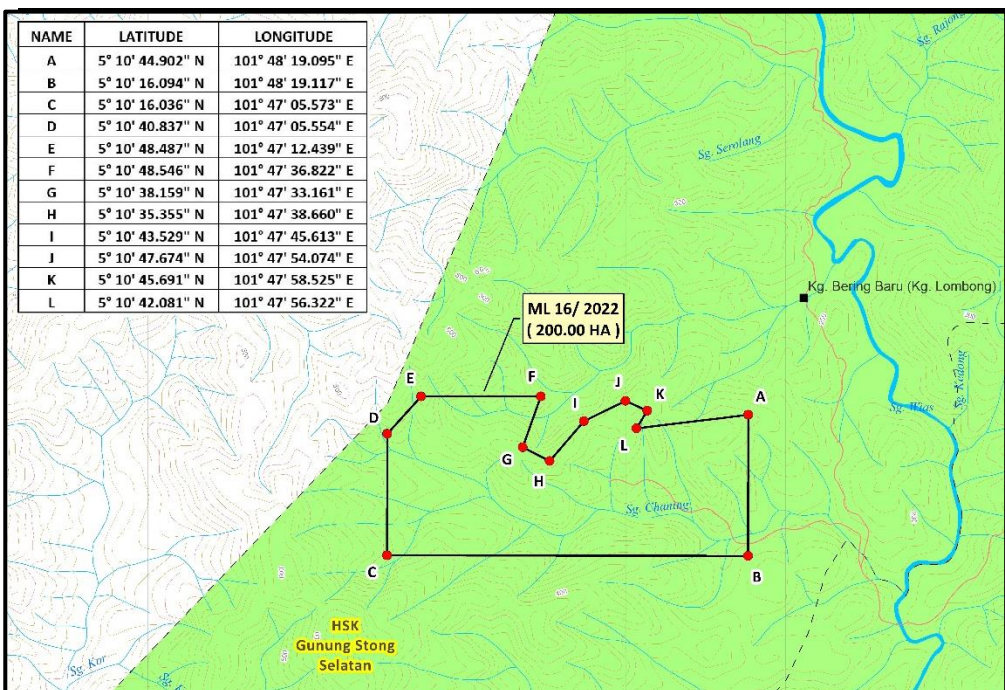
	<b>ENVIRONMENTAL IMPACT ASSESSMENT (EIA) (SECOND SCHEDULE)</b>	
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**3.0 LEGISLATIVE REQUIREMENTS**

Section 34A of the Environmental Quality Act 1974, Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015

- **Schedule 2: Activity 8 (b);**  
Mining of Minerals within or adjacent or near to environmentally sensitive area
- **Schedule 1: Activity 5 (b);**  
Logging, or cutting or taking of timber for the purpose of conversion from forest to other land use covering an area of 100 hectares or more but less than 500 hectares.
- **Schedule 1: Activity 5 (c);**  
Logging, or cutting or taking of timber from forest at less than 300 meters above mean sea level covering an area of 100 hectares or more, outside permanent reserved forest.
- **Schedule 1: Activity 13;**  
Development or land clearing less than 50 per cent of an area with slope greater than or equal to 25° but less than 35°.

**4.0 PROJECT OVERVIEW**



POINT	LATITUDE	LONGITUDE
A	5° 10' 44.902" N	101° 48' 19.095" E
B	5° 10' 16.094" N	101° 48' 19.117" E
C	5° 10' 16.036" N	101° 47' 05.573" E
D	5° 10' 40.837" N	101° 47' 05.554" E
E	5° 10' 48.487" N	101° 47' 12.439" E
F	5° 10' 48.546" N	101° 47' 36.822" E
G	5° 10' 38.159" N	101° 47' 33.161" E
H	5° 10' 35.355" N	101° 47' 38.660" E
I	5° 10' 43.529" N	101° 47' 45.613" E
J	5° 10' 47.674" N	101° 47' 54.074" E
K	5° 10' 45.691" N	101° 47' 58.525" E
L	5° 10' 42.081" N	101° 47' 56.322" E

