

KLCM/ENV/ 1335 /2022

Dated: 28.11.2023

To,
The Joint Director(s)
Ministry of Environment, Forest & Climate Change,
Eastern Regional Office,
Bhubaneswar

Sub.: Submission of Six-monthly EC compliance report to the conditions stipulated in the grant order of Environmental Clearance (EC) pertaining to Kalarangiatta Chromite Mines of M/s FACOR LTD.

Ref.: MoEF EC Letter No.: J-11015/183/2007-IA II(M) dtd.13.05.2009

Dear Sir,
With reference to the captioned subject & cited reference, we are herewith submitting six monthly compliance reports pertaining to Kalarangiatta Chromite Mines of M/s FACOR Ltd for the period from Apr'2023 to Sept'2023 for your kind perusal.

This is for your Kind Perusal.

Thanking You


Yours faithfully,
for Ferro Alloys Corporation LTD



MINES MANAGER

Encl.: A/a

Name of the Project : Kalarangiatta Chromite Mines, M/s. FACOR Ltd.
Project Code : Mining (Non-Coal)
Clearance Letter No. with date : J-11015/183/2007-IA-II (M) dated.13-05-2009
Period of Compliance Report : April 2023 to September 2023
Specific Condition

Sl. No.	Condition	Compliance Status
1.	All the conditions stipulated by the State Pollution control Board, Odisha in their consent to establish shall be effectively implemented.	<p>Complied.</p> <p>All stipulated conditions are being effectively implemented.</p> <p>The Mining operation is under suspension as per the letter No. 593, dated 09.03.2023 issued by the Deputy Director of Mines, Jajpur Road Circle of Odisha. Hence there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.</p>
2.	The environmental clearance is granted for opencast mining only. For the underground mining, the project proponent shall obtain separate clearance after getting the mine plan approval from the Indian Bureau of Mines.	<p>Complied.</p> <p>We hereby ensured that before starting of underground mining we will obtain separate Environment Clearance after getting the mining plan approval from the Indian Bureau of Mines.</p>  <p style="text-align: center;">Open Pit Mine</p>
3.	The environmental clearance is subject to approval of the State Land purposes Dept. Govt. of Odisha for diversion of agricultural land for non-agricultural use.	<p>Complied.</p> <p>The office of Collector Jajpur has already granted Surface Right to FACOR over the total lease land area of Kalarangiatta Chromite Mines for mining purpose.</p>
4.	<p>The Project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations.</p> <p>Adequate measures shall be taken for protection of Damsala Nallah and other seasonal channels, if any emanating from the mine lease, during the course of mining operation.</p>	<p>The Mining operation is under suspension as per the letter No. 593, dated 09.03.2023 issued by the Deputy Director of Mines, Jajpur Road Circle of Odisha. Hence there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.</p>

5.	The topsoil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
6.	The overburden (OB) generated during the mining operation shall be stacked at earmarked dump site (s) only and it should not be kept active for a long period of time and their phase-wise stabilization shall be carried out. There shall be one external over burden dump having maximum projected height of 30m. Proper terracing of the OB dump maintained to 27°.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
	The OB dump shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis	<p>Several precautions have already been taken in the dump for its slope stabilization which are given below</p> <ol style="list-style-type: none"> 1. Dumping is being carried out in peripheral dumping method by using dozers. In this method the materials are compacted by running of vehicles as well as the dozer. 2. The top surface is also maintained to avoid ponding of water which affect the stability of the dump. 3. The overburden is stacked in bench form to ensure stability. 4. The bench height is maintained at 10 – 15mtrs. 5. Various types of plants such as Acacia, Chakunda, Teak, Chhatian etc. have been planted in the inactive portions of the overburden dump. 6. The overburden dump has been stabilized by tree plantation in the dead benches after carrying out suitable terracing of size 2 M × 1 M each. 7. Grass patching has been developed on the dump slopes to ensure prevention of erosion of soil from the dump slopes due to rainwater. 8. Proper drainage system has already been maintained to prevent rain cuts on the dump. 9. Proper garland drain is being maintained all around the dump to collect the surface runoff during rain. 10. Over the bench surface of the overburden dump yard longitudinal and transverse drains have been made to enable the water to flow to the settling pit through proper drainage system. This not only prevents erosion of overburden dump material but also ensure stability of overburden dump by preventing development of hydro static pressure inside the overburden dump and proper channelization of rainwater for plantation purposes. As a result, the generation of rain cut is very negligible. 11. We have already planted 17715 nos. of Saplings to stabilize this overburden dump including safety zone also.




