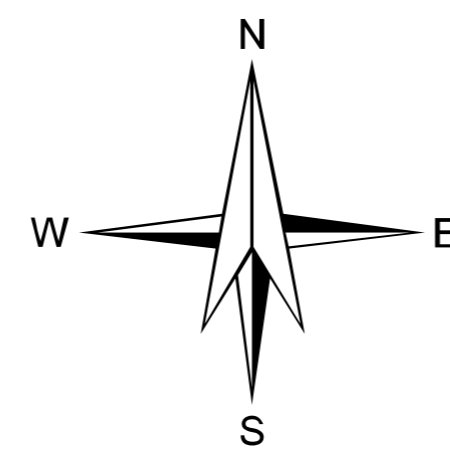
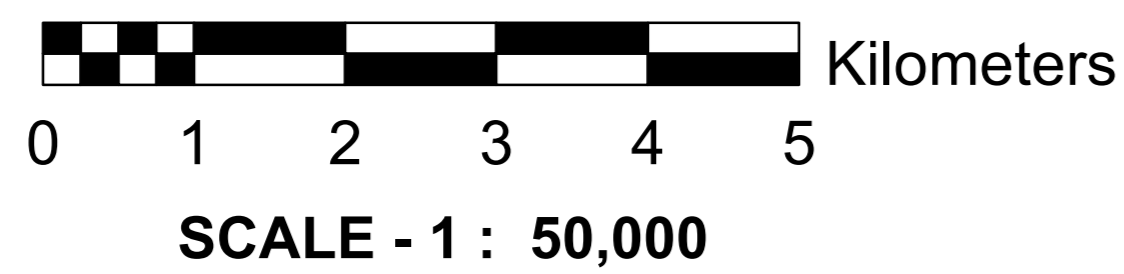


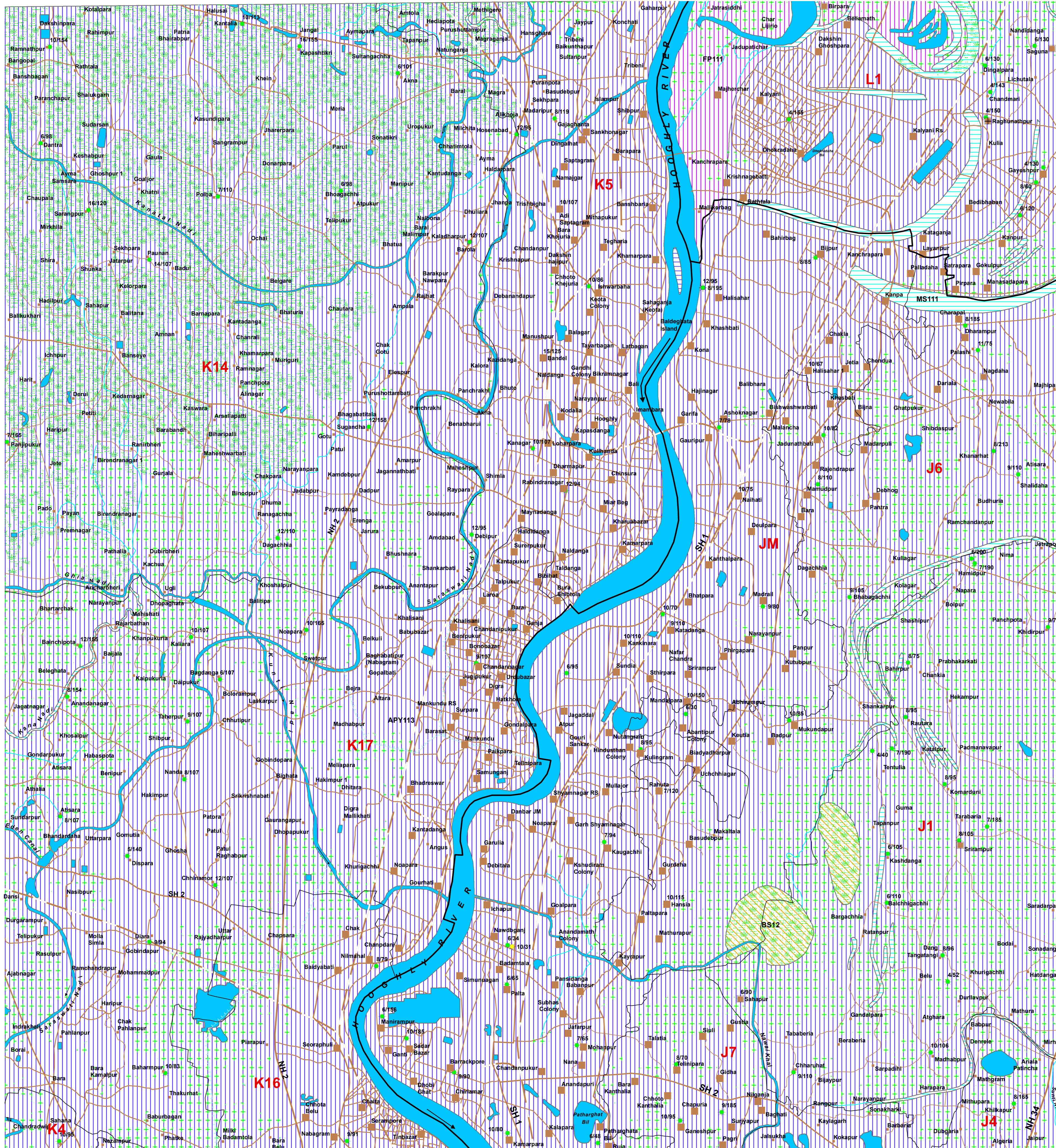
GROUND WATER PROSPECTS MAP

(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



MAP SHEET NO. 79B/5

HUGLI, NORTH 24 PARGANAS & NADIA DISTRICTS, 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 PRE / POST-MONSOON (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 (SUGGESTED) (IN METERS)	YIELD RANGE OF WELLS (LPM) (LPM @ 10' - 10')	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER (POSSIBLE NON-POSSIBLE)			GROUND WATER RECHARGE AREA (APPROX. RANGE IN PERCENTAGE)
CB111		Channel Bar (CB)	No well observed	Excellent	LS	TW	5-10 m	400-500 LPM	Very High	P	NII	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
OL111		Ox-bow Lake (OL)	No well observed	Very Good	LS	TW	10-15 m	200-300 LPM	Very High	p	NII	Not Required	Groundwater potential below surface water level.
MS111		Meander Scar (MS)	No well observed	Good	LS	TW	10-15 m	200-250 LPM	High	P	NII	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
FP111		Flood Plain (FP)	No well observed	Very Good	LS	TW	100-200 m	250-350 LPM	Very High	NP (As) [At shallow depth]	38	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.
BS12		Backswamp (BS)	No well observed	Poor	LS	TW	60-70 m	40-50 LPM	Low	p	NII	Not Required	Areas of low groundwater potential. Better potential at greater depths.
AC13		Abandoned Channel (AC)	No well observed	Very Good	LS	TW	10-15 m	250-300 LPM	Very High	P	4.22	Not Required	Areas of very high groundwater potential at shallow depth. Most suitable for extraction of groundwater.
APY13		Alluvial Plain (APY)	10 / 7	Good	LS	TW	150-250 m	200-300 LPM	High	NP (As&Fe) [At shallow depth]	37	RW Low	Areas with high Arsenic and Iron concentration. Potable water available at deeper depth.

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' / --- 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.

