

**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
WESTERN ZONAL BENCH AT PUNE  
ORIGINAL APPLICATION NO.17 OF 2020**

**IN THE MATTER OF:**

KRISHNA MARATHE & ORS.

...APPLICANTS

VERSUS

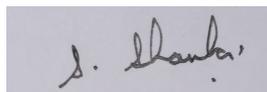
UNION OF INDIA & ORS.

...RESPONDENTS

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Filed By: Respondent No. 6 (M/s Gogte Minerals)



Represented by: Shivshankar Swaminathan, Advocate

Place: Mumbai

Date: 6.10.2021



**BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL  
WESTERN ZONAL BENCH AT PUNE  
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**AFFIDAVIT IN REPLY ON BEHALF OF RESPONDENT  
NO.6.**

I, Madhav A. Gogte, son of Shri. Arvind Gogte, major in age, Partner of M/s. Gogte Minerals, do hereby solemnly affirm and state as under:

1. I am the partner of M/s. Gogte Minerals and as such I am fully competent to file this Affidavit in response to the Reply Affidavit dated 19/08/2021 filed by the Applicant No.1 to the Inspection Report of the Committee. I have read the contents of the said Reply and in response thereto, I submit as under:

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2. That this Hon'ble Tribunal vide Order dated 10/07/2020 had constituted a Committee to undertake inspection and submit a Joint Report in light of the allegations made in the complaint. The Committee as constituted by this Hon'ble Tribunal undertook site inspection as well as considered the various documentary evidence and on a combination of the permissions as well as the factual findings, submitted its Report before this Hon'ble Tribunal finding that the allegations of the Applicant, namely, that the answering Respondent herein had allegedly not complied with environmental clearance ("EC") conditions was erroneous. The said Committee has found that the answering Respondent has carried out mining activities in compliance with the laws as well as EC conditions.
3. The Applicant in reply to the said Report has sought to raise erroneous contentions. The said Applicant has further indulged in suppression of facts and documents which proves that the present proceedings are not *bona fide* but vexatious in nature and as such are liable to be dismissed with exemplary costs. The



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Applicant has also indulged in making statements on oath which are false to his own knowledge and as such has tendered false evidence thereby making him liable for punishment under Section 195 IPC. The said Applicant has also knowingly suppressed documents when the same did not suit his narrative and has placed on record only part of the documents to try and support his false statements. These acts make the Applicant liable for perjury as the Applicant has indulged in suppression and made averments which are false to his own knowledge with a view of interfering in the administration of justice. The said submission pertaining to the suppressions is elaborated hereafter while dealing with the contentions of the Applicant.

4. That the Applicant has miserably failed to demonstrate any violation of the conditions of the EC granted to the answering respondent and as such wishes to enter into a fishing and roving enquiry.
5. The answering Respondent craves leave to refer and rely upon the submissions already made in the Affidavit in Reply dated



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20/08/2021 filed on 21/08/2021, without repeating the contents thereof for the sake of brevity.

**Parawise Reply**

1. That in reply to the contents of para 1, it is submitted that no substantial issues have been raised by the Applicant to invoke the jurisdiction under Section 14 and 15 of the National Green Tribunal Act, 2010. It is further denied that the answering Respondent has violated conditions of the Environmental Clearance granted to it for carrying out mining operations of iron ore in mining lease in Village Redi, District Sindhudurg, State of Maharashtra.

2. That the contents of para 2 are erroneous and devoid of merit. The said allegations have adequately been dealt with by the answering Respondent in its Reply dated 20/08/2021, filed on 21/08/2021. For the sake of brevity, the answering Respondent craves leave to refer and rely on the submissions therein in reply to the allegations in para 2, without repeating the same, for the



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sake of brevity. It is further submitted that as already indicated in the aforesaid Reply, there has been no violation of the EC conditions, secondly, no pollution as is alleged has been caused to either ground water reserves or the Arabian Sea. Lastly, the allegations as being raised would render the Application as being time barred both under Section 14 and 15 of the NGT Act, 2010. In this regard the submissions made in the reply affidavit dated 20/08/2021 are reiterated without repeating the same for the sake of brevity:

3. That in reply to the contents of para 3, the statement pertaining to Order dated 10/07/2020 as well as the submission of the Report of the Committee pursuant to site visit, is a matter of record. The contention however, that the Committee has failed to consider all the contentions allegedly raised by the Applicant is absolutely erroneous and devoid of merit.
4. That the contents of para 4 are vehemently denied for the false suggestions contained therein. It is denied that the Committee has merely relied on the documents and the information



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submitted by the answering Respondents. The Committee has itself undertaken site inspection and has relied only on official documents and on being satisfied about their authenticity. The Applicant has failed to show that any of the documents supplied by the answering Respondent were not authentic. Merely because the Committee has not found force in the allegations made by the Applicant, the Applicant is resorting to false suggestions instead of producing anything to support his stand. As already demonstrated in the Reply Affidavit along with documentary proof, the Applicant is resorting to blatant falsehood and the present Application is malicious and liable to be dismissed with exemplary costs being imposed on such applicants who seek to waste judicial time.

### TOP SOIL MANAGEMENT

5. That the contents of para 5 are denied being devoid of merit. It is submitted that the aforesaid Application has been preferred by the Applicant alleging violation of conditions in



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Environmental Clearance dated 22/04/2010. The said Environmental Clearance was obviously granted after almost 3 years since the approval of Mining Plan by IBM on 27/07/2007, wherein it has been recorded that there would be no generation of top soil during the mining activities. Similarly, the EIA-EMP Report as submitted to MoEF before the grant of EC also reiterated that there would be no top soil generation or stacking during the mining activities. Both the documents being prior to the grant of EC necessarily gained importance as the said documents reflected the true and correct factual position even before the grant of EC and prove that the answering respondent is not merely seeking to make up facts after the grant of EC. Therefore, there can be no allegation that these documents could not be relied upon as no evidence has been produced by the Applicant to show that top soil actually exists in the Mine as is presently being worked and /or the same is being actually generated during mining activities. In fact, the Committee has not placed reliance solely on the aforesaid documents but has itself inspected the area and observed as under:



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*“During the site inspection, it was observed that the lease area was found rich in hard laterite cover and hence no occurrence of top soil. And therefore, there was no top soil stacks observed.”*

6. That the contents of para 6 need no reply as it is a mere extract of the Report of the Committee.
7. That in reply to the contents of paras 7 to 11 which pertain to allegations regarding top soil management, the submissions made in paras 9 to 25 of the preliminary objections and submission in the affidavit in reply dated 20/08/2021 are reiterated without repeating the same for the sake of brevity. The shifting stands of the Applicant are evident from the following:-

- a) The Applicant in the application had originally alleged as under :-

#### Synopsis

*“The specific conditions regarding proper management and stacking of top soil and mining reject at earmarked sites has not been adhered to and instead, such has been dumped in the Arabian Sea causing serious pollution to the marine ecosystems”*



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Similarly, in paras 5 to 16 of the Application the said Applicant has alleged that the top soil is being dumped outside the lease area. For ready reference the allegations in para 16 are reproduced:-

*“16. That however Respondent No. 6 dumped the top soil or the mining reject **outside the said land** for which it had neither liberty nor power to do so. Respondent No 6 has continuously dumped the mining waste material into the Arabian Sea from the Redi and Kanyal village.....”*

- b) The aforesaid allegations have been found to be factually erroneous by the Committee in para 1, sub paras (b) to (d) which read as under:-

Sr	Conditions of the EC	
1.	<i>Specific Condition no (i) of the EC, “Topsoil shall be stacked properly with adequate protection measures at earmarked sites and used for reclamation and rehabilitation of the mined out areas”</i>	
	<i>Allegation of the Applicant</i>	<i>Committee observations</i>
b.	<i>Mining waste Material has been dumped outside the mining</i>	<i>Committee noted the letter dated 15.01.2019 of the Dy Controller of Mines</i>

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	<p>lease area and it is evident from the letter dated 15.01.2019 of Dy Controller of Mines.</p>	<p>address to M/s Gogte Minerals. Committee noted that the said letter mentions a change in dumping location and does not mention the dumping outside the lease area. Committee during the site inspection observed that dumping of the mine waste is within the permissible mining lease area of 94.706 ha. The mining lease area is demarcated with boundary pillars with latitude and longitude.</p>
c.	<p>The dumping is still being done by the company outside the permissible area</p>	<p>During the site inspection, the committee did not find fresh dumping of mine waste outside the mining lease area.</p>
d.	<p>The new land has been formed by the dumping of the mining waste. The new land has been allotted survey numbers by the district collector, Sindhudurg. A letter dated 18.12.1992 of District Inspector, Land survey reported to District Collector mentions the creation of the new land</p>	<p>The committee visited the said old dump sites formed along the coast. It is noted the dumping was done at the site from the year 1974. During the site inspection, local villagers informed that dumping of mine waste on the said old dump site was stopped prior to the year 1990. Letter from Sarpanch of village Reddy attached as <b>Annexure-3</b>. At present, the said dump sites bear survey number</p>





		<p>15 &amp; 58. These sites are stabilized with plantation. Presently, old dump site's land belongs to the Forest Department of Government of Maharashtra. Committee during the site inspection observed the Board of the Forest Department mentioning that survey number 15 (village Redi) and survey number 58 (village Kanyal) belong to Forest Department, GOM. There was no ongoing dumping observed on the said old dump sites. Copy of photographs of the display board attached as <b>Annexure -4</b></p>
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- c) The Applicant in the Reply has not challenged the said findings of the Committee. This by itself is sufficient to reject the contention of the Applicant as raised in the application and reproduced hereinabove viz., that the answering respondents are allegedly dumping mining waste in the Arabian Sea or are maintaining dumps outside the lease area.

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That once the allegations of the Applicant were found to be absolutely erroneous and far from the truth the said Applicant has now sought to shift his stand and allege that allegedly top soil continues to exist in the mine lease area. It is submitted that the Applicant is seeking to change the proceedings under Section 14 of the NGT Act into a fishing and roving enquiry which is not permissible. A party under Section 14 is supposed to approach the Tribunal with a definite case in terms of the provision. As submitted above on finding that the allegations of the applicants have no legs to stand on in the reply to the report of the Committee the applicant has now sought to allege that top soil continues to exist in the lease area where mining is being undertaken and that top soil is allegedly not being stacked at the earmarked sites. Without prejudice to the submission already made hereinabove viz., that the Applicant cannot be allowed to change the nature of allegations, it is submitted that the said allegations are also as erroneous as the allegations which have already been found to be erroneous. It may be pertinent to mention here that the mining in the lease



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area commenced in the 1970s. In so far as the present case is concerned, it arises out of allegations pertaining to non-compliance of EC condition. At the cost of repetition, it may be stated that the EC was granted only on 22/04/2010 and as such the applicant has to first establish that after 2010, the answering respondent has not maintained the top soil as required, which the applicant has miserably failed to do so. The areas under the Mining Lease may have been used for agriculture; however, as stated above after the same being granted under the Mining Lease, majority of the lease area was utilized for mining activities much prior to the EIA regime as well as much prior to the grant of EC. The Applicant has alleged in para 11 that Survey No.34, 35 and 60 continue to have agricultural activities which is possible only if fertile soil as opposed to hard laterite cover is available. The contention that Survey Nos.34 and 35 are being used for agricultural activity is false to the Applicant's own knowledge and the Survey Forms themselves reflect that the area is reserved for mining and no crops have been grown therein for more than



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four decades. Therefore, the allegation that agricultural activities are being undertaken in the said survey nos is factually incorrect as is evident from, Form 7/12 as maintained under the Maharashtra Land Revenue Act, which reflects under Form 12 the usage of the land and if crops are grown, the details thereof. The answering respondent craves leave to place on record the 7/12 extracts of Survey Nos. 34 and 35 which would reflect that no agriculture activity has taken place in the last four decades, if and when this Hon'ble Tribunal so desires. That further with regard to Survey No.60 in Village Kanyal, it is submitted that the possession of the said area has never been taken over and surface use continues with the original owner. It is submitted that the owner therein has been growing cashew trees which are possible to be grown even in hard laterite, if sufficient water and irrigation facilities are provided. Without prejudice to the aforesaid submission, availability of top soil in 5% area of the total lease area cannot suggest top soil in the entire 94.706 Hectares of lease. The Applicant also has been able to provide details of only 0.21



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Hectares where an orchard is maintained and no details of any other area have been provided. It is submitted that as and when the said area is required for mining purposes, the top soil, if any, will be stacked in accordance with the condition in the EC. However, when no top soil has been generated owing to the geology of the majority of the area, the said condition in the EC cannot be said to be violated. Further, para 2(d) of an inspection report based on a site inspection carried out by IBM on 13/07/2021 under the provisions of Mineral Conservation and Development Regulations also reflect that no top soil is being generated in the lease area. The said para of the report reads as under:

<i>Sl.No.</i>	<i>Item work</i>	<i>Proposals Remarks</i>	<i>Actual</i>
<i>2d</i>	<i>Quantity of topsoil generation in m<sup>3</sup></i>	<i>Nil</i>	<i>Nil</i>

It is pertinent to note that IBM is an expert body and would know the difference between top soil and hard laterite. It is

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submitted that now various inspections have been carried out by different sets of bodies/authorities and none have found any violation as is being alleged by the Applicant. It is, therefore, submitted that the contention of the Applicant is without merit and liable to be rejected.

**Allegation pertaining to simultaneous working of pits**

8. That in reply to the contents of para 12 to 17, submission already made in paras 26 to 33 of the Reply Affidavit dated 20/08/2021 are reiterated without repeating the same for the sake of brevity. The answering Respondent is working only one pit and no two pits have been worked simultaneously. The answering Respondent has already mentioned in its Reply Affidavit that pursuant to the grant of EC dated 22/04/2010, the said Respondent has worked only one pit, i.e. Pit No.203. In this regard, inspections undertaken by MSPCB on 08/01/2020 and MoEF&CC on 18/02/2020 (Report dated 17/04/2020) at pgs.230-316 and 317-318 respectively of the Reply Affidavit,



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clearly show that similar allegations of the Applicant have been found to be without merit and that factually the answering Respondent is working only one pit. It is further submitted that in the IBM inspection undertaken recently, on 13/07/2021, at para 3(a) of the report, the IBM has also observed that only one pit is in operation in accordance with the Plan. The relevant para of the report reads as under:

<i>Sl.No.</i>	<i>Item</i>	<i>Proposals</i>	<i>Actual work</i>
<i>Remarks</i>			
<i>3a</i>	<i>Number of pit Proposed for Production</i>	<i>One</i>	<i>One</i>

It is further denied that Pit No.203 is being used as a water reservoir along with the pit which exists in the expired lease of one M/s. NIMCO. It is submitted that Pit No.203 falls only within the mining lease area of the answering Respondent. Further, Pit No.203 is presently being worked and as such cannot be used as a water reservoir. The Applicant is seeking to confuse the Mauli Pit which was created prior to 1990 and

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which is being used as a water reservoir, with Pit No.203. The two pits are at a distance of one kilometer from each other.

- a. The Pit No. 203 is not a water reservoir; however, during monsoon season when mining is suspended in Pit No. 203, the rain water run off in the Mine is all diverted into the Pit to help with ground water percolation/recharge. After the monsoon season the water collected is supplied to the villagers only for irrigation purposes. It is denied that the said pits are being used to supply drinking water to the residents of near-by villages. Any water which is supplied to the villagers for drinking purposes is from an old pit in Block No. II wherein the answering Respondent has set up a water treatment plant. In the event, any water from the pit in the present lease are required to be supplied for drinking purpose, the said water is diverted to the old pit No. 138 / Block No. II where the answering Respondent has a Water Treatment Plant. At the cost of repetition, it is stated that only after treatment of water and after the same is found



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to be within the prescribed parameters, it is supplied to the villagers for drinking purposes. It may be pertinent to clarify here itself that Pit No. 138 in Block No. II does not fall within the present lease in question and is part of an old mining lease worked by the answering Respondent which has already been rehabilitated and a final Mine Closure Plan was approved by IBM and fully implemented by the answering Respondent. The said old lease under Block II is not a subject matter of the present *lis*, which *lis* is restricted and limited only to the working lease.



- b. It is further submitted that no action by the answering Respondent has impeded any prospects of rehabilitation, reclamation and plantation as alleged by the Applicant. As stated above, Pit No.203 presently has mineral reserves and is under operation. In terms of the provisions of the MMDR Act and the Rules framed thereunder, no pit which has mineable resources can be permanently rehabilitated or reclaimed. As the said pit is being utilized, the

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rehabilitation will happen only when the mineral is exhausted in the said pit. The IBM in its recent Report dated 13/07/2021, has also noticed as under:

*“Minerals has not been exhausted completely from any part of the lease area, hence back filling/reclamation of mined out area has (sic is) not envisaged in approved mining plan.”*

- c. As already submitted in the reply Affidavit dated 20/08/2021, rehabilitation of the mined out pits does not entail 100% backfilling so as to restore the surface level to its original position as it was before mining was undertaken. The purpose of rehabilitation and reclamation of a mined out pit is to restore the flora and to stabilize the slopes with plantation to avoid collapse of Mine benches and benches are provided to avoid accidents involving either humans or animals. The stabilization of the benches is done through maintaining benches of a particular width and height and undertaking plantation on such benches to stabilize them. These steps are taken after backfilling to the extent possible. The entire allegation by the applicant have therefore be



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made on an erroneous understanding of the scope of rehabilitation. The mined out pits as being stated by the Applicant, already stands rehabilitated and utilization of the said pits as water reservoir is a permissible use of such pits and in fact amounts to sustainable development.

