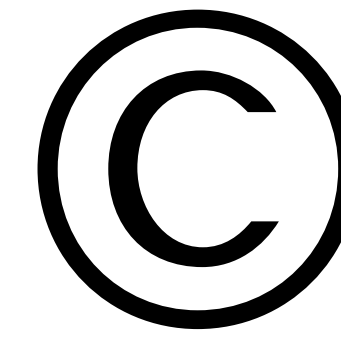
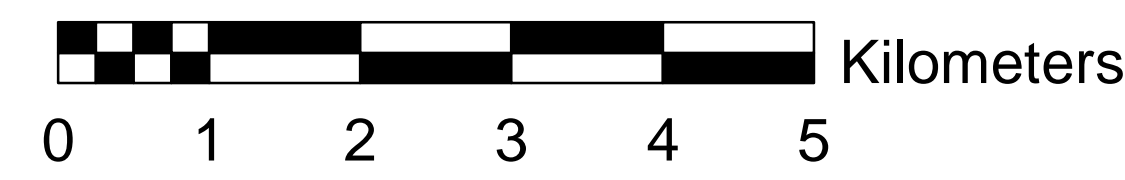


# GROUND WATER PROSPECTS MAP

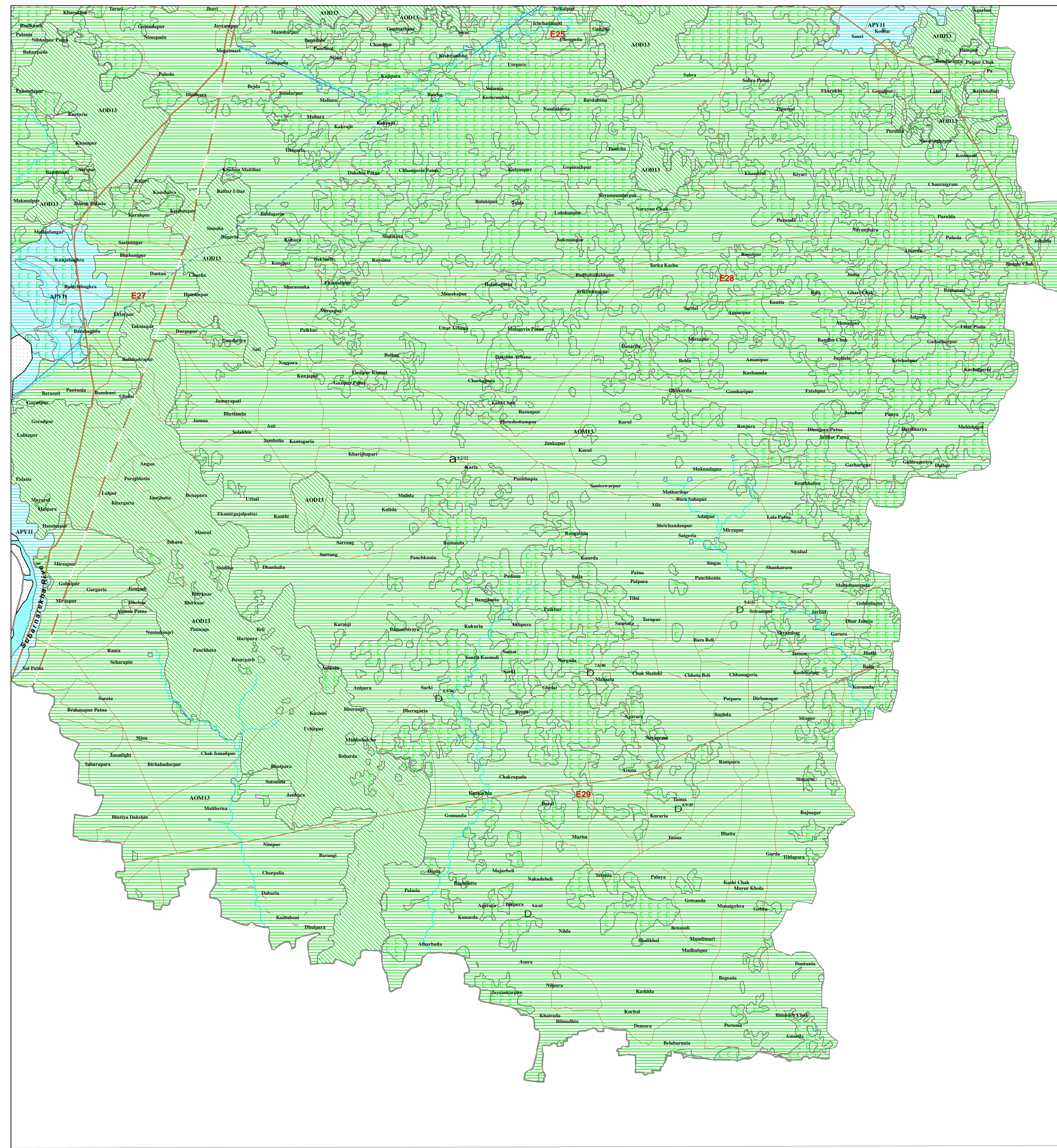
(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



MAP SHEET NO. 730/5

SCALE - 1 : 50,000

PASCHIM MEDINIPUR DISTRICT, WEST BENGAL



## LEGEND

MAP UNIT (HYDROGEOLOGIC UNIT) REPRESENTED IN THE MAP WITH ALPHABETIC CODE (COLOUR INDICATES YIELD RANGE AND HATCHING INDICATE 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	RE MARKS (PROBLEMS / LIMITATIONS)	
					AQUIFER MATERIAL	TYPE OF WELLS	DEPTH RANGE OF WELLS (SUGGESTED)	YIELD RANGE OF WELLS (EXPECTED)	HOMOGENEITY IN THE UNIT (PROBABILITY)	QUALITY OF WATER (INDICATE REASON IF NOT POTABLE)			GROUND WATER IRRIGATED AREA (APPROX. RANGE IN PERCENTAGE)
APY11	Alluvium (Sand Dominant) (11)	Alluvial Plain Younger (APY)	No Wells observed	Very Good	LS	DW TW	10 - 12 20 - 30	100 - 125 m <sup>3</sup> /day 250 - 300 LPM	Very High	P	25%	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures not required as good recharge conditions prevail.
AOM13	Alluvium (Sand with Silt and Clay) (13)	Alluvial Plain Older (AOM)	7.6 - 9.2 DW-1 HP-5	Good	LS	DW TW	10 - 15 25 - 30	50 - 75 m <sup>3</sup> /day 150 - 200 LPM	High	P	65%	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures not required as good recharge conditions prevail.
AOD13	Alluvium (Sand with Silt and Clay) (13)	Alluvial Plain Older (AOD)	No Wells observed	Good	LS	DW TW	15 - 20 30 - 50	50 - 75 m <sup>3</sup> /day 175 - 200 LPM	High	P	12%	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures not required as good recharge conditions prevail.

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 / Q / P / P  
D --- D / O / Q / 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"> <thead> <tr> <th rowspan="2">YIELD RANGE OF WELLS</th> <th rowspan="2">COLOUR CODE</th> <th colspan="3">DEPTH RANGE OF WELLS</th> </tr> <tr> <th>SHALLOW (0-10 METERS)</th> <th>MODERATE (10-20 METERS)</th> <th>DEEP (&gt;20 METERS)</th> </tr> </thead> <tbody> <tr> <td>&gt; 800 LPM</td> <td>VIOLET</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> <tr> <td>400 - 800 LPM</td> <td>INDIGO</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> <tr> <td>200 - 400 LPM</td> <td>BLUE</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> <tr> <td>100 - 200 LPM</td> <td>GREEN</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> <tr> <td>50 - 100 LPM</td> <td>YELLOW</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> <tr> <td>30 - 50 LPM</td> <td>ORANGE</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> <tr> <td>20 - 30 LPM</td> <td>BROWN</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> <tr> <td>10 - 20 LPM</td> <td>RED</td> <td>[Hatched]</td> <td>[Hatched]</td> <td>[Hatched]</td> </tr> </tbody> </table>	YIELD RANGE OF WELLS	COLOUR CODE	DEPTH RANGE OF WELLS			SHALLOW (0-10 METERS)	MODERATE (10-20 METERS)	DEEP (>20 METERS)	> 800 LPM	VIOLET	[Hatched]	[Hatched]	[Hatched]	400 - 800 LPM	INDIGO	[Hatched]	[Hatched]	[Hatched]	200 - 400 LPM	BLUE	[Hatched]	[Hatched]	[Hatched]	100 - 200 LPM	GREEN	[Hatched]	[Hatched]	[Hatched]	50 - 100 LPM	YELLOW	[Hatched]	[Hatched]	[Hatched]	30 - 50 LPM	ORANGE	[Hatched]	[Hatched]	[Hatched]	20 - 30 LPM	BROWN	[Hatched]	[Hatched]	[Hatched]	10 - 20 LPM	RED	[Hatched]	[Hatched]	[Hatched]	<b>HYDROLOGICAL INFORMATION</b> <table border="1"> <thead> <tr> <th>DESCRIPTION</th> <th>SYMBOL</th> </tr> </thead> <tbody> <tr> <td>CANAL / TANK IRRIGATED AREA</td> <td>[Green Box]</td> </tr> <tr> <td>RIVER / STREAM (with sand)</td> <td>[Blue Line]</td> </tr> <tr> <td>WATER BODY / SPRING</td> <td>[Blue Circle]</td> </tr> <tr> <td>CANAL</td> <td>[Blue Line]</td> </tr> <tr> <td>RAIN GAUGE STATION</td> <td>[Gauge Symbol]</td> </tr> <tr> <td>PRECIPITATION TANK</td> <td>[Blue Box]</td> </tr> <tr> <td>NALA SAND</td> <td>[Blue Box]</td> </tr> <tr> <td>DESILTING OF TANK</td> <td>[Blue Box]</td> </tr> <tr> <td>SUBSURFACE DYKE</td> <td>[Blue Box]</td> </tr> <tr> <td>SOIL CONSERVATION MEASURES</td> <td>[Blue Box]</td> </tr> <tr> <td>RECHARGE STRUCTURES SUGGESTED</td> <td>[Blue Box]</td> </tr> <tr> <td>PRECIPITATION TANK</td> <td>[Blue Box]</td> </tr> <tr> <td>NALA