Plantation on OB Dump


12. Garland drain & retaining wall has been constructed all around the dump.




Retaining Wall & Garland Drain


Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.


7.	<p>Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, soil, OB and mineral dumps to arrest flow of silt and sediment directly into the Damsala Nallah and other water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc.</p>	<p>Complied.</p> <p>Already 1971 meters of garland drains has been constructed around the working pit, OB & mineral dumps with siltation ponds at different intervals to arrest flow of silt & sediments.</p>  <p style="text-align: center;">Garland Drain</p> <p>Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.</p>
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	<p>The drains should be regularly de-silted particularly after the monsoon and maintained properly. Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and overburden dump to prevent run off of water and flow of sediments directly into the Damsala Nallah and other water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years of data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material.</p> <p>Storm water return system should be provided. Storm water should not be allowed to go to the effluent treatment plant during high rainfall/super cyclone period. A separate storm water sump for this purpose should be created.</p>	<p>Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.</p>
8.	<p>Dimension of retaining wall at the toe of the overburden dump and the OB benches within the mine to check run-off and siltation should be based on the rainfall data.</p>	<p>Complied.</p> <p>About 920 meters of retaining wall of width 1.5m and height 1.2m has been constructed at toe of the overburden dump to check run-off and siltation.</p>  <p style="text-align: center;">Retaining Wall</p>

9.	<p>Effluents containing Cr^{+6} shall be treated to meet the prescribed standards before reuse/discharge. Effluent treatment plant should be provided for treatment of mine water discharge and wastewater generated from the workshop and mineral separation plant.</p> <p>Run off from the OB dump and other surface run off should be analyzed for Cr^{+6} and in case its concentration is found higher than the permissible limit the water should be treated before reuse/discharge.</p>	<p>Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.</p>
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10.	Separate impervious concrete pits for disposal of sludge shall be provided for the safe disposal of sludge generated from the mining operations.	Complied. Separate impervious pit has been provided for disposal of sludge generated from treatment of water generated during the mining operation
11.	The project proponent shall ensure that the treated effluents conforming to the prescribed standards shall only be discharged.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
12.	Plantation shall be raised in an area of 12.715 ha. Including 7.5m wide green belt in the safety zone around the mining lease, overburden dump, roads etc. by planting the native species in consultation with the local DFO/Agriculture Dept. The density of the trees should be around 2500 plants per hect.	<p>Complied. During the year (till March'23) 2022-2023, 2520 nos. of saplings have been planted in the safety zone area around the mining lease and inactive bottom slope of the dump. And a 7.03 Hectares has been planted in consultation with local Forest Dept. by maintaining the density of 2500 plants per Hectare.</p>  <p style="text-align: center;">Plantation in Safety Zone</p> <p>Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.</p>
13.	The void left unfilled in an area of 5.21 hectares shall be converted into the water body. The higher benches of the excavated void/mine pit shall be terraced and plantation done to stabilize the slopes. The slopes of higher benches shall be made gentler for easy accessibility by the local people to use the water body. Peripheral fencing shall be carried out all along the excavated area.	The same will be implemented at the end of mining Operation.