9. That in reply to the contents of para 15-16, it is submitted that the Applicant has indulged in *suggestio falsi and suppressio veri*. The Applicant has chosen to place on record the Report dated 24/07/2018 (Annexure A-19/page 28) pertaining to sample collected from the tap at the village, however, has not placed on record the Report of the sample collected on the same day at the Water Treatment Plant analyzed by the same Directorate of Health Services, Government of Goa, which clearly shows that the treated water was within the permissible limits and was potable. True copy of the analysis report of the Directorate of Health Services, Government of Goa, dated 24/07/2018 pertaining to sample collected at the Water Treatment Plant is annexed hereto and marked as Annexure R-



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22. The answering respondent can only control the quality of water as is being supplied to the Village, at its own supply point. Once the said water reaches the village various factors come into play which would impact the quality of water. The difference in quality is due to the hygiene and cleanliness standards of the overhead tanks of the individual from whose premises the tap water was collected, the quality and age of the plumbing, i.e. use of metal pipes as well as the quality of the pipes from the overhead village tank to the supply point. The answering Respondent however to solve the said issue has also time and again as part of its CSR advocated the issue of change of pipeline in the village and has also offered to do so at its own cost. The said efforts of the answering Respondent were finally appreciated and accepted by the Village Panchayat, which has decided to itself get the pipelines changed, with certain costs being passed on to the respondent. The answering Respondent has accordingly supplied 210 meters of pipeline on 01/04/2021 to the Village Panchayat which is in the process of replacing the old pipelines. Due to COVID restrictions and limitations of



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social distancing, etc., the replacement of the entire pipeline by Village Panchayat is likely to take some time. It may further be pertinent to mention that the answering Respondent also undertook to clean the overhead tank of Primary Health Centre, Redi, and the same was cleaned on 29/10/2020. The answering Respondent was appalled to find that the overhead tank had not been cleaned for more than a year. The sample from the tap was generally being taken from the PHC and after the cleaning of the overhead tank, the quality of water sample from the tap improved drastically.

10. That the contents of para 17 are denied as being erroneous and devoid of merits. The Applicant is making an attempt to mislead this Hon'ble Tribunal by alleging that as the survey numbers which are part of Pit No.203 fall within two villages, allegedly there are two pits. The said allegation on the face of it is erroneous inasmuch as a mining pit does not get divided into different number of pits merely because it transcends various survey numbers falling in different villages.



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Admittedly the mining lease of the answering Respondent which is a contiguous block of 94.706 ha is situated over revenue land in Revenue Village Kanyale, Revenue Village **Bomdojichiwadi** and Revenue Village Mharthale. Further, admittedly, survey no.51 in revenue Village Mharthale is adjoining survey no.26 of Village Kanyale. This clearly shows that the Pit No.203 is one pit standing over various adjoining survey numbers. More importantly various authorities, namely, MSPCB, MoEF&CC, IBM as well as the Committee appointed by this Hon'ble Tribunal have physically inspected the lease area and have found that only one Pit No.203 is being operated and no two pits are being worked simultaneously.



### Alleged Effect on Ground Water

11. At the outset, it is submitted that paras 18-39, save as are a matter of record, are denied and the submissions made in paras 64 to 69 of the Reply Affidavit dated 20/08/2021 are reiterated without repeating the same for the sake of brevity.

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12. That the contents of para 18 to 20 are denied as being erroneous and without merit. It is respectfully submitted that the Committee has specifically addressed the compliance of Specific Conditions (vii) and (viii) of the EC with regard to Ground Water and Surface Water monitoring. The answering Respondent has been complying with Condition No.(vii) by monitoring and collecting samples from 6 wells on a quarterly basis. The Reports of the samples analyzed through MoEF&CC recognized laboratories is also supplied to MoEF&CC on a regular basis. The reports clearly show that there was no ingress of sea water. The answering Respondent apart from monitoring the wells, also approached the Regional Centre of National Institute of Hydrology (NIH) a Government Body to undertake an independent hydrological study around the Redi Iron Ore Mine and to check for ingress of sea water, if any. The NIH after undertaking a detailed study spanning over 4 seasons, starting from monsoon 2019 has submitted its detailed scientific report which shows that after studying 26 locations, the NIH has concluded that there has been no intrusion of sea water apart



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from the fact that there has been no impact on quality of the ground water or the water level due to mining. The objective of Condition (vii) is to ensure preventive steps being taken in the event of any ingress of sea water. As stated above, the answering Respondent has been monitoring the wells and an additional independent study by an independent Government body was also undertaken. That with regard to Condition No.(viii), the answering Respondent has been collecting 4 samples of surface water from sources which are within 5 kilometers of the lease, which include a nallah, lake, spring water, etc. A sample is collected on monthly basis and analyzed by MoEF&CC recognized laboratory. The same shows that the water quality is within permissible limits. Similarly, ground water quality is also monitored through the aforementioned 6 wells which are also within the 5 kilometer radius of the lease. The answering Respondent has now increased the number of wells from which samples are collected, to 35 in number. The answering Respondent monitors both the level of ground water as well as the quality of ground water in the wells and the



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information is duly submitted to MoEF&CC regularly. It may also be pertinent to mention here that out of the 6 wells and 4 surface locations, 2 wells and 3 surface water sources are located between the Mine and drainage in the direction of flow of ground water. As stated above, all samples analyzed by Government accredited labs show that the quality of water is within parameters and that as such there is no adverse impact by mining. As a sample, the relevant portion of the Half Yearly EC compliance report submitted on 25/05/2021 is reproduced herein below:-



*“Regular monitoring of surface and ground water within 5 Km of lease area is conducted. The Lessee has established the 6 nos. of ground water quality and 4 nos. of surface water quality monitoring stations. The selection of the monitoring station is done considering the mine and drainage in the direction of flow of ground water. The google image showing the locations of ground water and surface water monitoring stations is enclosed as Annexure 4. The reports are regularly submitted to the MoEFCC, its Regional Office, Maharashtra Pollution Control Board and Central Pollution Control Board. The copies of the latest Surface water Quality monitoring conducted from October 2020 and March 2021 is enclosed as Annexure 7. As per the analysis reports the parameters are within the prescribed permissible limits.*

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*In addition to this, as mentioned above at para no. (vii), as a part of the hydrogeological studies being conducted through NIH, wells located within the 10Km radius of the Mining Lease area are being monitored regularly”.*

13. That in reply to the contents of paras 21 and 22, it is submitted that NIH is a Government body and the Report prepared by it was an independent report. The NIH is an expert body on the issue of hydrological studies. The Applicant is seeking to gain advantage out of a typographical error in the Report of NIH. The Chloride concentration found by NIH varies between 8.93 mg./L to 238mg/L, which is evident from pg.26 of the Report. That however, at pg. 23 of the Report there is a typographical error where instead of 238 mg/L, 358 mg./L has been mentioned. The answering Respondent sought an opinion of NIH vide its letter dated 20.03.2020 and NIH vide its reply dated 05.05.2020 has clarified the said issue. True copy of the reply by NIH dated 05.05.2020 and relevant pages of the Report which itself show that there is a typographical error at pg. 23 as well as the letter of NIH, is annexed hereto and marked at **Annexure R-23** and **Annexure R-24** respectively. It is further



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submitted that the NIH has indicated to the answering respondent that the second interim report would be made available in about two week's time.

14. That the contents of paras 23 and 25 are denied for the false suggestion made therein. It is respectfully submitted that MSPCB has regularly been conducting inspections which is evident from the Reports annexed by the answering Respondent at pgs. 719 to 726 of its Reply Affidavit. It is now settled law that a reply under RTI which may be contrary to the records by itself cannot be taken to be the gospel truth and the Applicant who wants the Tribunal to believe in a particular fact situation has to prove the same by cogent evidence. The Applicant in the present case has failed to do so. It is further submitted that the Applicant is seeking to whitewash all the laboratory results which are already been placed on record from Government accredited laboratories wherein all parameters have been analyzed and have been found to be within the prescribed limits.



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15. That in reply to para 26, it is submitted that the Applicant has indulged in suppression of relevant and material documents so as to make out a false case. In para 26, the Applicant has admitted to having obtained Lab Reports from the Directorate of Health Services, Government of Goa, pertaining to samples of pit water from Pit No.203 and 138 as well as reject water and outlet cartridge filter water from Water Treatment Plant from the period 10/02/2017 to 23/06/2020. Despite having all the water samples, the Applicant conveniently has filed as Annexure A-21 from pgs.31 to 56 of its Reply dated 19/08/2021 only Analysis of the Raw Water from Pit No.138 and from pgs.58 to 61 Analysis of the Raw Water from Pit No.203. The Applicant has conveniently suppressed the samples which are taken at the Water Treatment Plant after the treatment of water and has sought to rely on the samples pre-treatment of water. Based on the said suppression, the Applicant has proceeded to make averments in paras 27 and 28, which are false to his own knowledge. It is respectfully submitted that the answering Respondent usually collects samples from 3 sources, namely,



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raw water source (Pit No.138 or 203), treated water from the Water Treatment Plant and reject water pursuant to treatment. On certain occasions samples are also taken from the cartridge filter outlet at the Water Treatment Plant to ensure effectiveness of the Plant. The said samples are usually taken on the same date. The answering Respondent is placing on record the Reports of the samples of the same date analyzed by Directorate of Health Service regarding the treated water which reports have been conveniently concealed by the Applicant as the said Reports clearly belie the case set up by the Applicant. True copies of the relevant Reports of the Directorate of Health Services, Government of Goa, along with a Chart summarizing the Reports are annexed herewith and marked as Annexure R-25.

16. That the contents of paras 27 are vehemently denied. The submissions made hereinabove, in reply to para 26 are reiterated. A perusal of the Reports with regard to the treated water clearly show that potable water is being supplied to the

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Village after treatment. In furtherance of the submissions made hereinabove, it is further stated that the raw water would necessarily have high range of dissolved solids as it is run off rain water which is channeled to the reservoirs. It is a known fact that rain water over open land would necessarily carry mud and other impurities with it while flowing. Therefore, the allegation that the dissolved solids make the water toxic is merely an attempt to prejudice this Hon'ble Tribunal by suppressing the relevant material, namely, the results of the treated water which does not show any of the minerals or TDS as alleged in para 27.

17. That the contents of paras 28 alleging that contaminated water is leading to local well and tap water also being contaminated, is vehemently denied. The submissions made hereinabove as well as in the Reply dated 21/08/2021 are reiterated without repeating the same for the sake of brevity.
18. That in reply to the contents of para 29, the submissions made hereinabove regarding suppression by the Applicant are



27/15

repeated. The answering Respondent has never concealed any documents from the Committee. The Applicant herein is indulging in suppression of relevant documents and disclosing partial documents with the clear intent and attempt to interfere in the administration of justice which makes the said Applicant liable for proceedings for perjury.

19. That the contents of paras 30 are vehemently denied. It is denied that water from cartridge filter outlet is at all discharged from the Plant let alone in any nearby land or waterbodies. The only discharge from the Water Treatment Plant is the reject water, which is also utilized for dust suppression in the Mine lease area as well as for supporting the plantation on the dumps, both activities being part and parcel of the EC conditions. That upto 70% of such reject water is utilized and only 30% is discharged into the Shiroda creek in accordance with the permissions granted to the answering Respondent under the Air (Prevention and Control of Pollution) Act 1981 and Water (Prevention and Control of Pollution) Act 1974. Admittedly the



11/12/25

said permission has not been challenged by the Applicant. More importantly, the Applicant is now seeking to enlarge his scope of his original application in which no such allegation was ever made pertaining to discharge from the Water Treatment Plant. There is not even a whisper of such an allegation in the entire Original Application No.17 of 2020. It is most respectfully submitted that on the falsity of the Applicant's averments being exposed, new grounds are being raised without any legal or factual basis.

20. That in reply to the contents of paras 31 to 33 in addition to the submissions already made hereinabove, as well as in the Reply dated 20/08/2021, it is respectfully submitted that the letters written by the Gram Panchayat dated 25/01/2020 and 01/02/2020 have been duly replied by the answering respondent. Insofar as the alleged letter dated 01/11/2016 is concerned, no such letter was ever received by the answering Respondent. As already submitted before, the answering Respondent is treating the water and supplying only potable



20/11/21

water which is well within the prescribed limits. However, due to factors which are not within its control, namely, the age and quality of the water pipelines within the Village, the hygiene of the overhead water tanks (village and individual) as well as the respective plumbing in the houses, i.e. the metal quality and age of the internal pipelines, the samples as collected from the taps always vary. In fact, pursuant to the letter dated 01/02/2020, the answering Respondent invited Members of the Panchayat so that the water samples from the Treatment Plant could be taken in their presence. Pursuant to such request samples were collected on 06/02/2020 from the Water Treatment Plant in the presence of Panchayat Members. The said samples were sent to 3 Government accredited Laboratories. The sample analysis from the said Government Labs is enclosed herewith as **Annexure R-26**, which clearly show that the treated water was well within the prescribed limits. The Village Panchayat thereafter has understood and is now in the process of changing the pipelines within the Village as that is the cause of the difference in quality of water at the Treatment Plant and that at



the taps. The response sent by answering Respondent to the said letters is also annexed hereto and marked as Annexure R-27.

21. That the contents of para 34 are denied. It is most respectfully submitted that the Applicant has indulged in creating false evidence and creating false documents to try and support their false narrative. The contents of the said para are denied in as much as the said samples were neither collected in the presence of the answering Respondent nor is there any evidence to show that the Applicants subsequently sent the same samples as collected or did not tamper with it, before sending it to the laboratory to justify their false case which is more often an extortion petition. More interestingly, due to the second wave of COVID there were lockdown restrictions in Maharashtra from 29.04.2021 to 30.07.2021 and in Goa from 09.05.2021 to 09.08.2021. Therefore, it is highly doubtful that the said Applicant at all collected the samples. It is quite possible that the sample was manufactured by the Applicant for the purposes



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of the present complaint. It may be pertinent to mention here that samples from the same well was collected by the Committee as appointed by this Hon'ble Tribunal and the report is placed at Annexure 12 to the Committee's report. The said Test results clearly show that the sample was within prescribed parameters. This also supports the contention of the answering respondent that the applicant has approached this Hon'ble Tribunal with unclean hands.

22. That the contents of para 35 are denied and the submissions made in Reply dated 20/08/2021 are reiterated without repeating the same for the sake of brevity.

23. That the contents of paras 36 alleging that there is contamination of water resources or that such contamination occurred in the past is vehemently denied. It is respectfully submitted that the onus is on the Applicant to show any contamination as alleged which the Applicant has miserably failed to do. On the other hand, the answering Respondent has produced independent scientific data which clearly belies the stand of the Applicant.

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Therefore, the principles of polluter pays is not attracted or applicable in the facts of the present case.

24. That in reply to the contents of para 37 to 39, it is respectfully submitted that the said principles are not applicable in the facts of the case.

### SOIL EROSION

25. That in reply to the contents of paras 40 to 42, the submissions made in paras 42 to 55 of the Reply Affidavit dated 20/08/2021 are reiterated without repeating the same for the sake of brevity.