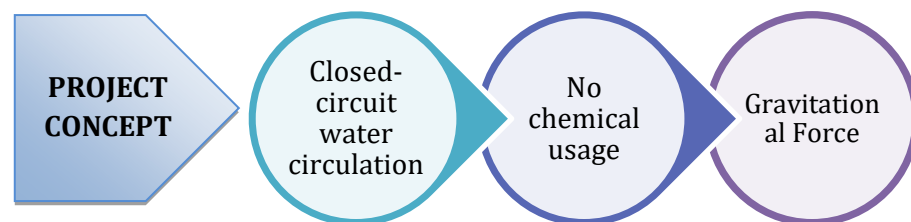
**Mining Liscence (ML):**  
ML 16/2022  
Total area: 200.0 Ha

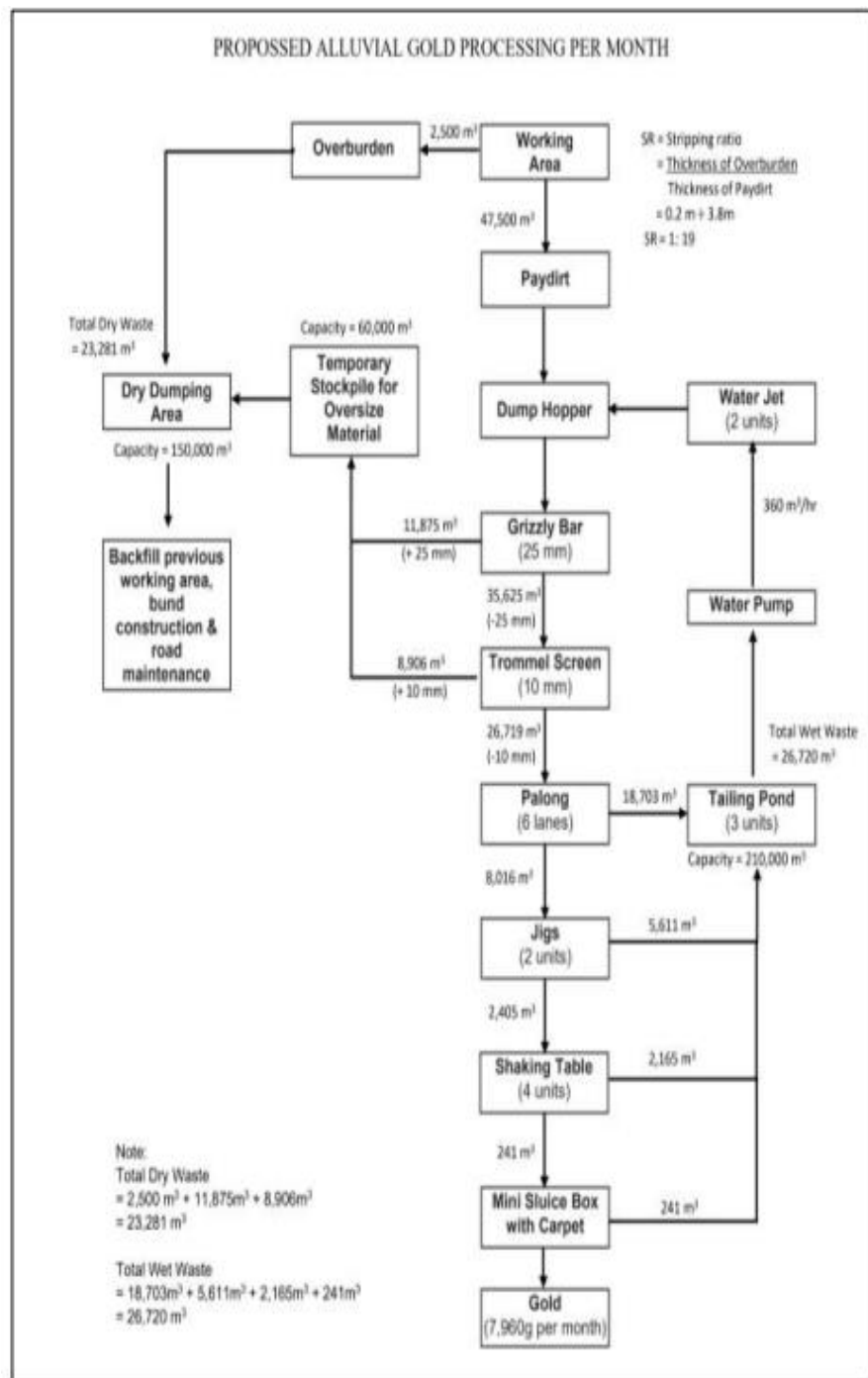
**Mining Life Operational Life:**  
8.3 Years

