

**GOVERNMENT OF INDIA
MINISTRY OF JAL SHAKTI
DEPARTMENT OF WATER RESOURCES, RD & GR
CENTRALGROUND WATER AUTHORITY
18/11, JAMNAGAR HOUSE, MANSINGH ROAD, NEW DELHI — 110011
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Minutes of Fourth Meeting of the Expert Appraisal Committee held on 17.09.2021 through video conferencing.

Fourth meeting of the Expert Appraisal Committee was held on 17.09.2021 online through video conferencing to consider the applications for grant of No Objection Certificates for abstraction of groundwater as per the guidelines.

List of participants is enclosed.

Member, Central Ground Water Authority welcomed all the members of the committee. Dr Prabir Kumar Naik, CGWA gave a brief about the responses received from the project proponents on the decisions taken in earlier meetings of EAC. It was decided that CGWA will examine all the responses received and prepare a comprehensive note and circulate to the Committee Members for approval. In case no objection is received from Committee members within 15 days from date of circulation, proposal will be considered as approved.

Agenda Item No. 4.1: Confirmation of the Minutes of Third meeting of the Expert Appraisal Committee held on 27.07.2021

As no comments were received from the members on the minutes of third meeting held on 27.07.2021, the same were confirmed.

Agenda Item No. 4.2: Appraisal of Impact Assessment Reports by the committee

The Agenda Items were then taken up for discussion and the agenda were presented by the Consultants of the respective Project Proponents of 09 projects.

4.2.1 M/s Sagar Drugs and Pharmaceuticals Pvt. Ltd., Application No. -21-4/3949/GJ/IND/2018.

Sagar Drugs & Pharmaceuticals Private Limited (SDPPL) is an existing industry located at Singwara, Taluka Daskroi, District Ahmedabad, Gujarat and manufactures Vinyl Sulfone and Nigrosine with collective production capacity of 50 MT/month.

The area falls in semi-critical category. Ground water in the area occurs under semi-confined to confined conditions in the alluvial formation and in pore spaces and voids. The alluvial deposits, covered by thin layer of reddish brown sandy soil along with humus & underlain by Tertiary sediments, form good productive aquifer systems having huge thickness and large horizontal extensions. The depth to water level varies from 30.00 m bgl to 58.00 m bgl. The Tertiary formations are expected to occur at deeper horizons, which consist of saline water. High temperatures in lower groundwater levels facilitates in dissolving elements such as fluoride, chlorides, calcium, magnesium, sodium, arsenic and other heavy metals present in the aquifer formations.

In order to save water, the process units and the water transfer pipelines are kept under constant vigil for leakages and excess pressure in water transmissions system to prevent any loss due to bursting of transmission pipe lines. Further processing of raw material in the plant ensures minimised water utilisation. The industry has also implemented rain water harvesting within the premises and through pond outside the premises. Total runoff available and recharge from all catchments within the plant is 9495 m³/yr. Recharge through pond from outside of pond premises is 18962 m³/yr and recharge through shaft/ injection well (2 nos) is 43138 m³/yr.

Industry has requested to grant NOC for withdrawal of 184.5 m³/day groundwater for industrial use by 2 existing bore wells. The following observations were made by the members:

- Revised water table contour map showing GW flow direction be submitted.
- Blow down from boiler and cooling tower may be reused and fresh water requirement may be reduced.
- Accordingly revised water balance chart may be submitted.
- Revised report incorporating the above three modifications may be submitted.

Decision : The proposal was deferred. PP will submit reply within 15 days' time.