14.	Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM & RSPM such as around crushing and screening plant, loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
15.	The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.	<p>Complied.</p> <p>Three main rain water harvesting structure have been made in Mining premises i.e. Check Dam, Garland drain & Settling pond/tank to augment the ground water resources.</p>  <p style="text-align: center;">Check Dam</p>
16.	Regular monitoring of ground water level and quality shall be carried out by establishing a network of existing wells and constructing new piezometers in and around the mining lease during the mining operation. The periodical monitoring {(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)} shall be carried out in consultation with the state ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the MoEF and its Regional Office, Bhubaneswar, the Central Ground Water Authority and the Regional Director, CGWB. If at any stage, it is observed that the ground water table is getting	<p>Due to the Suspension of mining operation, there is no work in the Mines during the last Six-monthly compliance period w.e.f April-2023 to Sept-2023.</p> <p>Only Ground water quality & Level is monitored in the Borehole installed inside the Mine.</p> <p>Annexure No.-1 is attached for reference.</p>



	depleted due to the mining activity; necessary corrective measures shall be carried out.	
17.	Regular monitoring of water quality upstream and downstream of the Damsala nallah shall be carried out of monitored data should be maintained and submitted to the Ministry of Environment & Forests, its Regional Office, Bhubaneswar, the Central Ground water Authority, the Regional Director, Central Ground water Board, the State Pollution control Board and the Central Pollution Control Board.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
18.	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water) for the project and effectively implement all the conditions stipulated therein.	Complied. NOC is obtained vide ref. no. : CGWA/NOC/MIN/REN/2/2023/8147, Date: 25.08.2023. The stipulated conditions are being effectively implemented.
19	Suitable rainwater harvesting measure on long term basis shall be planned and implemented in consultation with the Regional Director, CGWB.	Complied. Rainwater is being collected in pits and pond for suitable rainwater harvesting measures. Also roof top rainwater harvesting measure is implemented within the lease area.  Roof Top Rain-Water Harvesting
20.	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The mineral transportation shall be carried out through the covered trucks only and vehicles carrying the mineral shall not be overloaded.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
21	Blasting operation shall be carried	

	out only during the daytime. Controlled blasting shall be practiced. The Mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Complied At present, blasting operation has not been carried out. Excavation has been carried out by machines only.
22	Drills shall either be operated with dust extractors or equipped with water injection system.	Drilling has not been done so far. In future, if drilling is required, then wet drilling practice will be adopted in future.
23	Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
24	Sewage treatment plant shall be installed for the colony, ETP shall also be provided for the workshop and waste water generated during the mining operation.	<p>Complied. One 20 KJLD STP has been installed to treat the domestic wastewater & to reuse it for gardening purpose.</p>  <p>All the mining machineries have been engaged by contractor for mining operation and the maintenance work of their machines have been carried out at outside workshop. Therefore, question of workshop effluent does not arise. An ETP has been established for treatment of mines pumped out water and surface runoff water before discharge to outside leasehold area.</p>   <p style="text-align: center;">ETP</p> <p>Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.</p>
25.	Consent to operate shall be obtained from the State Pollution	Complied. Consent to Operate has been obtained from SPCB, Odisha before

	Control Board, Odisha before starting production from the mine.	starting production from the mine. Mining operation has been going on with valid consent to operate obtained from SPCB.
26.	The project authorities should undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.	Complied. Sample survey for community health status within 1 Km radius from Project area has already been done.
27.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Complied. Pre-placement medical examination has already been carried out of the workers engaged in the project and the records are being maintained and periodical medical examination is being carried out once in three years & five years depending on the age factor.
28.	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Complied. Housing for construction labor is not required since the laborers are coming from nearby villages.
29	The critical parameters such as SPM, RSPM, NOx, In the ambient air within the impact zone, peak particle velocity at 300 m distance or within the nearest habitation, whichever is closure shall be monitored periodically (at least once a month). Further, quality of discharged water shall also be monitored (TDS, DO, pH, suspended particulate matter and Cr ⁺⁶). The monitored data shall be uploaded on the website as well as displayed on a display board at a suitable location in public domain.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
30	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely elephant etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Dept. All the safeguard measures brought out in the Wildlife	Complied. Wildlife management plan has been prepared by accredited consultant "M/s Chandanam". It is approved from the competent Authority vide Ref no.:10180/CWLW-W-FDWC-FD-0032-2022/11-Nov-2022. Approval of wildlife conservation plan is enclosed as Annexure no 2 Further, Biodiversity study has been carried out by a domain expert. Due to the Suspension of mining operation, there is no work in

	Conservation Plan so prepared specific to this project site shall be effectively implemented. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. A copy of action plan shall be submitted to the MoEF and its Regional Office, Bhubaneswar.	the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023
31	A final Mine Closure Plan along with details of Corpus Fund shall be submitted to the MoEF 5 years in advance of final mine closure for approval.	The same will be submitted in due time to MOEF for approval.