26. That the Applicant has made a false statement on oath, namely, that there are no plantations allegedly on the dump slopes. In furtherance of the said allegation in para 40, the said Applicant has referred and relied upon the photographs at pgs.87 to 89 of the Application as well as Annexure 12, pgs.92 to 95 of the Application. In reply thereto, it is once again reiterated that the Applicant has committed perjury by making statements which



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are false to his own knowledge. Insofar as Annexure A-12 is concerned, the same are photographs of survey no.58 of Kanyale Village and do not pertain to the answering Respondent's lease nor has the answering Respondent carried out any activity therein. Similarly, Annexure A-10 are photographs of the working pits rather than the stabilized dumps. The Applicant has indulged in suppression as well as making false suggestions and have not placed on record the correct photographs with a view to mislead this Hon'ble Court. It is respectfully submitted that dumps are of two kinds, namely, (a) active dumps and (b) dead dumps. Insofar as the former is concerned, it consists of those dumps where dumping activity in accordance with the Mining Plan and provisions of MMDR Act is still continuing and it is yet to reach its full potential. On the other hand, the dead dumps are those dumps where no further dumping activity can take place. The plantation is generally undertaken over dead dumps along with other prevention of soil erosion measures as well as on slopes of active dumps which are no longer going to be disturbed and are



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not required for any further dumping. Insofar as active dumps/slopes are concerned the same are managed through geotextiling followed with leguminous grass cover and/or silpaulin covers along with other measures for prevention of soil erosion. Insofar as the present lease is concerned, the eastern slope of dump at survey no.50 is completely stabilized and rehabilitated by growing various trees therein which trees are grown to the minimum height of 6 feet and to the maximum height of approximately 40 feet. The answering Respondent has annexed as Annexure R-12, pg. 336, photographs taken as on 15/09/2020 which reflect thick vegetation over the stabilized slopes of the overburden dump located at survey no.50. A study has also been conducted of the area in question wherein it has been specifically observed that over this particular dump itself, close to 45000 no. of saplings have been grown and that the plantations varies from 0.5 to 7 years of these 45000 saplings. In the said Study, a total number of 50953 trees have been found on the said dump and 1874 shrubs. The Study has found trees also varying from 12 to 14 years old on the said dump. This



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shows that plantation has been undertaken from time to time in terms of the condition imposed in the EC. The allegations, therefore, in para 42 is complete distortion of the truth. The Applicant is seeking to distort the statement that 84046 saplings have been planted after the grant of EC till date. In the reply of the Applicant, it is alleged that the said plantation has only been carried out now and not in the last 7 years. This statement is far from the truth. Most of the aforementioned saplings as planted are now full-grown trees. The number as given is only the total plantations undertaken in the lease area from the date of EC in 2010 till 2019-20. The said activity is an on-going activity and in the last year, an additional 14386 saplings have been planted of various species over those portions of the dumps/slopes which are no longer required for dumping activities. It may also be pertinent to mention that in terms of the advice/conclusion in aforementioned report, the answering respondent has started enriching the area by replacing the acacia trees with local fruit bearing trees.



SHD

**ACTION PLAN FOR ABATMENT AND  
COMPENSATION FOR DAMAGE**

27. In reply to contents of paras 43 to 52, the submissions made in paras 56 to 63 of the Reply Affidavit dated 20/08/2021 are reiterated without repeating the same for the sake of brevity. The contents of the reply of the applicant are denied as being either factually incorrect or due to the false suggestions contained therein. The answering Respondent in its reply, has already indicated that the action plan in terms of EC specific condition no.(xiv) already stands submitted to the relevant authority, on 15/06/2011. Therefore, the allegations under paras 43 and 44 are absolutely frivolous and devoid of merit.

28. That the contents of para 45 are denied. Apart from the submissions already made in the Reply dated 20/08/2021 it is respectfully submitted that the photographs now annexed at Annexure A-24 do not provide any details pertaining to where these photographs have been taken, by whom and which land do these photographs relate to. As evident from the submissions



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made above, it cannot be put beyond the Applicant to try and manufacture evidence. From the photographs as supplied along with the reply which photographs are in black and white, it is submitted that any region with heavy rainfall would be similar in nature and the same by itself does not prove any damage to agricultural land caused by the mining carried out by the answering Respondent. The answering Respondent has been taking all precautions as prescribed and all the run-off rain water within the lease area is successfully being diverted to the mining pit. The answering Respondent has undertaken various measures for prevention of soil erosion, including but not limited to trenches and garland drains as well as silt arrestors. It is submitted that, therefore, allegations that either water or silt is being discharged by the answering Respondent is factually erroneous and devoid of merit. It is submitted that the Applicant and few other interested and related parties have been seeking to resort to extortion measures by making false allegations. It is respectfully submitted that the answering Respondent has already submitted an Action Plan and for the



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purposes of compensation, firstly the claim of damages has to be proved. The Applicant has suppressed from this Hon'ble Court the fact that the claims made before various authorities was duly streamlined and inspection conducted by Circle Officer who found that the complainants who were alleging damage to agricultural lands and crops themselves admitted that no agricultural activity had been conducted by them since 1980s. This clearly shows the falsity of the contents of the complaints as well as the misuse of process of law for extorting money. It is further submitted that the said parties have not approached this Hon'ble Tribunal nor is any proof of the same provided herein.

29. That it is also pertinent to mention here that recently the Additional Collector of Sindhudurg had directed all Tehsildars within the District to undertake inspections of all working Mines to ensure sufficient steps were being taken to avoid mishaps and accidents including and not limited to release of water and/or silt from the lease areas. Insofar as the answering



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Respondent's lease is concerned, the Report dated 02/08/2021 clearly shows that all adequate measures for preventing any discharge of water or silt have been taken by the answering Respondent. True copy of the said Report dated 02/08/2021 is annexed herewith and marked as **Annexure R-28**.

30. That in reply to the contents of para 47, it is respectfully submitted that the answering Respondent has been submitting on a half yearly basis, the status of the implementation of the plan as well as the expenditure incurred thereon. Insofar as alleged compensation is concerned, as there has been no damage by the mining activity, no loss has been sustained and, therefore, no compensation was liable to be paid. It is submitted that some persons sought to take undue benefit of the Action Plan and made allegations of damages due to mining activity, however failed to provide even an iota of evidence in support of their frivolous claims. The Applicant has also made allegations based on letter dated 03/06/2020 addressed by the Village Panchayat to the answering Respondent, to try and allege that



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even the Panchayat has taken up the issue of alleged release of muddy water by the answering Respondent. It is submitted that like most of the averments made in the application as well as the Reply to the Committee's Report, the Applicant has once again indulged in suppression and false suggestion. The Applicant has merely placed on record the communication dated 03/06/2020 and has suppressed all subsequent events. The communication in question by the Village Panchayat was addressed based on a false representation made by the brother of Applicant no.1 which is evident from the reference in the said letter at pg.85. That pursuant to receipt of the said letter, the answering Respondent addressed a detailed representation to the Panchayat dated 09/06/2020 denying the allegations and calling upon the Panchayat to conduct a site inspection rather than go by frivolous complaints. The Sarpanch, Village Panchayat Redi, thereafter conducted a site inspection on 12/06/2021 and specifically found that all preventive measures had been taken by the answering Respondent and there had been no release of any water by the answering Respondent in the



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Kanyale tank. Further, the Sarpanch has concluded that it was simply rain water from other areas which has flowed into Kanyale tank. In fact, water samples were taken from Kanyale tank on 29/04/2020 and 24/05/2020 and analyzed by MoEFCC and NABL Accredited-Lab which found all parameters within permissible limits. This also belies the allegation pertaining to pollution being caused by the answering Respondent. True copy of the representation dated 09/06/2020, Report of Panchayat dated 18/06/2020 and the sample reports are annexed herewith and marked as **Annexure R-29, Annexure R-30 and Annexure R-31** respectively.



31. The contents of para 48 to 49 are a mere repetition of the allegations already dealt with hereinabove and as such, are denied and submissions made hereinabove are reiterated.
32. That in reply to the contents of paras 50 to 52, it is denied that large quantities of debris and mud were released on 18/02/2020, by answering Respondent onto agricultural lands or that

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irreparable damage was caused to such lands. It is respectfully submitted that the complaint is frivolous and the answering Respondent is contesting the said issue which is still being adjudicated and evidence being collected by the authorities. Till date, the complainants have failed to identify their alleged land, similarly, the said parties have also failed to show any agricultural activity carried out previously in the said land or that any mud was released by the answering Respondent. It is further submitted that as is evident from Report dated 02/08/2021 which is annexed hereinabove, based on the steps being undertaken by the answering Respondent there were no question of any landslide or mud flowing from the mining lease into the agricultural lands as has been alleged. In any event of the matter, the same being a factual issue it would first have to be proved through cogent evidence that any damage has been caused to the lands as alleged. Secondly the complainants would have to prove ownership over the lands. Lastly, the issue is still being adjudicated by the relevant fact-finding authorities and as of present nothing adverse has been found against the



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answering Respondent. The Applicant has specifically concealed the said facts.

33. That in reply to the contents of para 53, it is submitted that merely because the inspection by the Committee is not to the Applicant's liking, the same does not give him any right to seek for fresh inspections. The said process of inspections cannot be a never-ending process. The answering Respondent has now been subjected to multiple inspections by various authorities pursuant to complaints and allegations by the Applicant. All authorities have unanimously found compliance of the EC conditions by the answering Respondent. In light of the same, it is submitted that the Application filed by the Applicant is without merit and liable to be dismissed with exemplary costs as the present application was not *bona fide* and contains false and vexatious claims.



*S. Shankar*

*MA Gogte*

DEPONENT

Filed By: Respondent No. 6 (M/s Gogte Minerals)  
Represented by: Shivshankar Swaminathan, Advocate

1-5 OCT 2021

**VERIFICATION**

I, Madhav Gogte s/o Arvind B Gogte, major of age, partner of M/S Gogte Minerals, do hereby verify that the contents of paras 1-5, 1-8, 10, 12-17, 20, 27, and 29-30 are true to my knowledge and as per available records of the case and paras 9, 11, 18-19, 21-26, 28, and 31-33 are believed to be true on legal advice and that I have not suppressed any material facts.

5 OCT 2021

Place: Mumbai  
Date: 5.10.2021

*MAG...*

DEPONENT

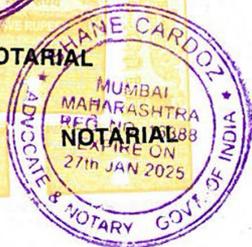
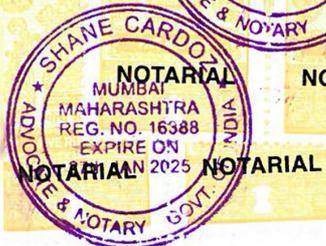
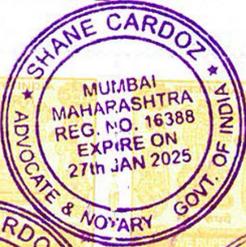
**BEFORE ME**

*S. Cardoz*

SHANE CARDOZ  
Advocate & Notary (Govt. of India)  
Reg. No. 16388 B.Com, LL.B.  
G3, Clifford House, Kadeshwari Mandir Road,  
Next to Ganesh Mandir Chowk, Bandra (W),  
Mumbai - 400 050. Mob.: 98205 17020



Notary Register Serial No.	2567/21
Date:	5 OCT 2021



ORIGINALS SEEN & VERIFIED			
AADHAAR	PAN	ELECTION ID	DIVING LICENSE NO.
5258 74307317			

*S*



## Annexure R-22

GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 719 /2018-19

Date: 24/7/18  
Water

## SAMPLE ANALYSED

Referred by: ..... Fomento Resources Pvt. Ltd. 325 2nd Floor Casa Del Sol Miramar-Goa.  
Ref.No. Nil dated 13/07/2018

Received/Collected on: ..... 13/07/2018 analytical work completed 20/07/2018

Sampling Point/Source: ..... Treated water sample from treatment plant at Keri

To determine: ..... As below

## ANALYSIS

Sl.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.6 (Botted & Cooled)	7.8	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	298.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	60.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	20.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	30.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	152.6	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.5	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	2.4	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

(Dr. Utkarsh Betodkar)  
 State Epidemiologist

Analyst:

(Mrs. V.S. Kunkollencar)  
 Scientific Assistant





आपो हि धा मयोभुव :

राष्ट्रीय जल विज्ञान संस्थान  
(जल संसाधन, नदी विकास और गंगा संरक्षण विभाग, जल शक्ति मंत्रालय, भारत सरकार)  
**National Institute of Hydrology**  
(Department of Water Resources, RD & GR, Ministry of Jal Shakti, Govt. of India)

दुरभाषा : 0831 - 2447714  
: 0831 - 2447269  
ई-मेल : hrrc.nihr@gov.in

कठोर शिला क्षेत्रिय केंद्र  
**Hard Rock Regional Centre**  
मेन रोड, विश्वेश्वरय्या नगर, बेलगावि - ५९० ०१९ (कर्नाटक)  
Main Road, Visvesvaraya Nagar, Belagavi - 590 019 (Karnataka)

संख्या No.

दिनांक Date :

To,

5<sup>th</sup> May 2020

M/s Gogte Minerals  
Redi Iron Ore Mine  
Redi Village, Taluka Vengurla,  
District Sindhudurg,  
Maharashtra

Sub: - Clarification on the levels of parameter Chlorides in the Interim Report of the Hydrogeological Studies

Ref:- Your letter dated 20<sup>th</sup> March 2020

Dear Sir,

With reference to the above letter, we would like to clarify as below:-

The present Interim report was prepared based on the detailed study conducted during the season Monsoon 2019 and Post Monsoon 2019 by the team of NIH Scientists.

As regards to the Chloride levels, it is been found well within the prescribed standards. The observations pertaining to the different parameter levels are presented in the report in the form of contour maps.

As regards to the Chloride levels, please refer at page No.26 in Figure No.6e and Figure No.6f. The chloride levels have been found in the range of 7.0 to 238mg/l which is within the prescribed standards. However, there has been an inadvertent typographical error



आपो हि ष्टा मयोभुव :

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(जल संसाधन, नदी विकास और गंगा संरक्षण विभाग, जल शक्ति मंत्रालय, भारत सरकार)

**National Institute of Hydrology**  
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दुरभाषा : 0831 - 2447714  
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कठोर शिला क्षेत्रिय केंद्र  
**Hard Rock Regional Centre**

मेन रोड, विश्वेश्वरय्या नगर, बेलगावि - ५९० ०१९ (कर्नाटक)  
Main Road, Visvesvaraya Nagar, Belagavi - 590 019 (Karnataka)

संख्या No.

दिनांक Date :

at page no 23 of the report Para No. 4.6 under heading 'SPATIAL VARIATION OF GROUNDWATER QUALITY PARAMETERS' regarding the chloride levels.

The line "The chloride concentration varies between 8.93 mg/l and 358.42 mg/l." in the report shall be read as

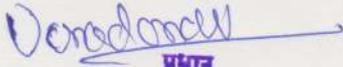
*"The chloride concentration varies between 7.0 mg/l and 238 mg/l."*

As the detailed Hydrogeological, study is under progress the above anomaly will be corrected in the subsequent reports.

We regret for the typographical error and inconvenience caused to you.

Thanking you,

Yours Faithfully.

  
प्रधान  
HEAD  
राष्ट्रीय जल विज्ञान संस्थान  
NATIONAL INSTITUTE OF HYDROLOGY  
बेलगावी.  
BELAGAVI

**INTERIM REPORT**

**Hydrogeological Studies in and around  
“Redi Iron Ore Mine (Block I)” of M/s  
Gogte Minerals located at Village Redi,  
Taluka Vengurla, and District  
Sindhudurg of Maharashtra State**

#### 4.6 SPATIAL VARIATION OF GROUNDWATER QUALITY PARAMETERS

Twenty three (recently added 3 more wells) groundwater samples were drawn from the selected wells for two seasons in Monsoon 2019 (in the month of June 2019) and during the Post Monsoon 2019 (in the month of October 2019) and analysed for physicochemical parameters. No much seasonal variation is observed so far.

The spatial variations of the different parameters for two different seasons (Monsoon and Post Monsoon 2019) are presented in the following pages. pH in the study area varies from 4.92 to 7.49. Groundwater exhibited acidic to basic nature, which is a typical nature coastal aquifers. However all samples were within the permissible limits as prescribed by BIS.

The acidic nature of water is attributed to the highly weathered lateritic soils which are distributed all over the catchment. Alkalinity which is referred to as the ability of water to neutralize acids showed variation between 12mg/l and 110 mg/l (figure 7f). All the samples exhibited alkalinity values lower than the permissible limit of 200 mg/l.