4.2.2. M/s R.K. Enterprises (ML NO 14/10 15/10 16/10 201/92 19/10), Morwar, Rajsamand, Rajasthan, Application No. : 21-4/12379/RJ/MIN/2018

This is an existing mine located in Village Morwar, Block Rajsamand, District Rajsamand, Rajasthan which falls under Over-Exploited category. Ground water requirement of the mine is 140 KLD involving 125 KLD of mine dewatering and 15 KLD through groundwater abstraction structure. The area is occupied by quartzite, schist & dolomitic marble aquifer, which is unconfined in nature & forms the ground water potential zone. The deep-seated fractures in hard rock occur at a depth range of 30 to 80 mbgl. The yield of dug wells tapping gneiss varies from 30 - 40 m³/day & phyllites & schists ranges from 30-45 m³/day. The depth of dug wells ranges from 15 m to 55 m & depth of bore wells ranges from 150 m to 175 m. The depth to water level in the area is

5.8 m in pre-monsoon period and 5.07 m in post-monsoon season. Seasonal fluctuation in study area is approx. 1 m. Water level data is showing rising trend in both pre-& post monsoon season. There is no negative impact on ground water level due to project activity. Impact on the water level in area is mainly due to groundwater used for the irrigation purpose. Water from mine area & mine pit is not being discharged in natural drains. Water collected in the mine pit is being/ will be used for dust suppression, greenbelt development and ground water recharge. Generated domestic waste water is channelized into septic tank followed by soak pit. No water will be discharged directly into the surface water bodies. Rainwater harvesting is being practiced in the mine area to the tune of 64233 cum/annum for ground water recharge.

The following observations were made by the Members:

- Revised report be submitted incorporating ground water trend analysis/ hydrographs.
- Advanced dewatering techniques has to be introduced.

Decision: The NOC was approved. Proponent shall submit the revised report within 15 days' time.

4.2.3 M/s. R. K. MARBLE PVT. LTD. (ML NO 1969/89 54/93 20/05), Morwar, Rajsamand, Rajasthan, Application No.: 21-4/12378/RJ/MIN/2018 (New)

This is an existing mine located in Village Morwar, Block Rajsamand, District Rajsamand, Rajasthan which falls under Over-Exploited category. Ground water requirement of the mine is 280.86 KLD including 265.86 KLD of mine dewatering and 15 KLD through groundwater abstraction structure. The area is occupied by quartzite, schist & dolomitic marble aquifer, which is unconfined in nature & forms the ground water potential zone. The deep-seated fractures in hard rock occur at a depth range of 30 to 80 mbgl. The yield of dug wells tapping gneiss varies from 30 - 40 m³/day & phyllites & schists ranges from 30-45 m³/day. The depth of dug wells ranges from 15 m to 55 m & depth of bore wells ranges from 150 m to 175 m. The depth to water level in the area is 5.8 m in pre-monsoon period and 5.07 m in post-monsoon season. Seasonal fluctuation in study area is approx. 1 m. Water level data is showing rising trend in both pre-& post monsoon season. There is no negative impact on ground water level due to project activity. Impact on the water level in area is mainly due to groundwater used for the irrigation purpose. Water from mine area & mine pit is not being discharged in natural drains. Water collected in the mine pit is being/ will be used for dust suppression, greenbelt development and ground water recharge. Generated domestic waste water is channelized into septic tank followed by soak pit. No water will be

discharged directly into the surface water bodies. Rainwater harvesting is being practiced in the mine area to the tune of 790021 cum/annum for ground water recharge.

The following observations were made by the Members:

- Revised report be submitted incorporating ground water trend analysis/ hydrographs.
- Advanced dewatering technique has to be adopted.

Decision: The NOC was approved. Proponent shall submit the revised report within 15 days' time.