GENERAL CONDITIONS

Sl. No.	Condition	Compliance Status
1	No change in mining technology and scope of working should be made without prior approval of the MoEF.	Complied. The Mining technology & scope of working will not change without approval of Ministry of Environment & Forest.
2	No change in the calendar plan including excavation, quantum of mineral chromite ore and the waste shall be made.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
3	At least four ambient air quality monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO ₂ , & NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Complied. Ambient Air quality monitoring stations has already been established in consultation with SPCB. <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; padding: 5px; text-align: center;">Near Office Building</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">Near ETP</div> </div>

4	Data on ambient air quality (RSPM, SPM, SO ₂ & NO _x) should be regularly submitted to the MoEF including its Regional. Office located at Bhubaneswar and the state Pollution Control Board / Central Pollution Control Board once in six months.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
5	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
6	Measures should be taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in operations of HEMM etc. should be provided with ear plugs/muffs.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
7	Industrial wastewater (Workshop & Waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) Dtd. 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
8	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
9	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	Complied. A separate Environment Management Cell with qualified personnel and well-equipped Environment Engineering Laboratory are functioning under the control of a Senior Executive. Besides, we are carrying out all Environmental monitoring & analysis through a MoEF & NABL accredited laboratory M/S VisionTek Consultancy Services Pvt. Ltd. , Bhubaneswar.

10	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the MoEF and its Regional Office located at Bhubaneswar.	Due to the Suspension of mining operation, there is no work in the Mines during the last Six monthly compliance period w.e.f April-2023 to Sept-2023.
11	The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.	Complied. The date of final approval of the Project is 04.10.2010 by DMS and 23-01-2012 by SPCB.
12	The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the Officer (s) of the Regional Office by furnishing the requisite data/information/monitoring reports.	Complied. As & when required and during the inspection, full co-operation is being extended by the project authorities.
13	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards to the MoEF, its Regional Office, Bhubaneswar, CPCB, and SPCB, The project proponent shall upload the status of compliance of the environment clearance conditions on their website and update the same periodically and simultaneously send the same by e-mail to the Regional Office, MoEF, Bhubaneswar.	Complied. All the stipulated conditions have been implemented. The Six-monthly report on Status of compliance of the Environmental Clearance conditions have been submitted to the concerned authorities and the same is being uploaded in our website https://www.facorgroup.in



Ref : Envlab/23-24/R-09204

Annexure No.-1

Date: 07.09.2023

GROUND WATER QUALITY ANALYSIS REPORT- AUG 2023

1. Name of Client : M/s FERRO ALLOYS CORPORATION LIMITED , BHADRAK
2. Name of the Project : KALARANGIATTA CHROMITE MINES , KALIAPANI, JAJPUR
3. Sampling Location : GW: Bore well near the coconut tree inside lease
4. Method of Sampling : APHA 1060 B
5. Date of Sampling : 18.08.2023
6. Date of Analysis : 19.08.2023 TO 24.08.2023
7. Sample Collected by : VCSPL Representative in presence of Client's Representative

