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JINDAL

JINDAL SAW LTD.

Ref: JSL/BHL/L-Mines/2015-16/ 14-17

Date: 01.12.2015

To,

The Secretary,
Ministry of Environment & Forest,
Government of India,
Paryavaran Bhawan,
Lodhi Road, New Delhi- 110003

Sub: Half Yearly Report of compliance of conditions of environment clearance of Lampiya Iron Ore, Copper and Associated Minerals Mine (ML NO. 627/05) located near village Lampiya in Distt. Bhilwara (Rajasthan). .

Ref: Environment Clearance letter No. J-11015/460/2008-IA-II (M) dated 31.05.2011

Dear Sir,

With reference to the above subject matter and referred letter, we are submitting herewith the Report of point-wise compliance of conditions of the above environment clearance for the period from 1st Apr 2015 to 30th Sep 2015.

As a part of this compliance report we are enclosing summarized environment result which is based upon Environment Monitoring and analysis carried out by MoEF and NABL accredited lab. Original report (80 pages) also uploaded in company website on routine basis and will provide the same if required. The details of Summarized Monitoring reports enclosed are mentioned below:

1. **Summarized Quarterly Ambient Air Quality Monitoring Result - Annexure (I)**
2. **Summarized Fortnightly Ambient Air Quality Monitoring Result - Annexure (II)**
3. **Summarized Ground and Surface Water Quality Analysis Result - Annexure (III)**
4. **Summarized Ambient Noise Level Monitoring Result-Annexure (IV)**

This is for your kind information and record.

Thanking you,

Yours faithfully,
For: Jindal Saw Ltd.

Dinesh Patil
Agent – Lampiya Iron Ore Mine

Encl: a/a

Copy to:

1. Regional Office, MOEF, Kendriya Bhawan, 5th Floor, Sector-H, Lucknow- 226024 (U.P.)
2. Zonal Office, Central Pollution Control Board (CPCB), Sahkar Bhawan, 3rd Floor, North TT Nagar, Bhopal-462003 (M.P.)
3. The Chairman, Rajasthan State Pollution Control Board, 4 Institutional Area, Jhalana Doongri, Jaipur-302004 (Rajasthan)

Araji No. 9697/6711, Near Tiranga Hills, Village- Pur, Tehsil & Distt- Bhilwara - 311802, Rajasthan Phone/Fax No. : +91 (1482) 248417
Corporate Office : Jindal Centre, 12 Bhikaiji Cama Place, New Delhi - 110066 Phone : +91 (11) 26188360-74 Fax : +91 (11) 26170691
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Lampiya Iron Ore, Copper and Associated Minerals Mine (ML No. 627/05)

Six monthly Reports on Status of Compliance of Stipulated Conditions

Period of Report: 01st Apr' 2015 to 30th Sep' 2015

The Consent to Operate was granted on 24 Feb' 2014 **Date: 01.12.2015**

	Specific Conditions		Compliance Status
i.	The project proponent shall obtain Consent to Establish and Consent to Operate from the Rajasthan State Pollution Control Board and effectively implement all the conditions stipulated therein.		a. The Consent to Establish was granted by RSPCB on 28.06.2012. b. The Consent to Operate the Mine was granted by RSPCB on 24.02.2014 which is valid upto 31.01.2017.
ii.	Environmental clearance is granted subject to final outcome of Hon'ble Supreme Court of India in Contempt Petition (C) 412/2004 in IA No. 833 in Writ Petition (C)No. 202 of 1995.		We shall abide by the final outcome of Hon'ble Supreme Court of India as may be applicable to this Project.
iii.	The environmental clearance is subject to approval of the State Land use Department, Government of Rajasthan for diversion of agricultural land for non-agricultural use, as may be applicable to this project.		No mining activity will be conducted in the agricultural land without approval of State Land Use deptt.
iv.	Necessary prior permission from the Competent Authority as may be applicable for use of grazing land for mining purpose shall be obtained.		Necessary prior permission will be obtained before mining is started in grazing land.
v.	The project proponent shall develop fodder plots in the non-mineralized area in lieu of use of grazing land.		Work is confined within Government waste/barren land. We shall develop fodder plots in non-mineralized area in lieu of use of grazing land.
vi.	The project proponent shall ensure that no natural watercourse and/or water resources shall be obstructed due to any mining operations. Adequate measures shall be taken for conservation and protection of the seasonal nallahas passing through the mine lease during the course of mining operation.		The seasonal nallah lies far away from the mine workings and will not be obstructed.
vii.	The top soil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.		No top soil was generated during the compliance period.
viii.	The over burden generated during the mining operation shall be stacked at earmarked dump site(s) only and it should not be kept active for a long period of time and its phase-wise stabilization shall be carried out. Backfilling shall commence from the 13th years onwards.		The OB generated from the mine is utilized for road making and levelling of other depressed ground within the lease area as required. OB is being stacked only at earmarked places. Compliance status is submitted to the Ministry of Environment