**Current Land Use**  
**FORESTRY**

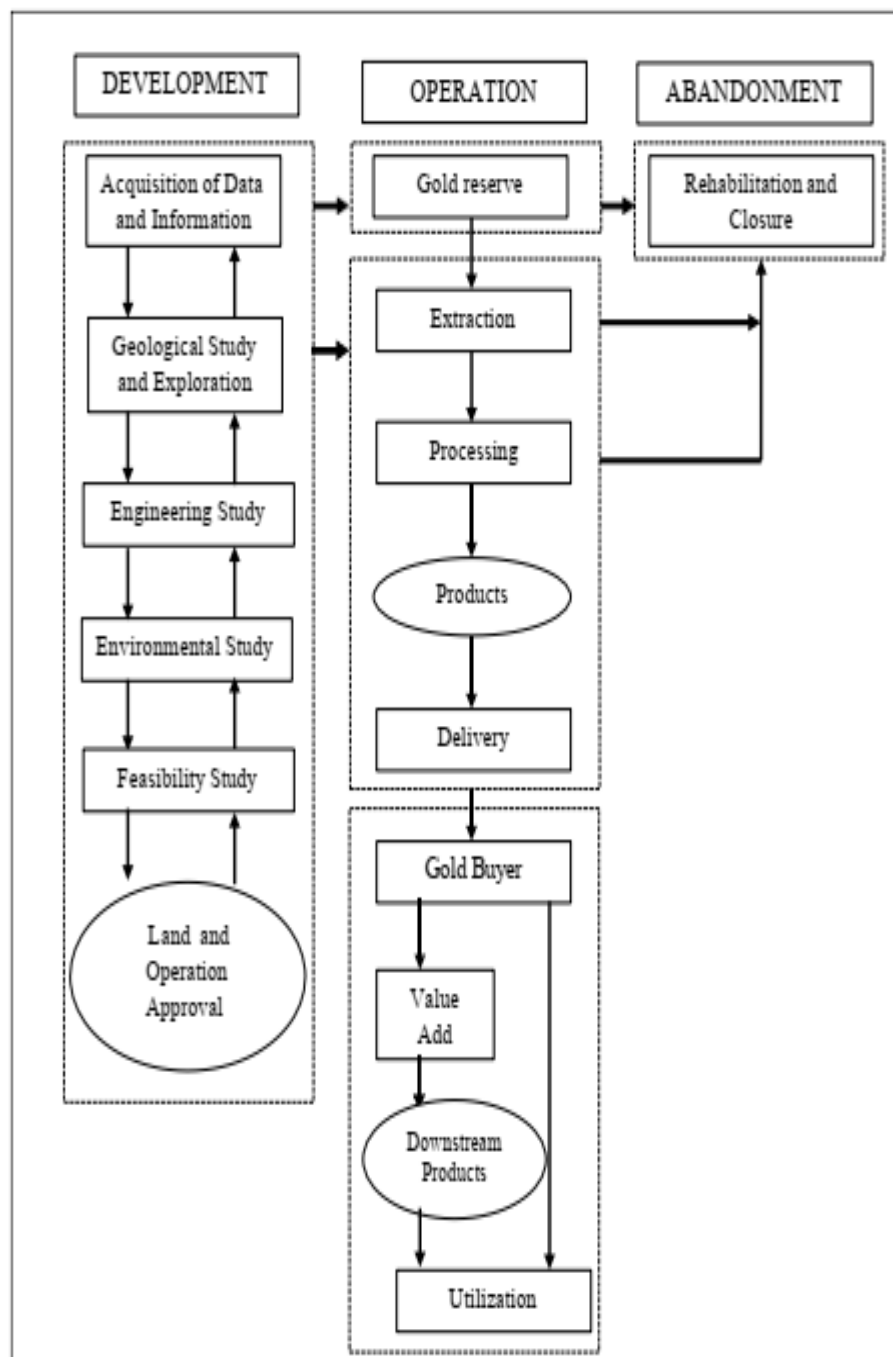
**Gold Reserves and Mine Operational Life**

