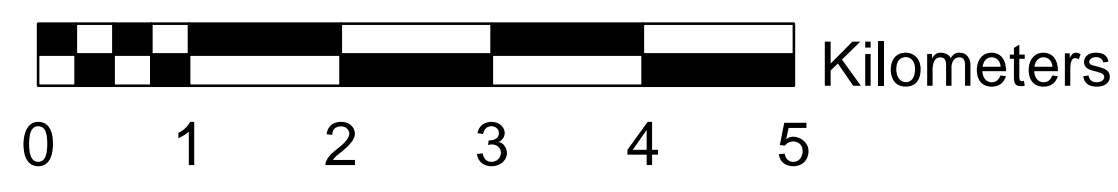


# GROUND WATER PROSPECTS MAP

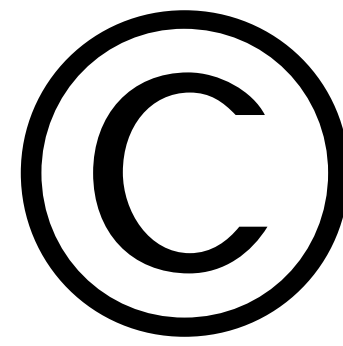
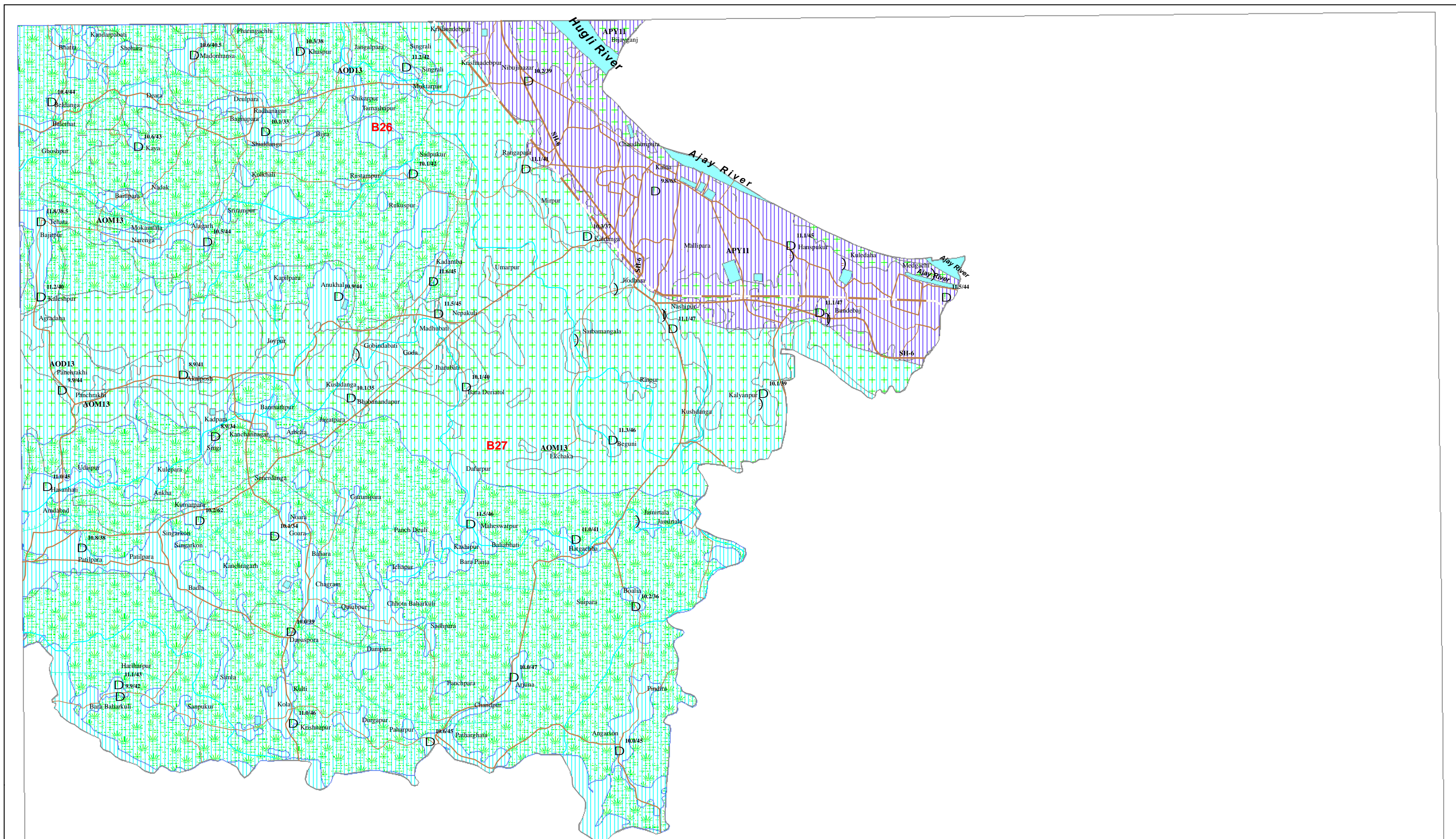
(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