Salinity of the water in the groundwater were measured using standard probes and found that the salinity varied from 0.02 mg/l to 0.62 mg/l. Electrical Conductivity (EC) and Total Dissolved Solids are inter dependent and explains the salinity content and also the pollution potential of the particular well/region. Electrical conductivity and TDS in water is affected by the presence of inorganic dissolved solids in the form of chloride, nitrate, sulphate, phosphate, sodium, magnesium, calcium, iron and aluminium ions. Conductivity is also affected by geology and temperature, the warmer the water the higher the conductivity. The EC values in all samples are lower than the permissible limit. Chloride is an indicator in detecting the contamination of waste or intrusion of saltwater in to ground water. The chloride concentration varies between 7.0 mg/l and 238 mg/l. Total hardness is an important factor in determining the suitability of water samples for domestic and irrigation purposes. According to Sawyer et al. (2003), water is classified as, soft, hard, moderately hard and very hard. Water hardness is caused primarily by the presence of cations such as calcium and magnesium and anions such as carbonate, bicarbonate, chloride and sulphate. The classification of groundwater based on total hardness indicates

Spatial variation of Chlorides during Monsoon 2019 and Post Monsoon 2019

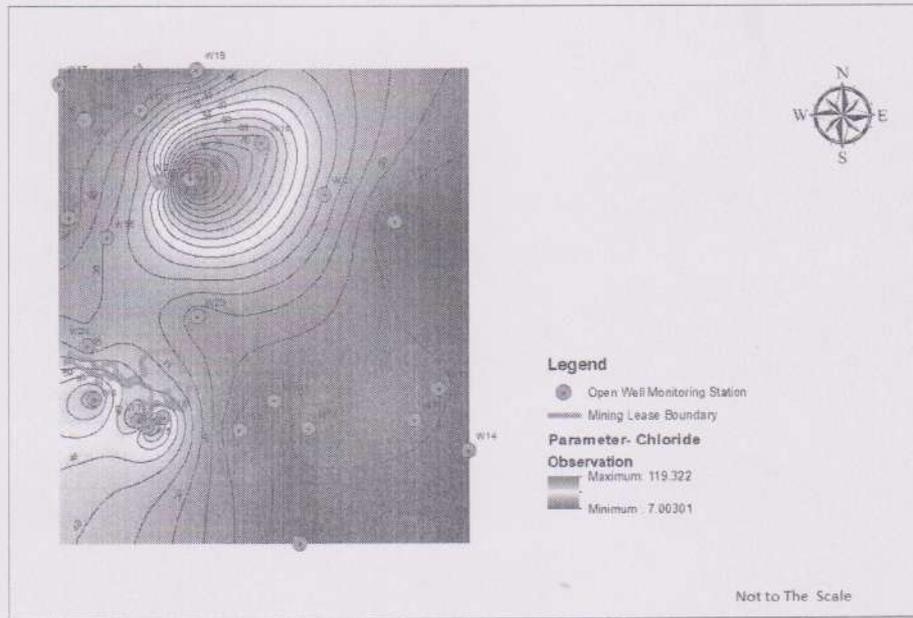


Figure 6e: Spatial Variation of Chlorides during the Season Monsoon 2019

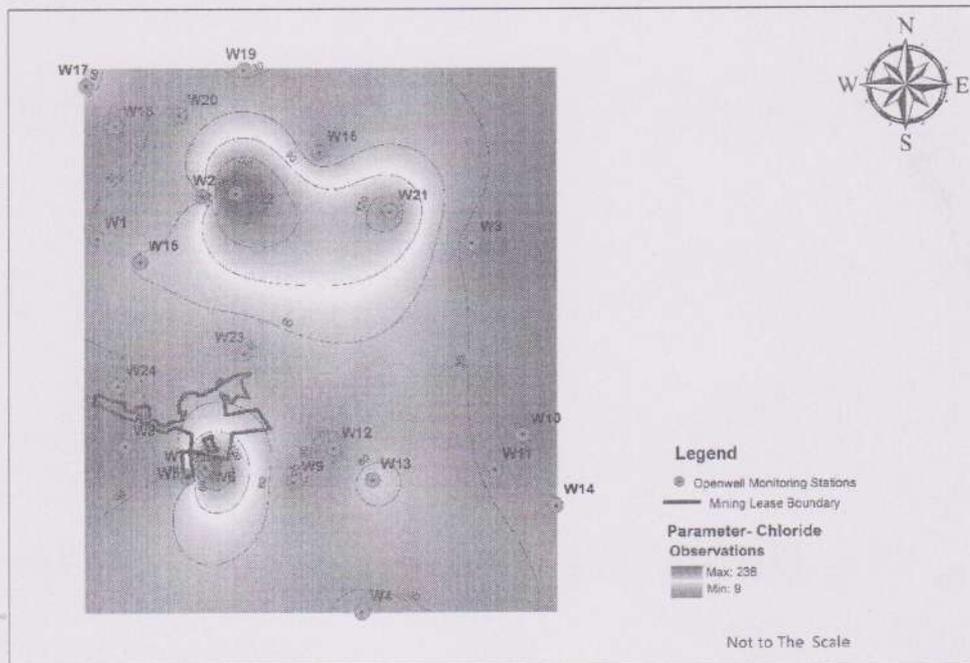


Figure 6f: Spatial Variation of Chlorides during the Season Post Monsoon 2019

For *D. K. Singh*  
**HEAD**  
 राष्ट्रीय जल विज्ञान संस्थान  
 NATIONAL INSTITUTE OF HYDROLOGY  
 देवलागावी,  
 DEWLAGAHI

## Annexure R-25

## COMPARATIVE CHART ON THE RESULTS OF TREATED WATER-WATER TREATMENT PLANT

ANALYSED BY DIRECTORATE HEALTH SERVICES, PANJIM, GOA

Month/ Year	Parameters																
	Appearance	Colour (Hazen )	Odour	PH	Turbidity ( NTU )	TDS (mg/lit)	Total Hardness (mg/lit.)	Calcium (mg/lit.)	Total alkalinity as CaCO3 mg/lit	Chlorides as Cl-(mg/lit.)	Sulphate as SO4- ( mg/lit)	Nitrates as NO3- ( mg/lit )	Nitrites as NO2- ( mg/lit )	Oxidability -4 hrs (mg/lit. )	Iron as Fe ++ ( mg/lit )	Manganese as Mn ++ ( mg/lit )	Magnesium as Mg ++ ( mg/lit )
Desirable Limits as per IS 10500	Clear	Colourless /5 Max	Inoffensive	6.5-8.5	5	500	200	75	200	250	200	45	Nil	2	0.3	0.1	30
27-10-2020	Clear	Colourless	Inoffensive	7.9	1	52	10	2	20	21.3	0.3	Nil	Nil	0.8	Nil	Nil	1.2
22-10-2020	Clear	Colourless	Inoffensive	6.7	1	135.4	29	8	20	63.9	1	Nil	Nil	0.8	Nil	Nil	2.18
16-09-2020	Clear	Colourless	Inoffensive	7.6	1	142	30	5.2	25	67.4	0.7	Nil	Nil	0.8	Nil	Nil	4.1
11-08-2020	Clear	Colourless	Inoffensive	7.8	1	172	40	8	30	81.6	0.9	Nil	Nil	0.8	0.05	Nil	4.9
30-07-2020	Clear	Colourless	Inoffensive	6.5	1	230	55	10.8	25	110	0.9	Nil	Nil	0.8	Nil	Nil	6.8
19-05-2020	Clear	1	Inoffensive	6.7	6.7	225	45	8.4	25	113.6	0.5	Nil	Nil	0.8	0.04	Nil	5.83
17-03-2020	Clear	Colourless	Inoffensive	7.1	1	88.6	55	8	15	99.4	1.1	Nil	Nil	0.8	Nil	Nil	8.5
18-02-2020	Clear	Colourless	Inoffensive	6.5	1	180	46	10.8	20	81.6	1.6	Nil	Nil	0.8	0.05	Nil	4.6
29-01-2020	Clear	Colourless	Inoffensive	6.5	1	194	50	10.4	25	88.7	2	Nil	Nil	0.8	0.05	Nil	5.8
24-12-2019	Clear	Colourless	Inoffensive	6.8	1	226.2	48	12	25	117.1	1.3	Nil	Nil	0.8	0.09	Nil	4.37
27-11-2019	Clear	Colourless	Inoffensive	7.7	1	177	50	9.6	20	78.1	1.5	Nil	Nil	0.8	Nil	Nil	6.3
22-10-2019	Clear	Colourless	Inoffensive	6.5	1	193	45	11.6	25	92.3	1.1	Nil	Nil	0.8	0.05	Nil	3.9
24-09-2019	Clear	Colourless	Inoffensive	7.8	1	152	35	8	35	71	0.8	Nil	Nil	0.8	0.05	Nil	3.6
27-08-2019	Clear	Colourless	Inoffensive	8	1	231	55	10.8	35	110	1.2	Nil	Nil	0.8	0.05	Nil	6.8
23-07-2019	Clear	Colourless	Inoffensive	6.5	1	190.4	45	10.4	10	134.9	0.5	Nil	Nil	0.8	Nil	Nil	4.6
02-07-2019	Clear	Colourless	Inoffensive	6.5	1	95.8	67	16	50	17.7	1.1	Nil	Nil	0.8	0.04	Nil	6.56
28-05-2019	Clear	Colourless	Inoffensive	6.9	1	179.5	55	10.4	70	113.6	0.9	Nil	Nil	0.8	Nil	Nil	7
29-04-2019	Clear	Colourless	Inoffensive	7.5	1	155.5	48	16	75	106.5	1	0.4	Nil	0.8	0.05	Nil	1.9
01-04-2019	Clear	Colourless	Inoffensive	6.5	1	182.5	45	12	70	127.8	54	0.7	Nil	0.8	0.05	Nil	3.6
26-02-2019	Clear	Colourless	Inoffensive	7.4	1	243	60	6.8	50	113.6	1.8	Nil	Nil	0.8	0.05	Nil	6.1
30-01-2019	Clear	Colourless	Inoffensive	7.4	1	255	60	11.6	35	124	0.7	Nil	Nil	0.8	0.05	Nil	7.5
08-01-2019	Clear	Colourless	Inoffensive	8	1	217	48	18.8	25	106.5	1.3	Nil	Nil	0.8	0.05	Nil	0.2
31-12-2018	Clear	Colourless	Inoffensive	8.2	1	202	50	8.8	35	92.3	0.7	Nil	Nil	0.8	0.05	Nil	6.8
30-11-2018	Clear	Colourless	Inoffensive	6.5	1	229	54	11.6	35	110	1	Nil	Nil	0.8	0.05	Nil	6.1
31-10-2018	Clear	Colourless	Inoffensive	6.8	1	276	57	12	25	138	2.5	Nil	Nil	0.8	0.05	Nil	6.6
05-10-2018	Clear	Colourless	Inoffensive	6.5	1	289	60	15.2	45	145.4	0.5	Nil	Nil	0.8	0.05	Nil	5.3
29-08-2018	Clear	Colourless	Inoffensive	7.9	1	297	73	13.2	65	142	0.7	Nil	Nil	0.8	0.05	Nil	9.7
30-07-2018	Clear	Colourless	Inoffensive	6.5	1	208	32	7.2	25	110	1	Nil	Nil	0.8	0.05	Nil	3.4
28-06-2018	Clear	Colourless	Inoffensive	7.1	1	297	63	13.2	25	149	1	Nil	Nil	0.8	Nil	Nil	7.3
31-05-2018	Clear	Colourless	Inoffensive	8	1	422	76	16	65	223.6	0.5	Nil	Nil	0.8	0.05	Nil	8.7
26-04-2018	Clear	Colourless	Inoffensive	7.5	1	410	78	20	20	215	0.3	Nil	Nil	0.8	Nil	Nil	6.8
26-03-2018	Clear	1	Inoffensive	6.6	1	273	70	16.6	35	127.8	Nil	Nil	Nil	0.8	0.05	Nil	8.7
23-02-2018	Clear	1	Inoffensive	7.3	1	158	30	10	50	78	Nil	Nil	Nil	0.8	0.05	Nil	1.2
24-01-2018	Clear	1	Inoffensive	6.6	1	159	37	8	15	82	Nil	Nil	Nil	0.8	0.05	Nil	4.1
26-12-2017	Clear	1	Inoffensive	7.3	1	154	48	6	25	64	Nil	Nil	Nil	0.8	0.05	Nil	8
24-11-2017	Clear	1	Inoffensive	7.4	1	186	84	18.4	25	53.3	12.8	Nil	Nil	0.8	Nil	Nil	9.2
24-10-2017	Clear	1	Inoffensive	6.5	1	92	19	12	15	39	0.7	Nil	Nil	0.8	Nil	Nil	Nil
26-09-2017	Clear	1	Inoffensive	6.8	1	109	18	3.6	20	54	Nil	Nil	Nil	0.8	0.05	Nil	2.2
22-08-2017	Clear	1	Inoffensive	6.9	1	169	26	6.4	25	88.8	1	Nil	Nil	0.8	0.05	Nil	2.4
31-07-2017	Clear	1	Inoffensive	7.3	1	172	29	6.4	25	89	Nil	Nil	Nil	0.8	Nil	Nil	3.2
28-06-2017	Clear	1	Inoffensive	6.7	1	176	27	5.2	15	92.3	1	Nil	Nil	0.8	0.05	Nil	3.4
30-05-2017	Clear	1	Inoffensive	7.4	1	128	22	2.8	20	64	Nil	Nil	Nil	0.8	Nil	Nil	3.6
28-04-2017	Clear	1	Inoffensive	6.6	1	182	40	6	30	88.8	Nil	Nil	Nil	0.8	Nil	Nil	6.1
03-04-2017	Clear	1	Inoffensive	7	1	92	14	3.2	30	46.2	Nil	Nil	Nil	0.8	Nil	Nil	1.5
01-03-2017	Clear	1	Inoffensive	6.9	1	86	13	3.2	20	42.6	1	Nil	Nil	0.8	Nil	Nil	1.2
30-01-2017	Clear	1	Inoffensive	6.9	1	107	14	3.2	20	56.8	Nil	Nil	Nil	0.8	Nil	Nil	1.5



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 600 /2020-21

Date : 17/11/20

SAMPLE ANALYSED Water

Referred by: Shri Devi Mauli water supply scheme-Redi,Vengurla,Sindhudurg.....

Ref.No. Nil dated 27/10/2020.....

Received/Collected on: 27/10/2020 analytical work completed 03/11/2020.....

Sampling Point/Source: Water sample from above address.....

As below

To determine: .....

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.2 ( Boiled & Cooled )	7.9	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	52.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	10.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	2.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	20.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	21.3	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.3	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	1.2	30.0

**Remarks:** The sample of water analysed confirm to the limits Presribed for human consumption. The water therefore can be used for human consumption after assessing its bacterial purity

( Mrs. V.S.Kunkoliencar )

Sr. Scientific Assistant

Govt. Ptg. Press, Panaji, Goa - 1834900000/2018.





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 620 /2020-21

Date: 24/11/20

SAMPLE ANALYSED Water

Fomento Resources Pvt.Ltd, Casa Del sol, Miramar- Goa.

Referred by: .....

Ref.No. Nil dated 22/10/2020

Received/Collected on: 22/10/2020 analytical work completed 09/11/2020

Sampling Point/Source: WTP Treated Water

As below

To determine: .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 4.7 ( Boiled & Cooled )	6.7	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	135.4	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	29.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	8.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	20.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	63.9	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	1.0	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	2.18	30.0

**Remarks:** The sample of water analysed confirm to the limits Prescribed for human consumption. The water therefore can be used for human consumption after assessing its bacterial purity

Seen :

Analyst :

( Mrs.V.S.Kunkoliencar )  
 Sr.Scientific Assistant

( Satish Gopal Gawas )  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
**ENVIRONMENTAL AND POLLUTION CONTROL WING**  
**PANAJI-GOA**

Reg. No. EPCW/ 156 /2020-21

Date : 06/10/20

Water

**SAMPLE ANALYSED**

Referred by: Fomento Resources Pvt. Ltd., Casa Del Sol, Miramar-Goa.

Ref. No. Nil datedg 16/09/2020

Received/Collected on: 16/09/2020 analytical work completed on 29/09/2020

Sampling Point/Source: Treated water sample

To determine: As below

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.3 ( Boiled & Cooled)	7.6	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	142.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	30.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	5.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	67.4	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.7	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	4.1	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

*V. S. Kunkoliencar*  
 ( Mrs. V. S. Kunkoliencar )  
 Sr. Scientific Assistant

Govt. Ptg. Press, Panaji-Goa—183/10.000—5/2018.





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
**ENVIRONMENTAL AND POLLUTION CONTROL WING**  
**PANAJI-GOA**

Reg. No.: EPCW/ *H12* /2020-21

Water

Date : *15/9/20*

**SAMPLE ANALYSED**

Referred by: Fomento Resources Pvt.Ltd, Casa Del sol, Miramar- Goa  
 Ref. No . Nil dated 11/08/2020  
 Received/Collected on: 11/08/2020 analytical work completed on 20/08/2020  
 Sampling Point/Source: Treated water  
 As below  
 To determine:

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.4 (Boiled & Cooled )	7.8	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	172.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	40.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	8.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	30.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	81.6	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.9	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	NIL	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	4.9	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*V. S. Kunkoliencar*  
 ( Mrs V. S. Kunkoliencar )  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 248 /2020-21

Date: 11/8/20  
 Water

**SAMPLE ANALYSED**

Referred by Fomento Resources Pvt. Ltd, Casa Del Sol, Miramar

Ref. No. CE/MW-69/20/86 dated 28/07/2020

Received/Collected on: 30/07/2020 analytical work completed on 07/08/2020

Sampling Point/Source: Treated water sample

As below

To determine:

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	6.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	230.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	55.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	10.8	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyi Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	110.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.9	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	6.8	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*V. S. Kuntechencar*  
 Mrs. V. S. Kuntechencar  
 Sr. Scientific Asst.