Estimated Workable Deposit Area	Estimated Mine Reserve	Mine Operational Life
<b>119.7 Ha</b>	796 kg	8.3 Years



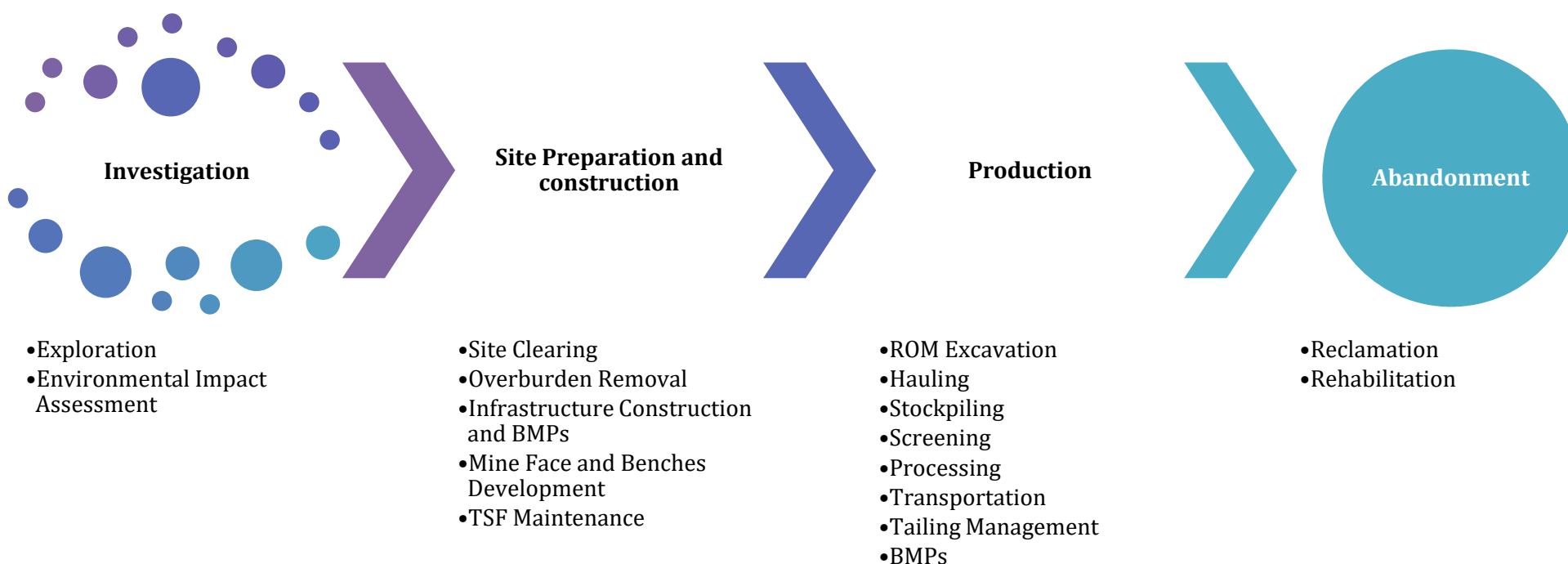



PROPOSED MINING OPERATION



OVERALL MINING OPERATION WITH POSSIBLE IMPACTS

TYPICAL MINING PROJECT ACTIVITIES



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## 5.0 EXISTING ENVIRONMENT

### LANDUSE

- The project site is zoned as **forestry** area and located within **Hutan Simpan Kekal Gunung Stong**.
- Landuse activity within 5 km radius shows there are **several Orang Asli settlements** located nearby of project site
- Mining activities are permissible subject to approval from the state government and relevant authorities.

### TOPOGRAPHY

- Undulating terrain with contour lines from **168.49 m** to **426.31 m** with major slope of **Class II (15° - 25°) 97.59 ha (48.80%)**.
- Surrounded mainly by forest within **Hutan Simpan Kekal Gunung Stong**.
- The project site is mainly drained towards **Sungai Channing, to Sungai Wias to Sungai Nenggiri**.

### CLIMATE

- Meteorology station selected is Kuala Krai, Lembaga Kemajuan Kelantan Selatan station.
- Mean monthly relative humidity ranges from **65.4%** to **87.7%**.
- Monthly mean temperature range from **29.8°C** to **35.3°C**.
- The wind is calm with mean speeds of **0.8m/s**.
- The highest monthly rainfall was recorded in May 2020 with value **428.5mm/month**.

### WATER INTAKE & AIR TANDAK

- WTP Sungai Bertam (26.65 km ) downstream** and **WTP Limau Kasturi (31.15) different catchment**
- Two location of air tandak were identified where both are located upstream from the project site.

### WATER QUALITY

- Thirteen (13)** sampling points to be compared to NWQS Class IIB.
- A total of **forty-six (46)** parameters were analysed for each sample, consisting of physical, organics, inorganics, metals and major cations, and microbiological compounds.