GROUND WATER PROSPECTS INFORMATION	HYDROLOGICAL INFORMATION	STRUCTURAL INFORMATION	BASE MAP INFORMATION	LOCATION INFORMATION																																																																																																																																																														
<table border="1"> <tr> <th>YIELD RANGE OF WELLS</th> <th>COLOUR CODE</th> <th>DEPTH RANGE OF WELLS</th> </tr> <tr> <td>> 800 LPM</td> <td>VIOLET</td> <td>SHALLOW (0-10 METERS)</td> </tr> <tr> <td>400 - 800 LPM</td> <td>INDIGO</td> <td>MODERATE (10-25 METERS)</td> </tr> <tr> <td>200 - 400 LPM</td> <td>BLUE</td> <td>DEEP (> 25 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>10 - 20 LPM</td> <td>BROWN</td> <td></td> </tr> <tr> <td>< 10 LPM</td> <td>PINK</td> <td></td> </tr> <tr> <td></td> <td>RED</td> <td></td> </tr> </table>	YIELD RANGE OF WELLS	COLOUR CODE	DEPTH RANGE OF WELLS	> 800 LPM	VIOLET	SHALLOW (0-10 METERS)	400 - 800 LPM	INDIGO	MODERATE (10-25 METERS)	200 - 400 LPM	BLUE	DEEP (> 25 METERS)	100 - 200 LPM	GREEN		50 - 100 LPM	YELLOW		30 - 50 LPM	ORANGE		10 - 20 LPM	BROWN		< 10 LPM	PINK			RED		<table border="1"> <tr> <th>DESCRIPTION</th> <th>SYMBOL</th> </tr> <tr> <td>CANAL / TANK IRRIGATED AREA</td> <td></td> </tr> <tr> <td>RIVER / STREAM (with sand)</td> <td></td> </tr> <tr> <td>WATER BODY / SPRING</td> <td></td> </tr> <tr> <td>RAIN GAGE STATION</td> <td></td> </tr> <tr> <td>RECHARGE STRUCTURES SUGGESTED</td> <td></td> </tr> <tr> <td>PERCOLATION TANK</td> <td></td> </tr> <tr> <td>DESILTING TANK</td> <td></td> </tr> <tr> <td>SURFACE DYKE</td> <td></td> </tr> <tr> <td>SOIL CONSERVATION MEASURES</td> <td></td> </tr> <tr> <td>WELL</td> <td></td> </tr> <tr> <td>CHECK DAM</td> <td></td> </tr> <tr> <td>RECHARGE WELL</td> <td></td> </tr> <tr> <td>RECHARGE PIT</td> <td></td> </tr> <tr> <td>RECHARGE SHIFT</td> <td></td> </tr> <tr> <td>STORAGE TANK</td> <td></td> </tr> </table>	DESCRIPTION	SYMBOL	CANAL / TANK IRRIGATED AREA		RIVER / STREAM (with sand)		WATER BODY / SPRING		RAIN GAGE STATION		RECHARGE STRUCTURES SUGGESTED		PERCOLATION TANK		DESILTING TANK		SURFACE DYKE		SOIL CONSERVATION MEASURES		WELL		CHECK DAM		RECHARGE WELL		RECHARGE PIT		RECHARGE SHIFT		STORAGE TANK		<table border="1"> <tr> <th>DIPS</th> <th>BEDDING</th> <th>SCHISTOSITY / FOLIATION</th> </tr> <tr> <td>GENTLE (< 15°)</td> <td></td> <td></td> </tr> <tr> <td>MODERATE (15 - 45°)</td> <td></td> <td></td> </tr> <tr> <td>STEEP (45 - 90°)</td> <td></td> <td></td> </tr> <tr> <td>SEE 'VERTICAL TO VERTICAL' (> 90°)</td> <td></td> <td></td> </tr> <tr> <td>ANTICLINE / ANTIFORM</td> <td></td> <td></td> </tr> <tr> <td>SYNCLINE / SYNFORM</td> <td></td> <td></td> </tr> <tr> <td>TREND LINE</td> <td></td> <td></td> </tr> <tr> <td>ESCAPAMENT</td> <td></td> <td></td> </tr> <tr> <td>LITHOLOGY / GEOMORPHIC UNIT BOUNDARY</td> <td></td> <td></td> </tr> <tr> <td>FAULT</td> <td></td> <td></td> </tr> <tr> <td>THRUST</td> <td></td> <td></td> </tr> <tr> <td>FRACTURE / LINEAMENT</td> <td></td> <td></td> </tr> <tr> <td>BOUNDARY</td> <td></td> <td></td> </tr> <tr> <td>INTERNATIONAL</td> <td></td> <td></td> </tr> <tr> <td>STATE</td> <td></td> <td></td> </tr> <tr> <td>DISTRICT</td> <td></td> <td></td> </tr> <tr> <td>BLOCK</td> <td></td> <td></td> </tr> <tr> <td>OTHER INFORMATION</td> <td></td> <td></td> </tr> <tr> <td colspan="3">Rainfall : 1477 mm (Source IMD)</td> </tr> </table>	DIPS	BEDDING	SCHISTOSITY / FOLIATION	GENTLE (< 15°)			MODERATE (15 - 45°)			STEEP (45 - 90°)			SEE 'VERTICAL TO VERTICAL' (> 90°)			ANTICLINE / ANTIFORM			SYNCLINE / SYNFORM			TREND LINE			ESCAPAMENT			LITHOLOGY / GEOMORPHIC UNIT BOUNDARY			FAULT			THRUST			FRACTURE / LINEAMENT			BOUNDARY			INTERNATIONAL			STATE			DISTRICT			BLOCK			OTHER INFORMATION			Rainfall : 1477 mm (Source IMD)			<table border="1"> <tr> <th>SYMBOL</th> <th>DESCRIPTION</th> </tr> <tr> <td></td> <td>NATIONAL HIGHWAY</td> </tr> <tr> <td></td> <td>STATE HIGHWAY</td> </tr> <tr> <td></td> <td>METALLED ROAD</td> </tr> <tr> <td></td> <td>OTHER ROAD</td> </tr> <tr> <td></td> <td>RAILWAY</td> </tr> <tr> <td></td> <td>CITY / VILLAGE</td> </tr> <tr> <td></td> <td>HABITATIONS : NON - COVERED (NC)</td> </tr> <tr> <td></td> <td>PARTIALLY COVERED (PC)</td> </tr> <tr> <td></td> <td>BOUNDARY :</td> </tr> <tr> <td></td> <td>INTERNATIONAL</td> </tr> <tr> <td></td> <td>STATE</td> </tr> <tr> <td></td> <td>DISTRICT</td> </tr> <tr> <td></td> <td>BLOCK</td> </tr> </table>	SYMBOL	DESCRIPTION		NATIONAL HIGHWAY		STATE HIGHWAY		METALLED ROAD		OTHER ROAD		RAILWAY		CITY / VILLAGE		HABITATIONS : NON - COVERED (NC)		PARTIALLY COVERED (PC)		BOUNDARY :		INTERNATIONAL		STATE		DISTRICT		BLOCK	<table border="1"> <tr> <th>STATE INDEX</th> <th>DISTRICT INDEX</th> </tr> <tr> <td></td> <td></td> </tr> <tr> <th>BLOCK INDEX</th> <th>MAPSHEET INDEX</th> </tr> <tr> <td></td> <td></td> </tr> </table>	STATE INDEX	DISTRICT INDEX			BLOCK INDEX	MAPSHEET INDEX		
YIELD RANGE OF WELLS	COLOUR CODE	DEPTH RANGE OF WELLS																																																																																																																																																																
> 800 LPM	VIOLET	SHALLOW (0-10 METERS)																																																																																																																																																																
400 - 800 LPM	INDIGO	MODERATE (10-25 METERS)																																																																																																																																																																
200 - 400 LPM	BLUE	DEEP (> 25 METERS)																																																																																																																																																																
