



**Rajasthan Rajya Vidyut Utpadan Nigam Limited**  
(A Govt. Of Rajasthan Undertaking)  
Corporate Identity Number (CIN)- U40102RJ2000SGC016484  
Regd. Office & H.O. Vidyut Bhawan, Janpath, Jyoti Nagar, Jaipur - 302 005.  
Tele Fax No. 0141-2744927, 2740006 Email: fuel.rvun@gmail.com



RVUN/ACE(Fuel)/SE(Fuel-II)/D. 709

Dated: 13.05.2020

Director,  
Ministry of Environment, Forest & Climate Change,  
Regional Office (Western Central Zone),  
Ground Floor East Wing, New Secretariate Building,  
Civil Lines, Nagpur-440 001.

Sub:- Six monthly compliance report (for the period October 2019 to March 2020) of Environmental Clearance of Parsa East & Kanta Basan Coal Mine Project & Pit Head Coal Washery (15 MTPA) Surguja, Chhattisgarh of Rajasthan Rajya Vidyut Utpadan Nigam Limited.

Ref:- Environmental Clearance Letter F. No. J-11015/03/2008-IA-11 (M) Dated 10th August 2018 for expansion of mine from 10 MTPA to 15 MTPA.

Dear Sir,

This is with reference to Environmental Clearance granted for Parsa East & Kanta Basan Coal Mine Project & Pit Head Coal Washery (15 MTPA) Surguja, Chhattisgarh of Rajasthan Rajya Vidyut Utpadan Nigam Limited.

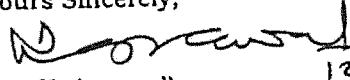
In this regards, please find enclosed herewith half yearly compliance report (Soft copy) for conditions stipulated in environmental clearance letter for the period October 2019 to March 2020.

This is for your kind information.

Thanking You,

Encl: As above

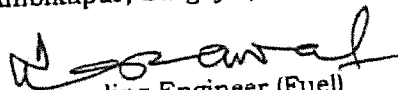
Yours Sincerely,

  
(A.K. Agrawal)  
Superintending Engineer (Fuel)  
RVUN, Jaipur

13/05/2020

Copy to the following:

- Director, MoEF&CC, Indira Paryavaran Bhawan, Jorbagh, New Delhi-110003
- Member secretary, CECEB, Paryavas Bhavan, North Block Sec -19, Naya Nagar, Raipur (C.G.)
- Regional Officer, Regional Office, CECEB, Ambikapur, Surguja (C.G.)

  
Superintending Engineer (Fuel)



**Compliance of conditions of Environmental Clearance of Parsa East & Kanta Basan Coal Mine Project & Pit Head Coal Washery (15 MTPA) issued vide letter no. No. J-11 015/03/2008-IA-11 (M) Dated 10<sup>th</sup> August 2018**

**Environmental Clearance Compliance Status Report**

**(Period- October 2019 to March 2020)**

Sl. No.	Condition	Status																									
i	All the conditions stipulated by the Ministry vide letter dated 12th April 2018 for diversion of 1898.328 ha forest land shall be complied with.	Compliance of the same already sent by Nodal Officer. Regular compliance of FC conditions shall be done.																									
ii	To control the production of dust at source, the crusher and in-pit belt conveyors shall be provided with mist type sprinklers.	Dust suppression system has been already provided at all desired locations in existing coal washery circuit viz. Dump hopper, feeder breaker, Transfer tower building and barrel feed conveyor. Similarly, DSS has been installed in new washery circuit at Dump hopper and Receiving & discharge of all belt conveyors in New Washery and DSS system will be provided at in-pit belt conveyor, which is under construction.																									
iii	Mitigative measures shall be undertaken to control dust and other fugitive emissions all along the roads by providing sufficient numbers of water sprinklers. Adequate corrective measures shall be undertaken to control dust emissions as presented before the Committee, which would include mechanized sweeping, water sprinkling/mist spraying on haul roads and loading sites, long range misting/fogging arrangement, wind barrier wall and vertical greenery system, green belt, dust suppression arrangement at railway siding, etc.	<p>Following arrangements have been made for control of fugitive dust generation:</p> <p>(i) Blacktop road is regularly being cleaned with road sweeping machine.</p> <p>(ii) Water sprinkling already being done and has been increased for 15 MTPA on haul roads and loading sites.</p> <p>(iii) Dust suppression is done inside mine area on haul roads through fifteen numbers of dedicated water tankers. Additionally, five numbers of dedicated water tankers are engaged for dust suppression on surface around washery and other approach roads.</p> <p>(iv) Water spray system has been installed at designated locations along the internal roads of plant area and unpaved area around washery.</p> <p>(v) Green belt developed near washery area and railway siding area.</p> <p>(vi) 3 tier Green belt Development along the roadside with broad leaves plant.</p>																									
iv	Persons of nearby villages shall be given training on livelihood and skill development to make them employable.	<p>Skill development training is being given to local youths through Kaushal Vikas Kendra established at village Salhi.</p> <p>Presently training is being provided to youths under five trades namely 1- Sewing Machine Operator 2- Fitter Machinist 3- Fitter Electrical Assembly 4- Mining Mechanic 5- F&amp;B Service Steward 6- Digital Literacy 7-Assistant Electrician 8- Self-Employed Tailor</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">S.No.</th> <th rowspan="2">Trade Name</th> <th colspan="2">Total Participants Enrolled till date</th> <th rowspan="2">Employment Generation</th> <th colspan="2">Total Participants Enrolled During October 2019 to March 2020</th> </tr> <tr> <th>Male</th> <th>Female</th> <th>Male</th> <th>Female</th> </tr> </thead> <tbody> <tr> <td align="center">1</td> <td align="center">Sewing Machine Operator</td> <td align="center">39</td> <td align="center">410</td> <td align="center">113</td> <td align="center">0</td> <td align="center">68</td> </tr> <tr> <td align="center">2</td> <td align="center">Fitter Machinist</td> <td align="center">174</td> <td align="center">-</td> <td align="center">47</td> <td align="center">31</td> <td align="center">-</td> </tr> </tbody> </table>	S.No.	Trade Name	Total Participants Enrolled till date		Employment Generation	Total Participants Enrolled During October 2019 to March 2020		Male	Female	Male	Female	1	Sewing Machine Operator	39	410	113	0	68	2	Fitter Machinist	174	-	47	31	-
S.No.	Trade Name	Total Participants Enrolled till date			Employment Generation	Total Participants Enrolled During October 2019 to March 2020																					
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1	Sewing Machine Operator	39	410	113	0	68																					
2	Fitter Machinist	174	-	47	31	-																					

Sl. No.	Condition	Status						
		3	Fitter Electrical Assembly	101	-	33	-	-
		4	Mining Mechanic	157	-	51	25	-
		5	F&B Service Steward	84	80	88	29	5
		6.	Digital Literacy(April 19 to Jan 20)	657	547	-	315	438
		7.	Assistant Electrician (April 19 to Jan 20)	111	-	31	29	-
		8.	Self Employed Tailor ( April 19 to Jan 20)	297	2	-	131	-
v	To ensure health and welfare of nearby villages, regular medical camps shall be organized at least once in six months.	<p>Dedicated dispensary to take care of villagers has been setup. Apart from this, the company organizes regular health care camp.</p> <p>On 5th October, a Mega Health Check-up was conducted at Tara Village in partnership with Govt Health Department, Surguja. Around 300 patients underwent health check-ups and were administered medicine free of cost.</p> <p>On 17th November, a Mega Health Check-up Camp was held at Adani Vidya Mandir, Salhi village. Different medical specialists like ENT, Gynaecologist, General Physician, Pediatrician, Orthopaedic, Cardiologist and Diabologist attended the camp. 525 villagers from 10 villages in close proximity to PKCL underwent health checkups and were given free medicines as per need.</p>						
vi	Thick green belt of 75 m width at the final boundary in the down wind direction of the project site shall be developed to mitigate/check the dust pollution.	A thick green belt of 7.5 Meter in form of safety barrier has been developed along the Northern side of project boundary						
vii	The maximum production from the coal washery at any given time shall not exceed the limit as prescribed in the EC.	Prescribed production limit shall be adhered to.						
viii	The project proponent shall obtain consent to establish from the State Pollution Control Boards of Chhattisgarh for the coal washery of 15 MTPA prior to commencement of the industrial operations.	CTE has been obtained from Chhattisgarh Environment Conservation Board vide letter 5119/TS/CECB/2018 dated 17.09.2018						
ix	Transportation of raw coal, washed coal and the rejects shall be through rail.	<p>1- No transportation of raw coal is being done as all coal produced from mines comes to washery for its beneficiation</p> <p>2- All washed coal is transported through rail only, with a system of conveyor belt, silo and rapid loading system</p> <p>3- Transportation of reject being done through railway only.</p>						
x	The technology so chosen for the washery should conform to 'Zero	Washery plant has adopted water reclamation system with zero discharge to outside water bodies. Water from						

Sl. No.	Condition	Status
	Liquid Discharge'	dewatering screens and other auxiliary equipment is being collected and fed to thickener in order to recover water and thicken the slurry. Overflow from the thickener is being fed into the process water tank for reuse into the process. Thickener underflow is being sent to belt press for dewatering and water thus recovered is reutilized in the process. No waste water discharge is envisaged from washery
xi	Efforts shall be made for utilizing alternate sources of surface water, abandoned mines or else whatsoever and thus minimizing the dependability on a single source.	Adequate quantity of mine water is collected and available throughout the year in mine sump for its use in all the industrial purposes including coal beneficiation, dust suppression, greenery development etc. No alternate source of water is required at present.
xii	Disposal of washery rejects shall be in accordance with the extant policy and guidelines, and environment friendly.	Disposal of washery reject is done in accordance with extant policy guideline and is environment friendly also.
xiii	Total fresh water requirement shall be less than 1.5 cum/tonne of raw coal.	Total fresh water requirement is well within the prescribed limit of 1.5 M <sup>3</sup> /tonne.
<b>Generic Conditions</b>		
<b>(a) Mining</b>		
i	Mining shall be carried out under strict adherence to provisions of the Mines Act 1952 and subordinate legislations made there-under as applicable.	Mining is carried out as per provisions of Mines Act 1952 and other applicable subordinate legislations made there under
ii	No change in mining method i.e. OC to UG, calendar programme and scope of work shall be made without obtaining prior approval of the Ministry of Environment, Forest and Climate Change.	Mining operations are carried out as per calendar plan and approved scope of work. No change in mining methodology shall be made without approval of Ministry of Environment, forests and Climate Change
iii	Mining shall be carried out as per the approved mining plan(including Mine Closure Plan) abiding by mining laws related to coal mining and the relevant circulars issued by Directorate General Mines Safety (DGMS).	Mining is carried out as per approved mining plan and progressive mine closure plan. All the applicable laws and relevant circulars issued by DGMS is being followed.
iv	No mining shall be carried out in forest land without obtaining Forestry Clearance as per the provisions of the Forest (Conservation) Act, 1980 and also adhering to The Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 read with provisions of Indian Forest Act, 1927.	Forest Clearance already granted by MoEF&CC and also the applicable provisions of Forest Right Act is being complied with.
<b>(b) Coal beneficiation</b>		
i	Coal beneficiation practices shall be carried out under strict adherence to	All the applicable provisions of Factory Act, 1957 are applied for coal beneficiation practices.