### GEOLOGY AND HYDROGEOLOGY

- Comprised of metamorphic rocks (schist) and igneous rocks (granite)
- Geology investigation was conducted by thoroughly study a total of eleven rock exposures (KG1-KG11).
- The measured groundwater levels were generally between **1.7m** and **3.6 m** below ground surface, denoting the levels of between **183.4m** and **298.9 meters** above mean sea level (a.m.s.l).
- The groundwater quality of all monitoring wells has the index score ranging from **65.60 - 95.51** and was categorised according to NGWQI as **Moderate to Excellent**.

### GEOCHEMISTRY

- The samples were classified as non-acid generating.
- Results of ABA method indicating absence of sulphide minerals.

### AMBIENT AIR, GAS AND NOISE

- 3 Ambient air and noise samples taken at the sensitive receptors surrounding the project area.
- 3 Sample of gases at the project site were analysed which include SO<sub>2</sub>, NO<sub>2</sub> and CO.
- PM<sub>2.5</sub> and PM<sub>10</sub>, and all gas parameters were compared with MAAQS.
- Noise results were compared with Recommended Permissible Sound Level (L<sub>aeq</sub>) By Receiving Land Use for New Development Areas under category Low Density Residential, Noise Sensitive Receptors, Institutional (School, Hospital, Worship).

### ECOLOGY

- The site is located inside of the Greater Taman Negara Forest Complex but outside of CFS Linkages.
- Camera traps were installed at **eight locations (8)** the project area for 2 months (60 days).
- 19 species** of mammals from **14 families** including wildlife; Asian Elephant, Malayan Tapir, Barking Deer and Pig-Tailed Macaque.
- A total of 41 **species** from **20 families** of birds were recorded at the survey sites with 35 **bird species** were listed as totally protected and 4 **species** are protected under the Wildlife Conservation Act 2010 [Act 716], while another 2 **bird species** were not listed under the act.