SAND</td> <td>[Blue Box]</td> </tr> <tr> <td>DESILTING OF TANK</td> <td>[Blue Box]</td> </tr> <tr> <td>SUBSURFACE DYKE</td> <td>[Blue Box]</td> </tr> <tr> <td>SOIL CONSERVATION MEASURES</td> <td>[Blue Box]</td> </tr> <tr> <td>RECHARGE STRUCTURES SUGGESTED</td> <td>[Blue Box]</td> </tr> </tbody> </table>	DESCRIPTION	SYMBOL	CANAL / TANK IRRIGATED AREA	[Green Box]	RIVER / STREAM (with sand)	[Blue Line]	WATER BODY / SPRING	[Blue Circle]	CANAL	[Blue Line]	RAIN GAUGE STATION	[Gauge Symbol]	PRECIPITATION TANK	[Blue Box]	NALA SAND	[Blue Box]	DESILTING OF TANK	[Blue Box]	SUBSURFACE DYKE	[Blue Box]	SOIL CONSERVATION MEASURES	[Blue Box]	RECHARGE STRUCTURES SUGGESTED	[Blue Box]	PRECIPITATION TANK	[Blue Box]	NALA SAND	[Blue Box]	DESILTING OF TANK	[Blue Box]	SUBSURFACE DYKE	[Blue Box]	SOIL CONSERVATION MEASURES	[Blue Box]	RECHARGE STRUCTURES SUGGESTED	[Blue Box]	<b>STRUCTURAL INFORMATION</b> <table border="1"> <thead> <tr> <th>GPS</th> <th>BEDDING</th> <th>SCHISTOSITY / FOLIATION</th> </tr> </thead> <tbody> <tr> <td>GENTLE (&lt; 15°)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>MODERATE (15 - 45°)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>STEEP (45 - 90°)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>SEB - VERTICAL TO VERTICAL (&lt; 90°)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>ANTICLINE / ANTIFORM</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>SYNCLINE / SYNFORM</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>TREND LINE</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>ESCARPMENT</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>LITHOLOGY / GEOMORPHIC UNIT BOUNDARY</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>FAULT</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>THRUST</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>FRACURE / LINEAMENT (Inferred)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>SHEAR ZONE (Confirmed / Inferred)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>DYKE (Confirmed / Inferred)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>QUARTZ REEF (Confirmed / Inferred)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> <tr> <td>PEGMATITE VEIN (Confirmed / Inferred)</td> <td>[Symbol]</td> <td>[Symbol]</td> </tr> </tbody> </table>	GPS	BEDDING	SCHISTOSITY / FOLIATION	GENTLE (< 15°)	[Symbol]	[Symbol]	MODERATE (15 - 45°)	[Symbol]	[Symbol]	STEEP (45 - 90°)	[Symbol]	[Symbol]	SEB - VERTICAL TO VERTICAL (< 90°)	[Symbol]	[Symbol]	ANTICLINE / ANTIFORM	[Symbol]	[Symbol]	SYNCLINE / SYNFORM	[Symbol]	[Symbol]	TREND LINE	[Symbol]	[Symbol]	ESCARPMENT	[Symbol]	[Symbol]	LITHOLOGY / GEOMORPHIC UNIT BOUNDARY	[Symbol]	[Symbol]	FAULT	[Symbol]	[Symbol]	THRUST	[Symbol]	[Symbol]	FRACURE / LINEAMENT (Inferred)	[Symbol]	[Symbol]	SHEAR ZONE (Confirmed / Inferred)	[Symbol]	[Symbol]	DYKE (Confirmed / Inferred)	[Symbol]	[Symbol]	QUARTZ REEF (Confirmed / Inferred)	[Symbol]	[Symbol]	PEGMATITE VEIN (Confirmed / Inferred)	[Symbol]	[Symbol]	<b>BASE MAP INFORMATION</b> <table border="1"> <thead> <tr> <th>SYMBOL</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>[Symbol]</td> <td>NATIONAL HIGHWAY</td> </tr> <tr> <td>[Symbol]</td> <td>STATE HIGHWAY</td> </tr> <tr> <td>[Symbol]</td> <td>METALLED ROAD</td> </tr> <tr> <td>[Symbol]</td> <td>OTHER ROAD</td> </tr> <tr> <td>[Symbol]</td> <td>RAILWAY</td> </tr> <tr> <td>[Symbol]</td> <td>CITY / VILLAGE</td> </tr> <tr> <td>[Symbol]</td> <td>HABITATIONS - NON-COVERED (NC)</td> </tr> <tr> <td>[Symbol]</td> <td>PARTIALLY COVERED (PC)</td> </tr> <tr> <td>[Symbol]</td> <td>BOUNDARY - STATE</td> </tr> <tr> <td>[Symbol]</td> <td>BOUNDARY - BLOCK</td> </tr> </tbody> </table> <p>Rainfall : 1542 mm (Source IMD)</p>	SYMBOL	DESCRIPTION	[Symbol]	NATIONAL HIGHWAY	[Symbol]	STATE HIGHWAY	[Symbol]	METALLED ROAD	[Symbol]	OTHER ROAD	[Symbol]	RAILWAY	[Symbol]	CITY / VILLAGE	[Symbol]	HABITATIONS - NON-COVERED (NC)	[Symbol]	PARTIALLY COVERED (PC)	[Symbol]	BOUNDARY - STATE	[Symbol]	BOUNDARY - BLOCK	<b>LOCATION INFORMATION</b> <table border="1"> <thead> <tr> <th>STATE INDEX</th> <th>DISTRICT INDEX</th> </tr> </thead> <tbody> <tr> <td>[Map of India]</td> <td>[Map of West Bengal]</td> </tr> <tr> <th>BLOCK INDEX</th> <th>MAPSHEET INDEX</th> </tr> <tr> <td>[Map of Block]</td> <td>[Map of Mapsheet]</td> </tr> </tbody> </table>	STATE INDEX	DISTRICT INDEX	[Map of India]	[Map of West Bengal]	BLOCK INDEX	MAPSHEET INDEX	[Map of Block]	[Map of Mapsheet]