Sl. No.	Condition	Status
	provisions of the Factories Act, 1957 and subordinate legislations made there-under.	
ii	No change in coal beneficiation process and scope of work shall be made without obtaining prior approval of this Ministry. No change in the maximum quantum of raw material feed per annum against the approved washery capacity shall be made.	The Process and scope of coal beneficiation are as per proposal submitted to the ministry and the same shall be continued in future. The washery shall be abide with the stipulated approved annual capacity of 15 MTPA
iii	No ground water shall be used for coal washing unless otherwise permitted in writing by competent authority (CGWA) or MoEFCC. The make-up water requirement of washery should not exceed 1.5 m <sup>3</sup> /tonne of raw coal.	Permission of CGWA has been already obtained for 13195 m <sup>3</sup> / day. Make-up water requirement is well within the prescribed limit of 1.5 M <sup>3</sup> /tonne of raw coal.
<b>(c)</b>	<b>Land reclamation and water conservation</b>	
i	Digital Survey of entire lease hold area/core zone using Satellite Remote Sensing survey shall be carried out at least once in three years for monitoring land use pattern and report in 1:50,000 scale shall be submitted to Ministry of Environment, Forest and Climate Change/Regional Office (RO).	Digital survey of the lease area will be done this year with satellite imagery.
ii	The surface drainage plan including surface water conservation plan for the area of influence affected by the said mining operations, considering the presence of river/rivulet/pond/lake etc, shall be prepared and implemented by the project proponent. The surface drainage plan and/or any diversion of natural water courses shall be as per the approved Mining Plan/EIA/EMP report and with due approval of the concerned State/GOI Authority. The construction of embankment to prevent any danger against inrush of surface water into the mine should be as per the approved Mining Plan and as per the permission of DGMS.	Detailed surface drainage plan has been prepared and implemented for the area of influence of nearby water bodies. Rainwater harvesting by means of Rooftop rainwater harvesting have been done at office buildings at mines site and at residential colony of the company at village Gumga. Construction of recharge pits filled with conventional filter media and bore-holes are constructed inside the pond at village Basan and at edges of nallahs at village Gumga & Basan for augmentation groundwater.
iii	The final mine void depth should preferably be as per the approved Mine Closure Plan, and in case it exceeds 40 m, adequate engineering interventions shall be provided for sustenance of aquatic life therein. The remaining area shall be backfilled and covered with thick and alive top soil. Post-mining land be	Mine closure activities are being done in accordance with approved Mine Closure Plan for the Project. Depth of final mine void shall be 30 m at the end of mines life.

Sl. No.	Condition	Status																
	rendered usable for agricultural/forestry purposes and shall be handed over to the respective state government as specified in the guidelines for Preparation of Mine Closure Plan issued by the Ministry of Coal dated 27th August, 2009 and subsequent amendments.																	
iv	The entire excavated area, backfilling, external OB dumping (including top soil) and afforestation plan shall be in conformity with the "during mining"/"post mining" land-use pattern, which is an integral part of the approved Mining Plan and the EIA/EMP submitted to this Ministry. Progressive compliance status vis-a-vis the post mining land use pattern shall be submitted to the Ministry of Environment, Forest and Climate Change/Regional Office on six monthly basis.	<p>Agreed. Progress of reclamation and afforestation is being submitted with Six Monthly Compliance Report. Reclamation status till 31<sup>th</sup> March 2020 is mentioned below-</p> <table border="1" data-bbox="735 685 1378 1039"> <thead> <tr> <th data-bbox="743 685 1078 719">Particulars</th> <th data-bbox="1078 685 1378 719">Up to 31<sup>th</sup> March 2020</th> </tr> </thead> <tbody> <tr> <td data-bbox="743 719 1078 752"><b>Physical Reclamation (Ha)</b></td> <td data-bbox="1078 719 1378 752">177.97</td> </tr> <tr> <td data-bbox="743 752 1078 815"><b>Plantation/Biological reclamation (Ha)</b></td> <td data-bbox="1078 752 1378 815"></td> </tr> <tr> <td data-bbox="743 815 1078 848">External Dump (A)</td> <td data-bbox="1078 815 1378 848">72.36</td> </tr> <tr> <td data-bbox="743 848 1078 882">Internal Dump Area (B)</td> <td data-bbox="1078 848 1378 882">106.3</td> </tr> <tr> <td data-bbox="743 882 1078 916">Other areas (C)</td> <td data-bbox="1078 882 1378 916">28.05</td> </tr> <tr> <td data-bbox="743 916 1078 1003"><b>Total Biological Reclamation (A+B+C) in (Ha)</b></td> <td data-bbox="1078 916 1378 1003"><b>206.71</b></td> </tr> <tr> <td data-bbox="743 1003 1078 1039"><b>Total Plantation</b></td> <td data-bbox="1078 1003 1378 1039"><b>493689</b></td> </tr> </tbody> </table> <p>Drawing showing status of reclamation and proposed reclamation is enclosed as <b>Annexure-I</b>.</p> <p>* Mine operation started from Feb 2013.</p>	Particulars	Up to 31 <sup>th</sup> March 2020	<b>Physical Reclamation (Ha)</b>	177.97	<b>Plantation/Biological reclamation (Ha)</b>		External Dump (A)	72.36	Internal Dump Area (B)	106.3	Other areas (C)	28.05	<b>Total Biological Reclamation (A+B+C) in (Ha)</b>	<b>206.71</b>	<b>Total Plantation</b>	<b>493689</b>
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v	The top soil shall temporarily be stored at earmarked site(s) only and shall not be kept unutilized for long. The top soil shall be used for land reclamation and plantation purposes. Active OB dumps shall be stabilised with native grass species to prevent erosion and surface run off. The other overburden dumps shall be vegetated with native flora species. The excavated area shall be backfilled and afforested in line with the approved Mine Closure Plan. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment, Forest and Climate Change/ Regional Office on six monthly basis.	Agreed. Progress of reclamation and afforestation is being submitted with Six Monthly Compliance Report. Details of reclamation as mentioned above																
vi	An Integrated Surface Water Management Plan for the washery area up to its buffer zone considering the presence of any river/rivulet/pond/lake etc. with impact of coal washing activities on	<p>Integrated Surface Water Management Plan for the washery and mines area prepared &amp; implemented at site. Since, washery is adopting Zero Liquid Discharge condition; impact on any water bodies is not envisaged.</p> <p>A drainage network of around 13.5 Km has been</p>																

Sl. No.	Condition	Status
	it, shall be prepared, submitted to MoEFCC and implemented.	constructed for smooth flow of rainwater and to control any waterlogging at surface. Also 11 Nos of de-siltation ponds of varying size and capacity have been constructed. Total capacity of these ponds is around 1.97 Lacs M <sup>3</sup> .
vii	Three tier greenbelt comprising of a mix of native species, of minimum 30 m width shall be developed all along the washery area to check fugitive dust emissions and to render aesthetic to neighbouring stakeholders. A 3-tier green belt comprising of a mix of native species or tree species with thick leaves shall be developed along vacant areas, storage yards, loading/transfer points and also along internal roads/main approach roads.	A thick greenbelt of local plant species like Shorea robusta (Sal), Ficus Benghalensis, Madhuca Indica, Mangifera Indica, Azadirachta Indica, Dalbergia Sisoo is being developed in earmarked areas and continuous tree transplantation is also being planted through mechanized Transplanter in consultation with the Local Forest Department.  <b>Details of species wise plantation attached as Annexure-II.</b>
viii	Coal stacking plan shall be prepared separately for raw coal, clean coal, middling and rejects.	Washed coal and reject coal is stacked separately.
ix	Waste Water shall be effectively treated and recycled completely either for washery operations or maintenance of green belt around the plant.	Waste water of washery is passed through thickener and the clarified water is reutilised in washery operation. Settled moisture laden sludge is passed through belt press and water thus recovered is also reutilised in washery.
x	Rainwater harvesting in the washery premises shall be implemented for conservation and augmentation of ground water resources in consultation with Central Ground Water Board.	Rainwater harvesting by means of Rooftop rainwater harvesting is done at office buildings at mines site and at residential colony of the company.  • Eight Nos of Recharge pits filled with conventional filter media and recharge shaft are constructed inside the pond at village Basan • Other ten nos of similar structures are made at edges of nalas at villages Gumga & Basan.
xi	Fly ash shall be utilized for external dump of overburden, backfilling or stowing of mine as per provisions contained in clause (i) and (ii) of Subparagraph (8) of Fly Ash Notification S.O. 2804 (E) dated 3rd November, 2009 as amended from time to time. Compliance report shall be submitted to Regional Office of MoEF&CC, CPCB and SPCB.	Since there is no lignite or coal based power plant operating with 50 KM (by road) from this mines site, the condition to utilise flyash for external OB dump and backfilling is not applicable
<b>(d)</b>	<b>Emissions, effluents, and waste disposal</b>	
i	Transportation of coal, to the extent permitted by road, shall be carried out by covered trucks/conveyors. Effective control measures such as regular water/mist sprinkling/rain gun etc shall be carried out in critical areas prone to air pollution (with higher values of PM10/PM25) such	Washed coal & reject coal reject transported through rail only. Effective dust control measures are adopted in mine & washery.  Water spray is done on haul road with dedicated water tankers  Paved roads are cleaned with mechanical sweepers.

Sl. No.	Condition	Status
	as haul road, loading/unloading and transfer points. Fugitive dust emissions from all sources shall be controlled regularly. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central/State Pollution Control Board.	All point sources like transfer points have been equipped with dust suppression system or dust extraction system. Ambient Air Quality Monitoring is being done by NABL Accredited agency on monthly basis and same is being submitted regularly to Chhattisgarh Environment Conservation Board. <b>Monitoring Report for the period of October 2019 to March 2020 is enclosed as Annex-III.</b>
ii	Greenbelt consisting of 3-tier plantation of width not less than 7.5 m shall be developed all along the mine lease area in a phased manner. The green belt comprising a mix of native species shall be developed all along the major approach/ coal transportation roads.	Plantation of native species has been carried out along safety zone and approach road
iii	The transportation of coal shall be carried out as per the provisions and route proposed in the approved Mining Plan. Transportation of the coal through the existing road passing through any village shall be avoided. In case, it is proposed to construct a 'bypass' road, it should be so constructed so that the impact of sound, dust and accidents could be appropriately	Transportation of washed coal & reject Coal being done through rail only during compliance period.
iv	Vehicular emissions shall be kept under control and regularly monitored. All the vehicles engaged in mining and allied activities shall operate only after obtaining 'PUC' certificate from the authorized pollution testing centres.	Vehicles having valid PUC certificate, are only allowed in mining.
v	Coal stock pile/crusher/feeder and breaker material transfer points shall invariably be provided with dust suppression system. Belt-conveyors shall be fully covered to avoid air borne dust. Side cladding all along the conveyor gantry should be made to avoid air borne dust. Drills shall be wet operated or fitted with dust extractors.	<ol style="list-style-type: none"> <li>1- Dust suppression system has been already provided at all desired locations in existing coal washery circuit viz. Dump hopper, feeder breaker, Transfer tower building and barrel feed conveyor and coal stock pile. Similarly, DSS has been installed in new washery circuit at Dump hopper and Receiving &amp; discharge of all belt conveyors in New Washery.</li> <li>2- Dust extraction system have been installed at both the CHP units</li> <li>3- All Belt conveyors are covered</li> </ol>
vi	Coal handling plant shall be operated with effective control measures viz. bag filters/water or mist sprinkling system etc to check fugitive emissions from crushing operations, conveyor system, transfer points, etc.	Separate Dust extraction system have been installed for both coal handling units. Dust suppression system has been already provided at all desired locations of both washery.
vii	Ground water, excluding mine water, shall not be used for mining operations. Rainwater harvesting shall be implemented for conservation and augmentation of ground water resources.	<p>Mine water is being used for mining operation. Rainwater harvesting scheme approved by CGWA is implemented.</p> <ul style="list-style-type: none"> <li>• Rooftop rainwater harvesting system has been installed at office buildings at mines site and at residential colony of the company at village Gumga</li> <li>• Construction of eight numbers of recharge pits filled with</li> </ul>



