

# EXECUTIVE SUMMARY

PROJECT TITLE 

PROPOSED TIN ORE & SILICA SAND MINING AT ML 126 WITH AN AREA OF 51.52 HECTARES (127.30 ACRE) ON LOT 322735 AT MUKIM TANJONG TUALANG, WITHIN DAERAH KINTA, PERAK DARUL RIDZUAN

## PROJECT DESCRIPTION

The total project area is 51.52 HA. The land involves 1 mining leases

- ML 126 LOT 322735

## LEGISLATIVE REQUIREMENTS

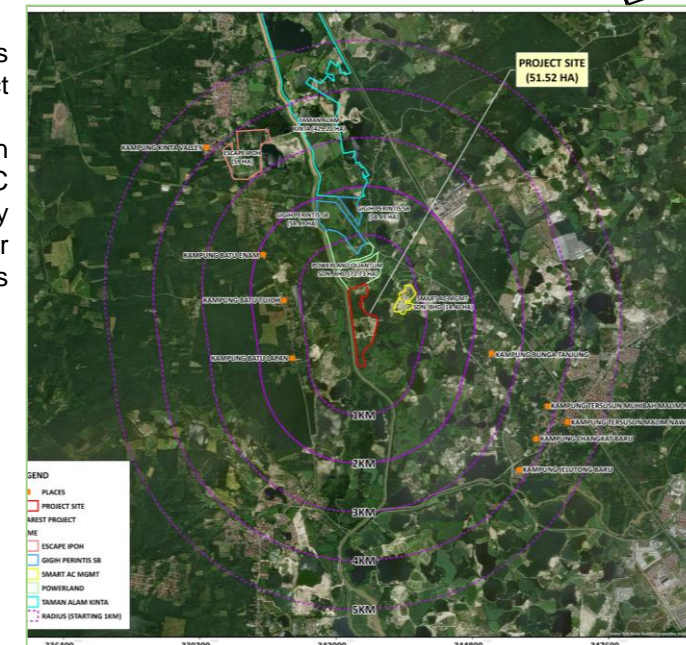
Environmental Quality Act 1974, Environmental Quality (Prescribed Activities) (Environmental Impact Assessment) Order 2015

- **Schedule 2, Activity 8 (b)** : Mining of Minerals within or adjacent or near to environmentally sensitive area

## REGIONAL SETTING

- *Rancangan Tempatan Majlis Daerah Batu Gajah 2025 (RTMDBG-2025)*
- Mining exploration is allowed here, provided the necessary permissions and approvals are obtained from the state government and relevant authorities, as required by the Mineral Development Act 1994 and Perak Enactment 2003

## NEIGHBOURING PROJECT



- There are around 3 mining projects within 5 kilometers of the project location
- The surrounding area is well known for silica mining activities. Smart AC MGMT Sdn. Bhd is actively conducting mining operations near the project site, causing disruptions in parts of the surrounding area.

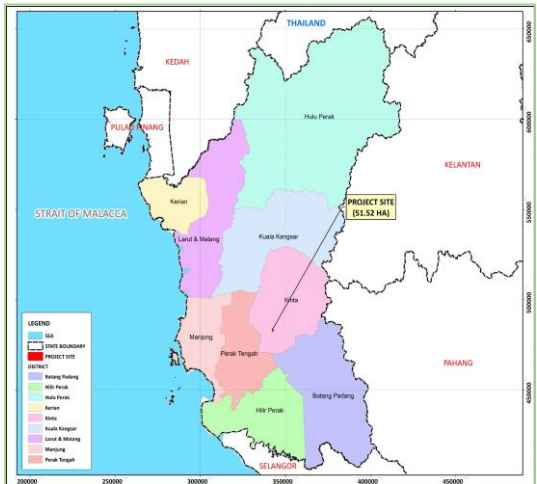
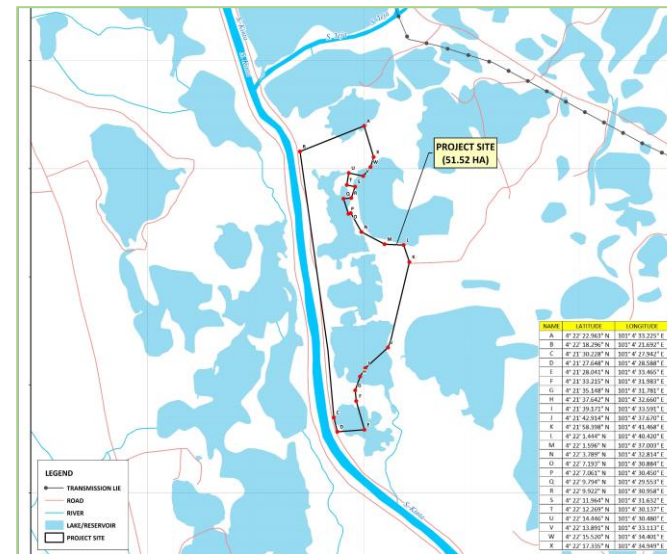
## STATEMENT OF NEEDS