	There shall be four external dumps. Proper terracing of OB dumps shall be carried out so that the overall slope of dumps shall not exceed 28 degree. The over burden dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Lucknow on six monthly basis.		and Forest and its Regional Office at Lucknow on six monthly basis. We assure that all conditions will be complied with, overall slope of the waste dump is being maintained at 28 degree and mature dumps will be vegetated. No OB was generated during the compliance period.
ix.	Catch drains and siltation ponds of appropriate size shall be constructed for the working pit, soil, OB and mineral dumps to arrest flow of silt and sediment directly into the agricultural fields and water bodies. The water so collected should be utilized for watering the mine area, roads, green belt development etc. The drains should be regularly desilted particularly after the monsoon and maintained properly. Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed both around the mine pit and the OB dumps to prevent run off of water and flow of sediments directly into the agricultural fields and water bodies and sump capacity should be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity should also provide adequate retention period to allow proper settling of silt material. Sedimentation pits should be constructed at the corners of the garland drains and desilted at regular intervals.		Garland drains, check dams and settling tanks shall be constructed as stipulated.
x.	Dimension of the retaining wall at the toe of the OB dump(s) and the OB benches within the mine to check run-off and siltation should be based on the rain fall data.		No external dump has been created. Retaining wall will be made after OB dumps are created.
xi.	Plantation shall be raised in an area of 133.03ha including a 7.5m wide green belt in the safety zone around the mining lease, OB dumps, along the roads etc. by planting the native species in consultation with the local DFO Agriculture Department. The density of the trees should be around 1000 plants per ha. Greenbelt shall be developed all along the mine lease area in a phased manner and shall be completed within first five years.		Stage-wise plantation programme has been raised

xii.	Effective safeguard measures such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of particulate matter such as crusher zone, loading and unloading point and all transfer points during handling of the ore. Extensive water sprinkling shall be carried out on roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.		Effective water sprinkling is done to suppress the dust at the mine face, road and loading and unloading points.
xiii.	Continuous monitoring of the RSPM level near the crusher house shall be carried out and records maintained. If any stage the levels are found to the exceeding the prescribed limits, the necessary mitigation measures shall be implemented.		Monitoring of RSPM is done near the mining face. Crusher has not been installed. It will be implanted after crusher is installed. The AAQ monitoring reports for the period of Apr' 2015 to Sep' 2015 are enclosed in **Annexure- I & II**
xiv.	The project authority should implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.		Ground water is not being abstracted. The construction of ground water recharge measures for augmenting the ground water resources of the area shall be implemented before ground water is abstracted.
xv.	Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and installing new piezometer during the mining operation. The periodic monitoring [(at least four times in a year- pre-monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January); once in each season)] shall be carried out in consultation with the State Ground Water Board/Central Ground Water Authority and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office Lucknow, the Central Ground Water Authority and the Regional Director, Central Ground Water Board. If at any stage, it is observed that the groundwater table is getting depleted due to the mining activity, necessary corrective measures shall be carried out.		Monitoring of ground water quality has been carried out of existing wells. The quality is noted to be within permissible limits. The copies of the Reports for the period of Jun' 2015 and Sep' 2015 are enclosed as **Annexure-III** Since the mining has been done above the ground level, the ground water has not been affected.
xvi.	Prior permission from the Competent Authority shall be obtained for use of groundwater for the project.		Prior permission has been obtained vide letter dated 21.02.2011. Ground water is not being abstracted.
xvii.	It shall be ensured that the adequate quantity of safe drinking water is provided to the villagers in the area where fluoride levels are found to be high.		Defluoridization Plant will be installed to supply drinking water to villagers.
xviii.	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.		We are in consultation with the Central Ground Water Board in this regard. Construction the ground water recharge structures will be started.