Sl. No.	Condition	Status
		<p>conventional filter media and bore hole are constructed at pond of village Basan</p> <ul style="list-style-type: none"> <li>• Ten other similar recharge structure have been constructed at edge of Nala bed at village Basan and village Gumga</li> </ul>
viii	<p>Catch/garland drains and siltation ponds of appropriate size shall be constructed around the mine working, coal heaps &amp; OB dumps to prevent run off of water and flow of sediments directly into the river and water bodies. Further, dump material shall be properly consolidated/ compacted and accumulation of water over dumps shall be avoided by providing adequate channels for flow of silt into the drains. The drains/ ponds so constructed shall be regularly de-silted particularly before onset of monsoon and maintained properly. Sump capacity should provide adequate retention period to allow proper settling of silt material. The water so collected in the sump shall be utilised for dust suppression measures and green belt development. Dimension of the retaining wall constructed, if any, at the toe of the OB dumps within the mine to check run-off and siltation should be based on the rainfall data. The plantation of native species to be made between toe of dump and adjacent field/ habitation/ water bodies</p>	<p>Garland drains around ML area have been constructed. Catch drains around OB Dump already constructed. Soil Conservation/Measures being undertaken through plantation on slopes and use of geo-textiles over slopes.</p> <p>Details of existing catch drains and siltation ponds are mentioned below-</p> <p><b>A) Catch drains:</b></p> <ol style="list-style-type: none"> <li><b>Catch drain at External Dump-I</b> -Length-2100 m, Avg. Width- 2 m &amp; Avg. depth 2m</li> <li><b>Catch drain at External Dump-II</b>- Length-1200 m, Avg. Width- 2 m &amp; Avg. depth 2m.</li> </ol> <p><b>B) Siltation Ponds-</b> Total 11 siltation ponds have been constructed with total capacity of about 1,97000 cum.</p> <ol style="list-style-type: none"> <li><b>Three Siltation ponds in North of Salhi Dump-</b> <p><b>Siltation Pond-1-</b> Total capacity about 14855.82cum (Avg. Length 98 m, Avg. width 31 m and Avg. depth 4.89 m), <b>Siltation Pond-2-</b> Total capacity about 17902.17cum (Avg. Length 107 m, Avg. width 33 m and Avg. depth 5.07 m), <b>Siltation Pond-3-</b> Total capacity about 19454.4cum (Avg. Length 120 m, Avg. width 42 m and Avg. depth 3.86 m).</p> </li> <li><b>Two Siltation ponds near Baigapara-</b> <p><b>Siltation Pond-1-</b> Total capacity about 2818.8 cum(Avg. length 29 m, Avg. width 27 m and Avg. depth 3.6 m), <b>Siltation Pond-2-</b> Total capacity about 2646cum (Avg. length 28 m, Avg. width 27 m and Avg. depth 3.5 m) ,</p> </li> <li><b>One Siltation pond near weighbridge-</b> Total capacity about 16000cum (Avg. length 105 m, Avg. width 30 m and Avg. depth 5.2 m),</li> <li><b>One Siltation pond near washery-</b> Total capacity about 22600 cum (Avg. length 90 m, Avg. width 60 m and Avg. depth 4.2 m)</li> <li><b>One Siltation pond near substation-</b> Total capacity about 8131.3cum (Avg. length 61 m, Avg. width 43 m and Avg. depth 3.1 m)</li> <li><b>One Siltation pond near CHP-</b> Total capacity about 11880 cum (Avg. length 60 m, Avg. width 44 m and Avg. depth 4.5 m)</li> <li><b>One Siltation pond near Mini CHP-</b> Total capacity about 16250 cum (Avg. length 65 m, Avg. width 100 m and Avg. depth 2.5 m)</li> <li><b>One Siltation pond near Mini CHP-</b> Total capacity about 65000 cum (Common Avg. length 155 m, Avg. width 105 m and Avg. depth 4.0 m)</li> </ol>
ix	<p>Industrial waste water generated from CHP, workshop and other waste water, shall be properly collected and treated so as to conform to the standards prescribed under the Environment(Protection) Act, 1986 and the Rules made there under, and</p>	<p>Zero Discharge condition is being maintained. ETP has been established for treatment of workshop water and same is recycled for vehicle wash after treatment. Wastewater of washery is passed through thickener and the clarified water is reutilised in washery operation. Settled sludge is passed through belt press and water thus recovered is also reutilised in washery. A sewage treatment plant of 500 KLD</p>

Sl. No.	Condition	Status
	as amended from time to time. Oil and grease trap shall be installed and maintained fully functional with effluents discharge adhering to the norms. Sewage treatment plant of adequate capacity shall be installed for treatment of domestic waste.	capacity is installed inside residential colony of the company. Treated water from STP is used for toilet flushing and gardening. Treated water quality STP and ETP conform the standards as prescribed under Environment (Protection) Act 1986. <b>Monitoring Report enclosed as Annexure-III.</b>
x	Adequate groundwater recharge measures shall be taken up for augmentation of ground water. The project authorities shall meet water requirement of nearby village(s) in case the village wells go dry due to dewatering of mine.	Rainwater harvesting scheme approved by CGWA has been implemented.  <ul style="list-style-type: none"> <li>• Rooftop rainwater harvesting system has been installed at office buildings at mines site and at residential colony of the company at village Gumga</li> <li>• Construction of eight numbers of recharge pits filled with conventional filter media and bore hole are constructed at pond of village Basan</li> </ul> Ten other similar recharge structure have been constructed at edge of Nala bed at village Basan and village Gumga Water supply to nearby villages are provided under CSR activities of the company.
<b>illumination, noise &amp; vibration</b>		
i	Adequate illumination shall be ensured in all mine locations (as per DGMS standards) and monitored weekly. The report on the same shall be submitted to this ministry & its RO on six monthly basis.	Monitoring of Illumination is being done regularly as per DGMS standards.
ii	Adequate measures shall be taken for control of noise levels below 85 dB(A) in the work environment. Workers engaged in blasting and drilling operations, operation of HEMM, etc shall be provided with personal protective equipments (PPE) like ear plugs/muffs in conformity with the prescribed norms and guidelines in this regard. Adequate awareness programme for users to be conducted. Progress in usage of such accessories to be monitored.	M/s Vardan Enviro laboratories Pvt. Ltd., (Accredited NABL & MoEF) has been awarded environmental monitoring assignment. Regular monitoring of sound level is being done.  All desired PPEs have been provided to workmen and continuous awareness for safe working practices are spread through safety tool talk every day.
iii	Controlled blasting techniques shall be practiced in order to mitigate ground vibrations and fly rocks as per the guidelines prescribed by the DGMS.	Controlled blasting techniques have been adopted as per guidelines of DGMS.
iv	The noise level survey shall be carried out as per the prescribed guidelines to assess noise exposure of the workmen at vulnerable points in the mine premises, and report in this regard shall be submitted to the Ministry/RO on six monthly basis	Monitoring of noise being done on monthly basis and being submitted with Six Monthly Report.
<b>(f) Occupational health &amp; safety</b>		
i	The project proponent shall undertake occupational health survey for initial and periodical	Initial medical examination and periodical medical examination of the workmen engaged in the mining operation are being done as per provisions of Mining Rules

Sl. No.	Condition	Status
	medical examination of the workers engaged in the project and maintain records accordingly as per the provisions of the Mines Rules, 1955 and DGMS circulars. Besides regular periodic health check-up, 20% of the workers identified from workforce engaged in active mining operations shall be subjected to health check-up for occupational diseases and hearing impairment, if any.	and circulars of DGMS.
ii	Personnel (including outsourcing employees) working in dusty areas shall wear protective respiratory devices and shall also be provided with adequate training and information on safety and health aspects.	Respiratory protective devices have been provided to the personnel engaged in dust prone area have been. Also training and awareness programme is conducted to usage of PPEs
iii	Skill training as per safety norms specified by DGMS shall be provided to all workmen including the outsourcing employees to ensure high safety standards in mines.	Training as per safety norms specified by DGMS is being provided to all workmen
<b>(g)</b>	<b>Ecosystem and biodiversity conservation</b>	
i	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered flora/fauna, if any, spotted/reported in the study area. The Action plan in this regard, if any, shall be prepared and implemented in consultation with the State Forest and Wildlife Department.	<p>Wildlife plan was approved by PCCF (Wildlife) Chhattisgarh on 07<sup>th</sup> September, 2009 &amp; total cost approved for plan implementation was Rupees 22 Crore.</p> <p>Rs. 22.00 Cores deposited in CAMPA account for wildlife protection &amp; management as a compliance of FC Stage-I along with other levies.</p> <p>After incorporating the suggestions &amp; recommendations of WII, revised wildlife management plan of PEKB mine was approved by PCCF (Wildlife) on 06<sup>th</sup> March, 2013.</p> <p>As per conditions of Forest Clearance, implementation of wildlife management plan will be done by State government along with other independent institutes with the funds provided by User Agency.</p> <p>However, Project Proponent is ready to assist in the plan implementation as and when required by State Wildlife Dept. Matter is being continuously pursued with the State Forest Dept.</p>
<b>(h)</b>	<b>Public hearing, R&amp;R and CSR</b>	
i	Implementation of the action plan on the issues raised during the public hearing shall be ensured. The project proponent shall undertake all the tasks/measures as per the action plan submitted with budgetary provisions during the public hearing. Land oustees shall be compensated as per the norms laid down in the R&R policy of the company/State Government/Central Government, as	<p>Compliance of the issues raised during public hearing is being done.</p> <p>Resettlement and Rehabilitation Plan has been prepared as per Adarsh Punarwas Yojna of the State Government and same has been implemented as per approved plan.</p> <p>Following benefits have accrued to the project affected people :</p> <p>i. Rs. 79.55 Cr. has been paid against land compensation in four villages for acquisition of</p>