### SOCIO-ECONOMY

- 106 respondents** were involved from approximately eight (8) aboriginal settlements discovered within 5 km radius ZOI.
- Includes questionnaire survey, Focus Group Discussion (FGD) and informal conversations.
- Large majority of **71.7% respondents did not agree** with the proposed Project as it was perceived by the communities that the project would contribute more towards the existing issues.




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6.0 ENVIRONMENTAL ASSESSMENT MATRIX

Environmental Component	Project Activity																						
	Investigation				Site Preparation and Development								Operation and Production						Closure/ Exit				
	Field Reconnaissance	Exploration, Site Surveying and Mapping	Soil Investigations (Drilling and Sampling)	Environmental Assessment	Establish Access Road	Boundary Demarcation and Positioning	Provision of Buffer Areas Within Site	Mobilization of Workforce	Transport of Equipment and Supplies	Site Clearing and Biomass Removal	Infrastructure Construction (Haulage Road and Working Platform)	Improvement to drainage system	Installation of Crushers or Processing Plant	Waste Disposal	Clearing of Quarries/Mines Site Involving Vegetation Clearing	Overburden Stripping and Waste Disposal	Digging and Hauling	Excavation and Extraction which may involve Crushing	Loading and Transportation of Excavated Materials	Processing and Stockpiling	Tailing Management and Waste Disposal	Site-Restoration (Back-filling, Compaction and Topsoiling of the excavated area)	Rehabilitation Works
<b>Land</b>																							
Landforms	N	N	/	N	/	/	/	1	X	/	/	1	/	/	/	/	/	1	1	/	/	/	/
Soil Profiles	N	N	N	N	/	2	/	X	X	/	2	1	1	1	/	/	/	1	1	1	/	/	/
Soil Composition	N	N	/	N	/	1	/	X	X	3	2	1	1	/	/	/	/	1	1	/	/	/	/
Slope Stability	N	N	/	N	/	/	/	X	X	/	/	/	/	/	/	/	/	2	3	/	/	/	/
Subsidence and Compaction	N	N	/	N	/	1	/	X	X	/	/	1	2	/	/	/	/	1	1	1	/	/	/
Seismicity	N	N	N	N	1	1	X	X	X	1	2	1	1	X	1	1	/	1	1	1	/	/	/
Flood Plains/Swamp	N	N	/	N	/	1	/	X	X	/	/	/	/	/	/	/	/	1	2	/	/	/	/
Landuse	N	N	N	N	/	1	/	X	X	3	2	1	/	/	/	/	/	1	1	/	/	/	/
Engineering and Mineral Resources	N	N	/	N	/	1	/	X	X	2	3	/	/	/	/	/	/	1	1	/	/	/	/
Buffer Zones	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	1	1	/	/	/	/
<b>Surface Water</b>																							
Shoreline	N	N	/	1	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Bottom Interface	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Flow Variation	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Water Quality	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Drainage Pattern	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Water Balance	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Flooding	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Existing Use	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
<b>Groundwater</b>																							
Water Table	N	N	/	N	1	1	1	1	1	/	/	/	/	/	/	/	/	1	/	/	/	/	/
Flow Regime	N	N	/	N	1	1	1	1	1	/	/	/	/	/	/	/	/	1	/	/	/	/	/
Water Quality	N	N	/	N	1	1	1	1	1	/	/	/	/	/	/	/	/	1	/	/	/	/	/
Recharge	N	N	/	N	1	1	1	1	1	/	/	/	/	/	/	/	/	1	/	/	/	/	/
Aquifer Characteristics	N	N	/	N	1	1	1	1	1	/	/	/	/	/	/	/	/	1	/	/	/	/	/
Existing Use	N	N	/	N	1	1	1	1	1	/	/	/	/	/	/	/	/	1	/	/	/	/	/
<b>Atmosphere</b>																							
Air Quality	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Air Flow	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Climate Change	N	N	1	N	1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Visibility	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
<b>Noise</b>																							
Intensity	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Duration	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Frequency	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
<b>Biological Resources</b>																							
Terrestrial Vegetation	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Terrestrial Wildlife	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Other Terrestrial Fauna	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Fish	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Other Aquatic/Marine Flora	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Terrestrial Habitats	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Terrestrial Communities	N	N	/	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Aquatics Habitats	N	N	/	N	/	/	/	/	1	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Aquatics Communities	N	N	/	N	/	/	/	/	1	/	/	/	/	/	/	/	/	1	/	/	/	/	+
Estuarine Habitats	N	N	1	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	+
Estuarine Communities	N	N	1	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	+
Marine Habitats	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Marine Communities	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
<b>Human Health and Safety</b>																							
Physical Safety	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Physiological Wellbeing	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Parasitic Disease	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Communicable Disease	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Physiological Disease	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
<b>Social Economic</b>																							
Employment	N	N	N	N	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
Housing	N	N	N	N	X	X	X	X	X	/	/	X	/	/	/	/	/	/	/	/	/	/	+
Utilities	N	N	N	N	X	X	X	X	X	/	/	1	/	/	/	/	/	/	/	/	/	/	+
Amenities	N	N	N	N	X	X	X	X	X	/	/	X	/	/	/	/	/	/	/	/	/	/	X
Property and Settlement	N	N	N	N	X	X	X	X	X	/	/	X	/	/	/	/	/	/	/	/	/	/	+
<b>Aesthetic and Cultural</b>																							
Landforms	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Biota	N	N	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Wilderness	N	N	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	+
Water Quality	N	N	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Atmospheric Quality	N	N	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
Climate	N	N	N	N	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	+
Tranquillity	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Sense of Community	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+
Community Structure	N	N	N	N	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	N
Man-made Object	N	N	N	N	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	N
Historic Places or Structure	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N