xix.	Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operation and in transportation of mineral. The vehicles carrying the mineral shall be covered with a tarpaulin and shall not be overloaded.		The stipulation is being complied with.
xx.	The dust generated during mining operation shall be scavenged.		Dust generated during mining is scavenged by water spraying.
xxi.	Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.		No blasting is done. It shall be implanted when blasting is done.
xxii.	Drills shall either be operated with dust extractors or equipped with water injection system.		No drilling is done.
xxiii.	Mineral handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.		Mining is done on a very small scale. Water sprinkling is done.
xxiv.	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and the wastewater generated during mining operation.		No colony or workshop has been constructed as yet. No waste water is being generated during mining. The stipulation is being complied with.
xxv.	Digital processing of the entire lease area using remote sensing technique should be done regularly once in three years for monitoring land use pattern and report submitted to MOEF and its regional office.		Digital processing of the entire lease area using remote sensing technique has already been done and submitted with EIA & EMP report. The Mine was opened on 08.04.2014 after receipt of CTO on 24.02.2014.It will be done again during the year 2016-17.
xxvi.	The project authorities should undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.		The Pre-project community health status within a radius of 1.0 km from the proposed project site has been conducted and submitted to Rajasthan State Pollution Control Board along with the application for grant of Consent to Operate.
xxvii.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.		Pre-placement medical examination of workers is being carried out as required under Mines Rules, 1955.
xxviii.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.		Construction workers are from nearby villages. After end of days work they go back to their houses. Therefore, need for temporary structures have not arisen.

xxix.	The critical parameters such as RSPM (Particulate matter with size less than 10micron i.e., PM1O) and NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored [(TDS, DO, PH and Total Suspended Solids (TSS)]. The monitored data shall be uploaded on , the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The Circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.		The Instructions contained in circular No. J-20012/12006-IA.II (M) dated 27.05.09 issued by MOEF has been noted and is being complied with. As per circular fortnightly AAQ monitoring is under practice in mine lease area. The monitoring reports for the period of Apr 2015 to Sep 2015 are enclosed as **Annexure- II**.
xxx.	A Final Mine Closure Plan along with details of Corpus Fund should be submitted to the Ministry of Environment & Forests 5 years in advance of final mine closure for approval		The Final Mine Closure Plan shall be submitted as per rules.
B. General Condition :			
i.	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.		No change will be made in mining technology and scope of working without prior approval of MOEF.
ii.	No change in the calendar plan including excavation, quantum of mineral iron ore and waste should be made.		No change will be made in the calendar plan.
iii.	Conservation measures for protection of flora and fauna in the core & buffer zone should be drawn up in consultation with the local forest and wildlife department.		The stipulation shall be complied with.
iv.	Four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM (Particulate matter with size less than 10micron i.e., PMIO) & NOx monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board		Ambient air quality monitoring was carried out by external agency in Apr, 2015 to Sept, 2015 and noticed that the AAQ is within permissible limits. The Reports are enclosed as **Annexure – I & II.** Four ambient air quality monitoring stations in each of Core zone and Buffer zone have been established as per approved plan for monitoring the AAQ.
v.	Data on ambient air quality RSPM (Particulate matter with size less than 10micron i.e., PMIO) & NOx should be regularly submitted to the Ministry of Environment and Forests including its Regional office located at Lucknow and the State Pollution Control Board / Central Pollution Control Board once in six months.		The Reports are enclosed as Annexure- I & II. The reports are submitted to MOEF and its Regional Office located at Lucknow, RSPCB and CPCB.

vi.	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.		The fugitive dust emissions from all the sources are being controlled regularly. Regular water spraying arrangement on haul roads, loading and unloading points has been made and maintained properly.
vii.	Measures should be taken for control of noise levels below 85 dBA in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.		Proper measures are being taken for control of noise in the work environment area. The monitoring reports are enclosed as **Annexure- IV**. Proper PPE are provided to the workers engaged in the operations.
viii.	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.		No industrial waste water has been generated till date. Proper arrangement will be made to collect the waste water whenever it will be generated.
ix.	Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.		Proper compliance is being done. Pre-employment Medical Tests examination is under practice. It is being repeated periodically to observe any contractions due to exposure of dust.
x.	A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.		The Cell has been set up under the control of a Senior Executive who reports directly to the President & Unit Head.
xi.	The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Lucknow.		Separate Fund has been earmarked for environment protection measures.
xii.	The project authorities should inform to the Regional Office located at Lucknow regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.		The date of financial closure of the company is 31st March of every year. The final approval of the Project as Consent to Operate has been given by RSPCB on 24.02.14. The land development was started from April'2014.
xiii.	The Regional Office of this Ministry located at Lucknow shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.		The instruction has been noted. The Regional Officer, Lucknow has been provided with all the information asked by them.