Sl. No.	Condition	Status
	applicable.	<p>368.190 ha private land.</p> <p>ii. Rs. 29.70 cr. has been paid as compensation for settling the forest rights of dwellers under the Forest Rights Act 2006 to 338 Forest right holders.</p> <p>iii. 397 persons have been given employment and Rs. 8.91 cr. has been paid as one time compensation (@ Rs. 3 lacs per person) to 297 persons in lieu of employment.</p> <p>iv. A monthly pension of Rs. 500 is being given to all persons who have attained the age of 60 years in the affected villages. This benefit is also going to the people who have not given their lands for the project. 240 people got benefited under this scheme during 2016-17.</p> <p>v. 165 no of plots having areas as per the approved R&amp;R Plan of Chhattisgarh state has been offered to Kete villagers (Project affected) in the R&amp;R colony at Basen village. In addition to these plots, 68 numbers of houses have also been constructed in the R&amp;R colony where other facilities such as roads, drains, lighting, water supply, school, Community center and health center etc. have been provided. A lump sum amount of Rs.3 lacs is also being given to families who are opting to construct their own houses either on the plots given or elsewhere</p>
ii	The project proponent shall ensure the expenditure towards socio-economic development in and around the mine, in every financial year in pursuance of the Corporate Social Responsibility Policy as per the provisions under Section 135 of the Companies Act, 2013	<p>The CSR initiatives initiated includes establishing /strengthening of schools roads, drainage and sanitation, community halls, drinking water into the villages and skill development of the local communities around of project site villages.</p> <p>CSR Details –</p> <p>(i) A model school of 10+ 2 under CBSE has been established in village Salhi for imparting education to boys and girls of the entire project affected villages. It is equipped with all modern facilities and infrastructure such as standard class rooms, library, computer room, science and math labs, art and music, audio visuals aids, CC TV cameras, WiFi, assembly point, play grounds etc. Education including tuition fees, uniforms, study materials, meals and transportation is absolutely free.</p> <p>(ii) A number of initiatives in form of project have been started under health, education, self-employment generation, agriculture, sports and culture and women empowerment etc. for uplifting the socio-economic status of the project affected people in 14 project area villages.</p> <p><b>CSR activities &amp; its expenses attached as Annexure –IV.</b></p>
iii	The project proponent shall follow the mitigation measures provided in this Ministry's OM No.Z-11 013/5712014-IA.I1 (M) dated 29th October, 2014, titled 'Impact of mining activities on habitations-issues related to the mining projects wherein habitations and villages are the part of mine lease areas or habitations and villages are surrounded by the mine lease area.	<p>All caution is taken to check the flow of silt into nearby stream or well etc. like construction of check dam, garland drain, retaining wall etc. regular monitoring of water table in area is done</p> <p>There is compulsory provision of usage of required PPEs in mines, regular awareness is spread through safety tool talk. Regular monitoring of illumination and sound is done</p>

Sl. No.	Condition	Status
		<p>Safe blasting is practiced using SME technology, blast vibration monitoring is done. Water sprinkling is done over haul road to control fugitive dust generation due to vehicular movement</p> <p>Special emphasis is there over Socio-economic development of the area</p>
iv	<p>The project proponent shall make necessary alternative arrangements, if grazing land is involved in core zone, in consultation with the State government to provide alternate areas for livestock grazing, if any. In this context, the project proponent shall implement the directions of Hon'ble Supreme Court with regard to acquiring grazing land.</p>	Agreed.
(i)	<p><b>Corporate environment responsibility</b></p>	
i	<p>The Company shall have a well laid down environment policy duly approved by Board of Directors. The environment policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental or forest norms/conditions. Also, the company shall have a defined system of reporting of non-compliances/violations of environmental norms to the Board of Directors and/or shareholders/stakeholders.</p>	<p>Corporate Environment Policy already laid down by RVUNL. Reporting of Non-compliances already in place.</p>
ii	<p>The project proponent shall comply with the provisions contained in this Ministry's OM dated 1st May, 2018, as applicable, regarding Corporate Environment Responsibility.</p>	<p>Many activities and projects are implemented around project areas w.r.t. Environment Protection.</p> <p>(a) For augmentation of groundwater table, Recharge Pits have been constructed</p> <p>(b) Saplings are distributed to villagers and also plantation is done by the company in nearby villages also apart from project area</p> <p>(c) To ensure accessibility to safe drinking water for villagers, a water treatment plant is established at village Salhi with PPP Model</p> <p>Other environmental upgradations will be taken up as per requirement and need of the project affected villages</p>
iii	<p>The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions</p>	<p>Organization chart for Environment clearance compliance will be displayed on RVUNL website</p>

Sl. No.	Condition	Status
	should be displayed on website of the Company	
iv	A separate environmental management cell both at the project and company headquarter level, with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.	The Environment Management Cell has been established under the supervision of Environmental officer at project site as well as at company head quarter.  A full-fledged environmental laboratory has been established. Regular environmental monitoring is being carried out by M/s Vardan Enviro Lab (Accredited NABL & MoEF).
v	Action plan for implementing EMP and environmental conditions shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry /Regional Office along with the Six Monthly Compliance Report.	Actions taken for implementation of EMP are enclosed. Environmental expenditure is recorded separately.  Detail of Environmental Expenditure is enclosed as <b>Annex - V</b> .
vi	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Self-environmental audit being conducted at site. Additionally third party audit shall be conducted in every three years
<b>(j)</b>	<b>Statutory Obligations</b>	
i	The environmental clearance shall be subject to orders of Hon'ble Supreme Court of India, Hon'ble High Court, NGT and any other Court of Law from time to time, and as applicable to the project.	Agreed
ii	This environmental clearance shall be subject to obtaining wildlife clearance, if applicable, from the Standing Committee of National Board for Wildlife.	Obtaining wildlife clearance is not applicable as the project does not fall in any protected area including National Park, Wildlife Sanctuary etc.
iii	The project proponent shall obtain Consent to Establish/Operate under the Air Act, 1981 and the Water Act, 1974 from the concerned State Pollution Control Board.	Consent to establish has been obtained from Chhattisgarh Environment Conservation Board vide letter 5119/TS/CECB/2018 dated 17.09.2018
iv	The project proponent shall obtain the necessary permission from the Central Ground Water Authority (CGWA).	NOC of CGWA has been obtained.
<b>(k)</b>	<b>Monitoring of project</b>	
i	Adequate ambient air quality monitoring stations shall be established in the core zone as well as in the buffer zone for monitoring of pollutants, namely PM10, PM2.5,	Ambient Air monitoring is done by M/s Vardan Enviro Lab., (Accredited NABL & MoEF) at core and buffer zone.  Monitoring Report is regularly submitted to MOEF Regional Office, SPCCB, & CPCB.

Sl. No.	Condition	Status
	<p>S02 and NOx. Location of the stations shall be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets in consultation with the State Pollution Control Board. Online ambient air quality monitoring stations may also be installed in addition to the regular monitoring stations as per the requirement and/or in consultation with the SPCB. Monitoring of heavy metals such as Hg, As, Ni, Cd, Cr, etc to be carried out atleast once in six months</p>	<p>Monitoring Report enclosed – Annex-III</p> <p>Four numbers of CAAQMS already installed within and around ML area.</p> <p>Monitoring of heavy metals shall be monitored and report will be submitted as per stipulated time frame</p>
ii	<p>The Ambient Air Quality monitoring in the core zone shall be carried out to ensure the Coal Industry Standards notified vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board. Data on ambient air quality and heavy metals such as Hg, As, Ni, Cd, Cr and other monitoring data shall be regularly reported to the Ministry/Regional Office and to the CPCB/SPCB</p>	<p>Ambient air quality monitoring is done in core zone as per stipulated standards. Summarized report is enclosed as <b>Annex -III.</b></p>
iii	<p>The effluent discharge (mine waste water, workshop effluent) shall be monitored in terms of the parameters notified under the Coal Industry Standards vide GSR 742 (E) dated 25.9.2000 and as amended from time to time by the Central Pollution Control Board.</p>	<p>The condition is complied with. Effluent generated at auto workshop (Vehicle wash) is properly treated at ETP and recycled for vehicle washing. Though the analysis of treated water is done at regular interval by M/s Vardan Enviro Lab (Accredited NABL &amp; MoEF) <b>Analysis Report Enclosed – Annex III.</b></p>
iv	<p>The monitoring data shall be uploaded on the company's website and displayed at the project site at a suitable location. The circular No. J-20012/1/2006-IA.11 (M) dated 27.05.2009 issued by Ministry of Environment, Forest and Climate Change shall also be referred in this regard for its compliance.</p>	<p>Agreed, Monitoring data are already being displayed at website of RVUNL along with six monthly compliance report.</p>
v	<p>Regular monitoring of ground water level and quality shall be carried out in and around the mine lease area by establishing a network of existing wells and constructing new piezometers during the mining operations. The monitoring of ground water levels shall be carried out four times a year i.e. pre-monsoon, monsoon, post-monsoon and winter. The ground water quality shall be monitored once a year, and the data thus collected shall be sent regularly</p>	<p>Monitoring of groundwater is being done and report is submitted to concerned authorities. Groundwater quality report is enclosed as <b>Annex -III.</b></p>

Sl. No.	Condition	Status
	to Ministry of Environment, Forest and Climate Change/Regional Office.	
vi	Monitoring of water quality upstream and downstream of water bodies shall be carried out once in six months and record of monitoring data shall be maintained and submitted to the Ministry of Environment, Forest and Climate Change/Regional Office.	Water quality of water bodies monitored regularly (Report enclosed <b>Annex -III</b> )
vii	The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental conditions to the Ministry of Environment, Forest and Climate Change/Regional Office. For half yearly monitoring reports, the data should be monitored for the period of April to September and October to March of the financial years.	Regularly submitting half yearly Compliance report. An earlier Half yearly Compliance status report period from - April-19 to September-19, has been sent thru Mail to concern office.
viii	The Regional Office of this Ministry 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 I information/monitoring reports.	Full cooperation will be extended to the officials of Regional office of MoEF. Any other information desired, shall be promptly provided
<b>(I)</b>	<b>Miscellaneous</b>	
i	Efforts should be made to reduce energy consumption by conservation, efficiency improvements and use of renewable energy.	All efforts are being made for energy optimization.
ii	The project authorities shall inform to the Regional Office regarding commencement of mining operations.	Mining operation with enhanced capacity of 15 MTPA is commenced w.e.f. 29 <sup>th</sup> Dec 2018
iii	A copy of the environmental clearance shall be marked to concerned Panchayat. A copy of the same shall also be sent to the concerned State Pollution Control Board, Regional Office, District Industry Sector and Collector's Office!Tehsildar Office for information in public domain within 30 days.	Agreed, Copy of Environmental clearance has been widely circulated.
iv	The EC shall be uploaded on the company's website. The compliance status of the stipulated EC conditions shall also be uploaded by the project authorities on their website and updated at least once every six months so as to bring the same in public domain.	Complied. EC letter uploaded on website of RVUNL <a href="http://energy.rajasthan.gov.in/content/raj/energy-department/rvunl/en/home.html">http://energy.rajasthan.gov.in/content/raj/energy-department/rvunl/en/home.html</a>



<b>Sl. No.</b>	<b>Condition</b>	<b>Status</b>
v	The project authorities shall 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 this clearance, informing that the project has been accorded environmental clearance and a copy of the same is available with the State Pollution Control Board and also at website of the Ministry.	Complied. EC Letter published in Hindi Daily 'Nai Duniya' and Dainik Bhaskar on 17th August 2018.
vi	The environmental statement for each financial year ending 31 March in Form-V is mandated to be submitted by the project proponent for the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be uploaded on the Company's website along with the status of compliance of EC conditions and shall be sent to the respective Regional Offices of the MoEF&CC by e-mail. Concerns raised during public hearing.	Environment Statement Report is regularly submitted to CECB for the every financial year in the month of Sept. Last Environmental Statement Report has been submitted to CECB Raipur.
vii	The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts and any other Court of Law relating to the subject matter.	The applicable provisions of Water Act, Air Act and Public Liability Insurance Act are being adhered. Also the company will abide with the directions or orders passed by Hon'ble Supreme Court of India/ High Court and other Court of Law relating to the subject matter
5	The proponent shall abide by all the commitments and recommendations made in the EIA/EMP report and also that during presentation to the EAC. All the commitments made on the issues raised during public hearing shall also be implemented in letter and spirit.	All the recommendations and commitments made in EIA/EMP and issues raised during public hearing being complied with.
6	The proponent shall obtain all necessary clearances/approvals that may be required before the start of the project. The Ministry or any other competent authority may stipulate any further condition for environmental protection. The Ministry or any other competent authority may stipulate any further condition for environmental	All the required clearances have been obtained. Any other conditions imposed by the competent authority in future shall also be complied.