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**7.0 ENVIRONMENTAL MANAGEMENT PLAN (EMP)**

Typical EIA Approval Conditions	Report Frequency
<b>To be submitted starting from land clearing stage until the cessation of the mining operation</b>	
<ul style="list-style-type: none"> <li>Compliance Form EIA 1-18 &amp; 2-18</li> </ul>	Every 3 months
<b>To be submitted starting from land clearing stage until the cessation of the mining operation</b>	
<ul style="list-style-type: none"> <li>Surface water quality</li> </ul>	Every Month
<ul style="list-style-type: none"> <li>Total Suspended Solid (Discharge from silt traps/ sediment basins/Tailing Pond)</li> </ul>	Every Month
<ul style="list-style-type: none"> <li>Ambient air quality</li> </ul>	Every 3 months
<ul style="list-style-type: none"> <li>Ambient noise level</li> </ul>	Every 3 months
<b>To be submitted before the commencement of earthwork</b>	
<ul style="list-style-type: none"> <li>EMP</li> </ul>	Before earthwork
<b>To be submitted before the commencement of earthwork</b>	
<ul style="list-style-type: none"> <li>ESCP</li> </ul>	Before Earthwork

<b>LD-P2M2</b>		
	➔	Sediment Basin/ Retention Pond
	←	Waterway Crossing
	➔	Temporary Earth Drain
	←	Check Dams
	➔	Geo Bags
	←	Biomass Waste Area
	➔	Tailing Ponds
	←	Buffer Area
<b>BMPs</b>		
	➔	Scheduled waste management
	←	Fogging
	➔	Monitoring sampling
	←	Storage Area
	➔	Water Browser
	←	Desilting