xiv.	The project proponent shall submit six monthly reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by email) to the Ministry of Environment and Forests, its Regional Office Lucknow, the respective Zonal Office of Central Pollution Control Board the State Pollution Control Board. The proponent shall upload the status of compliance of the environmental clearance conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of the Ministry of Environment and Forests, Lucknow, the respective Zonal Office of Central Pollution Control Board and the SPCB.		The Compliance Report for the period from 01st Apr' 2015 to 30th Sep' 2015 is enclosed herewith.
xv.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zila Parisad/ Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.		The copy of the Clearance letter has been sent to all concerned and it has been put on the website of the Company.
xvi.	The State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.		It has been done by RSPCB.
xvii.	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Lucknow by e-mail.		It has been submitted within the stipulated time on 30th Sept.'15 for the year 2014-15. It has been put on Company's Website.
xviii.	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry at **http://envfor.nic.in** and a copy of the same should be forwarded to the Regional Office of this Ministry located at Lucknow.		It has been advertised in three Newspapers, namely The Hindu, Rajasthan Patrika and Dainik Bhaskar. The copies have been forwarded to the Regional Office, MOEF, Lucknow.

Dinesh Chandra Patil
Agent- Lampiya Iron Ore Mine

Annexure-I

Summarized Quarterly Ambient Air Quality Monitoring Result (April 2015 to Sep 2015)

Lampiya Iron Ore Mine, Jindal Saw Limited, Bhilwara

Location/ Date of Monitoring	Village Devpura						Location/ Date of Monitoring	Village Kamalpura					
	PM10	PM 2.5	SO2	Nox	CO	SPM		PM10	PM 2.5	SO2	Nox	CO	SPM
	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3		ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
29-06-15	56.48	19.18	4.16	13.06	190.00	172.04	29-06-15	59.27	23.68	6.16	14.26	230.00	217.24
22-09-15	6..90	20.54	4.76	12.86	230.00	210.28	22-09-15	54.95	23.67	6.42	11.61	190.00	214.80
Average	60.69	19.86	4.46	12.96	210.00	191.16	Average	57.11	23.68	6.29	12.94	210.00	216.02

Location/ Date of Monitoring	Village Lampiya						Location/ Date of Monitoring	Village Jaliya					
	PM10	PM 2.5	SO2	Nox	CO	SPM		PM10	PM 2.5	SO2	Nox	CO	SPM
	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3		ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
29-06-15	62.59	24.47	5.52	13.07	160.00	239.98	29-06-15	64.30	18.48	5.25	12.70	210.00	213.47
22-09-15	57.87	27.29	6.08	15.94	210.00	236.19	19-09-15	53.47	23.45	5.88	15.64	180.00	209.28
Average	60.23	25.88	5.80	14.51	185.00	238.09	Average	58.89	20.97	5.57	14.17	195.00	211.38

Location/ Date of Monitoring	Village Chimanpura						Location/ Date of Monitoring	Village Banera					
	PM10	PM 2.5	SO2	Nox	CO	SPM		PM10	PM 2.5	SO2	Nox	CO	SPM
	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3		ug/m3	ug/m3	ug/m3	ug/m3	ug/m3	ug/m3
29-06-15	61.61	34.07	6.72	15.32	190.00	231.06	29-06-15	51.66	21.13	5.02	13.76	210.00	218.09
19-09-15	51.16	18.25	4.81	14.41	220.00	207.20	22-09-15	45.06	18.54	5.24	11.75	190.00	174.68
Average	56.39	26.16	5.77	14.87	205.00	219.13	Average	48.36	19.84	5.13	12.76	200.00	196.39

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

Annexure-II

Summarized Fortnightly Ambient Air Quality Monitoring Result (Apr 2015 to Sep 2015)

