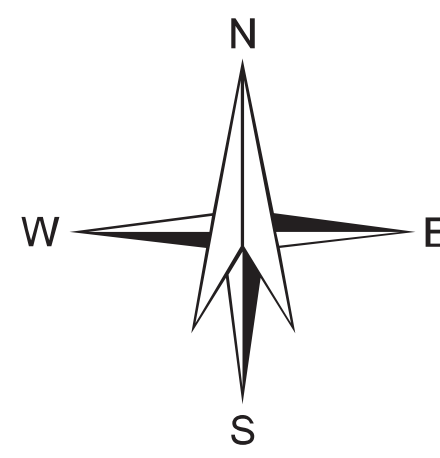
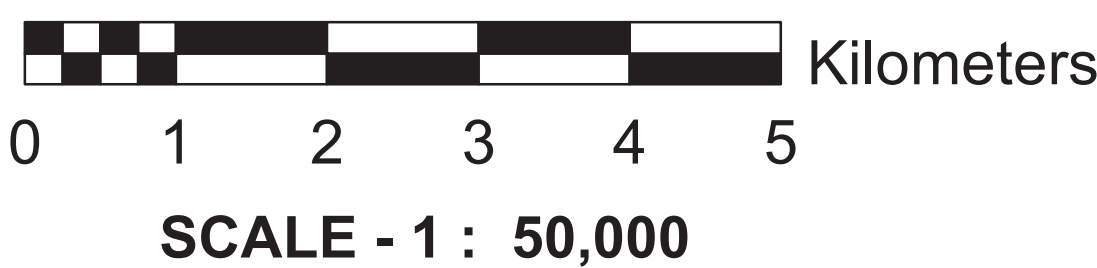


GROUND WATER PROSPECTS MAP

(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



MAP SHEET NO. 73J/15

PASCHIM MEDINIPUR DISTRICTS, WEST BENGAL



LEGEND

MAP UNIT (HYDROGEOLOGICAL UNIT) REPRESENTED IN ALPHANUMERIC CODE (COLOUR INDICATES YIELD RANGE AND MATCHING 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	REMARKS (PROBLEMS / LIMITATIONS)
					AQUIFER MATERIAL	TYPE OF WELLS SUITABLE	DEPTH RANGE OF WELLS (SUGGESTED) MIN - MAX (IN METERS)	YIELD RANGE OF WELLS (EXPECTED) (IN LPM or m ³ /day)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER POSSIBLE (P) NON-POSSIBLE (N) (CHECK REASON IF NON-POSSIBLE)	GROUND WATER IRRIGATED AREA (APPROX. RANGE IN PERCENTAGE)		
APY113	Alluvium (Sand and Silt) (113)	Alluvial Plain Younger (APY)	No wells observed	Very Good	LS	DW TW	10 - 12 m 20 - 30 m	125 - 150 m ³ /day 200 - 250 LPM	Very High	P	Nil	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures are not required as good recharge conditions prevail.
APQ13	Alluvium (Sand, Silt and Clay) (13)	Alluvial Plain Older (APQ)	7.48 DW - 1	Good	LS	DW TW	10 - 15 m 30 - 40 m	75 - 100 m ³ /day 150 - 200 LPM	High	P	70%	Not Required	Aquifer is formed of sandy part of alluvium. Recharge structures are not required as good recharge conditions prevail.
VFS211	Valley Fill Shallow (VFS)	Valley Fill Shallow (VFS)	No wells observed	Moderate	LS Underlain by WM + FR	TW / BW	50 - 60 m	75 - 100 LPM	Moderate	P	Nil	DT Moderate	Recharge structure will increase the sustainability of ground water resources.
LP211	Laterite (Ferricrete-hard crust, laterite nodules and lithomarge clay) (211)	Laterite Plain (LP) (Lithomarge clay)	6.79 - 7.5 DW - 2	Limited	WM + FR	DW TW / BW	15 - 20 m 50 - 60 m	25 - 50 m ³ /day 50 - 100 LPM	Moderate	P	10%	RW High	Areas of exposed lithomarge clay. Fracture zones form the aquifer recharge structure will enhance ground water development.
DLU211	Dissected Laterite Upland (DLU) (Hard crust and Laterite nodules)	Dissected Laterite Upland (DLU)	2.4 - 15.3 DW - 7 HP - 2	Poor to limited	WM + IR (Impervious material)	TW / BW	80 - 100 m	30 - 50 LPM	Low	P	Negligible	Not required	Essentially run-off zone where hard capping is present. Areas of nodular laterites are recharge zones with deep water table conditions. Primarily forest areas with sparse settlements. Not suitable for large scale development of ground water.
VFS212	Valley Fill Shallow (VFS)	Valley Fill Shallow (VFS)	No wells observed	Moderate	LS Underlain by WM + PR	TW / BW	70 - 80 m	75 - 100 LPM	Moderate	P	Nil	DT Moderate	Recharge structure will increase sustainability of ground water resources.
LP212	Pebbles (Lateritised) (212)	Laterite Plain (LP)	1.47 - 8.95 DW - 5	Limited	IM + PR	TW / BW	50 - 60 m	50 - 100 LPM	Moderate	P	10%	RW High	Recharge wells have high priority as the lithomarge clay layer needs to be penetrated to recharge underlying aquifer formed of weathered material and permeable rock.
DLU212	Dissected Laterite (DLU)	Dissected Laterite (DLU)	2.25 - 9.55 DW - 7	Poor to limited	IM + PR	TW / BW	80 - 100 m	30 - 50 LPM	Low	P	Negligible	Not required	Essentially run-off zone where hard capping is present. Areas of nodular laterites are recharge zones with deep water table conditions. Primarily forest areas with sparse settlements. Not suitable for large scale development of ground water.