Sl. No.	Parameter	Unit	TEST METHOD	Standard as per IS -10500:2012 Amended on 2015 & 2018		GW
				Acceptable Limit	Permissible Limit	
Physical Parameter						
1	Colour	Hazen,Max	APHA 23 rd Ed,2017 : 2120 B, C	5	15	<5
2	Odour	--	APHA 23 rd Ed,2017 :2120 B	Agreeable	Agreeable	Agreeable
3	pH at 25 ^o C	--	APHA 23 ^{Rrd} Ed,2017 : 4500H ⁺ B	6.5-8.5	6.5-8.5	7.11
3	Taste	--	APHA 23 rd Ed,2017 : 2160 C	Agreeable	Agreeable	Agreeable
4	Turbidity	NTU,Max	APHA 2130 B	1	5	0.8
5	Dissolved Solids	mg/l,Max	APHA 23 rd Ed,2017 : 2540 C	500	2000	341
CHEMICAL PARAMETER						
1	Aluminium as(Al)	mg/l,Max	APHA 3500Al B	0.03	0.2	BDL
2	Ammonical Nitrogen(NH ₃ .N)	mg/l,Max	APHA 4500 NH ₃ .C	0.5	0.5	BDL
3	Anionic Detergents (as MBAS)	mg/l,Max	APHA 5540 C	0.2	1.0	ND
4	Barium(Ba)	mg/l,Max	APFA 3111,B	0.7	0.7	BDL
5	Boron (as B)	mg/l,Max	APHA 4500 B,B	0.5	1.0	BDL
6	Calcium (as Ca)	mg/l,Max	APHA 23 rd Ed,2017 : 3500Ca B	75	200	40.5
7	Chloramines (as Cl ₂)	mg/l,Max	APHA 4500 –Cl G	4.0	4.0	ND
8	Chloride (as Cl)	mg/l,Max	APHA 23 rd Ed,2017 : 4500Cl ⁻ B	250	1000	35
9	Copper (as Cu)	mg/l,Max	APHA 3111 B,C	0.05	1.5	BDL
10	Fluoride (as F)	mg/l,Max	APHA 4500 F,C	1.0	1.5	BDL
11	Residual, free Chlorine	mg/l,Min	APHA 4500 Cl B	0.2	1.0	ND
12	Iron (as Fe)	mg/l,Max	APHA 23 rd Ed,2017 : 3111, B	1.0	1.0	0.71
13	Magnesium (as Mg)	mg/l,Max	APHA 3500 Mg B	30	100	19.2
14	Manganese (as Mn)	mg/l,Max	APHA 3500Mn B	0.1	0.3	BDL
15	Mineral Oil	mg/l,Max	APHA 5520 B	0.5	0.5	BDL
16	Nitrate (as NO ₃)	mg/l,Max	APHA 4500 NO ₃ ⁻ E	45	45	8.1
17	Phenolic Compounds(as C ₆ H ₅ OH	mg/l,Max	APHA 5530 B,D	0.001	0.002	BDL



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

Laboratory Services

Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

18	Selenium (as Se)	mg/l,Max	APHA 23 rd Ed,2017: 3500 Se C	0.01	0.01	BDL
19	Silver(asAg)	mg/l,Max		0.1	0.1	BDL
20	Sulphate (as SO ₄)	mg/l,Max	APHA 4500 SO ₄ ²⁻ E	200	400	
21	Sulphide (as H ₂ S)	mg/l,Max	0.05	0.05	0.05	ND
22	Alkalinity	mg/l,Max	APHA 2320 B	200	600	85
23	Total Hardness (as CaCO ₃)	mg/l,Max	APHA 23 rd Ed,2017 : 2340 C	200	200	180
24	Zinc (as Zn)	mg/l,Max	APHA 23 rd Ed,2017: 3111 B	5	5	1.3
Toxic Parameters						
1	Chromium (as Cr ⁺⁶)	mg/l,Max	APHA 3500Cr B	0.05	0.05	BDL
2	Cadmium as(Cd)	mg/l,Max	APHA 23 rd Ed,2017: 3111 B	0.003	0.003	BDL
3	Cyanide as (CN ⁻)	mg/l,Max	APHA 23 rd Ed,2017: 4500 CN ⁻ C,D	0.05	0.05	BDL
4	Lead as(Pb)	mg/l,Max	APHA 23 rd Ed,2017 3111 B	0.1	0.1	BDL
5	Mercury as (Hg)	mg/l,Max	APHA 23 rd Ed,2017: 3111 B	0.001	0.001	BDL
6	Nickel (Ni)	mg/l,Max	IS 5185 (Part-22)	0.02	0.02	BDL
7	Arsenic as (As)	mg/l,Max	APHA 23 rd Ed,2017: 3114 B	0.01	0.01	BDL
8	Polychlorinated biphenyls	mg/l,Max	APHA 23 rd Ed,2017 :6440 B	0.0005	0.0005	ND
9	Polyaromatic hydrocarbons (PAH)	mg/l,Max	APHA 23 rd Ed,2017 :6440 B	0.0001	0.0001	ND
10	Total Chromium	mg/l,Max	APHA 3500Cr B	0.05	0.05	BDL
11	Bromoform	mg/l,Max	APHA 6232	0.1	0.1	ND
12	Dibromochloromethane	mg/l,Max	APHA 6232	0.1	0.1	ND
13	Bromodichloromethane	mg/l,Max	APHA 6232	0.06	0.06	ND
14	Chloroform	mg/l,Max	APHA 6232	0.2	0.2	ND
15	Molybdenum (Mo)	mg/l,Max	IS 3025 (Part 2)	0.07	0.07	BDL
Bacteriological Parameter						
1	Total Coliform	MPN/100 ml	APHA 23 rd Ed,2017: 9221 B	Shall not be detectable in any 100 ml sample	ABSENT	