- Indirectly create employment opportunities
- To fulfil the tin ore and silica sand market's need
- It provides revenue to developers and the state government, allowing them to invest in the country's development

## PROJECT LOCATION

- Located within Kinta district with an area of 51.52 hectares
- The main route leading to the Project site is Jalan Kota Bharu A110
- The project site is 900 meters from the entrance of Jalan Kota Bharu A110
- The project area is partially covered by shrubs and bushes, and the water body consists of a swamp resulting from previous mining activities.

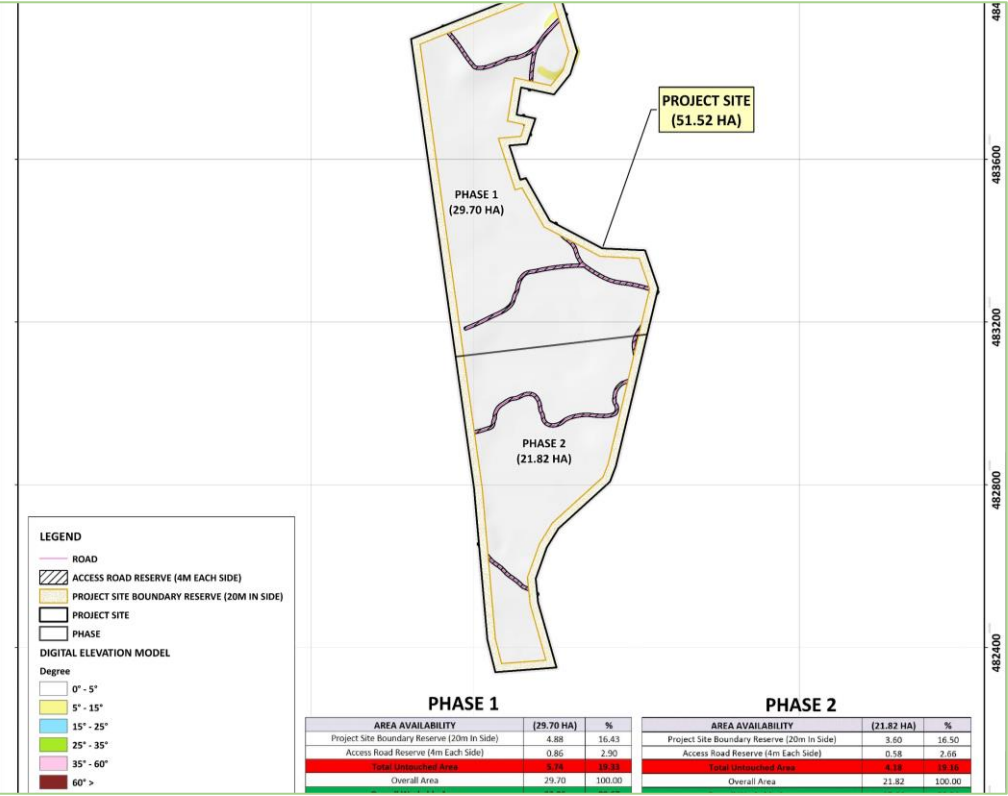


**MINING LEASE HOLDER**  
 MENTERI BESAR INCORPORATED PERAK (MBInc)












**MINING OPERATOR**  
 JAZ MINERAL SDN. BHD.




**ENVIRONMENTAL CONSULTANT**  
 NILAIMAS SERVICES

## SLOPE ANALYSIS



 **EXISTING ENVIRONMENT** 

 Landuse	<ul style="list-style-type: none"> <li>The designated land has been rehabilitated following its previous mining activities.</li> </ul>
 Topography	<ul style="list-style-type: none"> <li>Highest level is 17.06 m &amp; lowest level 12.50 m</li> <li>The terrain in the locality is generally flat terrain with contour lines</li> <li>Slope analysis is considered flat, with slopes classified as Class I (99.36%) and Class II (0.64%).</li> </ul>
 Climate	<ul style="list-style-type: none"> <li>Mean monthly relative humidity ranges from 88.1 % to 97.2%</li> <li>Monthly mean temperature range from 32.0 °C to 36.9 °C.</li> <li>The mean wind speed recorded was between 1.7 m/s</li> <li>The highest number of raindays was recorded in November 2023 and December 2023 with a value of 25 days/month.</li> <li>Meteorological station: Hospital Batu Gajah and Ipoh.</li> </ul>
 Water Intake	<ul style="list-style-type: none"> <li>There is no water intake for the water treatment plant located downstream of Sungai Kinta from Project site</li> <li>The nearest water intake is located at Sungai Palai which is in different catchment</li> </ul>
 Water Quality	<ul style="list-style-type: none"> <li>15 sampling stations for water quality.</li> <li>12 sampling points represent surface water while 3 sampling stations represent the existing pond within the Project site area.</li> <li>The study shows that under NWQS, water quality worsens in the wet season with higher turbidity, TSS, and bacterial levels, ranging from Class II to Class III. Under NLWQS, wet season runoff increases turbidity, BOD5, COD, and bacterial counts. Most parameters meet Category D standards, though E. coli and total coliform levels peak, needing mitigation. Arsenic and cadmium remain within limits, maintaining stable lake water quality.</li> </ul>