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No. EPCW/ 209 /2020-21

Water

Date: 23/6/20

**SAMPLE ANALYSED**

Referred by: The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd. 325, 2nd Floor, Casa Del Sol, Miramar, Goa. Ref. No. Nil dated 19/05/2020  
 Received/Collected on: 19/05/2020 analytical work completed on 29/05/2020  
 Sampling Point/Source: Treated water  
 To determine: As below

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.7	6.5 - 8.5
5	Turbidity NTU	6.7	5.0
6	Total Dissolved Solids mg/l	225.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	45.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	8.4	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	113.6	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup> mg/l	0.5	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.04	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	5.83	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen :

Analyst :

*V. S. Kunkoliencar*  
 (Mrs. V. S. Kunkoliencar)  
 Sr. Scientific Assistant

*Sush G. Gawas*  
 (Sush G. Gawas)  
 Laboratory Technician





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 212 /2020-21

Date : 23/6/20

Water  
**SAMPLE ANALYSED**

Referred by: ..... The Mines Manager Kedi Iron Ore Mines Fomento Resources Pvt.Ltd 325, 2nd.....  
 Floor, Casa Dei Sol, Miramar, Goa. Ref.No Nil dated 17/03/2020

Received/Collected on: ..... 17/03/2020 analytical work completed on 27/04/2020

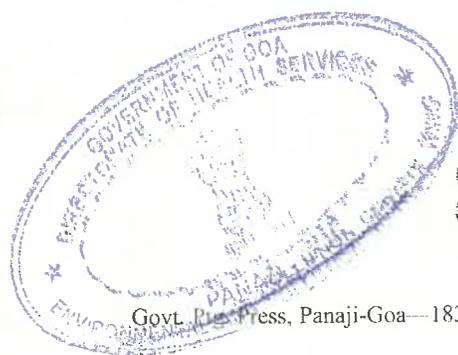
Sampling Point/Source: ..... Treated water

To determine: ..... As below

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.5 ( Boiled & Cooled )	7.1	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 68.6	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 55.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 8.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 15.0	200.0
10	Chlorides as Cl-	mg/l 99.4	250.0
11	Sulphate as SO <sub>4</sub> --	mg/l 1.1	200.0
12	Nitrates as NO <sub>3</sub> -	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> -	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l Nil	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 8.5	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



Seen:

*(Signature)*  
 ( Mrs. V.S. Kunkollencar )  
 Sr. Scientific Assistant

Analyst.

*(Signature)*  
 ( Satish Gopal Gawas )  
 Sr. Laboratory Technician



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCWI/1907/2019-20

Date : ..... 03/3/20  
 Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 18/02/2020  
 ..... 18/02/2020 analytical work completed 25/02/2020  
 Received/Collected on: ..... Treated water  
 Sampling Point/Source: ..... As below  
 To determine: .....

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	6.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	180.0 mg/l	500.0
7	Total Hardness as CaCO <sub>3</sub>	46.0 mg/l	300.0
8	Calcium as Ca <sup>++</sup>	10.8 mg/l	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	20.0 mg/l	200.0
10	Chlorides as Cl <sup>-</sup>	81.6 mg/l	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	1.6 mg/l	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	Nil mg/l	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	Nil mg/l	Nil
14	Oxidability - 4 hrs.	0.6 mg/l	2.0
15	Iron as Fe <sup>++</sup>	0.05 mg/l	0.3
16	Manganese as Mn <sup>++</sup>	Nil mg/l	0.1
17	Magnesium as Mg <sup>++</sup>	4.6 mg/l	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

*Venkatesh*  
 ( Mrs. V.S. Kunkolencar )  
 Sr. Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/186h/2019-20

Date : ..... 18/2/20  
 Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref No. Nil dated 29/01/2020  
 ..... 29/01/2020 analytical work completed 07/02/2020

Received/Collected on: .....  
 Treated water

Sampling Point/Source: .....  
 As below

To determine: .....

Sr.No.	Determination ANALYSIS	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	6.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 194.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 50.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 10.4	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 25.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 88.7	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l 2.0	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l 0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 5.8	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*V. S. Kunkoliencar*  
 ( Mrs. V. S. Kunkoliencar )  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 1711 /2019-20

Date: 21/1/20  
Water

**SAMPLE ANALYSED**

Referred by: The Mines Manager, Pomento Resources Pvt. Ltd, 325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref No. Nil dated 24/12/2019

Received/Collected on: 24/12/2019 analytical work completed 06/01/2020  
Treated water

Sampling Point/Source: AS BEING

To determine: .....

Sr.No.	Determination	ANALYSIS	Results	Limits
1	Appearance		Clear	Clear
2	Colour		Colourless	Colourless
3	Odour		Inoffensive	Inoffensive
4	pH		6.8	6.5 - 8.5
5	Turbidity NTU		1.0	5.0
6	Total Dissolved Solids	mg/l	226.2	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l	48.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l	12.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l	117.1	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l	1.3	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l	Nil	Nil
14	Oxidability - 4 hrs.	mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l	0.09	0.3
16	Manganese as Mn <sup>++</sup>	mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l	4.37	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

Analyst,

*(Mrs. V.S. Kunkoliencar)*  
Scientific Assistant

*(Satish G. Gawas)*

Operary Technician





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/1583 /2019-20

Date: 24/12/19  
Water

**SAMPLE ANALYSED**

The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.

Referred by: ..... 335, 2nd Floor, Casa Del Sol, Miramar, Goa. Ref. No. NW dated 27/11/2019

..... 27/11/2019 analytical work completed 06/12/2019

Received/Collected on: ..... treated water

Sampling Point/Source: ..... as below

To determine: .....

Sr.No.	Determination	Results	Limits
1	Appearance ANALYSIS	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	7.7	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	177.0	500.0
7	Total Hardness as CaCO3 mg/l	50.0	300.0
8	Calcium as Ca++ mg/l	9.6	75.0
9	Total Alkalinity as CaCO3 (Methyl Orange) mg/l	20.0	200.0
10	Chlorides as Cl- mg/l	78.1	250.0
11	Sulphate as SO4-- mg/l	1.5	200.0
12	Nitrates as NO3- mg/l	Nil	45.0
13	Nitrite as NO2- mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe++ mg/l	Nil	0.3
16	Manganese as Mn++ mg/l	Nil	0.1
17	Magnesium as Mg++ mg/l	6.3	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*Ventaleca*  
 ( Mrs. V.S. Kunkoliencar )  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No. PCW/1383/2019-20

Date: 19/11/19  
 Water

**SAMPLE ANALYSED**

Fomento Resources Pvt. Ltd, 325, 2nd Floor, Casa Del Sol, Miramar-Goa.

Referred by: Ref No: Nil dated 22/10/2019

22/10/2019 analytical work completed 11/11/2019

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine: .....

Sl.No.	Determination	ANALYSIS	Results	Limits
1	Appearance		Clear	Clear
2	Colour		Colourless	Colourless
3	Odour		Inoffensive	Inoffensive
4	pH 5.6		6.5	6.5 - 8.5
5	Turbidity NTU		1.0	5.0
6	Total Dissolved Solids	mg/l	193.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l	45.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l	11.6	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l	25.0	200.0
10	Chlorides as Cl-	mg/l	92.3	250.0
11	Sulphate as SO <sub>4</sub> --	mg/l	1.1	200.0
12	Nitrates as NO <sub>3</sub> -	mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> -	mg/l	Nil	Nil
14	Oxidability - 4 hrs.	mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l	3.0	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen: [Signature]  
 ( Mrs. V.S. Kunkoliencar )  
 Scientific Assistant

Analyst: [Signature]  
 ( Satish G. Gawas )  
 Laboratory Technician





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/1262 /2019-20

Date : ..22/10/19.....  
 Water

**SAMPLE ANALYSED**

Referred by: ..... The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 24/09/2019  
 ..... 24/09/2019 analytical work completed 03/10/2019  
 Received/Collected on: ..... (reated water)  
 Sampling Point/Source: ..... AS below  
 To determine: .....

Sr.No.	Determination ANALYSIS	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.9 (Boiled & Cooled)	7.8	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	152.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	35.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	8.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	35.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	71.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup> mg/l	0.8	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	3.6	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*(Signature)*  
 ( Mrs. V.S. Kunkolencar )  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/1385 /2019-20

Date : 19/11/19  
 Water

**SAMPLE ANALYSED**

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 27/08/2019  
 ..... 27/08/2019 analytical work completed 10/09/2019

Received/Collected on: ..... Treated water

Sampling Point/Source: ..... AS BELOW

To determine: .....

Sr.No.	Determination ANALYSIS	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.8 (Boiled & Cooled)	8.0	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	231.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	55.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	10.8	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	35.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	110.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	1.2	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	6.8	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*V. S. Kunkoliencar*  
 ( Mrs. V. S. Kunkoliencar )  
 Sr. Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No. EPCW/ 678 /2019-20

Date : 23/7/19

Water

**SAMPLE ANALYSED**

Fomento Resources Pvt. Ltd, 325, 2nd Floor, Casa Del Sol, Miramar-Goa.

Referred by: ..... Ref. No: Nil dated 02/07/2019

..... 02/07/2019 analytical work completed 15/07/2019

Received/Collected on: ..... / treated water

Sampling Point/Source: ..... As below

To determine: .....

Sl.No.	Determination	ANALYSIS	Results	Limits
1	Appearance		Clear	Clear
2	Colour		Colourless	Colourless
3	Odour		Inoffensive	Inoffensive
4	pH		6.5	6.5 - 8.5
5	Turbidity NTU		1.0	5.0
6	Total Dissolved Solids	mg/l	95.8	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l	67.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l	16.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l	50.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l	17.7	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l	1.1	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l	Nil	Nil
14	Oxidability - 4 hrs.	mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l	0.04	0.3
16	Manganese as Mn <sup>++</sup>	mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l	6.56	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

*(Signature)*  
 (Mrs. V.S. Kunkolencar)  
 Sr. Scientific Assistant

Analyst,

*(Signature)*  
 ( Satish G. Gawas)  
 Laboratory Technician







GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 336 /2019-20

Date : 28/5/19

Water

**SAMPLE ANALYSED**

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt.Ltd 325, 2nd Floor, Casa Del Sol, Miramar, Goa. Ref.No.NII dated 29/04/2019

Received/Collected on: ..... 29/04/2019 analytical work completed on 14/05/2019

Sampling Point/Source: ..... Treated Water

To determine: ..... As below

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	7.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	155.5	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	48.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	16.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	75.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	106.5	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	1.0	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	0.4	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	1.9	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

seen :

Analyst :

*(Mrs. V. S. Kunkolentar)*  
 Sr. Scientific Assistant

*(Satish G. Gawas)*  
 Laboratory Technician



17/04/19



GOVERNMENT OF GOA  
DIRECTORATE OF HEALTH SERVICES  
ENVIRONMENTAL AND POLLUTION CONTROL WING  
PANAJI-GOA

Reg. No.: EPCW/ 174 /2019-20

Date: 30/4/19  
Water

SAMPLE ANALYSED

Referred by: The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd. 25, 2nd Floor, Casa Del Sol, Miramar, Goa. Ref No. Nil dated 01/04/2019  
Received/Collected on: 01/04/2019 analytical work completed on 06/04/2019  
Sampling Point/Source: Treated Water  
To determine: As below

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	6.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	162.5	500.0
7	Total Hardness as CaCO3 mg/l	45.0	300.0
8	Calcium as Ca++ mg/l	12.0	75.0
9	Total Alkalinity as CaCO3 (Methyl Orange) mg/l	70.0	200.0
10	Chlorides as Cl- mg/l	127.8	250.0
11	Sulphate as SO4-- mg/l	54.0	200.0
12	Nitrates as NO3- mg/l	0.7	45.0
13	Nitrite as NO2- mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe++ mg/l	0.05	0.3
16	Manganese as Mn++ mg/l	Nil	0.1
17	Magnesium as Mg++ mg/l	3.6	30.0

Remarks: The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

seen :

Analyst :

(Mrs. V. S. Kunkollencar)  
EPCW Assistant

*[Signature]*

(Santosh G. Gowas)  
EPCW Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 1823/2018-19

Date: 28/3/2019  
 Water

**SAMPLE ANALYSED**

Referred by: The Mines Manager, Kedi Iron Ore Mines, Homentto Resources Pvt. Ltd.  
 325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 26/02/2019  
 26/02/2019 analytical work completed 11/03/2019

Received/Collected on: Treated water

Sampling Point/Source: AS below

To determine:

Sr.No.	Determination	ANALYSIS	Results	Limits
1	Appearance		Clear	Clear
2	Colour		Colourless	Colourless
3	Odour		Inoffensive	Inoffensive
4	pH		7.4	8.5 - 8.5
5	Turbidity NTU		1.0	5.0
6	Total Dissolved Solids	mg/l	243.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l	60.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l	6.6	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l	50.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l	113.6	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l	1.8	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l	Nil	Nil
14	Oxidability - 4 hrs.	mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l	6.1	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*V. S. Kunkoliencar*  
 ( Mrs. V.S. Kunkoliencar )  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
ENVIRONMENTAL AND POLLUTION CONTROL WING  
PANAJI-GOA

EPCW/166K/2018-19

Reg. No.: .....

Date: 26/2/19

**SAMPLE ANALYSED**

The Mines Manager, Red Iron Ore Mines, Fomento Resources Pvt  
Referred by: 325 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil. dated 30/01/2019  
30/01/2019. analytical work completed 18/02/2019

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine: .....

Sr.No.	Determination	ANALYSIS	Results	Limit
1	Appearance		Clear	clear
2	Colour		Colourless	Colourless
3	Odour		Inoffensive	Inoffensive
4	pH 5.7 (Boiled & Cooled)		7.4	6.5 to 8.5
5	Turbidity NTU		1.0	5.0
6	Total Dissolved Solids	mg/l	255.0	500.0
7	Total Hardness as CaCO3	mg/l	60.0	300.0
8	Calcium as Ca++	mg/l	11.6	750.0
9	Total Alkalinity as CaCO3 (Methyl Orange)	mg/l	35.0	200.0
10	Chlorides as Cl-	mg/l	124.0	250.0
11	Sulphate as SO4--	mg/l	0.7	200.0
12	Nitrates as NO3-	mg/l	Nil	45
13	Nitrite as NO2-	mg/l	Nil	NIL
14	Oxidability - 4 hrs.	mg/l	0.8	2.6
15	Iron as Fe++	mg/l	0.05	0.3
16	Manganese as Mn++	mg/l	Nil	0.1
17	Magnesium as Mg++	mg/l	7.5	30

Remarks: The sample of water analysed confirm to the limits prescribed drinking water. The water therefore can be recommended for consumption after assessing its Bacteriological purity.

Seen:

(Dr. Vikarsh Betodkar)  
State Epidemiologist

Analyst:

( Satish G. Gawas  
Laboratory Technic





Jan-19

GOVERNMENT OF GOA  
DIRECTORATE OF HEALTH SERVICES  
ENVIRONMENTAL AND POLLUTION CONTROL WING  
PANAJI-GOA

Reg. No.: ..... EPCW/ 1502/2018-19

Date: ..... 22/1/19  
Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 08/01/2019

Received/Collected on: ..... 08/01/2019 analytical work completed 16/01/2019

Sampling Point/Source: ..... Treated water

To determine: ..... As below

Sl.No.	Determination	ANALYSIS	Results	Limits
1	Appearance		Clear	Clear
2	Colour		Colourless	Colourless
3	Odour		Inoffensive	Inoffensive
4	pH 5.4 (Boiled & Cooled )		8.0	6.5 - 8.5
5	Turbidity NTU		1.0	5.0
6	Total Dissolved Solids	mg/l	217.0	500.0
7	Total Hardness as CaCO3	mg/l	48.0	300.0
8	Calcium as Ca++	mg/l	18.8	75.0
9	Total Alkalinity as CaCO3 (Methyl Orange)	mg/l	25.0	200.0
10	Chlorides as Cl-	mg/l	106.5	250.0
11	Sulphate as SO4--	mg/l	1.3	200.0
12	Nitrates as NO3-	mg/l	Nil	45.0
13	Nitrite as NO2-	mg/l	Nil	Nil
14	Oxidability - 4 hrs.	mg/l	0.6	2.0
15	Iron as Fe++	mg/l	0.05	0.3
16	Manganese as Mn++	mg/l	Nil	0.1
17	Magnesium as Mg++	mg/l	0.2	30.0

Remarks: The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*Venkatesh*  
( Mrs.V.S.Kunkolencar )  
Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 1500 /2018-19

Date: 22/1/19  
 Water

**SAMPLE ANALYSED**

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd floor, Casa Dei Sol, Miramar-Goa. Ref.No. Nil dated 31/12/2018

Received/Collected on: ..... 31/12/2018 analytical work completed 08/01/2019

Sampling Point/Source: ..... Treated water

To determine: ..... As below

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.8 (Boiled & Cooled)	8.2	8.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	202.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	50.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	8.8	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	35.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	92.3	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.7	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	6.8	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*V. S. Kunkoliencar*  
 ( Mrs. V.S. Kunkoliencar )  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/1364/2018-19

Date: 04/11/19  
 Water

**SAMPLE ANALYSED**

The Mines Manager, Kedi Iron Ore Mines, Lomanto Resources Pvt. Ltd.

Referred by: 325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref No. Nil dated 30/11/2018  
30/11/2018 analytical work completed 10/12/2018

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine: .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	8.5	8.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 229.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 54.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 11.6	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 35.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 110.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l 1.0	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l 0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 6.1	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

*V. S. Kunkoliencar*  
 ( Mrs. V. S. Kunkoliencar )  
 Sr. Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 1360 /2018-19

Date: 04/11/19  
 Water

**SAMPLE ANALYSED**

The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.