4.2.4 M/s. Rushil Decor Limited Unit MRPL, Mansa, Gandhinagar District, Gujarat, Application No. - 21-4/5176/GJ/IND/2019

This is an existing industry located in Dholakuva area, Mansa Block of Gandhinagar District, Gujarat which falls under Semi-critical category. Geologically the area is part of Cambay basin and is part of North Gujarat. The area is underlain by Quaternary alluvium comprising mainly of sand, gravel, silt clay and Kankar etc. There is a sequence alternating layers of granular sandy and clayey horizons, the uppermost granular zone varies in thickness from 5 to 65 m. It is underlain by a thick clay bed followed by alternating sequence of arenaceous and argillaceous horizons. Industry is drawing water from the confined aquifer. A total of 7 aquifers zones, each separated by aquiclude of varying thickness, have been identified as A, B, C, D, E, F and G. Of these first five i.e. A to E represent Quaternary alluvium, whereas, last two i.e. F and G represent Miocene sediments. The aquifer A in the district is phreatic and semi-confined in nature. Its thickness varies from less than 25 m in the east to more than 80 m in the western part. The aquifer B and C which occur within a depth of about 225 m, are the most exploited aquifers in the district and most of the tube wells constructed tap these aquifers. Aquifer D is also being developed in some parts of the district particularly in Mansa and Kalol. The deeper aquifers, i.e., E, F and G are required to be properly explored and tested for future use. The water quality of the area is fresh having TDS value of 782 mg/l.

The ground water requirement of the industry is 166.60 KLD through 01 proposed tube well only out of which 153.60 KLD is for industrial activity and 13 KLD is for domestic purposes.

The following observations were made by the Members:

- The industry is using 70 KLD water in boiler and 77.14 KLD in cooling tower, which is quite high. Details of steam requirement, make up water and blow down and also make up water / blow down of cooling tower may be submitted. Information on

technology being used which requires huge quantum of water may also be furnished.

- Industry has been functioning since 1999 and no tubewell has been shown to be existing. It is also not getting water supply from any other source. Then how the industry has been functioning?

Decision: The proposal was deferred. The proponent will submit reply within 15 days' time.

4.2.5 M/s Somany Ceramics Ltd., Block Kadi, District Mahesana, Gujarat, Application No.: 21-4/5148/GJ/IND/2019

This is an existing industry located in Kadi Block of Mahesana District, which falls under Over Exploited category as per GWRE 2017. The ground water requirement of the industry as per NOC application is 154 KLD through 01 existing Borewell. Total water requirement of the industry is 824 KLD, out of which 250 KLD is recycled water and 420 KLD is met through GIDC water supply.

Area is part of multilayer alluvial aquifer system of Cambay Basin of Western India Within alluvial plains of Ahmedabad – Gandhinagar - Mahesana region, two major aquifers have been identified up to the explored depth of about 600 m below surface. The upper unit is mainly phreatic, but at places becomes semi-confined to confined. The lower unit comprises a few hundred meters of alternating arenaceous (sandy) and argillaceous beds and forms the confined aquifer system. The industry draws water from the deeper aquifer (124- 140 m). Quality of ground water in the unconfined aquifer is mainly brackish to saline while that of semi-confined and confined aquifers is fresh. Industry has plan to implement rain water harvesting measures with harvestable runoff of 31116 cubic metres.

Groundwater Development in the area is moderate to high. Now a days domestic usage abstraction is bare minimum from groundwater sources as most of the urban/ semi urban clusters get piped water supply from Narmada Canal based surface water source for drinking & domestic usage.

The following observations were made by the Members:

- Total water consumption in the process is quite high.
- Dry system should be adopted in place of wet system which can substantially reduce water requirement.

Decision: Proposal was approved.

4.2.6 M/S A P Trivedi Sons Manganese Ore Mine, Block Waraseoni, District Balaghat, Madhya Pradesh, Application No. : 21-4/759/MP/MIN/2019

This is an existing mine located in Waraseoni Block of Balaghat District, which falls under Safe category. The ground water requirement of the mine as per NOC application is 158 m³/day which includes 146 m³/day of dewatering for 300 days and 12 m³/day for 365 days through dug wells.

The area comprises of consolidated formation and is characterized by the presence of laterites which occur as capping over Mica Schist of Sausar group and Gneisses along with pegmatite formations of Tirodi Gneissic complex. Laterite occurs in a sporadic manner particularly in the north, east and northwestern parts of buffer zone as capping over mica schist and gneisses rocks. It play only minor role in hydrogeological set up of the area. Mica Schists and Gniesses along with pegmatites formations are hard & compact. Secondary porosity is developed in the form of poorly developed joints and fractures. Groundwater occurs under water table condition in the shallow aquifers and in semi- confined to confined conditions in deeper aquifer. Water pumped out from mine pits is used for dust suppression, green belt, domestic use, washing and servicing utilities for equipment, agriculture and the remaining water is used for recharge.