 Geology, Hydrogeology & Geochemistry	<ul style="list-style-type: none"> <li>The site primarily consists of quaternary unconsolidated sediment, mainly loose white sand, with a thickness of 2-21 meters. Other soil types include silt and clay.</li> <li>Exhibits permeability values generally between <math>2.304 \times 10^{-5}</math> m/s and <math>7.469 \times 10^{-5}</math> m/s</li> <li>The groundwater quality in all monitoring wells scored between 81.65 and 81.67 on the NGWQI scale, categorizing it as "Good."</li> <li>All soil samples are likely the non-acid generating.</li> <li>Net NP values : of 48.44 to 61.30 kgCaCO<sub>3</sub>/ton ; ratio between NP/AP = 0.</li> </ul>
 Ambient Air	<ul style="list-style-type: none"> <li>2 samples taken at the surrounding project area consisting of parameters PM10 and PM2.5, SO<sub>2</sub>, NO<sub>2</sub>, O<sub>3</sub>, CO).</li> <li>Results recorded for all parameters were within the stipulated limit.</li> </ul>
 Noise	<ul style="list-style-type: none"> <li>2 samples were taken at the sensitive receptors surrounding the project area</li> <li>All of them are under the permissible limit (60/55 dBA).</li> </ul>
 Flora	<ul style="list-style-type: none"> <li>A total of 42 species derived from 23 families were recorded on the project site.</li> </ul>
 Fauna	<ul style="list-style-type: none"> <li>Survey for fauna was carried out and 5 camera traps were installed for 2 month.</li> <li>A total of 12 mammals, 41 avifauna and 9 herpetofauna species were recorded.</li> </ul>
 Fish	<ul style="list-style-type: none"> <li>Survey for fish was carried out at 3 sampling stations.</li> <li>A total of 5 fish species from 4 families were recorded.</li> <li>Heavy metal toxicity in fish is low at Sg Kinta.</li> </ul>

 Health	<ul style="list-style-type: none"> <li>The study area has a good achievement in their health indicators and is at par with the national figure except for its solid waste collection system coverage.</li> <li>The community disease burden is also not great as most of the diseases are chronic ailments that are due to high-risk behaviors.</li> </ul>
 Traffic	<ul style="list-style-type: none"> <li>Jalan Kota Bharu (A110) as the main access to the main entrance of Project site. From the main entrance to the project site, the journey took about 900 meters away</li> </ul>
 Socio-economy	<ul style="list-style-type: none"> <li>225 respondents from 12 settlements were surveyed.</li> <li>1 Public Dialogue was conducted at Dewan Orang Ramai Kampung Batu 6.</li> <li>75.6% of the respondents agree with the project, 8.9% disagree and 15.6% no opinion .</li> </ul>

