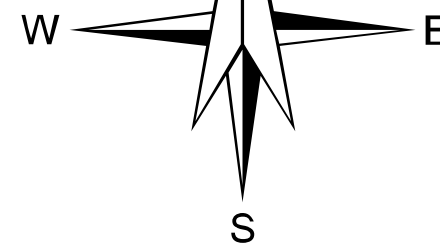
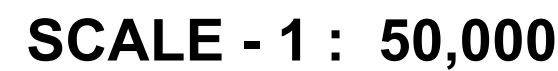
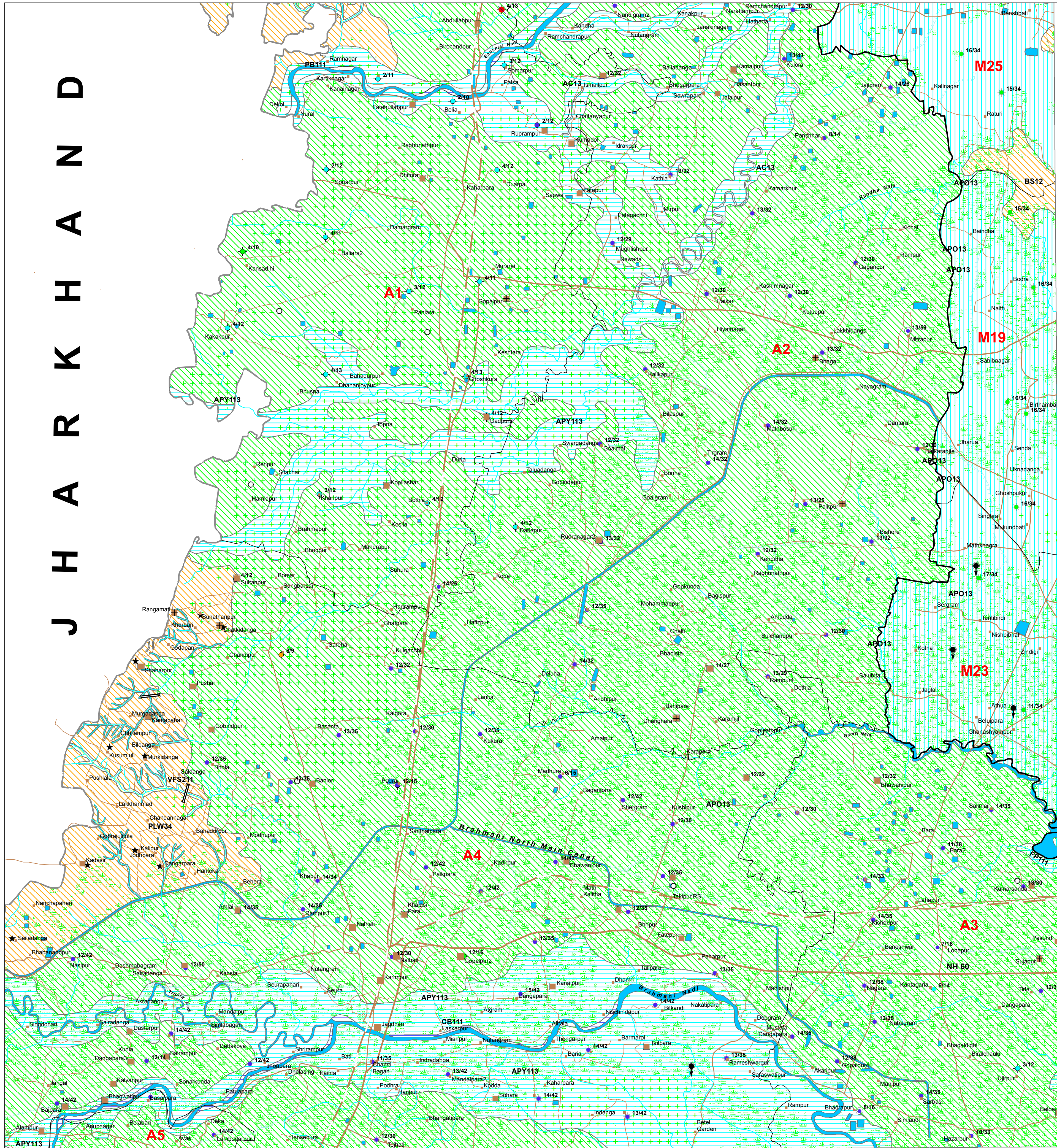