SCALE - 1 : 50,000

MAP SHEET NO. 79A/8

BARDHAMAN DISTRICT, WEST BENGAL



## LEGEND

MAP UNIT (HYDROGEOLOGIC UNIT) REPRESENTED IN THE MAP WITH ALPHANUMERIC CODE (COLOUR INDICATES YIELD RANGE AND HATCHING INDICATES DEPTH RANGE)	GEOLOGICAL SEQUENCE / ROCK TYPE (REPRESENTED IN THE MAP WITH NUMERIC CODE)	GEOMORPHIC UNIT / LANDFORM (REPRESENTED IN THE MAP WITH ALPHABETIC CODE)	DEPTH TO WATER LEVEL (AVERAGE IN METERS) NO. OF WELLS OBSERVED	RECHARGE CONDITIONS (BASED ON AVAILABILITY OF WATER (RAINFALL & OTHER SOURCES))	GROUND WATER PROSPECTS						RECHARGE STRUCTURES SUITABLE & PRIORITY	REMARKS (PROBLEMS / LIMITATIONS)	
					AQUIFER MATERIAL	TYPE OF WELLS SUITABLE	DEPTH RANGE OF WELLS (EXPECTED)	YIELD RANGE OF WELLS (EXPECTED)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER (INDICATES SODIUM & NON-POTABLE [NP])			GROUND WATER RECHARGE AREA (APPROX. RANGE IN PERCENTAGE)
APY11	Aluvium (Sand Dominant) (11)	Alluvial Plain Younger (APY)	9.8 - 11.5 PW - 1 HP - 4	Excellent	LS	DW TW	10 - 12 100 - 120	100 - 125 m <sup>3</sup> /day 450 - 500 LPM	Very High	NP (As)	20%	Not Required	At depth range of 20m to 80m, ground water is non-potable due to Arsenic contamination primarily. At depth range of above 80m, Arsenic free ground water may be available.
AOM13	Aluvium (Sand with Silt and Clay) (13)	Alluvial Plain Older - Moderate (AOM)	9.9 - 11.5 HP - 20	Good	LS	DW TW	10 - 15 100 - 120	50 - 75 m <sup>3</sup> /day 250 - 300 LPM	High	NP (As)	40%	Not Required	At depth range of 20m to 80m, ground water is non-potable due to Arsenic contamination primarily. At depth range of above 80m, Arsenic free ground water may be available.
AOD13	Aluvium (Sand with Silt and Clay) (13)	Alluvial Plain Older - Deep (AOD)	8.9 - 11.8 HP - 17	Good	LS	DW TW	15 - 20 120 - 140	50 - 75 m <sup>3</sup> /day 300 - 400 LPM	High	NP (As)	10%	Not Required	At depth range of 20m to 80m, ground water is non-potable due to Arsenic contamination primarily. At depth range of above 80m, Arsenic free ground water may be available.

F --- F / --- F  
These are fault / fracture zones, which generally act as conduits for movement of ground water in hard rocks. Along these zones, the yields are significantly higher and wells are likely to be sustainable for longer duration. However, the inferred fractures need to be confirmed by detailed ground surveys.

D --- D / O --- O / P --- P  
D --- D / O --- O / P --- P  
These are dykes, quartz reefs and pegmatite veins, which generally act as barriers for ground water movement.

N.B. The depth range and yield range of wells may vary within the unit because of certain inhomogeneities. Fractures/Lineaments which are clearly observed / inferred from the satellite image are indicated on the map. There could be some obscured fractures which also influence the ground water prospects. Locations of the recharge structures shown in the map are tentative. This map is useful for narrowing down the target zones, and exact location on the ground for wells and recharge structures should be identified based on follow-up ground hydrogeological/geophysical surveys.