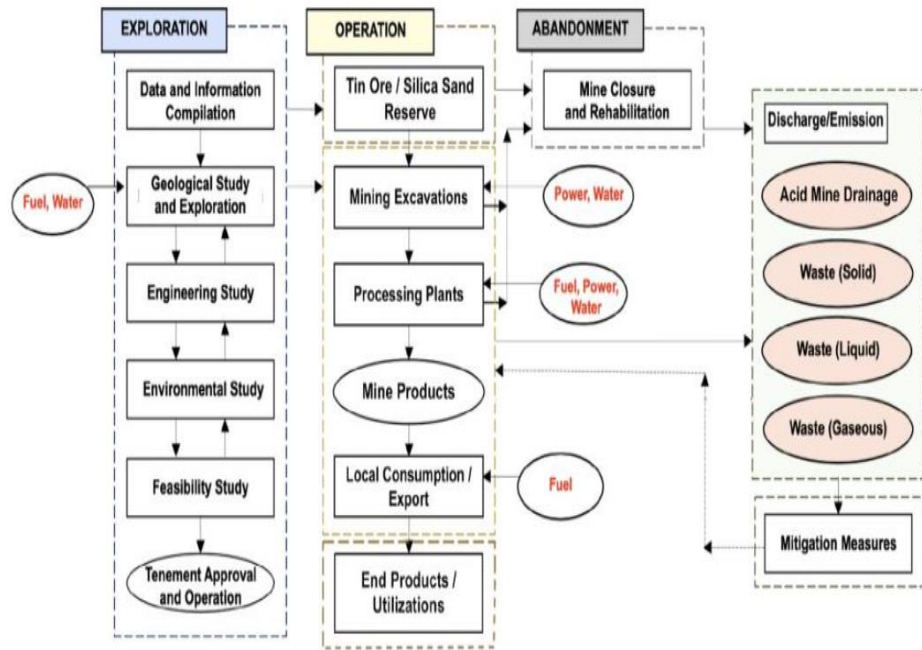


**SUMMARY OF IMPACTS AND THEIR MITIGATION MEASURES**

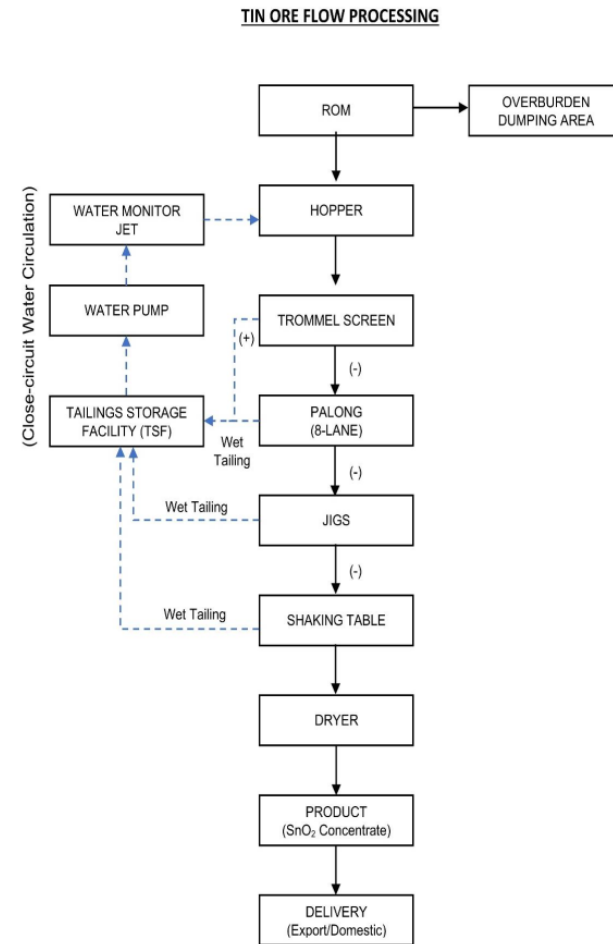
Significant Potential Impacts	Mitigation Measures
<ol style="list-style-type: none"> <li>Soil erosion and sedimentation</li> <li>Loss of topsoil</li> <li>Water pollution and degradation of water quality</li> <li>Groundwater contamination</li> </ol>	<ul style="list-style-type: none"> <li>Schedule of phasing, staging and sequencing</li> <li>Grow cover crop</li> <li>Implementing Land Disturbing Pollution prevention and Mitigation Measures (LD-P2M2)</li> <li>Regular water quality monitoring and buffer zone monitoring</li> </ul>
Deteriorating air quality	<ul style="list-style-type: none"> <li>Implant wet suppression</li> <li>Track spraying</li> <li>Wheel-washing facilities</li> </ul>
Noise pollution	<ul style="list-style-type: none"> <li>Low noise equipment shall be used</li> <li>Workers shall be provided with suitable safety apparels</li> <li>Silencers or mufflers on equipment shall be utilized and properly maintained during the operation</li> </ul>
Production of waste <ul style="list-style-type: none"> <li>Solid waste</li> <li>Cut vegetation</li> <li>Construction waste</li> <li>Scheduled waste</li> </ul>	<ul style="list-style-type: none"> <li>Open burning shall be prohibited</li> <li>Provide proper waste and storage area</li> <li>Schedules waste must be treated and disposed properly</li> </ul>
<ol style="list-style-type: none"> <li>Vegetation loss</li> <li>Human-wildlife conflict</li> </ol>	<ul style="list-style-type: none"> <li>Phasing/Directional clearing</li> <li>Allocation of Riparian Buffer Zone and BMPs</li> <li>Incident reporting</li> <li>Prohibition of wildlife poaching and trapping</li> <li>Signage on prohibition of wildlife hunting</li> <li>Implement Human-wildlife conflict management</li> <li>Progressive rehabilitation</li> </ul>
Abandonment or Project Closure	<ul style="list-style-type: none"> <li>The area should be cleaned up, and any amenities that aren't needed should be removed</li> <li>Re-vegetated the area with suitable species</li> </ul>