Lampiya Iron Ore Mine, Jindal Saw Limited, Bhilwara

Location/ Date of Monitoring	Lampiya Village						Location/ Date of Monitoring	Jaliya Village					
	PM10 ug/m3	PM 2.5 ug/m3	SO2 ug/m3	Nox ug/m3	CO ug/m3	SPM ug/m3		PM10 ug/m3	PM 2.5 ug/m3	SO2 ug/m3	Nox ug/m3	CO ug/m3	SPM ug/m3
11.04.2015	60.43	22.74	6.18	14.14	280	230.84	11.04.2015	62.38	26.06	5.44	12.85	230	201.12
24.04.2015	56.83	29.60	5.36	15.58	270	275.10	24.04.2015	50.11	23.78	5.72	12.80	180	220.28
09.05.2015	57.54	23.73	6.43	14.94	230	338.21	10.05.2015	59.35	22.59	6.93	14.34	220	231.86
28.05.2015	57.50	24.50	7.64	15.89	240	293.86	27.05.2015	64.79	27.17	7.73	15.52	260	247.46
07.06.2015	62.52	29.69	8.19	13.80	180	262.23	11.06.2015	63.05	28.83	7.07	15.82	190	259.60
29.06.2015	62.59	24.47	5.52	13.07	160	239.98	29.06.2015	64.30	18.48	5.25	12.70	210	213.47
04.07.2015	61.52	20.50	4.53	15.61	190	201.75	03.07.2015	52.24	23.46	6.10	12.54	1800	176.62
26.07.2015	53.03	19.58	7.10	11.11	180	177.30	25.07.2015	45.45	28.08	5.60	8.84	140	167.94
09.08.2015	60.61	22.99	7.10	11.16	160	232.10	09.08.2015	52.43	26.55	5.50	12.08	220	243.47
25.08.2015	66.56	18.45	5.34	12.65	210	191.49	25.08.2015	61.27	19.19	6.57	11.80	190	226.70
13.09.2015	59.80	20.01	6.75	12.35	220	212.46	13.09.2015	54.03	20.96	5.92	13.99	210	201.23
22.09.2015	57.87	27.29	6.08	15.94	210	236.19	19.09.2015	53.47	23.45	5.88	15.64	180	209.28
Average	**59.73**	**23.63**	**6.35**	**13.85**	**210.83**	**240.96**	**Average**	**56.91**	**24.05**	**6.14**	**13.24**	**335.83**	**216.59**

Location/ Date of Monitoring	Devpura Village						Location/ Date of Monitoring	Kamalpura Village					
	PM10 ug/m3	PM 2.5 ug/m3	SO2 ug/m3	Nox ug/m3	CO ug/m3	SPM ug/m3		PM10 ug/m3	PM 2.5 ug/m3	SO2 ug/m3	Nox ug/m3	CO ug/m3	SPM ug/m3
11.04.2015	71.90	27.57	6.89	14.25	180	272.11	11.04.2015	79.67	27.95	7.09	13.95	260	199.13
23.04.2015	65.33	23.13	6.50	14.30	220	251.43	23.04.2015	54.79	22.96	6.17	12.76	230	201.08
09.05.2015	67.33	26.37	7.45	16.22	280	214.55	10.05.2015	63.45	23.65	6.26	12.58	250	265.84
28.05.2015	60.21	23.01	7.64	18.08	190	223.18	27.05.2015	72.25	22.34	5.23	16.88	220	228.41
07.06.2015	61.24	24.57	8.03	14.49	230	244.52	07.06.2015	60.72	26.61	7.10	12.30	190	255.28
29.06.2015	56.48	19.18	4.16	13.06	190	172.04	29.06.2015	59.27	23.68	6.16	14.26	230	217.24
04.07.2015	52.14	24.39	5.14	14.38	180	144.50	04.07.2015	45.96	18.78	4.15	14.89	170	200.65
26.07.2015	74.88	26.28	5.50	9.47	150	235.31	25.07.2015	48.79	21.76	6.32	13.61	190	196.47
09.08.2015	46.73	17.45	5.60	11.18	230	180.18	09.08.2015	52.86	20.75	5.75	10.51	210	220.03
25.08.2015	52.20	21.09	5.46	13.91	220	203.87	25.08.2015	58.76	22.52	6.18	14.38	180	213.37
13.09.2015	64.53	26.87	7.18	11.94	250	268.11	13.09.2015	57.45	19.93	6.10	13.75	190	258.62
19.09.2015	64.90	20.54	4.76	12.86	230	210.28	22.09.2015	54.95	23.67	6.42	11.61	190	214.80
Average	**61.49**	**23.37**	**6.19**	**13.68**	**212.50**	**218.34**	**Average**	**59.08**	**22.88**	**6.08**	**13.46**	**209.17**	**222.58**