Referred by: ..... 325 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 31/10/2018  
 ..... 31/10/2018 analytical work completed 05/11/2018

Received/Collected on: ..... Treated water

Sampling Point/Source: ..... As below

To determine: .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	6.8	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 276.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 57.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 12.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 25.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 138.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup>	mg/l 2.5	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l 0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 6.6	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*V. S. Kunkoliencar*  
 ( Mrs. V.S.Kunkoliencar )  
 Sr. Scientific Assistant

Sep-018



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/1208/2018-19

Date: 30/11/2018  
 Water

SAMPLE ANALYSED  
 The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.

Referred by: 325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref No. Nil dated 03/10/2018  
 05/10/2018 analytical work completed 12/10/2018

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine:

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	6.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	289.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	60.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	15.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	45.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	145.4	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.5	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	5.3	30.0

Remarks: The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*(Signature)*  
 (Mrs. V.S. Kunkoliencar)  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 870 /2018-19

Date: 11/9/18  
 Water

SAMPLE ANALYSED

The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.

Referred by: 325 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 29/08/2018

29/08/2018 analytical work completed 06/09/2018

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine:

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.6 (Boiled & Cooled)	7.9	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	297.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	73.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	13.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	65.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	142.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.7	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	9.7	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

(Dr. Utkarsh Betodkar)  
 State Epidemiologist

Analyst:

(Mrs. V.S. Kunkolencar)  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 802 /2018-19

Date: 21/8/18  
 Water

SAMPLE ANALYSED

The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.

Referred by: 325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref No. Nil dated 30/07/2018  
30/07/2018 analytical work completed 08/08/2018

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine: .....

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	6.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	206.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	32.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	7.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	110.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup> mg/l	1.0	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	3.4	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



Seen:

( Dr. Utkarsh Betodkar )  
 State Epidemiologist

Analyst.

( Mrs. V.S. Kunkoliencar )  
 Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
**ENVIRONMENTAL AND POLLUTION CONTROL WING**  
**PANAJI-GOA**

Reg. No.: ..... EPCW/ 710 /2018-19

Date: 24/1/18  
 Water

**SAMPLE ANALYSED**

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Promonto Resources Pvt. Ltd.  
 325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 28/06/2018  
 ..... 28/06/2018 analytical work completed 06/07/2018

Received/Collected on: .....

Sampling Point/Source: ..... Treated water

To determine: ..... As below

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	7.1	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	297.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	63.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	13.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	149.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	1.0	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	7.3	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



Seen:

( Dr. Utkarsh Betodkar )  
 State Epidemiologist

Analyst,

( Mrs. V.S. Kunkoliencar )  
 Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 553 /2018-19

Date: 29/6/18  
 Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 31/05/2018  
 .....  
 31/05/2018 analytical work completed 08/06/2018

Received/Collected on: ..... Treated water

Sampling Point/Source: ..... As below

To determine: .....

ANALYSIS

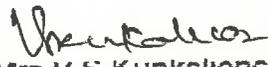
Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH 5.7 (Boiled & Cooled)	8.0	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	422.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	76.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	16.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	65.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	223.6	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	0.5	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.6	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	8.7	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

  
 (Dr. Utkarsh Betodkar)  
 State Epidemiologist

Analyst,

  
 (Mrs. V.S. Kunkoliencar)  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOIA

Reg. No.: ..... **EPCW/ 362 /2017-18**

Date: ..... **25/5/18**  
**Water**

**SAMPLE ANALYSED**

Referred by: ..... **The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.**  
**325, 2nd Floor, Casa Dei Sol, Miramar-Goa. Ref.No. Nil dated 26/04/2018**  
 ..... **26/04/2018 analytical work completed 07/05/2018**

Received/Collected on: ..... **Treated water**

Sampling Point/Source: ..... **As below**

To determine: .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour	Colourless	Colourless
3	Odour	Inoffensive	Inoffensive
4	pH	7.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 410.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 78.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 20.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 20.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 215.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup>	mg/l 0.3	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l Nil	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 6.8	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

(Dr. Utkarsh Betodkar)  
 State Epidemiologist

Analyst.

( Mrs. V.S. Kunkoliencar )  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... **EPCW/ 87 /2018-19**

Date: **13/4/18**  
 Water

SAMPLE ANALYSED

Referred by: ..... **The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt. Ltd.**  
**325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 26/03/2018**

..... **26/03/2018 analytical work completed 05/04/2018**

Received/Collected on: ..... **Treated water**

Sampling Point/Source: ..... **AS BELOW**

To determine: .....

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.6	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 273.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 70.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 13.6	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 35.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 127.8	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l 0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 8.7	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

(Dr. Utkarsh Betodkai  
 State Epidemiologist

Analyst,

( Mrs. V.S. Kunkolencar )  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 1708 /2017-18

Date: 16/3/18  
 Water

**SAMPLE ANALYSED**

The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.

Referred by: ..... 325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 23/02/2018  
 ..... 23/02/2018 analytical work completed 07/03/2018

Received/Collected on: ..... Treated water

Sampling Point/Source: ..... As below

To determine: .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	7.3	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	156.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	30.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	10.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	50.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	78.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	1.2	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

(Dr. Utkarsh Betodkar)  
 State Epidemiologist

Analyst,

(Mrs. V.S. Kunkoliencar)  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/1568/2017-18

Date: 16/2/18  
 Water

**SAMPLE ANALYSED**

Referred by: The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 24/01/2018

Received/Collected on: 24/01/2018 analytical work completed 05/02/2018  
 Treated water

Sampling Point/Source: As below

To determine:

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.6	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 159.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 37.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 8.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 15.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 82.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.6	2.0
15	Iron as Fe <sup>++</sup>	mg/l 0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 4.1	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

(Dr. Utkarsh Betodkar)  
 State Epidemiologist

Analyst,

(Mrs. V.S. Kunkoliencar)  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/ 1411 /2017-18

Date: 12/1/18  
 Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
 325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref. No. Nil dated 26/12/2017

Received/Collected on: ..... 26/12/2017 analytical work completed 05/01/2018

Sampling Point/Source: ..... Treated water

To determine: ..... As below

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	7.3	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	154.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	48.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	6.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	64.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	0.05	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	8.0	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



Seen:

*Doutinho*

( Mrs. T. Coutinho )

Sr. Scientific Assistant

Analyst,

*Kunkoliencar*

( Mrs. V. S. Kunkoliencar )

Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/1354/2017-18

Date: 05/11/18

Water

SAMPLE ANALYSED

Referred by: The Mines Manager, Redi Iron ore Mines Fomento Resources Logistics Pvt Ltd,  
Miramar, Ref. No. Nil dated 24/11/2017

Received/Collected on: 24/11/2017 analytical work completed 07/12/2017

Sampling Point/Source: (C) Treated water

To determine: As below

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	inoffensive	inoffensive
4	pH	7.4	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	186.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	84.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	18.4	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	53.3	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup> mg/l	12.8	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	9.2	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity



*T. Goutinho*  
 ( Mrs. T. Goutinho )  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: ..... EPCW/1135/2017-18

Date: ..... 10/11/17

Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Redi Iron ore Mines, Fomento Resources Pvt. Ltd.  
Miramar, Ref. No. Nil dated 24/10/2017

Received/Collected on: ..... 24/10/2017 analytical work completed 07/11/2017

Sampling Point/Source: ..... (C) Treated water

To determine: ..... As below

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.5	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 92.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 19.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 12.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 15.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 39.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l 0.7	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.8	2.0
15	Iron as Fe <sup>++</sup>	mg/l Nil	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l Nil	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.



*(Signature)*  
 (Mrs. T. Coutinho)  
 Sr. Scientific Assistant



GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 976 /2017-18

Date: 10/10/17  
 Water

SAMPLE ANALYSED

Referred by: The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 26/09/2017  
26/09/2017 analytical work completed 06/10/2017

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine: .....

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.8	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l 109.0	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l 18.0	300.0
8	Calcium as Ca <sup>++</sup>	mg/l 3.6	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l 20.0	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l 54.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l Nil	Nil
14	Oxidability - 4 hrs.	mg/l 0.8	2.0
15	Iron as Fe <sup>++</sup>	mg/l 0.05	0.3
16	Manganese as Mn <sup>++</sup>	mg/l Nil	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l 2.2	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

Analyst,

*T. Coutinho*

( Mrs. T. Coutinho )

Sr. Scientific Assistant

*V.S. Kunkoliencar*

( Mrs. V.S. Kunkoliencar )

Scientific Assistant



GOVERNMENT OF GOA  
DIRECTORATE OF HEALTH SERVICES  
ENVIRONMENTAL AND POLLUTION CONTROL WING  
PANAJI-GOA

Reg. No.: EPCW/ 881 /2017-18

Date: 12/9/17  
Water

SAMPLE ANALYSED

Referred by: The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 22/08/2017

Received/Collected on: 22/08/2017 analytical work completed 08/09/2017

Sampling Point/Source: Treated water

To determine: As below

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.9	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	169.0	500.0
7	Total Hardness as CaCO3 mg/l	26.0	300.0
8	Calcium as Ca++ mg/l	6.4	75.0
9	Total Alkalinity as CaCO3 (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl- mg/l	88.8	250.0
11	Sulphate as SO4-- mg/l	1.0	200.0
12	Nitrates as NO3- mg/l	Nil	45.0
13	Nitrite as NO2- mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe++ mg/l	0.05	0.3
16	Manganese as Mn++ mg/l	Nil	0.1
17	Magnesium as Mg++ mg/l	2.4	30.0

Remarks: The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:  
  
( Mrs. T. Coutinho )  
Sr. Scientific Assistant

Analyst,  
  
( Mrs. V.S. Kunkoliencar )  
Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/ 743 /2017-18

Date: 11/8/17  
 Water

SAMPLE ANALYSED

The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.

Referred by: 325 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 31/07/2017

31/07/2017 analytical work completed 07/08/2017

Received/Collected on: Treated water

Sampling Point/Source: As below

To determine: .....

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	7.3	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	172.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	29.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	6.4	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	25.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	89.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	3.2	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

*Coutinho*

( Mrs. T. Coutinho )  
 Sr. Scientific Assistant

Analyst:

*Kunkoliencar*

( Mrs. V.S. Kunkoliencar )  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No.: EPCW/592/2017-18

Date: 14/7/17

Water

SAMPLE ANALYSED

Referred by: The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.

325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 28/06/2017

28/06/2017 analytical work completed 07/07/2017

Received/Collected on: .....

Treated water

Sampling Point/Source: .....

As below

To determine: .....

ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.7	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids	mg/l	500.0
7	Total Hardness as CaCO <sub>3</sub>	mg/l	300.0
8	Calcium as Ca <sup>++</sup>	mg/l	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange)	mg/l	200.0
10	Chlorides as Cl <sup>-</sup>	mg/l	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup>	mg/l	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup>	mg/l	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup>	mg/l	Nil
14	Oxidability - 4 hrs.	mg/l	2.0
15	Iron as Fe <sup>++</sup>	mg/l	0.3
16	Manganese as Mn <sup>++</sup>	mg/l	0.1
17	Magnesium as Mg <sup>++</sup>	mg/l	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

Analyst.

*(Handwritten Signature)*

(Mrs. T. Coutinho)  
Sr. Scientific Assistar

*(Handwritten Signature)*

(Mrs. V.S. Kunkoliencar)  
Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
ENVIRONMENTAL AND POLLUTION CONTROL WING  
PANAJI-GOA

Reg. No. : ..... EPCW/415/2015-16Date : 16/6/2017  
Water

## SAMPLE ANALYSED

Referred by : ..... The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 30/05/2017Received/Collected on : ..... 30/05/2017 analytical work completed 07/06/2017Sampling Point/Source : ..... Treated waterTo determine : ..... As below

## ANALYSIS

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH 5.8(Boiled & Cooled)	7.4	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	128.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	22.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	2.8	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	20.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	64.0	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	3.6	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

*(Signature)*  
( Mrs. T. Coutinho )  
Scientific Assistant

Analyst,

*(Signature)*  
( Mrs. V.S. Kunkoliencar )  
Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
**ENVIRONMENTAL AND POLLUTION CONTROL WING**  
**PANAJI-GOA**

Reg. No. : ..... EPCW/235/2017-18

Date : 12/5/17  
 Water

**SAMPLE ANALYSED**

Referred by : ..... The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 28/04/2017  
 ..... 28/04/2017 analytical work completed on 08/05/2017  
 Received/Collected on : .....  
 Sampling Point/Source : ..... Treated water  
 ..... As below  
 To determine : .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.6	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	182.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	40.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	6.0	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	30.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	88.8	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup> mg/l	Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	6.1	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human / consumption after assessing its Bacteriological purity.

Seen:

*T. Coutinho*

( Mrs. T. Coutinho )  
 Sr. Scientific Assistant

Analyst.

*V.S. Kunkoliencar*

( Mrs. V.S. Kunkoliencar )  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No. : EPCW/110/2017-18

Date : 18/11/17  
 Water

**SAMPLE ANALYSED**

Referred by : The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 03/04/2017

03/04/2017 analytical work completed 10/04/2017

Received/Collected on : Treated water

Sampling Point/Source : As below

To determine : .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	7.0	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	92.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	14.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	3.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	30.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	46.2	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	1.5	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

*(Signature)*  
 (Mrs. T. Coutinho)  
 Sr. Scientific Assistant

Analyst,

*(Signature)*  
 (Mrs. V.S. Kunkoliencar)  
 Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No. : EPCW/1695/2016-17

Water Date : 12/3/2017

**SAMPLE ANALYSED**

Referred by : The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref No. Nil dated 28/02/2017

01/03/2017 analytical work completed 08/03/2017

Received/Collected on : Treated Water

Sampling Point/Source : As below

To determine : .....

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.9	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	86.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	13.0	300.0
8	Calcium as Ca <sup>++</sup> mg/l	3.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	20.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	42.6	250.0
11	Sulphate as SO <sub>4</sub> <sup>--</sup> mg/l	1.0	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	1.2	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

*(Signature)*

( Mrs. T. Coutinho )

Sr. Scientific Assistant

Analyst,

*(Signature)*

( Mrs. V.S. Kunkoliencar )

Scientific Assistant





GOVERNMENT OF GOA  
**DIRECTORATE OF HEALTH SERVICES**  
 ENVIRONMENTAL AND POLLUTION CONTROL WING  
 PANAJI-GOA

Reg. No. : EPCW/1467/2016-17

Water Date : 10/2/17

**SAMPLE ANALYSED**

Referred by : The Mines Manager, Redi Iron Ore Mines, Fomento Resources Pvt. Ltd.  
325, 2nd Floor, Casa Del Sol, Miramar-Goa. Ref.No. Nil dated 30/01/2017

30/01/2017 analytical work completed 06/02/2017

Received/Collected on : Treated water

Sampling Point/Source : As below

To determine :

**ANALYSIS**

Sr.No.	Determination	Results	Limits
1	Appearance	Clear	Clear
2	Colour (Hazen Units)	1.0	5.0
3	Odour	Inoffensive	Inoffensive
4	pH	6.9	6.5 - 8.5
5	Turbidity NTU	1.0	5.0
6	Total Dissolved Solids mg/l	107.0	500.0
7	Total Hardness as CaCO <sub>3</sub> mg/l	14.0	300.0
8	Caicum as Ca <sup>++</sup> mg/l	3.2	75.0
9	Total Alkalinity as CaCO <sub>3</sub> (Methyl Orange) mg/l	20.0	200.0
10	Chlorides as Cl <sup>-</sup> mg/l	56.8	250.0
11	Sulphate as SO <sub>4</sub> <sup>-</sup> mg/l	Nil	200.0
12	Nitrates as NO <sub>3</sub> <sup>-</sup> mg/l	Nil	45.0
13	Nitrite as NO <sub>2</sub> <sup>-</sup> mg/l	Nil	Nil
14	Oxidability - 4 hrs. mg/l	0.8	2.0
15	Iron as Fe <sup>++</sup> mg/l	Nil	0.3
16	Manganese as Mn <sup>++</sup> mg/l	Nil	0.1
17	Magnesium as Mg <sup>++</sup> mg/l	1.5	30.0

**Remarks:** The sample of water analysed confirm to the limits prescribed for drinking water. The water therefore can be recommended for human consumption after assessing its Bacteriological purity.

Seen:

*(Signature)*

( Mrs. T. Coutinho )  
 Sr. Scientific Assistant

Analyst,

*(Signature)*

( Mrs. V. S. Kunkoliencar )  
 Scientific Assistant



Format - 4

**Annexure R-26 960**

**Senior Geologist Ground Water Survey And Development Agency, Sindhudurg**  
Sub Divisional Laboratory Sawantwadi  
**Bacteriological Water Sample Testing Report**



E- Mail : sdlswadi@gmail.com

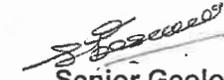
Telephone :273443

Sender Name : FOMENTO RESOURCES PRIVATE SAMPLE Redi, Taluka : Vengurla, Dist : Sindhudurg

Sender Ref. Letter No. & Date : - , Date - 06.02.2020

Outward No & Date : GSDA/SWD/BACT/33. DATE : 13.02.2020

Sr. No.	Grampanchyat Name	Habitation Name	Source Location	Source Type	Source Code No.	Sample Collection Date & Time	Sample Analysis Date	Redidual Clorine	E-Coli	Total Coliform	Fit / Unfit for Drinking	Remark
1	2	3	4	5	6	7	8	9	10	11	12	13
1	REDI	REDI	TREATED WATER	PWS	-	07.02.2020	07.02.2020	0.5	0	0	FIT	

  
**Senior Geologist**  
**GSDA Sindhudurg**

## महाराष्ट्र राज्य सार्वजनिक आरोग्य सेवा

राज्य / प्रादेशिक / जिल्हा आरोग्य प्रयोगशाळा, सिंधुदुर्ग ..... दूरध्वनी क्रमांक ०२३६२  
२२४१२२

## पाणी नमुन्याचा सूक्ष्मजीवीय अहवाल

प्रति,

फोर्मेन्स रिमोसेस प्रायव्हेट लिमिटेड मु.पो.नेडी ता.वेणुवे  
जि.सिंधुदुर्ग.