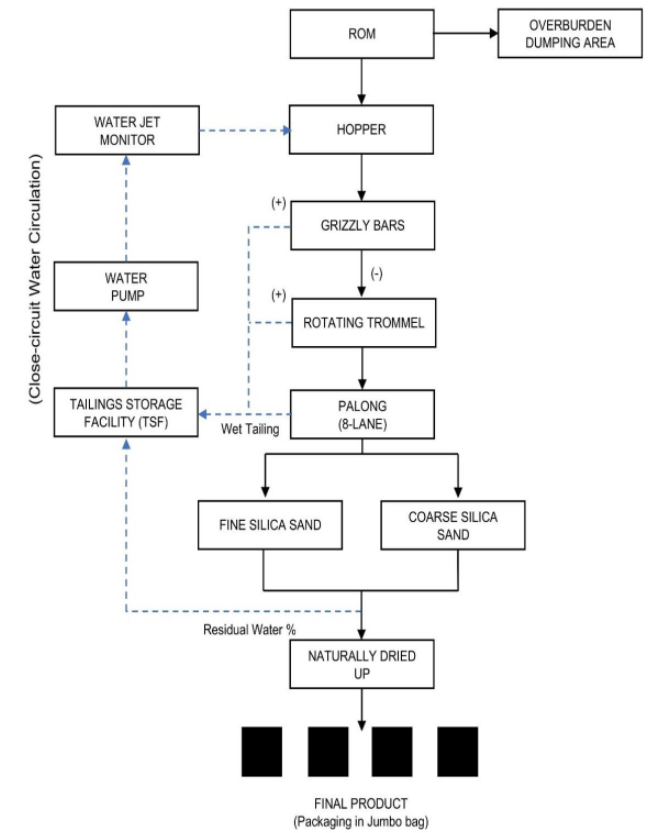
## OVERALL ACTIVITIES



## FLOWCHART OF MINING OPERATION



## SILICA SAND MINING FLOW PROCESSING



## Tin Ore Processing

## Silica Sand Processing



## ENVIRONMENTAL PERFORMANCE MONITORING (PM)

LD-P2M2 Tools	Parameters	Recommended
Sediment trap/ Basin	Silt Marker	2/3 of the height of silt marker
Check dam	Structure	After 12.5 mm of heavy rainfall
Wash Trough	Structure	Weekly
Temporary or Permanent Waterway Crossing (culvert/bridge)	Structure	After 12.5 mm of heavy rainfall



## ENVIRONMENTAL IMPACT MONITORING (IM)

Impact	Recommended Limits	Frequency
Air Pollution	New Malaysia Ambient Air quality Standard	Quarterly
Noise Level	Schedule of Permissible Sound Levels, Schedule 1	Quarterly
Surface Water Quality	National Water Quality Standard (NWQS, IIB)	Monthly
Effluent	Mineral Development (Effluent) Regulations 2016 (Limit 3)	Monthly and After 12.5 mm of heavy rainfall
Groundwater	National Groundwater Quality Index (NGWQI)	Quarterly