The firm has implemented recharge measures in the lease area as well as surrounding area through rain water harvesting & artificial recharge for augmenting the groundwater resources of the area.

The following observations were made by the Members:

- Seepage estimation should be rechecked. It should not decrease with depth.
- Revised report be submitted with corrected pit wise mine seepage estimation, pit wise.

Decision: Proposal was deferred. The proponent shall submit response within 15 days' time.

4.2.7 M/s. Phil Ispat Private Limited, Dighora area, Takhatpur Block of Bilaspur District, Chhattisgarh, Application No. : 21- 4/1828/CT/IND/2019

This is an existing industry and proposal is for expansion program, located in Dighora area, Takhatpur Block of Bilaspur District, Chhattisgarh which falls under Semi-critical category as per GWRE 2017, but as per GWRE 2020 the area is under safe category. Ground water requirement of the industry is 270 KLD. The area is underlain by hard rock. Ground water occurs under phreatic condition in weathered portion of rocks and semi-confined to confined conditions in fractures/cavernous part of rocks i.e. shale and limestone at depths. The shallow aquifers occur within an average depth of 20 m. The configuration of water table in the shallow aquifer follows the topography due

to which the ground water movement is generally towards valleys or topographic low. The water bodies such as tanks, canals and streams also influence the occurrence and movement of ground water in shallow aquifers. The shallow aquifers of the area are mostly developed by way of dug wells in the area with depth ranging from 7 to 16 m. In general the yield of dug wells ranges from 20 to 80 m³/day. Deeper aquifer in the area is mainly formed of Raipur group of rocks constituted of Hirri and Tarenga formation comprising of limestone and shale. The deeper aquifers are mostly developed by way of bore wells with depth range from 50 to 80 m. In general, the yield of bore wells ranges from 1 to 8 lps. The water quality of the area is fresh having TDS value 450 mg/l. The ground water requirement of the industry is 270 KLD through 02 existing and 03 proposed BWs only.

The following observations were made by the Members:

- Proponent was advised to submit revised report incorporating hydrographs and water balance chart.

Decision: Proposal was approved subject to submission of revised report within 15 days' time.

4.2.8 M/s. Natural Sugar and Allied Industries Ltd. (NSAIL), Sainagar Ranjani, Taluka Kallam, District Osmanabad, Maharashtra, Application No. : 21-4/2127/MH/IND/2019

Natural Sugar and Allied Industries.Ltd. (NSAIL) is located at Sainagar Ranjani, Taluka Kallam, District Osmanabad, Maharashtra. The Sugar Factory (5000TCD) was set up in the year 2000 which works for 180days in a year. Cogeneration Power Plant (22 MW) was set up in the year 2004 which works for 210 days in a year and distillery (60 KLPD) was set up in 2007 which works for 330 days in a year. Waste water generated from sugar unit is used for distillery unit.

The area falls in semi-critical category. The project area is underlain by weathered and fractured basalt. Average pre-monsoon depth to water level is 8.3 mbgl and average post-monsoon depth to water level 3.41m. There are 2 existing bore wells and one proposed bore well. The unit is getting 1000 KLD of surface water from Manjara dam constructed on Manjara river at Osmanabad. Ground water requirement of the industry is 200 KLD. Ground water is required by the industry when sugar factory is not operational or surface water supply is short.

Different water harvesting practices followed are Roof Top Rain Water Harvesting and ground water recharge through infiltration and percolation process.

Decision: The proposal was approved with the suggestion to reduce water requirement in future.

4.2.9 M/s Ramnagar Limestone Mine, Block Rampur Baghelan, District Satna, Madhya Pradesh, Application No.:21-4/604/MP/MIN/2017

This is proposed limestone mine located in Rampur Baghelan Block of Satna District, which falls under Semi-Critical category. The mine dewatering requirement of the mine as per NOC application is 125 m³/day (De-watering requirement) through proposed 01 mine pit and GW abstraction is 0.90m³/day through existing 01 Borewell.