YIELD RANGE OF WELLS			COLOUR CODE	DEPTH RANGE OF WELLS																																																																																																																																																																					
	SHALLOW (0-10 METERS)	MODERATE (10-20 METERS)		DEEP (>20 METERS)																																																																																																																																																																					
> 800 LPM	VIOLET	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
400 - 800 LPM	INDIGO	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
200 - 400 LPM	BLUE	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
100 - 200 LPM	GREEN	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
50 - 100 LPM	YELLOW	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
30 - 50 LPM	ORANGE	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
20 - 30 LPM	BROWN	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
10 - 20 LPM	RED	[Hatched]	[Hatched]	[Hatched]																																																																																																																																																																					
DESCRIPTION	SYMBOL																																																																																																																																																																								
CANAL / TANK IRRIGATED AREA	[Green Box]																																																																																																																																																																								
RIVER / STREAM (with sand)	[Blue Line]																																																																																																																																																																								
WATER BODY / SPRING	[Blue Circle]																																																																																																																																																																								
CANAL	[Blue Line]																																																																																																																																																																								
RAIN GAUGE STATION	[Gauge Symbol]																																																																																																																																																																								
PRECIPITATION TANK	[Blue Box]																																																																																																																																																																								
NALA SAND	[Blue Box]																																																																																																																																																																								
DESILTING OF TANK	[Blue Box]																																																																																																																																																																								
SUBSURFACE DYKE	[Blue Box]																																																																																																																																																																								
SOIL CONSERVATION MEASURES	[Blue Box]																																																																																																																																																																								
RECHARGE STRUCTURES SUGGESTED	[Blue Box]																																																																																																																																																																								
PRECIPITATION TANK	[Blue Box]																																																																																																																																																																								
NALA SAND	[Blue Box]																																																																																																																																																																								