**ENVIRONMENTAL COMPLIANCE MONITORING (CM)**

Monitoring	Parameters	Recommended Limit
<b>Air Quality</b>	<i>PM<sub>10</sub></i>	100 µg/m <sup>3</sup>
	<i>PM<sub>2.5</sub></i>	35 µg/m <sup>3</sup>
	<i>SO<sub>2</sub></i>	250 µg/m <sup>3</sup>
	<i>NO<sub>2</sub></i>	280 µg/m <sup>3</sup>
	<i>O<sub>3</sub></i>	30 mg/m <sup>3</sup>
<b>Noise</b>	<i>L<sub>Aeq</sub></i>	Day: 60 dBA Night: 55 dBA
<b>Surface Water Quality</b>	<i>TSS</i>	50 mg/L
	<i>Turbidity</i>	50 NTU
	<i>BOD<sub>5</sub></i>	3 mg/L
	<i>COD</i>	25 mg/L
	<i>pH</i>	6-9
	<i>DO</i>	5-7
	<i>NH<sub>3</sub>-N</i>	0.3 mg/L
	<i>E.coli</i>	400 count/100ml
	<i>Hg</i>	0.001 mg/L
	<i>Cr</i>	0.05 mg/L
	<i>CN</i>	0.02 mg/L
	<i>WAD CN</i>	0.5 mg/L
	<i>Pb</i>	0.05 mg/L
	<i>Cu</i>	0.02 mg/L
	<i>Ni</i>	0.05 mg/L
	<i>Sn</i>	-
	<i>Zn</i>	5 mg/L
	<i>B</i>	1 mg/L
	<i>Fe</i>	1 mg/L
	<i>Al</i>	-
	<i>Ba</i>	1 mg/L
	<i>Se</i>	0.01 mg/L
	<i>As</i>	0.05 mg/L
<i>Mn</i>	0.1 mg/L	

Monitoring	Parameters	Recommended Limit
<b>Discharge from Silt trap/ Sediment trap</b>	<i>Al</i>	10 mg/L
	<i>As</i>	0.05 mg/L
	<i>Ba</i>	1.0 mg/L
	<i>BOD<sub>5</sub></i>	20 mg/L
	<i>B</i>	1.0 mg/L
	<i>Cd</i>	0.01 mg/L
	<i>Cr (VI)</i>	0.05 mg/L
	<i>Cr (III)</i>	0.20 mg/L
	<i>Free Cyanide</i>	0.1 mg/L
	<i>Fluoride</i>	2.0 mg/L
	<i>Formaldehyde</i>	1.0 mg/L
	<i>Free Chlorine</i>	1.0 mg/L
	<i>Fe</i>	1.0 mg/L
	<i>Pb</i>	0.10 mg/L
	<i>Hg</i>	0.005 mg/L
	<i>Oil and Grease</i>	1.0 mg/L
	<i>pH</i>	6.0 – 9.0
	<i>Phenol</i>	0.001 mg/L
	<i>Se</i>	0.02 mg/L
	<i>Ag</i>	0.1 mg/L
	<i>Sulphide</i>	0.50 mg/L
	<i>Suspended Solids</i>	50 mg/L
	<i>Temperature</i>	40 °C
	<i>Zn</i>	2.0 mg/L
	<i>Cu</i>	0.20 mg/L
	<i>Mn</i>	0.20 mg/L
	<i>Ni</i>	0.20 mg/L
	<i>Sn</i>	0.20 mg/L

Monitoring	Parameters	Recommended Limit
<b>Groundwater</b>	<i>pH</i>	5.5-9.0
	<i>Total Dissolved Solid</i>	1500 mg/L
	<i>Phenol</i>	0.002 mg/L
	<i>Chloride</i>	250 mg/L
	<i>Fluoride</i>	1.5 mg/L
	<i>Sulphate</i>	250 mg/L
	<i>Total Cyanide</i>	0.07 mg/L
	<i>Nitrate as NO<sub>3</sub></i>	10 mg/L
	<i>Manganese</i>	0.2 mg/L
	<i>Iron</i>	1 mg/L
	<i>Copper</i>	1 mg/L
	<i>Zinc</i>	3 mg/L
	<i>Arsenic</i>	0.01 mg/L
	<i>Selenium</i>	0.01 mg/L
	<i>Cadmium</i>	0.003 mg/L
	<i>Lead</i>	0.05 mg/L
	<i>Total Escherichia coli Count</i>	5000 CFU/100 mL