पाठविणाऱ्यांचे पत्र क्रमांक व दिनांक :- - ०६-०२-२०२०

प्रयोगशाळा संदर्भ क्रमांक :- ३७०३-३७०४.

नमुना घेतल्याचा दिनांक :- ०६-०२-२०२०

नमुना पोहचल्याचा दिनांक :- ॥परीक्षण सुरु केल्याचा दिनांक :- ॥

अ. क्र.	नमुन्याचे विवरण	परीक्षणाचे निष्कर्ष			इतर अभिप्राय
		प्रती १०० मि.ली. नमुन्यातील संभाव्य सूक्ष्मजंतूची संख्या			
		कोलीफॉर्मस	थर्मोटॉलरंट कोलीफॉर्मस	इ. कोलाय	
*	पाणी नमुने क्रं. १ ते २ (Treated water).	०	-	-	पिण्यास योग्य.

अभिप्राय : पिण्यास अयोग्य पाण्यावर योग्य प्रमाणात क्लोरिनची प्रक्रिया केल्यानंतर व सूक्ष्मजीवीय पुनतपोसणामुळे पिण्यास योग्य असल्याची खात्री झाल्यानंतरच ते पाणी पिण्यासाठी वापरता येईल.

अहवाल क्रमांक : १२/६४५/१२/०२/२०२०

अभिप्राय तारेने कळविल्याचा दिनांक :

प्रत सादर :

- (१) जिल्हा आरोग्य अधिकारी, जिल्हा परिषद, जिल्हा .....
- (२) शल्यचिकित्सक, जिल्हा रुग्णालय, जिल्हा .....
- (३) गटविकास अधिकारी, पंचायत समिती .....

मुख्य अणुजीव शास्त्रज्ञ  
जिल्हा सार्वजनिक आरोग्य  
प्रयोगशाळा सिंधुदुर्ग

मुख्य अणुजीव शास्त्रज्ञ, जि.सा.आ.प्र.शा.सिंधुदुर्ग  
आयक क्रमांक - ५०१/२०२०  
दिनांक - ४ FEB 2020



GOVERNMENT OF GOA  
DIRECTORATE OF HEALTH SERVICES  
ENVIRONMENTAL AND POLLUTION CONTROL WING  
PANAJI-GOA

Reg. No.: ..... EPCW/1867/2019-20

Date : ..... 18/2/20

Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt.Ltd, 325, 2nd floor, Casa Del Sol, Miramar, Goa. Ref.No. Nil dated 06/02/2020.

Received/Collected on: ..... 06/02/2020 analytical work completed on 14/02/2020.

Sampling Point/Source: ..... Treated water

To determine: ..... As below

ANALYSIS

BACTERIOLOGICAL EXAMINATION

Plate Count per ml at 37°C		30
Total Coliform Organisms	MPN/100ml	Nil

Remarks : The sample of water analysed is found free from Coliform organisms. The water therefore can be recommended for human consumption after assessing its chemical analysis..



( Mrs. V. S. Kunkoliencar )  
Sr. Scientific Assistant

CIN : U13209GA2010PTC006440

To,  
The Sarpanch,  
Gram Panchayat,  
Redi Village, Taluka Vengurla,  
District Sindhudurg, Maharashtra

25<sup>th</sup> February 2019

Sub: Drinking water

Ref:- 1. Your letter dated 01/01/2019 and 25/01/2019  
2. Bacteriological Analysis report of the water from the District Water and Sanitation Mission Cell/ District Council Sindhudurg dated 13/12/2018

Sir,

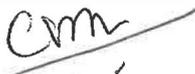
With reference to the above subject, we would like to state as below:-

1. The Water Treatment Plant at Redi Village, Taluka Vengurla and being maintained by us, Ms Fomento Resources Pvt Ltd. is state of art Reverse Osmosis Water treatment plant and is being operated by the ISO certified company 'Thermax. Thermax has its Global presence all over 86+ countries and has experts in energy waste water, water purification solutions.
2. As stated by you in your above referred letter at Para 2, we would like to state that the high-performance **reverse osmosis chemicals** and disinfectants are being used for purification of water.
3. We regularly clean the Water Source tank. As suggested by you the date of cleaning and the due date for cleaning of the tank is displayed on the tank. The same practice will be continued.
4. We have our in-house laboratory wherein we regularly check the quality of drinking water. We also send the water Samples for the analysis to Directorate of Health Services, Environmental & Pollution Control Wing, Panjim a Government Institution on monthly basis. The reports from Health Services are found satisfactory and water is recommended for human consumption. As required by you, we are submitting the water analysis report for the month of January 2019 attached herewith as Annexure I.

This is for your information and records.

Thanking you

Yours faithfully,



FOMENTO RESOURCES PRIVATE LIMITED

Office 325, 2 nd Floor, Casa Del Sol, Casa III, Next to Goa Marriott, Miramar, Goa - 403001, INDIA  
Tal : +91 832 6658484 Fax ; +91 832 6658400 Email : fomento@fomento.com Website : www.fomento.com

Handwritten notes and stamps on the left side of the page, including a date stamp '04/03/19' and a stamp from 'लिपिका, ग्रामपंचायत रेडी, ता. वेंगुर्ला, जि. सिंधुदुर्ग'.

To,  
The Gram Panchayat,  
Village Redi, Taluka Vengurla,  
District Sindhudurg, Maharashtra

29<sup>th</sup> Feb 2020

Sub:-Regarding the supply of Drinking water

Ref: - Your letter no. 1292, dated 01/02/2020

Dear Sir,

We are in receipt of your above referred letter forwarded to us by Infrastructute Logistics Pvt Ltd. In this regard, we would like to state as under:

1. As you are aware, we take utmost care in the treatment of the water in the State of Art of Reverse Osmosis Water Treatment Plant and its supply to the Village Panchayat.

We also regularly take the water sample (at the outlet of the WTP) for the water quality monitoring. It is always found fit for the drinking purpose.

3. Upon receipt of your above referred letter, water samples were drawn from the outlet of Water Treatment Plant in the presence of your representative and Officer of the Primary Health Centre, Redi on 6<sup>th</sup> February 2020.

We have sent the above collected water samples to following three different Government Authorities for analysis:-

1. Maharashtra State Public Health Services, Department of Public Health , Govt. Maharashtra, Oras,
2. Senior Geologists Ground Water Survey and Development Agency, Sindhudurg, Sub Divisional Laboratory, Sawantwadi, Department of Water Supply and Sanitation, Maharashtra

FOMENTO RESOURCES PRIVATE LIMITED

Office 325, 2 nd Floor, Casa Del Sol, Casa III, Next to Goa Marriott, Miramar, Goa - 403001, INDIA  
Tal : +91 832 6658484 Fax ; +91 832 6658400 Email : fomento@fomento.com Website : www.fomento.com

2/3/2020  
2/3/2020  
02/03/2020  
02/03/2020  
99100  
2/03/2020  
11.00 PM

3. Directorate of Health Services, Govt. of Goa, Panaji - Goa

All the water Analysis reports analysed and reported by all the above mentioned laboratories tested for all the parameters of water samples are found well within the permissible limits and the authorities certified that water is fit for drinking purpose.

The water Analysis reports analysed by the different authorities are enclosed herewith for your kind perusal.

We extend our full cooperation to maintain the transparency and continue our services to supply the safe drinking water to the village.

Thank you and Regards

Thank you,

Yours Faithfully

*Beard Jy*



Encl: as mentioned above

CC:-1. Block Development Officer, Panchayat Samiti, Vengurla

2. Taluka Health Officer, Vengurla

3. Medical Officer, Primary Health Centre, Redi

Format - 4

966

Senior Geologist Ground Water Survey And Development Agency, Sindhudurg  
Sub Divisional Laboratory Sawantwadi  
Bacteriological Water Sample Testing Report



E- Mail : sdlswadi@gmail.com

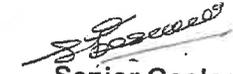
Sendor Name : FOMENTO RESOURCES PRIVATE SAMPLE Redi, Taluka : Vengurla, Dist : Sindhudurg

Telephone :273443

Sendor Ref. Letter No. & Date : - , Date - 06.02.2020

Outward No & Date : GSDA/SWD/BACT/33. DATE : 13.02.2020

Sr. No.	Grampanchayat Name	Habitation Name	Source Location	Source Type	Source Code No.	Sample Collection Date & Time	Sample Analysis Date	Redidual Clorine	E-Coli	Total Coliform	Fit / Unfit for Drinking	Remark
1	2	3	4	5	6	7	8	9	10	11	12	13
1	REDI	REDI	TREATED WATER	PWS	-	07.02.2020	07.02.2020	0.5	0	0	FIT	

  
Senior Geologist  
GSDA Sindhudurg

## महाराष्ट्र राज्य सार्वजनिक आरोग्य सेवा

राज्य / प्रादेशिक / जिल्हा आरोग्य प्रयोगशाळा, सिंधुदुर्ग ..... दूरध्वनी क्रमांक ०२३६२  
२२४१२२

## पाणी नमुन्याचा सूक्ष्मजीवीय अहवाल

प्रति,

फोर्मेन्स रिमोसेस प्रायव्हेट लिमिटेड मु.पो.वेडी ता.वेडुळे  
जि.सिंधुदुर्ग.

पाठविणाऱ्यांचे पत्र क्रमांक व दिनांक :- - ०६-०२-२०२०

प्रयोगशाळा संदर्भ क्रमांक :- ३७०३-३७०४.

नमुना घेतल्याचा दिनांक :- ०६-०२-२०२०

नमुना पोहचल्याचा दिनांक :- ॥परीक्षण सुरु केल्याचा दिनांक :- ॥

अ. क्र.	नमुन्याचे विवरण	परीक्षणाचे निष्कर्ष			इतर अभिप्राय
		प्रती १०० मि.ली. नमुन्यातील संभाव्य सूक्ष्मजंतूची संख्या			
		कोलीफॉर्मस	थर्मोटॉलरंट कोलीफॉर्मस	इ. कोलाय	
*	पाणी नमुने क्रं. १ ते २ (Treated water).	०	-	-	पिण्यास योग्य.

अभिप्राय : पिण्यास अयोग्य पाण्यावर योग्य प्रमाणात क्लोरिनची प्रक्रिया केल्यानंतर व सूक्ष्मजीवीय पुनतपोसणामुळे पिण्यास योग्य असल्याची खात्री झाल्यानंतरच ते पाणी पिण्यासाठी वापरता येईल.

अहवाल क्रमांक : १२/६४५/१२/०२/२०२०

अभिप्राय तारेने कळविल्याचा दिनांक :

प्रत सादर :

- (१) जिल्हा आरोग्य अधिकारी, जिल्हा परिषद, जिल्हा .....
- (२) शल्यचिकित्सक, जिल्हा रुग्णालय, जिल्हा .....
- (३) गटविकास अधिकारी, पंचायत समिती .....

मुख्य अणुजीव शास्त्रज्ञ  
जिल्हा सार्वजनिक आरोग्य  
प्रयोगशाळा सिंधुदुर्ग

मुख्य अणुजीव शास्त्रज्ञ, जि.सा.आ.प्र.शा.सिंधुदुर्ग  
आयक क्रमांक - ५०१/२०२०  
दिनांक - ४ FEB 2020



GOVERNMENT OF GOA  
DIRECTORATE OF HEALTH SERVICES  
ENVIRONMENTAL AND POLLUTION CONTROL WING  
PANAJI-GOA

Reg. No.: ..... EPCW/1867/2019-20

Date : ..... 18/2/20

Water

SAMPLE ANALYSED

Referred by: ..... The Mines Manager, Kedi Iron Ore Mines, Fomento Resources Pvt.Ltd, 325, 2nd floor, Casa Del Sol, Miramar, Goa. Ref.No. Nil dated 06/02/2020.

Received/Collected on: ..... 06/02/2020 analytical work completed on 14/02/2020.

Sampling Point/Source: ..... Treated water

To determine: ..... As below

ANALYSIS

BACTERIOLOGICAL EXAMINATION

Plate Count per ml at 37°C		30
Total Coliform Organisms	MPN/100ml	Nil

Remarks : The sample of water analysed is found free from Coliform organisms. The water therefore can be recommended for human consumption after assessing its chemical analysis..



( Mrs. V. S. Kunkoliencar )  
Sr. Scientific Assistant

ना. नं. २९०

मंडळ कार्य: कार्यालय

ना. वेंगुर्ला

दि. - ०२।०८।२०२१

सन्धि

मा. लहरतीलपार खांदेव  
वेंगुर्ला

विषय - शिरिडा मंडळातील युवा वंद

असलिया गौण व प्रमुख खांदेमिपुन

पावसाच्या पाण्यामुळे केसय पाण्याच्या

खांद्यामुळे आपत्तीकारखी परिस्थिती

निर्माण होवू नये या दृष्टीने लपासर्गि

व्युत्पन्न अहवाल खांदेव व्युत्पन्न असले

वाकत

संयम. व्य. खानि डिस्क - १७ / नं. भाप / ३

खानि लपास / २०२१ / ००८ / ११११ /

३७९७ दि. ०२।०८।२०२१

सद्येव

दुपरिवत संयमस्य विषयास अनुसक्त

वेळी लुनयाळ खांद्या मध्ये मि. गौणिक मिनरल्स

या संदर्भात लाह खानिज दुखलन व वाहपुण्ड

लुनयाळ खांद्या असुन खांदेव खांदेव लपासर्गि

वेळी असना खांदेव खांदेव पावसाळ्या मध्ये वंद

असुन गाव मोजे गिरानके विशेष आर्दे नं. ५१,

५२, ५७, ५८ व लुनयाळ खांदेव नं. २६ मध्ये

लाह खानिजाच्या दुखलन्यामुळे लपास असलिया

नरेश पावसाभुळे परकी कोसळी, खाणनिरीक्षण माती  
 वर-व्यावर येणे करवा चरांचे लुगणाल आशा  
 प्रवारची शक्यता विरुद्ध येत नाही. नरेश  
 शिरीश मंडळालील स जांभ्या पुताशच्या गोंजखानिज  
 खाणनिरीक्षण वर-व्यावर खाण मध्ये परकी  
 कोसळी वर-व्यावर खाणनिरीक्षण शिबुलपुलन माती खाणनिरीक्षण  
 कोसळी येत नाही. नरेश कोसळी कोसळी  
 प्रवारचे लुगणाल दणारे नाही. नरेश आपले  
 परांतुपुत्रा पुढील योग्यती वर-व्यावर दणारे  
 शिबुलपुलन आहे

मे. ना. व्हावे.

  
 पडक अधिकारी  
 पडक-शिरोडा, ता वेंगुल

तहसिलदार कार्यालय वेंगुल  
 संकलन **REV 5978**  
 आवक दिनांक-03/11/2021  
 न. फा. वि. न. तह तहसिलदार

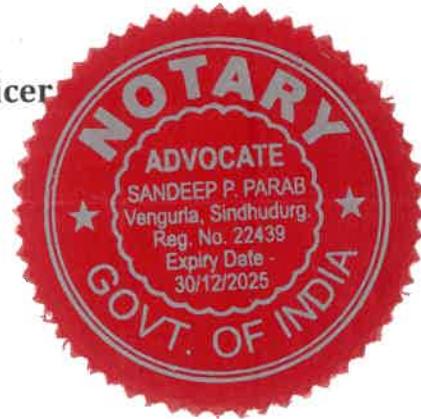


खरी नक्कल  
  
 तहसिलदार वेंगुल

अर्जदाराचे नाव-	गणेश गणेश
अर्जदाराची अर्जाची तारीख-	08/10/2021
नक्कल तयार केल्याची तारीख-	08/10/2021
नक्कल दिल्याची तारीख-	08/10/2021
नक्कल देणाऱ्याची सही-	
नक्कल फी-	१०००
कागद फी-	०५००
एकूण फी-	१५००

This document is noted at  
Sr. No. 92/2021  
In the Notarial Register

Outward No 290  
Office of Shiroda Circle Officer  
Tal-Vengurla  
Date-02/08/2021



To :-

The Tahasildar Saheb,  
Vengurla.