DESILTING OF TANK	[Blue Box]																																																																																																																																																																								
SUBSURFACE DYKE	[Blue Box]																																																																																																																																																																								
SOIL CONSERVATION MEASURES	[Blue Box]																																																																																																																																																																								
RECHARGE STRUCTURES SUGGESTED	[Blue Box]																																																																																																																																																																								
GPS	BEDDING	SCHISTOSITY / FOLIATION																																																																																																																																																																							
GENTLE (< 15°)	[Symbol]	[Symbol]																																																																																																																																																																							
MODERATE (15 - 45°)	[Symbol]	[Symbol]																																																																																																																																																																							
STEEP (45 - 90°)	[Symbol]	[Symbol]																																																																																																																																																																							
SEB - VERTICAL TO VERTICAL (< 90°)	[Symbol]	[Symbol]																																																																																																																																																																							
ANTICLINE / ANTIFORM	[Symbol]	[Symbol]																																																																																																																																																																							
SYNCLINE / SYNFORM	[Symbol]	[Symbol]																																																																																																																																																																							
TREND LINE	[Symbol]	[Symbol]																																																																																																																																																																							
ESCARPMENT	[Symbol]	[Symbol]																																																																																																																																																																							
LITHOLOGY / GEOMORPHIC UNIT BOUNDARY	[Symbol]	[Symbol]																																																																																																																																																																							
FAULT	[Symbol]	[Symbol]																																																																																																																																																																							
THRUST	[Symbol]	[Symbol]																																																																																																																																																																							
FRACURE / LINEAMENT (Inferred)	[Symbol]	[Symbol]																																																																																																																																																																							
SHEAR ZONE (Confirmed / Inferred)	[Symbol]	[Symbol]																																																																																																																																																																							
DYKE (Confirmed / Inferred)	[Symbol]	[Symbol]																																																																																																																																																																							
QUARTZ REEF (Confirmed / Inferred)	[Symbol]	[Symbol]																																																																																																																																																																							