(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH LIMITED FIELD CHECKS)



BIRBHUM & MURSHIDABAD DISTRICTS, WEST BENGAL



© NRSC (ISRO), DEPT. OF SPACE, GOVT. OF INDIA DATA USED : IRS - P6 LISS III FCC dated September 2005-February 2006, GROUND TRUTH & WELL OBSERVATION during March-June, 2012 & Oct 2012-Jan 2013, Published Geological maps & Literatures. Designed & Developed by Hydrogeology Division, NRSC, ISRO

LEGEND

MAP UNIT (HYDROGEO MORPHIC UNIT) REPRESENTED IN THE MAP WITH ALPHANUMERIC 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 MARK S (PROBLEMS / LIMITATIONS)	
					AQUIFER MATERIAL	TYPE OF WELLS SUITABLE	DEPTH RANGE OF WELLS (SUGGESTED) MIN. MAX. (IN METERS)	YIELD RANGE OF WELLS (EXPECTED) (Ltrs. LPM or m ³ / day)	HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY)	QUALITY OF WATER (POTABLE (P) NON- POTABLE (NP)) (INDICATE REASONS IF NOT POTABLE)	GROUND WATER IRRIGATED AREA (APPROX. RANGE IN PERCENTAGE)			
	Hugli(Bhagathi Formation/Present day Deposits (Present Day))	Channel Bar (CB)	No well observed	Excellent	LS	RW/TW	5-10 m	400-500 LPM	Very High	P	Nil	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.	
		Alluvium (Sand Dominant) (111)	No well observed	Very Good	LS	RW/TW	5-10 m	300 LPM	Very High	P	Nil	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.	
		Flood Plain (FP)	No well observed	Very Good	LS	TW	<30 m	250-350 LPM	Very High	P	Nil	Not Required	Groundwater prospects very high with high recharge potential. Recharge structures not required.	
	Panaijuri(Arambhagh Formation (Early to Late Pleistocene))	Alluvium (Clay Dominant) (12)	$\frac{18 / 12}{1}$	Poor	LS	RW/TW	60-70 m	40-50 LPM	Low	P	Nil	Not Required	Areas of low groundwater potential. Better potential at greater depths.	
		Alluvium (Sand,Silt & Silt) (113)	Alluvial Plain Younger (APY)	$\frac{12 / 9}{17}$	Good	LS	TW	25-30 m	200-250 LPM	High	P	33	Not Required	Potable water available at shallow depth.
		Abandoned Channel (AC)	No well observed	Very Good	LS	RW/TW	10-15 m	250-300 LPM	Very High	P	Nil	Not Required	Areas of very high groundwater potential at shallow depth.Most suitable for extraction of groundwater.	
	Bijual Rampurhat Formation (Late Pleistocene to Early Holocene)	Alluvium (Sand,Silt & Clay) (13)	$\frac{7 / 5}{13}$	Moderate to Good	LS	TW	40-60 m	150-200 LPM	Moderate to High	P	66	RW Moderate to Low	Moderate groundwater potential at intermediate depths.	
		Alluvial Plain Older (APO)	$\frac{14 / 10}{86}$	Moderate to Good	LS	TW	100-120 m	300-400 LPM	Moderate to High	NP (As&Fe) [At shallow depth]	1	RW Moderate to Low	Area affected by high Arsenic & Iron concentration. Potable water available at deeper depth.	
	Laganithillibazar Formation (Middle to Upper Pleistocene)	Latente (Ferriferite-Hard crust, lateritic nodules & lithomarge clay) (211)	Valley Fill Shallow (VFS)	No well observed	Moderate	LS underlain by WM+FR	TW/BW	50-60 m	75-100 LPM	Moderate	P	7	DT Moderate	Recharge structure will increase the sustainability of groundwater source.
	Rajshahi Tapp (Upper Jurassic to Cretaceous)	Amygdaloidal Basalt (34)	Plateau Weathered (PLW)	No well observed	Poor	FR	TW/BW	40-60 m	30-50 LPM	Low	P	7	RP High	Limited scope for groundwater development except along fracture zone.

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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.

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.

[illegible]