100 - 200 LPM	GREEN																																																																																																																																																																	
50 - 100 LPM	YELLOW																																																																																																																																																																	
30 - 50 LPM	ORANGE																																																																																																																																																																	
10 - 20 LPM	BROWN																																																																																																																																																																	
< 10 LPM	PINK																																																																																																																																																																	
	RED																																																																																																																																																																	
DESCRIPTION	SYMBOL																																																																																																																																																																	
CANAL / TANK IRRIGATED AREA																																																																																																																																																																		
RIVER / STREAM (with sand)																																																																																																																																																																		
WATER BODY / SPRING																																																																																																																																																																		
RAIN GAGE STATION																																																																																																																																																																		
RECHARGE STRUCTURES SUGGESTED																																																																																																																																																																		
PERCOLATION TANK																																																																																																																																																																		
DESILTING TANK																																																																																																																																																																		
SURFACE DYKE																																																																																																																																																																		
SOIL CONSERVATION MEASURES																																																																																																																																																																		
WELL																																																																																																																																																																		
CHECK DAM																																																																																																																																																																		
RECHARGE WELL																																																																																																																																																																		
RECHARGE PIT																																																																																																																																																																		
RECHARGE SHIFT																																																																																																																																																																		
STORAGE TANK																																																																																																																																																																		
DIPS	BEDDING	SCHISTOSITY / FOLIATION																																																																																																																																																																
GENTLE (< 15°)																																																																																																																																																																		
MODERATE (15 - 45°)																																																																																																																																																																		
STEEP (45 - 90°)																																																																																																																																																																		
SEE 'VERTICAL TO VERTICAL' (> 90°)																																																																																																																																																																		
ANTICLINE / ANTIFORM																																																																																																																																																																		
SYNCLINE / SYNFORM																																																																																																																																																																		
TREND LINE																																																																																																																																																																		
ESCAPAMENT																																																																																																																																																																		
LITHOLOGY / GEOMORPHIC UNIT BOUNDARY																																																																																																																																																																		