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Certified for : ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 (OH&S), ISO/IEC 17025:2017

Accredited by : NABET-A Grade, MOEF & CC/CPCB & SPCB-A Grade

Laboratory Services

Environment Lab
Food Lab
Material Lab
Soil Lab
Mineral Lab
&
Microbiology Lab

- Infrastructure Engineering
- Water Resource Management
- Environmental & Social Study

- Surface & Sub-Surface Investigation
- Quality Control & Project Management
- Renewable Energy

- Agricultural Development
- Information Technology
- Public Health Engineering

- Mine Planning & Design
- Mineral/Sub-Soil Exploration
- Waste Management Services

PESTICIDES					
1	Endosulfan à	µg/l,Max	APHA 23rd edition: 6630 C	0.4	<0.005
2	Endosulfan ß	µg/l,Max	APHA 23rd edition: 6630 C	0.4	<0.005
3	Endosulfan sulphate	µg/l,Max	APHA 23rd edition: 6630 C	0.4	<0.005
4	Alachlor	µg/l, Max	APHA 23rd edition: 6630 C	20	<0.01
5	Atrazine	µg/l, Max	APHA 23rd edition: 6630 C	2.0	<0.01
6	Aldrin	µg/l, Max	APHA 23rd edition: 6630 C	0.03	<0.01
8	Alpha HCH	µg/l, Max	APHA 23rd edition: 6630 C	0.01	<0.01
9	Beta HCH	µg/l, Max	APHA 23rd edition: 6630 C	0.04	<0.01
10	Delta HCH	µg/l, Max	APHA 23rd edition: 6630 C	0.04	<0.01
11	Butachlor	µg/l, Max	APHA 23rd edition: 6630 C	125.0	<0.01
12	Chloropyriphos	µg/l, Max	APHA 23rd edition: 6630 C	30.0	<0.01
13	2,4-Dichlorophenoxyacetic acid	µg/l, Max	APHA 23rd edition: 6630 C	30.0	<0.05
14	p p DDE	µg/l, Max	APHA 23rd edition: 6630 C	1.0	<0.05
15	p p DDD	µg/l, Max	APHA 23rd edition: 6630 C	1.0	<0.05
16	p p DDT	µg/l, Max	APHA 23rd edition: 6630 C	1.0	<0.05
17	o p DDE	µg/l, Max	APHA 23rd edition: 6630 C	1.0	<0.05
18	o p DDD	µg/l, Max	APHA 23rd edition: 6630 C	1.0	<0.05
19	o p DDT	µg/l, Max	APHA 23rd edition: 6630 C	1.0	<0.05
20	Ethion	µg/l, Max	APHA 23rd edition: 6630 C	3.0	<0.01
21	Lindane	µg/l, Max	APHA 23rd edition: 6630 C	2.0	<0.01
22	Isoproturon	µg/l, Max	APHA 23rd edition: 6630 C	9.0	<0.01
23	Malathion	µg/l, Max	APHA 23rd edition: 6630 C	190.0	<0.01
24	Methyl parathion	µg/l, Max	APHA 23rd edition: 6630 C	0.3	<0.01
25	Monocrotophos	µg/l, Max	APHA 23rd edition: 6630 C	1.0	<0.01
26	Phorate	µg/l, Max	APHA 23rd edition: 6630 C	2.0	<0.01