<b>GROUND WATER PROSPECTS INFORMATION</b> <table border="1"> <tr> <th>YIELD RANGE OF WELLS</th> <th>COLOUR CODE</th> <th>DEPTH RANGE OF WELLS</th> </tr> <tr> <td>&gt; 800 LPM</td> <td>VIOLET</td> <td>SHALLOW (&lt; 10 METERS)</td> </tr> <tr> <td>400 - 800 LPM</td> <td>INDIGO</td> <td>MODERATE (10 - 45 METERS)</td> </tr> <tr> <td>200 - 400 LPM</td> <td>BLUE</td> <td>DEEP (&gt; 45 METERS)</td> </tr> <tr> <td>100 - 200 LPM</td> <td>GREEN</td> <td></td> </tr> <tr> <td>50 - 100 LPM</td> <td>YELLOW</td> <td></td> </tr> <tr> <td>30 - 50 LPM</td> <td>ORANGE</td> <td></td> </tr> <tr> <td>20 - 30 LPM</td> <td>BROWN</td> <td></td> </tr> <tr> <td>10 - 20 LPM</td> <td>RED</td> <td></td> </tr> <tr> <td>Problems related to water deficiency (NP, Potable etc.)</td> <td>RED</td> <td></td> </tr> <tr> <td>Run-off zone (Borehole / D.W. measurement)</td> <td>RED</td> <td></td> </tr> </table>	YIELD RANGE OF WELLS	COLOUR CODE	DEPTH RANGE OF WELLS	> 800 LPM	VIOLET	SHALLOW (< 10 METERS)	400 - 800 LPM	INDIGO	MODERATE (10 - 45 METERS)	200 - 400 LPM	BLUE	DEEP (> 45 METERS)	100 - 200 LPM	GREEN		50 - 100 LPM	YELLOW		30 - 50 LPM	ORANGE		20 - 30 LPM	BROWN		10 - 20 LPM	RED		Problems related to water deficiency (NP, Potable etc.)	RED		Run-off zone (Borehole / D.W. measurement)	RED		<b>HYDROLOGICAL INFORMATION</b> <table border="1"> <tr> <th>DESCRIPTION</th> <th>SYMBOL</th> </tr> <tr> <td>CANAL/TANK IRRIGATED AREA</td> <td>[Symbol]</td> </tr> <tr> <td>GROUND WATER IRRIGATED AREA</td> <td>[Symbol]</td> </tr> <tr> <td>RIVER / STREAM (with sand)</td> <td>[Symbol]</td> </tr> <tr> <td>WATER BODY / SPRING</td> <td>[Symbol]</td> </tr> <tr> <td>CANAL</td> <td>[Symbol]</td> </tr> <tr> <td>RAIN GAUGE STATION (With average annual rainfall in mm)</td> <td>[Symbol]</td> </tr> <tr> <td colspan="2"><b>RECHARGE STRUCTURES SUGGESTED</b></td> </tr> <tr> <td>PERCOLATION TANK</td> <td>[Symbol]</td> </tr> <tr> <td>NALA BIND</td> <td>[Symbol]</td> </tr> <tr> <td>DISINFECTING TANK</td> <td>[Symbol]</td> </tr> <tr> <td>SUBSURFACE DYKE</td> <td>[Symbol]</td> </tr> <tr> <td>SOIL CONSERVATION MEASURES</td> <td>[Symbol]</td> </tr> <tr> <td>RAIN GAUGE STATION</td> <td>[Symbol]</td> </tr> <tr> <td>RECHARGE WELL</td> <td>[Symbol]</td> </tr> <tr> <td>RECHARGE PIT</td> <td>[Symbol]</td> </tr> <tr> <td>RECHARGE SHAFT</td> <td>[Symbol]</td> </tr> <tr> <td>STORAGE TANK</td> <td>[Symbol]</td> </tr> <tr> <td>WELL</td> <td>[Symbol]</td> </tr> <tr> <td>ARTESIAN WELL</td> <td>[Symbol]</td> </tr> <tr> <td>OBSERVATION WELL OF 0.10 DEPTH (C.S.M.S.)</td> <td>[Symbol]</td> </tr> </table>	DESCRIPTION	SYMBOL	CANAL/TANK IRRIGATED AREA	[Symbol]	GROUND WATER IRRIGATED AREA	[Symbol]	RIVER / STREAM (with sand)	[Symbol]	WATER BODY / SPRING	[Symbol]	CANAL	[Symbol]	RAIN GAUGE STATION (With average annual rainfall in mm)	[Symbol]	<b>RECHARGE STRUCTURES SUGGESTED</b>		PERCOLATION TANK	[Symbol]	NALA BIND	[Symbol]	DISINFECTING TANK	[Symbol]	SUBSURFACE DYKE	[Symbol]	SOIL CONSERVATION MEASURES	[Symbol]	RAIN GAUGE STATION	[Symbol]	RECHARGE WELL	[Symbol]	RECHARGE PIT	[Symbol]	RECHARGE SHAFT	[Symbol]	STORAGE TANK	[Symbol]	WELL	[Symbol]	ARTESIAN WELL	[Symbol]	OBSERVATION WELL OF 0.10 DEPTH (C.S.M.S.)	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