**Subject :- Submitting a report by carrying out inspection of working/ non-working Mines of minor or major Minerals, situated within the Circle of village Shiroda with a view that disaster-like conditions due to rain water as well as water storage should not be created.**

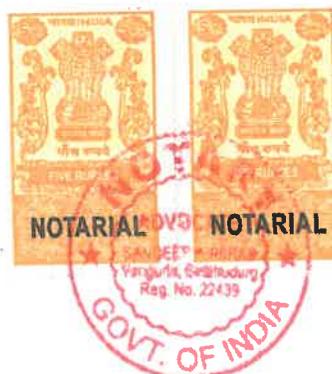
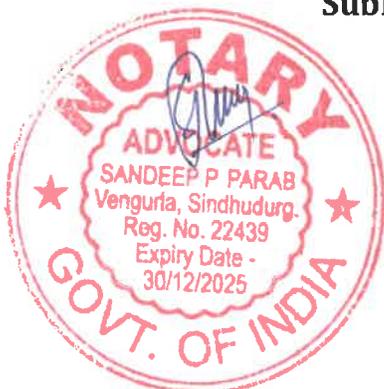
**Reference:- Letter No. Min Desk-17/N C/ Min Inspection/2021/ COLL MIN/3797 dated 30/07/2021.**

Respected Sir,

With reference to the abovesaid subject, it is submitted that at village-Redi in Kanyal Sajja there is Mine of M/s Gogate Minerals company which is being used for the excavation and transportation of Iron Ore and after carrying out inspection of the said Mine it is noticed that said Mine remains close during the rainy season and after carrying out inspection of a Pit which is created due to excavation of Iron Ore in S.No. 51,52,57,58 of village Mhartale and S.No.26 of village Kanyal it is found that there is no possibility of occurring any incident such as collapsing the surrounding area of said pit and of land sliding, spreading of soil from the mine on the way or damages to the houses due to rain. So also, the Minor Mineral Laterite-stone's Mines within the jurisdiction of Shiroda Circle are not working and there is no possibility of land sliding in said Mine or of causing damage to the agriculture land by coming out muddy-soil from the said Mine or there is no possibility of causing any other damage. Therefore, it is requested that further appropriate action may be taken as per your choice

*Translation*  
**Verified From Original**

Submitted with respects to Your Honour.



Attested by me

*Sandeep P. Parab*  
**SANDEEP PRADEEP PARAB**  
NOTARY  
VENGURLA, SINDHUDURG DISTRICT  
Govt. of India  
Near Sateri Mandir Vengurla, Tal. Vengurla,  
Dist. Sindhudurg, Maharashtra - 416516.

**GOGTE MINERALS**

146, TILAKWADI, BELGAUM - 590 006. (INDIA)

Date: 09-06-2020

To,  
Sarpanch,  
Gram Panchayat, Redi,  
Vengurla, Sindhudurg.

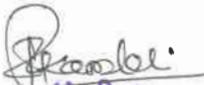
Sub:- Reply to the Gram Panchayat letter dated 03/06/2020 bearing no. 259/20/21

Ref: Application by Shri Mahadev Purushottam Marathe, R/o Kanyal, Redi, Taluka Vengurla, District Sindhudurg, dated 02/06/2020

Sir,

We have received your letter on 05/06/2020, bearing no 259/20/21 dated 03.06.2020 and upon perusal we would like to state as under:

1. The contents of your letter dated 03.06.2020, is denied by us, the way it is stated by your department.
2. Your letter mentions about the application being filed by Mr. Mahadev Marathe on 02/06/2020, the copy of the said application is not furnished to us along with your letter dated 03.06.2020, we therefore hereby seek the copy of the said application to enable us to respond to said application accordingly.
3. WITHOUT PREJUDICE to what is stated herein above, we hereby summarize, the true facts as below:
4. We hereby state the we are taking all necessary precautionary measures for diversion of rain water into the mine pit through series of garland drains and filtration channels. We deny the allegation made in the letter dated 03.06.2020.
5. We further states that with the help of effective and suitable protective measures, the surface runoffs from the entire catchment area including the dumps, stacks and haul roads within the mine is diverted into the Mine Pit.
6. We deny releasing the water from the open mine pit and dump directly into the Kanyal tank, therefore the question of water getting polluted because of collection of huge amount of mud into the Kanyal tank does not arise.
7. It is suffice to state that, we regularly analyse the water samples from Kanyal tank by a laboratory recognised by MoEF & CC. All the water samples including the water samples collected from Kanyal tank in the month of April and May

  
सिबीक  
प्राधिकावत रेडी  
शा. वेमुला, जि. सिंधुदुर्ग  
ता. १०/०६/२०२०  
OW

2020 are within the required standards and no contamination is found as per the report given by laboratory.

8. It is not out of the place to bring it to your notice that Mr. Marathe has been raising frivolous and unnecessary dispute against M/s Gogte Minerals. There are various legal proceedings initiated by Mr. Marathe, in the name of his father Mr. Purushottam Marathe, which are pending. The application made by Mr. Marathe is nothing but a vexatious complaint in the garb of a representation, which is made with ulterior motives and is completely malafide. Without prejudice to the content stated in the present para we hereby deny all the allegation made by Mr. Marathe in the application dated 02.06.2020 and reserves our right to file effective reply once the copy of the said application is furnished to us.
9. Regular precautionary measures are always taken by us before the on-set of monsoon and during the monsoon to avoid any untoward incidents,
10. We request your good office to kindly personally visit the site to ascertain the true picture of the situation and the precautionary measures undertaken by us in the interest of our village people at our mines.

Thanking you,

Yours faithfully,  
M/s Gogte Minerals

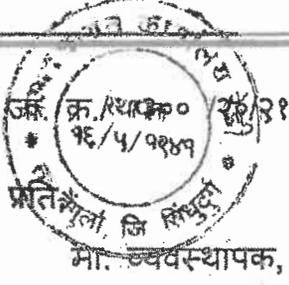


Mines Manager

## ग्रामपंचायत कार्यालय, रेडी

ता. वेंगुर्ला जि. सिंधुदुर्ग (महाराष्ट्र) फोन (०२३६६) २६८२५६

Email - redlgp07@gmail.com



दिनांक - १८/०६/२०२०

मे. गोगटे मिनरल्स कंपनी रेडी.

विषय - मे. गोगटे मिनरल्स कंपनीकडून चिखलाचे पाणी तळ्यात  
सोडलेबाबत.

संदर्भ - १) श्री. महादेव पुरुषोत्तम मराठे रा. रेडी, कनयाळ

दिनांक ०२/०६/२०२०.

२) आपले दिनांक ०९/०६/२०२० चे पत्र.

महाशय,

वरील संदर्भिय पत्र क्र १ व २ ने कळविलेनुसार मी दिनांक १२/०६/२०२० रोजी भेट देवून आपल्या कंपनीतील मॅनेजर श्री. पी. श्रीनिवासराव व श्री. नायडू या अधिकारी/कर्मचा-या समक्ष पहाणी केली. संदरचे पाणी पावसाचे असल्याचे निदर्शनास आले. त्यानुसार खालील प्रमाणे दक्षता घेणेत यावी.

- १) कनयाळ तलाव व डंपची पहाणी केली असता कोणतेही डंपचे किंवा आपल्या खाणीतील पाणी कनयाळ तलावात सोडल्याचे दिसून आले नाही. परंतू यापुढे पाणी सोडू नये.
- २) खाणीतील डंपची पहाणी करताना डंपवरून व खाणीतील रस्त्यावरून जे पावसाचे पाणी येते ते पाणी खाणीत सोडल्याचे दिसले. यापुढे विशेषतः पावसाळ्यात याप्रमाणेच खाणीतच पाणी सोडण्यात यावे.

कळावे.

सरवाच  
ग्रामपंचायत रेडी  
ता. वेंगुर्ला, जि. सिंधुदुर्ग



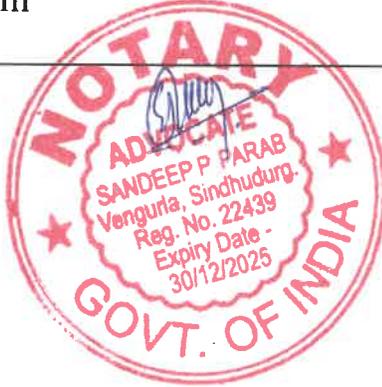
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Office of the Grampanchayat, Redi  
Taluka Vengurla, Dist. Sindhudurg (Maharashtra) Phone (02366) 268256  
email: redigp07@gmail.com

Outward no. 300/20/21

Date - 18/06/2020

To  
The Manager,  
M/s Gogte Minerals Company Redi



Subject: Release of muddy water in the lake by M/s Gogte Minerals Company

Reference: 1. Shri Mahadev Purushottam Marathe r/o Redi, Kanyal dated  
02/06/2020  
2. Your letter dated 09/06/2020

Dear Sir,

With reference to the letters 1 and 2 as above, I visited and surveyed the site in presence of officers/staff Shri P. Srinivasrao and Shri Naidu. It has been observed that the source of the water is from the rains. Based on the above observations, you are directed to take the following precautions.

1. While surveying the Kanyal lake and the dump site it has been revealed that the water released in the Kanyal lake did not originate from the dump or from your mine. Do not release water in future also.
2. While surveying the dump at the mine site, it was observed that the rain water over the dump and roads at the mine site is being released in the mine. In future, particularly during the rainy season, you would release the water in the mine itself.

Please note.

**Attested by me**  
  
**SANDEEP PRADEEP PARAB**  
NOTARY  
VENGURLA, SINDHUDURG DISTRICT  
Govt. of India  
Near Sateri Mandir Vengurla, Tal. Vengurla,  
Dist. Sindhudurg, Maharashtra - 416510,

Sd/-  
Sarpanch  
Redi Grampanchayat  
tq. Vengurla,  
Dist. Sindhudurg

This document is noted at  
Sr. No. 124/2021  
In the Notarial Register

**WATER ANALYSIS REPORT**

MES/W/FTR/12/00

Name of the Project	: Redi (203) Iron Ore Mine
Name of the Client	: M/s. Gogte Minerals
Month	: April, 2020
Date of sampling	: 29.04.2020
Date of Report	: 08.05.2020
Report No	: MES/SS/WR/53
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)	

Sl.No.	Parameters	Method of Testing	Limits For Stream Water Standards	Result SW2
i	pH	IS:3025(Part-11)	6.5 to 8.5	7.88
ii	Dissolved Oxygen (as O <sub>2</sub> ), mg/l, Min	IS:3025(Part-38)	4	5.1
iii	Biochemical Oxygen Demand (as O <sub>2</sub> ), mg/l, Max	IS:3025(Part-44)	3	1.5
iv	Total Coliform (mpn/100ml), Max	IS:1622	5000	115
v	Colour (Hazen Units), Max	IS:3025(Part-4)	300	5
vi	Fluoride (as F),mg/l, Max	IS:3025(Part-60)	1.5	<0.1
vii	Cadmium (as Cd), mg/l, Max	IS:3025(Part-41)	0.01	<0.002
viii	Chloride (as Cl),mg/l, Max	IS:3025(Part-32)	600	510
ix	Chromium (as Cr <sup>+6</sup> ), mg/l, Max	IS:3025(Part-52)	0.05	<0.03
x	Cyanides (as CN), mg/l, Max	IS:3025(Part-27)	0.05	<0.01
xi	Total Dissolved Solids (mg/l), Max	IS:3025(Part-16)	1500	956
xii	Selenium (as Se), mg/l, Max	IS:3025(Part-56)	0.05	<0.005
xiii	Sulphates as SO <sub>4</sub> (mg/l), Max	IS:3025(Part-24)	400	52.0
xiv	Lead (as Pb) mg/l, Max	IS:3025(Part-47)	0.1	<0.005
xv	Copper (as Cu),mg/l, Max	IS:3025(Part-42)	1.5	<0.01
xvi	Arsenic as As (mg/l), Max	IS:3025(Part-37)	0.2	<0.002
xvii	Iron (as Fe),mg/l, MAX	IS:3025(Part-53)	50	0.09
xviii	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH),mg/l, Max	IS:3025(Part-43)	0.005	<0.001
xix	Zinc (as Zn),mg/l, Max	IS:3025(Part-49)	15	<0.005
xx	Insecticides, mg/l, Max	APHA 21 <sup>st</sup>	Absent	NA
xxi	Anionic detergents (as MBAS),mg/l, Max	Annex K of IS 13248	1	<0.1
xxii	Oils and grease, mg/l, Max	IS:3025(Part-39)	0.1	<0.01
xxiii	Nitrates (as NO <sub>3</sub> ),mg/l, Max	IS:3025(Part-34)	50	5.00
xxiv	Alpha Emitters (µcurie/ml), Max	APHA 21 <sup>st</sup>	10 <sup>-9</sup>	NA
xxv	Beta Emitters (µcurie/ml), Max	APHA 21 <sup>st</sup>	10 <sup>-8</sup>	NA

**SAMPLE CODE :**

SW2 - Kanyal tank water

Samples Collected &amp; Analysed by Mineral Engineering Services, Ballari, Note : NA - Not Analysed

*M.R. Durga*  
(M.R. DURGA PRASAD)  
GOVT. ANALYST

*M.S. Raju*  
(M.S. RAJU)  
HEAD OF LABORATORY

25/XXV, Club Road, Ballari - 583 103. Karnataka. Landline No. : 08392-267421.

E-mail : mes\_msraju@yahoo.co.uk  
mesbly25@gmail.com

Website : www.envtest.com



# MINERAL ENGINEERING SERVICES



(Recognised by GOI, MoEF&CC under E(P) Act 1986 Vide Gazette Notification  
No. S.O. 857 (E) dated 26.02.2018. Recognition valid upto 25.02.2023

ISO9001:2015  
OHSAS (ISO 45001:2018)

## WATER ANALYSIS REPORT

MES/W/FTR/12/00

Name of the Project : Redi (203) Iron Ore Mine  
Name of the Client : M/s. Gogte Minerals  
Month : May, 2020  
Date of sampling : 24.05.2020  
Date of Report : 12.06.2020  
Report No : MES/SS/WR/66B  
Ref:IS : 2296, 1982 Class C Norms (Stream Water Standards)

Sl.No.	Parameters	Method of Testing	Limits For Stream Water Standards	Result SW2
i	pH	IS:3025(Part-11)	6.5 to 8.5	7.90
ii	Dissolved Oxygen (as O <sub>2</sub> ), mg/l, Min	IS:3025(Part-38)	4	5.5
iii	Biochemical Oxygen Demand (as O <sub>2</sub> ), mg/l, Max	IS:3025(Part-44)	3	1.7
iv	Total Coliform (mpn/100ml), Max	IS:1622	5000	310
v	Colour (Hazen Units), Max	IS:3025(Part-4)	300	5
vi	Fluoride (as F),mg/l, Max	IS:3025(Part-60)	1.5	<0.1
vii	Cadmium (as Cd), mg/l, Max	IS:3025(Part-41)	0.01	<0.002
viii	Chloride (as Cl),mg/l, Max	IS:3025(Part-32)	600	530
ix	Chromium (as Cr <sup>+6</sup> ), mg/l, Max	IS:3025(Part-52)	0.05	<0.03
x	Cyanides (as CN), mg/l, Max	IS:3025(Part-27)	0.05	<0.01
xi	Total Dissolved Solids (mg/l), Max	IS:3025(Part-16)	1500	1260
xii	Selenium (as Se), mg/l, Max	IS:3025(Part-56)	0.05	<0.005
xiii	Sulphates as SO <sub>4</sub> (mg/l), Max	IS:3025(Part-24)	400	56.0
xiv	Lead (as Pb) mg/l, Max	IS:3025(Part-47)	0.1	<0.005
xv	Copper (as Cu),mg/l, Max	IS:3025(Part-42)	1.5	<0.01
xvi	Arsenic as As (mg/l), Max	IS:3025(Part-37)	0.2	<0.002
xvii	Iron (as Fe),mg/l, MAX	IS:3025(Part-53)	50	0.08
xviii	Phenolic compounds (as C <sub>6</sub> H <sub>5</sub> OH),mg/l, Max	IS:3025(Part-43)	0.005	<0.001
xix	Zinc (as Zn),mg/l, Max	IS:3025(Part-49)	15	<0.005
xx	Insecticides, mg/l, Max	APHA 21 <sup>st</sup>	Absent	NA
xxi	Anionic detergents (as MBAS),mg/l, Max	Annex K of IS 13248	1	<0.1
xxii	Oils and grease, mg/l, Max	IS:3025(Part-39)	0.1	<0.01
xxiii	Nitrates (as NO <sub>3</sub> ),mg/l, Max	IS:3025(Part-34)	50	5.60
xxiv	Alpha Emitters (µcurie/ml), Max	APHA 21 <sup>st</sup>	10 <sup>-9</sup>	NA
xxv	Beta Emitters (µcurie/ml), Max	APHA 21 <sup>st</sup>	10 <sup>-8</sup>	NA

SAMPLE CODE :

SW2 - Kanyal tank water

Samples Collected & Analysed by Mineral Engineering Services, Ballari, Note : NA - Not Analysed

(M.R. DURGA PRASAD)  
GOVT. ANALYST

(M.S. RAJU)  
HEAD OF LABORATORY

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