FAULT																																																																																																																																																																		
THRUST																																																																																																																																																																		
FRACTURE / LINEAMENT																																																																																																																																																																		
BOUNDARY																																																																																																																																																																		
INTERNATIONAL																																																																																																																																																																		
STATE																																																																																																																																																																		
DISTRICT																																																																																																																																																																		
BLOCK																																																																																																																																																																		
OTHER INFORMATION																																																																																																																																																																		
Rainfall : 1477 mm (Source IMD)																																																																																																																																																																		
SYMBOL	DESCRIPTION																																																																																																																																																																	
	NATIONAL HIGHWAY																																																																																																																																																																	
	STATE HIGHWAY																																																																																																																																																																	
	METALLED ROAD																																																																																																																																																																	
	OTHER ROAD																																																																																																																																																																	
	RAILWAY																																																																																																																																																																	
	CITY / VILLAGE																																																																																																																																																																	
	HABITATIONS : NON - COVERED (NC)																																																																																																																																																																	
	PARTIALLY COVERED (PC)																																																																																																																																																																	
	BOUNDARY :																																																																																																																																																																	
	INTERNATIONAL																																																																																																																																																																	
	STATE																																																																																																																																																																	
	DISTRICT																																																																																																																																																																	
	BLOCK																																																																																																																																																																	
STATE INDEX	DISTRICT INDEX																																																																																																																																																																	
BLOCK INDEX	MAPSHEET INDEX																																																																																																																																																																	
<p>PREPARED BY</p> <p>GEONFORMATICS & REMOTE SENSING CELL W.B. STATE COUNCIL OF SCIENCE AND TECHNOLOGY DEPARTMENT OF SPACE AND TECHNOLOGY GOVERNMENT OF WEST BENGAL 4TH FLOOR, BIKASH BHAVAN SALT LAKE, KOLKATA 700 091</p>	<p>TECHNICAL GUIDANCE & QUALITY CHECK</p> <p>NATIONAL REMOTE SENSING CENTRE INDIAN SPACE RESEARCH ORGANISATION (ISRO) DEPT. OF SPACE, GOVT. OF INDIA BALANAGAR, HYDERABAD - 500 625</p>	<p>PARTICIPATING ORGANIZATIONS</p> <p>SURVEY OF INDIA GEOLOGICAL SURVEY OF INDIA PHED, GOVT. OF WEST BENGAL STATE WATER INVESTIGATION DIRECTORATE, GOWB P.S.M.A'S (LAND RECORD), GOVT OF WEST BENGAL</p>	<p>METHODOLOGY & PROJECT EXECUTION</p> <p>NATIONAL REMOTE SENSING CENTRE INDIAN SPACE RESEARCH ORGANISATION (ISRO) DEPT. OF SPACE, GOVT. OF INDIA BALANAGAR, HYDERABAD - 500 625</p>	<p>SPONSORED BY</p> <p>RAJIV GANDHI NATIONAL DRINKING WATER MISSION (PHASE IV) DEPARTMENT OF DRINKING WATER & SANITATION GOVERNMENT OF INDIA NEW DELHI</p>																																																																																																																																																														