Sl. No.	Condition	Status
	protection.	
7	The coal company/project proponent shall be liable to pay the compensation against the illegal mining, if any, and as raised by the respective State Governments at any point of time, in terms of the orders dated 2nd August, 2017 of Hon'ble Supreme Court in WP (Civil) No.114/2014 in the matter of 'Common Cause Vs Union of India & others'	Not applicable
8	The concerned State Government shall ensure that the mining operations shall not commence till the entire compensation for illegal mining, if any, is paid by the project proponent through their respective Department of Mining & Geology, in strict compliance of the judgment of Hon'ble Supreme Court.	Not Applicable
9	This environmental clearance shall not be operational till such time the project proponent complies with the above said judgment of Hon'ble Supreme Court, as applicable, and other statutory requirements.	Agreed
10	Any appeal against this environmental clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	No such appeal is supposed to have been plead as per stipulation
11	All recommendations of the Forest Advisory Committee in its meeting held on 25th January, 2018 while considering the proposal for diversion of 1898.328 ha of forest land involved under the project, and subsequently communicated vide the Ministry vide letter dated 12th April, 2018, shall be strictly adhered to by the project proponent.	Compliance of the same already sent by Nodal Officer. Regular compliance of FC conditions shall be done.
12	This EC supersedes the earlier EC/revalidated/amendment granted vide letter dated 21st December, 2011, 25th June, 2015 & 29th December, 2015 respectively, and is subject to final outcome of the Civil Appeal No.4395 of 2014 pending in Hon'ble Supreme Court of India.	The action is being taken to comply the conditions stipulated vide this EC



## Species-Wise Plantation Details up to March 2020

Sr. No.	Species	Botanical Name	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	G. Total
1	SAL	<i>Shorea robusta</i>	313	313	809	2487	1023	133	7816	6816	19710
2	KARANJ	<i>Pongamia pinnata</i>	0	550	5019	4780	6836	0	0	0	17185
3	KHAMHAR	<i>Gmelina arborea</i>	352	692	992	255	7882	10670	33	0	20876
4	ANOLA	<i>Phyllanthus emblica</i>	430	1110	0	1805	165	200	0	0	3710
5	SHESHAM	<i>Dalbergia sissoo</i>	526	526	3543	450	0	0	0	5838	10883
6	SIRAS	<i>Albizia lebeck</i>	0	0	0	125	0	0	0	0	125
7	BEL	<i>Aegle marmelos</i>	0	0	0	527	0	0	0	0	527
8	KHAIR	<i>Senegalia catechu</i>	0	3	0	400	0	5225	7940	10045	23613
9	Mango	<i>Mangifera indica</i>	3	0	0	494	7	1396	6499	1062	9461
10	SHISHU	<i>Dalbergia sissoo</i>	0	0	3542	6415	37187	16294	42513	32822	138773
11	GULMOHAR	<i>Delonix regia</i>	486	986	666	169	1993	0	0	0	4300
12	GUAVA	<i>Psidium guajava</i>	4	4	0	0	183	0	0	0	191
13	TEAK	<i>Tectona grandis</i>	0	462	0	0	25036	0	0	0	25498
14	PELTOPHORUM	<i>Peltophorum Pterocarpum</i>	0	4	170	885	1560	0	0	0	2619
15	ACACIA	<i>Acacia auriculiformis</i>	0	50	0	0	3234	0	0	0	3284
16	Kathal	<i>Artocarpus heterophyllus</i>	462	199	0	209	5	200	0	693	1768
17	JAMUN	<i>Syzygium cumini</i>	4	0	0	225	517	201	3597	16094	20638
18	BARGAD	<i>Ficus rubiginosa</i>	0	10	0	0	1	694	1969	473	3147
19	ARJUN	<i>Terminalia arjuna</i>	0	1	0	0	411	0	6482	17035	23929
20	PIPAL	<i>Ficus religiosa</i>	0	6	0	0	1	2431	2296	488	5222
21	IMLI	<i>Tamarindus indica</i>	0	10	58	0	713	0	0	0	781
22	AMALTAS	<i>Casia Fistula</i>	0	145	0	0	328	0	0	0	473

23	ORANGE	<i>Citrus X sinensis</i>	199	219	0	0	196	0	0	0	0	614
24	MAHUVA	<i>Madhuca longifolia</i>	10	0	0	0	0	0	0	4740	0	4750
25	SAJA	<i>Terminalia Elliptica.</i>	1	0	0	0	0	3184	7677	0	0	10862
26	TILSA	<i>Bauhinia Purpurea</i>	6	0	0	0	0	0	0	0	0	6
27	HARRA	<i>Terminalia Chebula</i>	145	0	0	0	0	0	0	0	0	145
28	BAHERRA	<i>Terminalia bellirica.</i>	219	0	0	0	0	0	0	0	0	219
29	KOSHAM	<i>Kosham tree</i>	561	0	0	0	0	0	0	990	0	1551
30	CHAR	<i>Buchanania cochinchinensis</i>	1	0	0	0	0	0	0	0	0	1
31	BAMBOO	<i>Bambusa Vulgaris</i>	0	561	0	0	9710	5487	26047	30065	0	71870
32	NEEM	<i>Azadirachata Indica</i>	10	1	0	0	915	8148	3805	1615	0	14494
33	SEMAL	<i>Bombax ceiba</i>	0	0	0	70	0	0	0	0	0	70
34	HALDU	<i>Haldina Cordifolia</i>	0	0	0	0	0	3265	5601	190	0	9056
35	MUNDI	<i>Sphaeranthus indicus</i>	0	0	0	0	0	8475	6373	0	0	14848
36	CHIKU	<i>Achras sapota</i>	0	0	0	0	0	200	0	0	0	200
37	LICHI	<i>Litchi chinensis</i>	0	0	0	0	0	200	0	0	0	200
38	KADAM	<i>Neolamarckia cadamba</i>	0	0	0	0	0	151	0	460	0	611
39	BIJA	<i>Pterocarpus Marsupium</i>	0	0	0	0	0	4151	9416	11787	0	25354
40	GULAR	<i>Ficus racemosa</i>	0	0	0	0	0	0	2107	0	0	2107
41	PAKAD	<i>Ficus virens</i>	0	0	0	0	0	0	18	0	0	18
	<b>TOTAL</b>		<b>3732</b>	<b>5852</b>	<b>14799</b>	<b>19296</b>	<b>97903</b>	<b>70705</b>	<b>140189</b>	<b>141213</b>	<b>493689</b>	

**Species wise report of Tree Transplantation by Transplanter - up to March-20**

Sr. No.	Species	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	G. Total
1	SAL	1341	993	118	668	1110	1476	811	208	6725
2	MAHUWA	45	0	215	330	455	40	75	44	1204
3	CHAR	20	0	0	45	35	0	5	0	105
4	JACK FRUIT	1	0	0	0	0	0	0	0	1
5	AMALTAS	4	0	0	0	1	0	12	0	17
6	MANGO	3	0	0	2	6	1	0	0	12
7	GUAVA	1	0	0	0	0	0	0	0	1
8	BHELVA	0	0	0	5	1	0	1	0	7
9	HALDU	0	0	0	1	0	0	0	0	1
10	KUMBHI	0	0	0	0	1	0	0	0	1
11	TENDU	0	0	0	20	12	0	7	0	39
12	JAMUN	0	0	0	1	6	0	0	0	7
13	KAHUWA	0	0	0	0	0	0	1	0	1
14	SIDHA	0	0	0	0	0	0	16	0	16
15	KASAE	0	0	0	0	0	0	1	0	1
16	BEL	0	0	0	0	0	0	1	0	1
17	SEMAL	0	0	0	0	0	0	1	0	1
18	KORKOT	0	0	0	0	0	0	1	0	1
19	BARGAD	0	0	0	0	0	0	1	0	1
20	KUSUM	0	0	0	0	0	0	1	0	1
21	GULAR	0	0	0	0	0	0	1	0	1
22	RUDRAKCHA	0	0	0	0	0	0	1	0	1
	<b>TOTAL</b>	<b>1415</b>	<b>993</b>	<b>333</b>	<b>1072</b>	<b>1627</b>	<b>1517</b>	<b>936</b>	<b>252</b>	<b>8145</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Village – Parsa

AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 (µg/M3)	PM 10 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)	CO (mg/M3)
Oct 2019	41.68	80.9	8.82	30.75	0.66
Nov 2019	39.84	70.77	8.51	26.54	0.67
Dec 2019	44.06	83.19	9.05	33.13	0.67
Jan 2020	39.34	78.46	7.55	31.3	0.68
Feb 2020	46.18	85.13	8.73	24.3	0.74
Mar 2020	48.1	85.3	8.06	25.39	0.75
<b>Minimum</b>	<b>39.34</b>	<b>70.77</b>	<b>7.55</b>	<b>24.3</b>	<b>0.66</b>
<b>Maximum</b>	<b>48.1</b>	<b>85.3</b>	<b>9.05</b>	<b>33.13</b>	<b>0.75</b>
<b>Average</b>	<b>43.20</b>	<b>80.63</b>	<b>8.45</b>	<b>28.57</b>	<b>0.70</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Village – Salhi

#### AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 (µg/M3)	PM 10 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)	CO (mg/M3)
Oct 2019	40.05	75.27	8.5	29.56	0.69
Nov 2019	40.56	72.99	8.87	25.52	0.67
Dec 2019	41.55	79.28	8.2	32.44	0.73
Jan 2020	38.68	73.24	8.74	21.44	0.72
Feb 2020	50.39	87.66	10.04	28.1	0.87
Mar 2020	47.4	85.61	8.3	24.53	0.74
<b>Minimum</b>	<b>38.68</b>	<b>72.99</b>	<b>8.2</b>	<b>21.44</b>	<b>0.67</b>
<b>Maximum</b>	<b>50.39</b>	<b>87.66</b>	<b>10.04</b>	<b>32.44</b>	<b>0.87</b>
<b>Average</b>	<b>43.11</b>	<b>79.01</b>	<b>8.78</b>	<b>26.93</b>	<b>0.74</b>



Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Village – Ghatabara

#### AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 (µg/M3)	PM 10 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)	CO (mg/M3)
Oct 2019	40.31	75.15	8.61	29.77	0.63
Nov 2019	40.07	74.67	8.01	29.21	0.72
Dec 2019	45.06	79.53	9.06	30.44	0.75
Jan 2020	40.41	71.93	8.85	21.79	0.71
Feb 2020	48.31	85.9	8.61	27.93	0.8
Mar 2020	48.3	86.66	8.04	25.58	0.74
<b>Minimum</b>	<b>40.07</b>	<b>71.93</b>	<b>8.01</b>	<b>21.79</b>	<b>0.63</b>
<b>Maximum</b>	<b>48.31</b>	<b>86.66</b>	<b>9.06</b>	<b>30.44</b>	<b>0.8</b>
<b>Average</b>	<b>43.74</b>	<b>78.97</b>	<b>8.53</b>	<b>27.45</b>	<b>0.73</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Village – Parogiya

AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 (µg/M3)	PM 10 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)	CO (mg/M3)
Oct 2019	43.72	74.71	8.62	26.28	0.63
Nov 2019	45	79.57	8.7	27.62	0.71
Dec 2019	46.94	79.84	9.23	29.21	0.67
Jan 2020	44.81	78.84	8.49	21.01	0.7
Feb 2020	49.74	88.1	9.03	26.3	0.74
Mar 2020	46.29	84.65	9.89	26.29	0.73
<b>Minimum</b>	<b>43.72</b>	<b>74.71</b>	<b>8.49</b>	<b>21.01</b>	<b>0.63</b>
<b>Maximum</b>	<b>49.74</b>	<b>88.1</b>	<b>9.89</b>	<b>29.21</b>	<b>0.74</b>
<b>Average</b>	<b>46.08</b>	<b>80.95</b>	<b>8.99</b>	<b>26.12</b>	<b>0.70</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Village – Baigapara

#### AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 ( $\mu\text{g}/\text{M}^3$ )	PM 10 ( $\mu\text{g}/\text{M}^3$ )	SO <sub>2</sub> ( $\mu\text{g}/\text{M}^3$ )	NO <sub>x</sub> ( $\mu\text{g}/\text{M}^3$ )	CO ( $\text{mg}/\text{M}^3$ )
Oct 2019	39.78	70.8	8.53	26.35	0.66
Nov 2019	43.39	78.61	9.05	24.9	0.65
Dec 2019	42.41	74.68	8.88	27.24	0.69
Jan 2020	45.23	75.75	9.39	22.56	0.69
Feb 2020	48.06	85.66	8.26	25.39	0.76
Mar 2020	50.01	85.9	8.89	25.53	0.78
<b>Minimum</b>	<b>39.78</b>	<b>70.8</b>	<b>8.26</b>	<b>22.56</b>	<b>0.65</b>
<b>Maximum</b>	<b>50.01</b>	<b>85.9</b>	<b>9.39</b>	<b>27.24</b>	<b>0.78</b>
<b>Average</b>	<b>44.81</b>	<b>78.57</b>	<b>8.83</b>	<b>25.33</b>	<b>0.71</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Near coal Washery area

#### AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 (µg/M3)	PM 10 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)	CO (mg/M3)
Oct 2019	38.66	71.2	8.53	27.12	0.69
Nov 2019	45.19	83.4	8.87	26.5	0.77
Dec 2019	42.68	74.36	8.74	30.56	30.56
Jan 2020	42.33	76.99	8.91	23.53	0.77
Feb 2020	48.31	89.46	7.63	25.98	0.75
Mar 2020	48.4	87.3	8.96	30.53	0.83
<b>Minimum</b>	<b>38.66</b>	<b>71.2</b>	<b>7.63</b>	<b>23.53</b>	<b>0.69</b>
<b>Maximum</b>	<b>48.4</b>	<b>89.46</b>	<b>8.96</b>	<b>30.56</b>	<b>30.56</b>
<b>Average</b>	<b>44.26</b>	<b>80.45</b>	<b>8.61</b>	<b>27.37</b>	<b>5.73</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Near Coal Mine area

#### AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 (µg/M3)	PM 10 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)	CO (mg/M3)
Oct 2019	39.76	72.15	8.95	24.33	0.65
Nov 2019	42.84	79.52	8.82	27.4	0.74
Dec 2019	41.98	77.13	9.01	27.1	0.7
Jan 2020	43.55	81.03	8.55	24.69	0.75
Feb 2020	46.61	86.43	9.26	27.06	0.81
Mar 2020	47.29	85.21	8.61	24.6	0.77
<b>Minimum</b>	<b>39.76</b>	<b>72.15</b>	<b>8.55</b>	<b>24.33</b>	<b>0.65</b>
<b>Maximum</b>	<b>47.29</b>	<b>86.43</b>	<b>9.26</b>	<b>27.4</b>	<b>0.81</b>
<b>Average</b>	<b>43.67</b>	<b>80.25</b>	<b>8.87</b>	<b>25.86</b>	<b>0.74</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Village – Basan Village

#### AMBIENT AIR QUALITY MONITORING RESULTS

Month	PM 2.5 (µg/M3)	PM 10 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)	CO (mg/M3)
Oct 2019	39.51	73.77	8.62	26	0.7
Nov 2019	43.72	74.71	8.62	26.29	0.63
Dec 2019	42.95	76.74	9.1	30.28	0.74
Jan 2020	44.65	81.28	8.48	23.69	0.77
Feb 2020	48.46	86.11	9.1	26.91	0.75
Mar 2020	47.59	84.38	8.9	27.13	0.69
<b>Minimum</b>	<b>39.51</b>	<b>73.77</b>	<b>8.48</b>	<b>23.69</b>	<b>0.63</b>
<b>Maximum</b>	<b>48.46</b>	<b>86.11</b>	<b>9.1</b>	<b>30.28</b>	<b>0.77</b>
<b>Average</b>	<b>44.48</b>	<b>79.50</b>	<b>8.80</b>	<b>26.72</b>	<b>0.71</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Near CHP Area

#### WORK ZONE AIR QUALITY MONITORING RESULTS

Month	SPM (µg/M3)	PM 10 (µg/M3)	PM 2.5 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)
Oct 2019	154.26	76.15	45.21	9.12	23.5
Nov 2019	158.42	78.24	46.8	9.21	26.81
Dec 2019	146.2	82.36	49.52	9.32	24.32
Jan 2020	142.6	81.45	47.55	9.41	22.16
Feb 2020	145.12	78.21	45.84	9.32	21.3
Mar 2020	144.52	75.31	42.83	9.26	20.18
<b>Min</b>	<b>142.6</b>	<b>75.31</b>	<b>42.83</b>	<b>9.12</b>	<b>20.18</b>
<b>Max</b>	<b>158.42</b>	<b>82.36</b>	<b>49.52</b>	<b>9.41</b>	<b>26.81</b>
<b>Avg</b>	<b>148.52</b>	<b>78.62</b>	<b>46.29</b>	<b>9.27</b>	<b>23.05</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Near Washery Area

#### WORK ZONE AIR QUALITY MONITORING RESULTS

Month	SPM (µg/M3)	PM 10 (µg/M3)	PM 2.5 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)
Oct 2019	162.82	75.11	44.72	7.79	18.46
Nov 2019	163.49	77.5	43.74	7.95	20.3
Dec 2019	156.3	78.52	46.16	8.12	18.67
Jan 2020	150.16	72.82	45.98	8.46	18.15
Feb 2020	148.54	75.36	41.02	8.14	15.46
Mar 2020	146.18	73.18	39.05	8.76	14.59
<b>Min</b>	<b>146.18</b>	<b>72.82</b>	<b>39.05</b>	<b>7.79</b>	<b>14.59</b>
<b>Max</b>	<b>163.49</b>	<b>78.52</b>	<b>46.16</b>	<b>8.76</b>	<b>20.3</b>
<b>Avg</b>	<b>154.58</b>	<b>75.42</b>	<b>43.45</b>	<b>8.22</b>	<b>17.61</b>



Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : As per CPCB/SPCB/MoEF&CC/IS-5182

Name of Monitoring Location : Mine Pit area

Work Zone AIR QUALITY MONITORING RESULTS

Month	SPM (µg/M3)	PM 10 (µg/M3)	PM 2.5 (µg/M3)	SO2 (µg/M3)	NOx (µg/M3)
Oct 2019	149.62	85.29	46.37	9.1	24.49
Nov 2019	151.29	87.1	43.52	9.3	25.92
Dec 2019	152.84	89.13	47.5	9.73	23.41
Jan 2020	155.2	90.42	48.86	10.37	24.78
Feb 2020	151.02	85.34	46.51	9.7	23.26
Mar 2020	148.02	83.26	43.12	9.74	22.84
<b>Min</b>	<b>148.02</b>	<b>83.26</b>	<b>43.12</b>	<b>9.1</b>	<b>22.84</b>
<b>Max</b>	<b>155.2</b>	<b>90.42</b>	<b>48.86</b>	<b>10.37</b>	<b>25.92</b>
<b>Avg</b>	<b>151.33</b>	<b>86.76</b>	<b>45.98</b>	<b>9.66</b>	<b>24.12</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : IS-3025, APHA 22<sup>nd</sup> Edition

Sampling Description : Workshop ETP Water

Month	pH	COD	BOD (3 days at 27 Deg)	TSS	Oil & Grease	Copper as Cu	Nickel as Ni	Lead as Pb	Mercury as Hg	Hexavalent Chromium as Cr+6
Oct 2019	7.64	84.56	23	39	0.86	0.65	BDL	0.55	0.28	BDL
Nov 2019	7.76	86.5	24	41	0.88	0.67	BDL	0.52	0.25	BDL
Dec 2019	7.69	88.6	25	43	0.89	0.7	BDL	0.56	0.24	BDL
Jan 2020	7.72	90.5	26	45	0.92	0.75	BDL	0.59	0.29	BDL
Feb 2020	7.67	87.5	22	43	0.88	0.72	BDL	0.54	0.26	BDL
Mar 2020	7.71	86.7	21	41	0.86	0.69	BDL	0.53	0.24	BDL
<b>Minimum</b>	<b>7.64</b>	<b>84.56</b>	<b>21</b>	<b>39</b>	<b>0.86</b>	<b>0.65</b>	<b>BDL</b>	<b>0.52</b>	<b>0.24</b>	<b>BDL</b>
<b>Maximum</b>	<b>7.76</b>	<b>90.5</b>	<b>26</b>	<b>45</b>	<b>0.92</b>	<b>0.75</b>	<b>BDL</b>	<b>0.59</b>	<b>0.29</b>	<b>BDL</b>
<b>Average</b>	<b>7.70</b>	<b>87.39</b>	<b>23.50</b>	<b>42.00</b>	<b>0.88</b>	<b>0.70</b>	<b>BDL</b>	<b>0.55</b>	<b>0.26</b>	<b>BDL</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : IS-3025, APHA 22<sup>nd</sup> Edition