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 / --- D / --- 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		
YIELD RANGE OF WELLS	COLOUR CODE	DEPTH RANGE OF WELLS	DESCRIPTION		SYMBOL	DIPS		SCHISTOSITY FOLIATION	SYMBOL	DESCRIPTION		STATE INDEX	DISTRICT INDEX	
			SHALLOW	MODERATE		SHALLOW	MODERATE			SH - 9	STATE HIGHWAY			
> 800 LPM	VIOLET	< 10 METERS	CANAL / TANK IRRIGATED AREA	GROUND WATER IRRIGATED AREA		SHALLOW	MODERATE	STEEP (45° - 80°)	SUB-VERTICAL TO VERTICAL (> 80°)	METALLED ROAD	OTHER ROAD			
400 - 800 LPM	INDIGO	10 - 40 METERS	RIVER / STREAM (with sand)	WATER BODY / SPRING		RAIN GUAGE STATION (With average annual rainfall in mm)	RECHARGE STRUCTURES SUGGESTED	ANTICLINE / ANTIFORM	SYNCLINE / SYNFORM	RAILWAY	HABITATIONS : NON - COVERED (NC) PARTIALLY COVERED (PC)			
200 - 400 LPM	BLUE	> 40 METERS	PERCOLATION TANK	NALA BUND	DESILTING OF TANK	WELLS	WELLS	ESCAPMENT	LITHOLOGY / GEOMORPHIC UNIT BOUNDARY	BOUNDARY :	STATE			
100 - 200 LPM	GREEN		SUBSURFACE DYKE	SOIL CONSERVATION MEASURES	RECHARGE PIT	RECHARGE SHAFT	STORAGE TANK	FAULT	THRUST	PRACHTURE / LINEAMENT	PRACHTURE / LINEAMENT (Inferred)			
50 - 100 LPM	YELLOW		YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	SHEAR ZONE	DYKE	QUARTZ REEF	PEDGMENTE WEIN			
30 - 50 LPM	ORANGE		YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE			
20 - 25 LPM	BROWN		YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE			
10 - 20 LPM	PINK		YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE	YIELD RANGE			
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