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

Annexure-III

Ground Water Quality Monitoring Result (April 2015 to Sep 2015) Lampiya Iron Ore Mine, Jindal Saw Limited, Bhilwara							
Sampling Location:		**Lampiya Village**		**Jaliya Village**		**Devpura Village**	
Sr. No.	**Monitoring Period/ Parameters**	Jun'15	Sep'15	Jun'15	Sep'15	Jun'15	Sep'15
	Date of Monitoring	29-Jun-15	19-Sep-15	29-Jun-15	19-Sep-15	29-Jun-15	19-Sep-15
1	Color, Hazen	BDL (<5)	Less than 5	BDL (<5)	Less than 5	BDL (<5)	Less than 5
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity, NTU	BDL	BDL	BDL	BDL	BDL	BDL
5	pH	7.02	7.63	7.01	7.62	6.98	7.99
6	Total Hardness, mg/l	298.04	300	607.84	600	384.31	368
7	Iron, mg/l	BDL	BDL	0.02	BDL	BDL	0.04
8	Chloride, mg/l	47.29	37.49	236.45	201.94	57.57	61.98
9	Total Dissolved Solids, mg/l	716	435	1458	1142	850	648
10	Calcium, mg/l	73.73	80	176.47	168	94.12	67.2
11	Copper	BDL	BDL	BDL	BDL	BDL	BDL
12	Magnesium, mg/l	28.58	24.3	40.48	43.74	36.2	48.6
13	Manganese, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate, mg/l	63.57	96.25	235.71	190	125.43	45
15	Nitrate, mg/l	21.26	41.95	21.85	44.94	21.67	67.07
16	Fluoride, mg/l	0.65	0.66	1.52	0.52	1.44	1.21
17	Cadmium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
18	Arsenic,	BDL	BDL	BDL	BDL	BDL	BDL
19	lead	BDL	BDL	BDL	BDL	BDL	BDL
20	Zinc, mg/l	BDL	BDL	0.04	0.11	0.06	0.03
21	Total Alkalinity, mg/l	292	184	400	352	368	372
22	Aluminium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
23	Boron, mg/l	0.16	0.46	0.32	0.74	0.24	0.63
24	Total coliform, MPN/100ml	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
25	Total Chromium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
26	Selenium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
27	Residual Free chlorine	BDL	BDL	BDL	BDL	BDL	BDL
28	Suspended Solids, mg/l						

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

Ground Water Quality Monitoring Result (April 2015 to Sep 2015) Lampiya Iron Ore Mines, Jindal Saw Limited, Bhilwara							
Sampling Location:		Kamalpura Village		Mahua Khurd		Baneda Village	
Sr. No.	Monitoring Period/ Parameters	Jun'15	Sep'15	Jun'15	Sep'15	Jun'15	Sep'15
	Date of Monitoring	04-Jul-15	19-Sep-15	29-Jun-15	19-Sep-15		19-Sep-15
1	Color, Hazen	BDL (<5)	Less than 5	BDL (<5)	Less than 5	BDL (<5)	Less than 5
2	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity, NTU	BDL	BDL	BDL	BDL	BDL	BDL
5	pH	7.55	8.27	6.81	7.65	7.13	7.91
6	Total Hardness, mg/l	325.49	168	372.55	600	313.73	432
7	Iron, mg/l	0.01	BDL	BDL	BDL	0.02	0.08
8	Chloride, mg/l	51.4	40.49	71.96	99.97	82.24	38.99
9	Total Dissolved Solids, mg/l	775	865	876	773	911	593
10	Calcium, mg/l	84.71	44.8	103.53	152	95.69	84.8
11	Copper	BDL	BDL	BDL	BDL	BDL	BDL
12	Magnesium, mg/l	27.62	13.61	27.62	53.46	18.1	53.46
13	Manganese, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
14	Sulphate, mg/l	59	100	81	43.5	78.57	43
15	Nitrate, mg/l	21.44	23.53	21.63	35.85	20.67	32.46
16	Fluoride, mg/l	0.98	0.96	1.47	0.5	1.36	0.38
17	Cadmium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
18	Arsenic,	BDL	BDL	BDL	BDL	BDL	BDL
19	lead	BDL	BDL	BDL	BDL	BDL	BDL
20	Zinc, mg/l	0.03	0.05	0.02	BDL	0.03	0.07
21	Total Alkalinity, mg/l	344	508	360	432	412	400
22	Aluminium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
23	Boron, mg/l	0.22	0.41	0.27	0.71	0.25	0.65
24	Total coliform, MPN/100ml	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
25	Total Chromium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
26	Selenium, mg/l	BDL	BDL	BDL	BDL	BDL	BDL
27	Residual Free chlorine	BDL	BDL	BDL	BDL	BDL	BDL
28	Suspended Solids, mg/l						