PEGMATITE VEIN (Confirmed / Inferred)	[Symbol]	[Symbol]																																																																																																																																																																							
SYMBOL	DESCRIPTION																																																																																																																																																																								
[Symbol]	NATIONAL HIGHWAY																																																																																																																																																																								
[Symbol]	STATE HIGHWAY																																																																																																																																																																								
[Symbol]	METALLED ROAD																																																																																																																																																																								
[Symbol]	OTHER ROAD																																																																																																																																																																								
[Symbol]	RAILWAY																																																																																																																																																																								
[Symbol]	CITY / VILLAGE																																																																																																																																																																								
[Symbol]	HABITATIONS - NON-COVERED (NC)																																																																																																																																																																								
[Symbol]	PARTIALLY COVERED (PC)																																																																																																																																																																								
[Symbol]	BOUNDARY - STATE																																																																																																																																																																								
[Symbol]	BOUNDARY - BLOCK																																																																																																																																																																								
STATE INDEX	DISTRICT INDEX																																																																																																																																																																								
[Map of India]	[Map of West Bengal]																																																																																																																																																																								
BLOCK INDEX	MAPSHEET INDEX																																																																																																																																																																								
[Map of Block]	[Map of Mapsheet]																																																																																																																																																																								
<b>PREPARED BY</b> GEOINFORMATICS & REMOTE SENSING CELL W.B. STATE COUNCIL OF SCIENCE AND TECHNOLOGY DEPARTMENT OF SCIENCE AND TECHNOLOGY GOVERNMENT OF WEST BENGAL 4TH FLOOR BIKASH BHAVAN SALT LAKE, KOLKATA 700 091	<b>TECHNICAL GUIDANCE &amp; QUALITY CHECK</b> NATIONAL REMOTE SENSING CENTRE PHED, Govt. of West Bengal DEPT. OF SPACE, GOVT. OF INDIA BALANAGAR, HYDERABAD - 500 625	<b>PARTICIPATING ORGANIZATIONS</b> Survey of India Geological Survey of India PHED, Govt. of West Bengal State Water Investigation Directorate, GoWB P.S. Maps (Land Record), Govt of West Bengal	<b>METHODOLOGY &amp; PROJECT EXECUTION</b> NATIONAL REMOTE SENSING CENTRE PHED, Govt. of West Bengal DEPT. OF SPACE, GOVT. OF INDIA BALANAGAR, HYDERABAD - 500 625	<b>SPONSORED BY</b> RAJIV GANDHI NATIONAL DRINKING WATER MISSION DEPARTMENT OF DRINKING WATER SUPPLY (DDWS) MINISTRY OF RURAL DEVELOPMENT GOVERNMENT OF INDIA NEW DELHI																																																																																																																																																																					