Sampling Description : Mix Drain Water at Settling Pond

Month	pH	COD	BOD (3 days at 27 Deg)	TSS	Oil & Grease	Copper as Cu	Nickel as Ni	Lead as Pb	Mercury as Hg	Hexavalent Chromium as Cr+6
Oct 2019	7.79	86.46	25	32	0.66	0.55	BDL	0.4	0.26	BDL
Nov 2019	7.74	89.4	26	38	0.69	0.58	BDL	0.44	0.32	BDL
Dec 2019	7.78	90	27	40	0.73	0.61	BDL	0.47	0.35	BDL
Jan 2020	7.81	87	22	36	0.65	0.55	BDL	0.41	0.32	BDL
Feb 2020	7.73	81	19	38	0.61	0.48	BDL	0.39	0.3	BDL
Mar 2020	7.66	79.2	16	32	0.58	0.45	BDL	0.37	0.29	BDL
<b>Minimum</b>	<b>7.66</b>	<b>79.2</b>	<b>16</b>	<b>32</b>	<b>0.58</b>	<b>0.45</b>	<b>BDL</b>	<b>0.37</b>	<b>0.26</b>	<b>BDL</b>
<b>Maximum</b>	<b>7.81</b>	<b>90</b>	<b>27</b>	<b>40</b>	<b>0.73</b>	<b>0.61</b>	<b>BDL</b>	<b>0.47</b>	<b>0.35</b>	<b>BDL</b>
<b>Average</b>	<b>7.75</b>	<b>85.51</b>	<b>22.50</b>	<b>36.00</b>	<b>0.65</b>	<b>0.54</b>	<b>BDL</b>	<b>0.41</b>	<b>0.31</b>	<b>BDL</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Oct 2019 to Mar 2020

Testing Protocol/ Method : IS-3025, APHA 22<sup>nd</sup> Edition

Sampling Description : STP Treated Water

Month	pH	COD	BOD (3 days at 27 Deg)	TSS	Oil & Grease	Copper as Cu	Nickel as Ni	Lead as Pb	Mercury as Hg	Hexavalent Chromium as Cr+6
Oct 2019	7.65	81.49	24	40	0.2	0.15	BDL	0.16	BDL	BDL
Nov 2019	7.72	79.62	22	35	0.2	0.13	BDL	0.14	BDL	BDL
Dec 2019	7.74	82.82	24	37	0.2	0.15	BDL	0.13	BDL	BDL
Jan 2020	7.71	84.5	23	33	0.2	0.18	BDL	0.12	BDL	BDL
Feb 2020	7.43	79.6	21	35	0.2	0.16	BDL	0.15	BDL	BDL
Mar 2020	7.42	78.6	20	33	0.2	0.15	BDL	0.14	BDL	BDL
<b>Minimum</b>	<b>7.42</b>	<b>78.6</b>	<b>20</b>	<b>33</b>	<b>0.2</b>	<b>0.13</b>	<b>BDL</b>	<b>0.12</b>	<b>BDL</b>	<b>BDL</b>
<b>Maximum</b>	<b>7.74</b>	<b>84.5</b>	<b>24</b>	<b>40</b>	<b>0.2</b>	<b>0.18</b>	<b>BDL</b>	<b>0.16</b>	<b>BDL</b>	<b>BDL</b>
<b>Average</b>	<b>7.61</b>	<b>81.11</b>	<b>22.33</b>	<b>35.50</b>	<b>0.20</b>	<b>0.15</b>	<b>BDL</b>	<b>0.14</b>	<b>BDL</b>	<b>BDL</b>

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Nov 2019 (Post-Monsoon), (Core Zone)

Testing Protocol/ Method : IS-10500-2012/ APHA 22<sup>ND</sup> Edition 2012

Sampling Description : Groundwater

Parameters	Unit	Maximum Permissible Limit	Location			
			Vill - Near Mango Garden	Vill- Salhi	Vill- Parsa	Vill- Basan
pH	--	6.5 – 8.5	7.49	7.5	7.69	7.52
Colour	Hazen	15	BDL	BDL	BDL	BDL
Turbidity	NTU	5	BDL	BDL	BDL	BDL
Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Hardness	Mg/l	600	76	94	115	97
Calcium As Ca	Mg/l	200	29.45	25.18	40.75	28.9
Alkalinity as CaCO <sub>3</sub>	Mg/l	600	57.26	76.11	95.62	81.32
Chloride as Cl	Mg/l	1000	20.48	18.25	32.81	21.06
Cyanide as CN	Mg/l	0.05	BDL	BDL	BDL	BDL
Magnesium as Mg	Mg/l	100	1.34	7.57	3.24	6.05
TDS	Mg/l	2000	151	166	221	172
Sulphate as SO <sub>4</sub>	Mg/l	400	4.88	6.22	8.59	7.05
Fluoride as F	Mg/l	1.5	0.36	0.45	0.33	0.5
Nitrate as NO <sub>3</sub>	Mg/l	45	9.68	3.56	5.41	3.89
Iron as Fe	Mg/l	0.3	0.29	0.25	0.21	0.26
Aluminum as Al	Mg/l	0.2	BDL	BDL	BDL	BDL
Boron	Mg/l	1	BDL	BDL	BDL	BDL
Total Chromium as Cr	Mg/l	0.05	BDL	BDL	BDL	BDL
Phenolic Compound	Mg/l	0.002	BDL	BDL	BDL	BDL
Mineral Oil	Mg/l	0.5	BDL	BDL	BDL	BDL
Anionic Detergent as MBAS	Mg/l	1	BDL	BDL	BDL	BDL
Zink as Zn	Mg/l	15	0.31	0.31	0.17	0.31
Copper as Cu	Mg/l	1.5	0.12	BDL	BDL	BDL
Manganese as Mn	Mg/l	0.3	BDL	BDL	BDL	BDL
Cadmium as Cd	Mg/l	0.003	BDL	BDL	BDL	BDL
Lead as Pb	Mg/l	0.01	BDL	BDL	BDL	BDL
Selenium as Se	Mg/l	0.01	BDL	BDL	BDL	BDL
Arsenic as As	Mg/l	0.05	BDL	BDL	BDL	BDL
Mercury as Hg	Mg/l	0.001	BDL	BDL	BDL	BDL
Total Coliform	MPN/100 MI	Not Detectable in 100 MI Sample	<2/100	<2/100	<2/100	Absent

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Nov 2019 (Post-Monsoon), (Buffer Zone)

Testing Protocol/ Method : IS-10500-2012/ APHA 22<sup>ND</sup> Edition 2012

Sampling Description : Groundwater

Parameters	Unit	Maximum Permissible Limit	Location			
			Vill - Shiv Nagar	Vill - Gidmuri	Vill - Parogiya	Vill - Salba
pH	--	6.5 – 8.5	7.38	7.52	7.64	7.81
Colour	Hazen	15	BDL	BDL	BDL	BDL
Turbidity	NTU	5	BDL	BDL	BDL	BDL
Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Hardness	Mg/l	600	101	119	120	95
Calcium As Ca	Mg/l	200	21.82	36.84	32.48	22.39
Alkalinity as CaCO <sub>3</sub>	Mg/l	600	62.73	98.68	93.52	76.43
Chloride as Cl	Mg/l	1000	8.64	33.1	31.49	15.13
Cyanide as CN	Mg/l	0.05	BDL	BDL	BDL	BDL
Magnesium as Mg	Mg/l	100	11.31	6.58	9.47	9.51
TDS	Mg/l	2000	148	227	171	197
Sulphate as SO <sub>4</sub>	Mg/l	400	3.03	8.95	7.1	7.43
Fluoride as F	Mg/l	1.5	0.19	0.53	0.43	0.31
Nitrate as NO <sub>3</sub>	Mg/l	45	1.26	6.9	5.13	4.93
Iron as Fe	Mg/l	0.3	0.15	0.28	0.29	0.22
Aluminum as Al	Mg/l	0.2	BDL	BDL	BDL	BDL
Boron	Mg/l	1	BDL	BDL	BDL	BDL
Total Chromium as Cr	Mg/l	0.05	BDL	BDL	BDL	BDL
Phenolic Compound	Mg/l	0.002	BDL	BDL	BDL	BDL
Mineral Oil	Mg/l	0.5	BDL	BDL	BDL	BDL
Anionic Detergent as MBAS	Mg/l	1	BDL	BDL	BDL	BDL
Zink as Zn	Mg/l	15	0.26	0.21	BDL	0.15
Copper as Cu	Mg/l	1.5	BDL	BDL	BDL	BDL
Manganese as Mn	Mg/l	0.3	BDL	BDL	BDL	BDL
Cadmium as Cd	Mg/l	0.003	BDL	BDL	BDL	BDL
Lead as Pb	Mg/l	0.01	BDL	BDL	BDL	BDL
Selenium as Se	Mg/l	0.01	BDL	BDL	BDL	BDL
Arsenic as As	Mg/l	0.05	BDL	BDL	BDL	BDL
Mercury as Hg	Mg/l	0.001	BDL	BDL	BDL	BDL
Total Coliform	MPN/100 MI	Not Detectable in 100 MI Sample	<2/100	Absent	<2/100	<2/100

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Jan 2020 (Winter), (Core Zone)

Testing Protocol/ Method : IS-10500-2012/ APHA 22<sup>ND</sup> Edition 2012

Sampling Description : Groundwater

Parameters	Unit	Maximum Permissible Limit	Location			
			Vill - Near Mango Garden	Vill- Salhi	Vill- Parsa	Vill- Basan
pH	--	6.5 – 8.5	7.38	7.52	7.81	7.78
Colour	Hazen	15	BDL	BDL	BDL	BDL
Turbidity	NTU	5	BDL	BDL	BDL	BDL
Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Hardness	Mg/l	600	101	119	95	49
Calcium As Ca	Mg/l	200	21.82	36.84	22.39	11.28
Alkalinity as CaCO <sub>3</sub>	Mg/l	600	62.73	98.68	76.43	11.28
Chloride as Cl	Mg/l	1000	8.64	33.1	15.13	37.55
Cyanide as CN	Mg/l	0.05	BDL	BDL	BDL	BDL
Magnesium as Mg	Mg/l	100	11.2	6.58	9.51	5.07
TDS	Mg/l	2000	148	227	197	88
Sulphate as SO <sub>4</sub>	Mg/l	400	3.03	8.95	7.43	3.68
Fluoride as F	Mg/l	1.5	0.19	0.53	0.31	0.1
Nitrate as NO <sub>3</sub>	Mg/l	45	1.26	6.9	4.93	BDL
Iron as Fe	Mg/l	0.3	0.15	0.21	0.22	0.07
Aluminum as Al	Mg/l	0.2	BDL	BDL	BDL	BDL
Boron	Mg/l	1	BDL	BDL	BDL	BDL
Total Chromium as Cr	Mg/l	0.05	BDL	BDL	BDL	BDL
Phenolic Compound	Mg/l	0.002	BDL	BDL	BDL	BDL
Mineral Oil	Mg/l	0.5	BDL	BDL	BDL	BDL
Anionic Detergent as MBAS	Mg/l	1	BDL	BDL	BDL	BDL
Zink as Zn	Mg/l	15	0.26	0.21	0.15	BDL
Copper as Cu	Mg/l	1.5	BDL	BDL	BDL	BDL
Manganese as Mn	Mg/l	0.3	BDL	BDL	BDL	BDL
Cadmium as Cd	Mg/l	0.003	BDL	BDL	BDL	BDL
Lead as Pb	Mg/l	0.01	BDL	BDL	BDL	BDL
Selenium as Se	Mg/l	0.01	BDL	BDL	BDL	BDL
Arsenic as As	Mg/l	0.05	BDL	BDL	BDL	BDL
Mercury as Hg	Mg/l	0.001	BDL	BDL	BDL	BDL
Total Coliform	MPN/100 MI	Not Detectable in 100 MI Sample	<2/100	<2/100	<2/100	Absent