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

Surface Water Quality Monitoring Result (April 2015 to Sep 2015) Lampiya Iron Ore Mine, Jindal Saw Limited, Bhilwara			
Sampling Location:		**Mandal Pond**	
Sr. No.	**Monitoring Period/ Parameters**	Jun'15	Sep'15
	Date of Monitoring	29-Jun-15	19-Sep-15
1	Color, Hazen	Less than 5	Less than 5
2	Odour	Agreeable	Agreeable
3	Taste	Agreeable	Agreeable
4	Turbidity, NTU	BDL	BDL
5	pH	7.48	7.68
6	Total Hardness, mg/l	131.96	120
7	Iron, mg/l	BDL	0.05
8	Chloride, mg/l	30.84	31.49
9	Total Dissolved Solids, mg/l	299	232
10	Calcium, mg/l	31.24	17.6
11	Copper	BDL	BDL
12	Magnesium, mg/l	13.02	18.47
13	Manganese, mg/l	BDL	BDL
14	Sulphate, mg/l	27.43	27.25
15	Nitrate, mg/l	5.55	5.37
16	Fluoride, mg/l	0.49	0.37
17	Cadmium, mg/l	BDL	BDL
18	Arsenic,	BDL	BDL
19	lead	BDL	BDL
20	Zinc, mg/l	BDL	0.09
21	Total Alkalinity, mg/l	128	128
22	Aluminium, mg/l	BDL	BDL
23	Boron, mg/l	0.21	0.55
24	Total coliform, MPN/100ml	9.51	Not Detected
25	Total Chromium, mg/l	BDL	BDL
26	Selenium, mg/l	BDL	BDL
27	Residual Free chlorine	BDL	BDL
28	Suspended Solids, mg/l	-	-

Note: Above monitoring result is based upon Environment Monitoring carriedout by MoEF, RPCB and NABL Approved Agency.

Annexure-IV

Ambient Noise Level Measurement Report (April 2015 to Sep 2015)

Lampiya Iron Ore Mine, Jindal Saw Limited-Bhilwara

Sr. No.	Location of Sampling/ Date of Monitoring	Lampiya		Jaliya	
		Results in dB(A) (Day Time)	Results in dB(A) (Night Time)	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
01.	29.06.2015	52.4	41.3	50.3	41.0
02.	19.09.2015	52.4	41.5	50.3	40.6
AVERAGE		52.40	41.40	50.30	40.80

Sr. No.	Location of Sampling/ Date of Monitoring	Devpura		Kamalpura	
		Results in dB(A) (Day Time)	Results in dB(A) (Night Time)	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
01.	29.06.2015	49.7	38.5	53.2	42.4
02.	19.09.2015	51.7	42.3	52.8	41.3
AVERAGE		50.70	40.40	53.00	41.85

Sr. No.	Location of Sampling/ Date of Monitoring	Banera		Chimanpura	
		Results in dB(A) (Day Time)	Results in dB(A) (Night Time)	Results in dB(A) (Day Time)	Results in dB(A) (Night Time)
01.	29.06.2015	51.4	40.3	49.6	39.5
02.	19.09.2015	53.26	42.7	50.9	40.7
AVERAGE		52.33	41.50	50.25	40.10