The major aquifer units are weathered top soil, limestone and weathered fractured, splintery Sibru shale formation. The porosity value of these limestone formations is very low as compared to standard porosity values (10-20%). Major part of the study area/buffer zone (more than 70%) covered by Limestone and Sandstone formation. The limestone mine deposit is representing a plain topography with flat land with gentle undulations of about 310-317 m above Mean Sea Level (MSL). The groundwater movement in and around the project area is mainly controlled by fracture porosity present in Bhandar limestone, and Sibru and Simrawal shale.

The firm has proposed the rainwater harvesting practices. It will be carried out through roof top RWH and the available run-off from the same will be used for green belt, dust suppression etc.

The following observations were made by the Members:

- Water Table contours should be marked on the hydrogeological map.

Decision: The proposal for withdrawal of 125.9 KLD of ground water was approved subject to submission of revised report incorporating modified hydrogeological map.

The meeting ended with vote of thanks to the Chair.

LIST OF PARTICIPANTS

MEMBERS OF THE COMMITTEE:

1. Shri P. Nandakumaran, Chairman, CGWB
2. Shri A. Sudhakar, Divisional Head, WQM I Division, CPCB.
3. Shri KD Bhardwaj, Regional Director, NPC.
4. Shri Motipalli Ramesh, Scientist 'E', wetland Division, MoEF&CC.

Other Officers

1. Shri Sunil Kumar, Member, CGWA.
2. Dr. Uma Kapoor, Consultant, CGWA
3. Dr. P. K. Naik, Scientist 'D', CGWA
4. Dr. Rajesh Chandra, Scientist 'D', CGWA
5. Dr. Rakesh Kushwaha, Scientist 'D', CGWA
6. Shri Ashok Patre, Scientist 'D', CGWA
7. Shri Anmol Sharma, Scientist 'C', CGWA
8. Ms. Aditi Bhatt, Scientist 'B', CGWA.
9. Shri. Lalatendu Behara, Scientist 'B', CGWA
10. Shri M. Goutham, Scientist 'B', CGWA.
11. Ms. Anita Bisht, Young professional (GW), CGWA.
12. Shri Anand Bhatt, Young professional (GW), CGWA.
13. Shri Ankush Sarange, Young professional (GW), CGWA.

S.No	Application Number	Project Name	Present Area Type	Approved quantum
1	21-4/3949/GJ/IND/2018	SAGAR DRUGS AND PHARMACEUTICALS PVT LTD	Non-Notified(Semi Critical)	184
2	21-4/12379/RJ/MIN/2018 (New)	M/S R.K. ENTERPRISES (ML NO 14/10 15/10 16/10 201/92 19/10)	Non-Notified (Over Exploited)	139.02
3	21-4/12378/RJ/MIN/2018 (New)	R. K. MARBLE PVT. LTD. (ML NO 1969/89 54/93 20/05)	Non-Notified (Over Exploited)	280.86
4	21-4/5176/GJ/IND/2019 (New)	RUSHIL DECOR LIMITED UNIT MRPL	Non-Notified (Over Exploited)	166.6
5	21-4/5148/GJ/IND/2019 (New)	SOMANY CERAMICS LTD.	Non-Notified (Over Exploited)	154
6	21-4/759/MP/MIN/2019 (New)	A P TRIVEDI SONS MANGANESE ORE MINE	Non-Notified (Safe)	158
7	21-4/1828/CT/IND/2019	M/S PHIL ISPAT PRIVATE LIMITED	Non-Notified(Semi Critical)	270
8	21-4/2127/MH/IND/2019	NATURAL SUGAR AND ALLIED INDUSTRIES.LTD (NSAIL)	Non-Notified(Semi Critical)	200
9	21-4/604/MP/MIN/2017 (New)	RAMNAGAR LIMESTONE MINE	Non-Notified (Semi Critical)	125.9