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Jan 2020 (Winter), (Buffer Zone)

Testing Protocol/ Method : IS-10500-2012/ APHA 22<sup>ND</sup> Edition 2012

Sampling Description : Groundwater

Parameters	Unit	Maximum Permissible Limit	Location			
			Vill - Shiv Nagar	Vill - Gidmuri	Vill - Parogiya	Vill - Salba
pH	--	6.5 – 8.5	7.38	7.46	7.61	7.68
Colour	Hazen	15	BDL	BDL	BDL	BDL
Turbidity	NTU	5	BDL	BDL	BDL	BDL
Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Taste	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
Total Hardness	Mg/l	600	101	98	148	125
Calcium As Ca	Mg/l	200	21.82	24.37	52.69	41.85
Alkalinity as CaCO <sub>3</sub>	Mg/l	600	62.73	65.73	132.41	92.57
Chloride as Cl	Mg/l	1000	8.64	10.56	41.28	39.76
Cyanide as CN	Mg/l	0.05	BDL	BDL	BDL	BDL
Magnesium as Mg	Mg/l	100	11.31	9.04	4.01	5
TDS	Mg/l	2000	148	152	291	201
Sulphate as SO <sub>4</sub>	Mg/l	400	3.03	3.24	16.21	9.16
Fluoride as F	Mg/l	1.5	0.19	0.21	0.44	0.39
Nitrate as NO <sub>3</sub>	Mg/l	45	1.26	1.3	7.39	5.68
Iron as Fe	Mg/l	0.3	0.15	0.18	0.15	0.25
Aluminum as Al	Mg/l	0.2	BDL	BDL	BDL	BDL
Boron	Mg/l	1	BDL	BDL	BDL	BDL
Total Chromium as Cr	Mg/l	0.05	BDL	BDL	BDL	BDL
Phenolic Compound	Mg/l	0.002	BDL	BDL	BDL	BDL
Mineral Oil	Mg/l	0.5	BDL	BDL	BDL	BDL
Anionic Detergent as MBAS	Mg/l	1	BDL	BDL	BDL	BDL
Zink as Zn	Mg/l	15	0.26	0.32	0.13	0.15
Copper as Cu	Mg/l	1.5	BDL	BDL	BDL	BDL
Manganese as Mn	Mg/l	0.3	BDL	BDL	BDL	BDL
Cadmium as Cd	Mg/l	0.003	BDL	BDL	BDL	BDL
Lead as Pb	Mg/l	0.01	BDL	BDL	BDL	BDL
Selenium as Se	Mg/l	0.01	BDL	BDL	BDL	BDL
Arsenic as As	Mg/l	0.05	BDL	BDL	BDL	BDL
Mercury as Hg	Mg/l	0.001	BDL	BDL	BDL	BDL
Total Coliform	MPN/100 MI	Not Detectable in 100 MI Sample	<2/100	<2/100	Absent	<2/100



Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
Chhattisgarh

Monitoring Period : Nov-19/Jan-20

Testing Protocol/ Method : IS-2296 Class-A

Sampling Description : Surface water sample – Atem River

Parameters	Unit	Limits as per IS-2296 Class - A	Post-Monsoon (November-2019)	Winter (January -2020)
pH	--	6.5 – 8.5	7.68	7.06
Colour	Hazen	10	BDL	BDL
Chloride	NTU	250	37.5	16.44
TDS	Mg/l	500	186	135.00
Dissolve Oxygen	Mg/l	4	2.6	1.9
Sulphate as SO <sub>4</sub>	Mg/l	400	28.0	14.00
Fluoride as F	Mg/l	1.5	0.38	0.26
Iron as Fe		0.3	0.21	0.19
Chromium as Cr+6	Mg/l	0.05	BDL	BDL
Anionic Detergent as MBAS	Mg/l	1.0	BDL	BDL
Zink as Zn	Mg/l	15	0.59	0.45
Copper as Cu	Mg/l	1.5	BDL	BDL
Oil & Grease	Mg/l	--	BDL	BDL
Nitrate as NO <sub>3</sub>	Mg/l	20	4.56	3.89
Arsenic as As		0.2	BDL	BDL
Lead as Pb	Mg/l	0.1	BDL	BDL
Cadmium as Cd	Mg/l	0.01	BDL	BDL

Project Name & Address : M/s Rajasthan Rajya Vidyut Utpadan Nigam Limited  
 Village – Parsa Kanta, Tehsil – Udaipur, District – Surguja  
 Chhattisgarh

Monitoring Period : Nov-19/Jan-20

Testing Protocol/ Method : IS-2296 Class-A

Sampling Description : Surface water sample – Tara Nala

Parameters	Unit	Limits as per IS-2296 Class - A	Post-Monsoon (November-2019)	Winter (January -2020)
pH	--	6.5 – 8.5	7.62	7.13
Colour	Hazen	10	BDL	BDL
Chloride	NTU	250	45.64	29.44
TDS	Mg/l	500	195	121.00
Dissolve Oxygen	Mg/l	4	3.2	2.3
Sulphate as SO <sub>4</sub>	Mg/l	400	42.58	22.68
Fluoride as F	Mg/l	1.5	0.51	0.40
Iron as Fe		0.3	0.24	0.18
Chromium as Cr+6	Mg/l	0.05	BDL	BDL
Anionic Detergent as MBAS	Mg/l	1.0	BDL	BDL
Zink as Zn	Mg/l	15	0.42	0.32
Copper as Cu	Mg/l	1.5	BDL	BDL
Oil & Grease	Mg/l	--	BDL	BDL
Nitrate as NO <sub>3</sub>	Mg/l	20	5.93	4.1
Arsenic as As		0.2	BDL	BDL
Lead as Pb	Mg/l	0.1	BDL	BDL
Cadmium as Cd	Mg/l	0.01	BDL	BDL



CSR Expenses from October 2019 to December 2019				
S. No	Head	CSR Activity	Amount in Rs	Total expenses
A	Education	Running of Adani Vidya Mandir	4,017,389	4,241,957
		Bus for transportation of students to Udaipur	224,568	
B	Health	Hiring of Water Tanker	275,840	714,189
		Mega Health Camp	244,952	
		Operation and maintenance CSR Ambulance	47,884	
		Project Jeevan Amrit	137,742	
C	SLD	Swachchata Drive	7,770	1,601,540
		Institution Building and Capacity Building (Women Cooperative)	618,380	
		Project Annapurna	656,595	
		Project Vasundhara	326,565	
D	Community Infrastructure Development	Repairing and Maintenance of Hand Pump	76,159	76,159
F	Sports	Adani Surguja Football Academy	1,576,827	1,576,827
G	Community Engagement/Culture	Community Engagement	63,520	63,520
I	Admin	HR hiring expenses	400,575	700,844
		Motorcycle Operation Cost- Fuel/Maintenance	5,826	
		Vehicle/Traveling Cost for CSR related projects	294,443	
J	Need Based and Miscellaneous	Contribution to Krishnamurti foundation for education promotion	1,500,000	1,885,860
		AMC expenses for electricity	385,860	
Grand Total				10,860,896

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 Binod Singh  
 Site Finance Head

Approved By  
*Sanjay Kumar Singh*  
 Sanjay Kumar Singh  
 Cluster Head

CSR Expenses from January 2020 to March 2020				
S. No	Head	CSR Activity	Amount in Rs	Total expenses
A	Education	Running of Adani Vidya Mandir	7,580,135	
		Bus for transportation of students to Udaipur	582,941	
		Project Sankalp	269,036	
		Basic amenities support to schools in project affected villages	29,700	
				<b>8,461,812</b>
B	Health	Hiring of Water Tanker	192,732	
		Mega Health Camp	43,250	
		Operation and maintenance of CSR Ambulance	37,227	
		Project Jeevan Amrit	401,277	
		Swachchata Drive	9,808	
		Support to needy patients	30,000	
		Shivnagar Dispensary	187,922	
C	SLD	Women Cooperative	515,884	
		Project Annapurna	1,265,018	
		Project Vasundhara	474,588	
				<b>2,255,490</b>
D	Community Infrastructure Development	Repairing and Maintenance of Hand Pump	94,550	
		AVM Boundary Wall Construction	3,806,620	
		Door Floor Spring at AVM	352,829	
		Pipeline laying for taking water from Mines Pit to Agri. Field in Salhi/Parsa villages	3,255,994	
		Vermiwash Construction	585,258	
		Installation of LED lights	2,500	
		Drilling of bore wells (6" to 9" dia) and Installation of submercible pumps	400,000	
		Football Ground Development at Schools/Salhi Village	614,379	
		Toilet/Urinal construction and fencing at Tara	105,020	
		Valve Protection chamber construction/repairing	197,237	
		Cons/Renovation of toilets in shivnagar(mission school)	664,349	
				<b>10,078,736</b>
F	Sports	Adani Surguja Football Academy	1,564,912	
		Sports in Peripheral Villages	253,110	
				<b>1,818,022</b>
G	Community Engagement/Culture	Community Engagement	2,272,275	
				<b>2,272,275</b>
I	Admin	HR hiring Expenses	336,611	
		Motorcycle Operation Cost- Fuel/Maintenance	9,373	
		Vehicle/Traveling Cost for CSR related projects	356,795	
		Supply/Maintenance/Hiring of Motorcycle/Scooty	765	
				<b>703,544</b>
J	Miscellaneous	AMC expenses for electricity	514,480	
		Infrastructural support and other activities of unbudgeted nature	776,415	
		Water Supply System through R/O/Water Filter Plant installation for clean/safe drinking water distribution AVMS with its operation	716,033	
				<b>2,006,928</b>
		<b>Grand Total</b>		<b>28,499,023</b>

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## Annexure-V

### Protection Expenditure for October 2019 to March 2020 for Parsa East & Kanta Basan Opencast Coal Mine Project

Particulars	Expenditure (Rs.)
Environment Monitoring, Inspection etc,	1408963
Horticulture & Plantation etc.	10845177
WTP plant Chemical and Operational & maintenance etc.	1851206
Env. Awareness	0
Road sweeping Machine O & M	1743651
<b>Total Cost in Rs.</b>	<b>15848997</b>