Fagmali
Nagar

Reviewed by



Approved by

P. Pati



**OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS (WILDLIFE)
& CHIEF WILDLIFE WARDEN, ODISHA**

Government of Odisha, Forest, Environment & Climate Change Department

PRAKRUTI BHAWAN, PLOT NO.1459, SAHEED NAGAR, BHUBANESWAR- 751007

Phone: 0674-2602250, Website: www.wildlife.odisha.gov.in, Email: odishawildlife@gmail.com

No. 10980 / CWLW-FDWC-FD-0032-2022
Bhubaneswar, Dated the 11 November, 2022

To

The Director (Mines)
M/s FACOR Ltd.
Laxmi Bhawan, Kuans, Bhadrak – 756100

Sub: Mining of Chromite ore in Kalarangiatta Chromite Mines of M/s Ferro Alloys Corporation Limited in Jajpur District - Approval of Site Specific Wildlife Conservation Plan

Sir,

It is to intimate that you have to implement mitigation measures as per the Site Specific Wildlife Conservation Plan approved in compliance to Standard ToR No.(xviii) for Mining Project prescribed by SEIAA, Odisha in their letter No.3495/SEIAA dt 18.11.2021.

2. I am directed to convey the approval of PCCF (WL) & CWLW, Odisha for the Site Specific Wildlife Conservation Plan in respect of the above project at financial outlay of ₹150.52 lakh (Rupees one crore fifty lakh fifty-two thousand) only as detailed below -

Sl. No.	Name of the Division	Cost of approved activities
i	In project impact area in Cuttack Division	₹105.922 lakh
ii	In project impact area in Dhenkanal Division	₹35.118 lakh
iii	In project impact area in Keonjhar WL Division	₹9.480 lakh
Total cost :		₹150.520 lakh

3. Activities in the project area will be executed by the project proponent under the guidance of DFO, Cuttack Division. A sum of ₹150.52 lakh only shall be deposited in State CAMPA fund only through e-portal (<https://parivesh.nic.in/>) for implementation of various activities within the project impact area by the Forest Department through concerned DFOs.

4. The following conditions may be noted for future compliance.

- If there would be need for Site Specific Wildlife Conservation Plan after expiry of the present plan period, the User agency will have to submit another such plan at least one year before the expiry of the existing Conservation Plan and deposit the amount upon its approval. In case of delay, it will be dealt as per law for violations of Forest (Conservation) Act, 1980 and Environment (Protection) Act, 1986.
- The user agency has to give an undertaking to bear the differential cost in case of enhancement of wage rate during implementation of the plan.

Yours faithfully

Encl: Copy of approved SSWLCP


 Conservator of Forests (Wildlife)

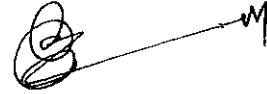
P.T.O.



Memo No. 10181 /dt 11/11/2022

Copy forwarded for information and necessary action to the -

1. OSD-cum-Special Secretary to Government of Odisha, F,E &CC Department, Bhubaneswar with reference to that Department Memo.No.10F (Cons)228/2016/13770/F&E dt 27.07.2016.
2. PCCF & HoFF, Odisha with reference to F,E&CC Department Memo.No.13770/F&E dt 27.07.2016.
3. Regional Chief Conservator of Forests, Angul Circle with reference to Memo.No.6766 dt 13.10.2022 of DFO, Cuttack Division
4. Regional Chief Conservator of Forests, Baripada Circle with reference to this office Memo.No.8400 dt 19.09.2022
5. Divisional Forest Officer(s), Cuttack/ Dhenkanal/ Keonjhar WL Division alongwith copy of approved SSWLCP



Conservator of Forests (Wildlife)