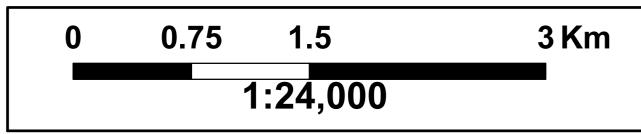
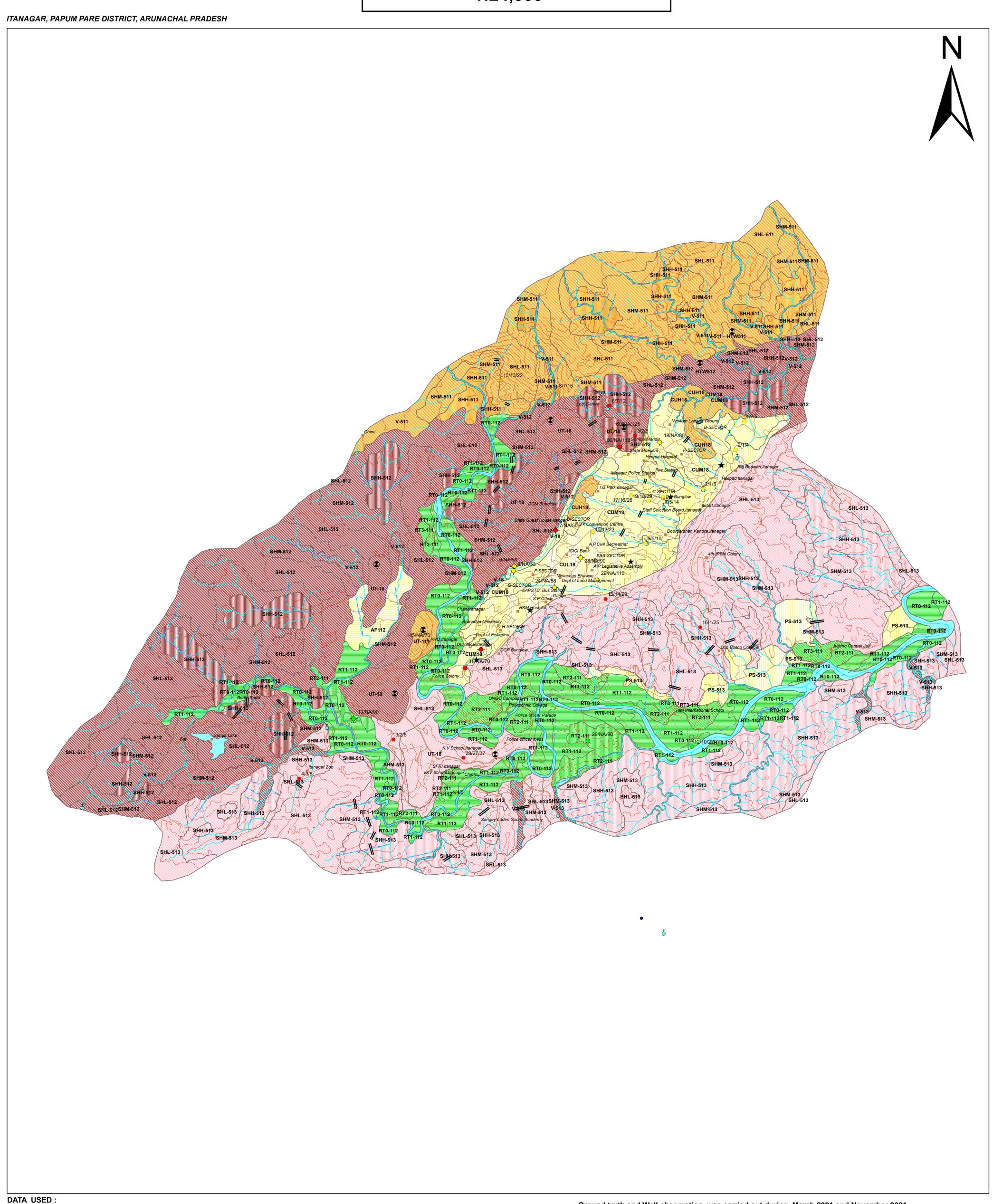
GROUND WATER PROSPECTS MAP (10K)

(PREPARED FROM SATELLITE IMAGE INTERPRETATION WITH FIELD CHECKS)
ITANAGAR TOWNSHIP



LEGEND



MAP UNIT	GEOLOGICAL SEQUENCE /		GEOMORPHIC	DEPTH TO	RECHARGE	GROUND WATER PROSPECTS RECHARGE STRUCTURES								
(HYDROGEOMORPHIC UNIT) REPRESENTED IN THE MAP WITH		ROCK TYPE (REPRESENTED IN	UNIT / LANDFORM	WATER LEVEL NO. OF WELLS OBSERVED	CONDITIONS BASED ON AVAILABILITY OF WATER	AQUIFER MATERIAL LS = LOOSE SEDIMENTS	TYPE OF WELLS SUITABLE DW = DUG WELL	DEPTH RANGE OF WELLS (SUGGESTED)	YIELD RANGE OF WELLS (EXPECTED)	STATUS OF AQUIFER HEALTH (PROBABILITY)	QUALITY OF WATER POTABLE (P) NON - POTABLE (NP)	GROUND WATER IRRIGATED AREA	SUITABLE PRIORITY PT = PERCOLATION TANK CD = CHECK DAM GP = GULLY PLUG	R E M A R K S (PROBLEMS / LIMITATIONS)
COLOUR INDICATES GROUND WATER PROSPECTS)		THE MAP WITH NUMERIC CODE)	THE MAP WITH ALPHABETIC CODE)	PRE-MONSOON POST-MONSOON TOTAL DEPTH (AVERAGE IN METERS)	(RAINFALL & OTHER SOURCES)	PR = PERMEABLE ROCK FIR = FISSURED ROCK FR = FRACTURED ROCK WR= WEATHERED ROCK IR = IMPERVEOUS ROCK	RW = RING WELL BW = BORE WELL TW = TUBE WELL DBW/ = DUG CUM- DTW BORE / TUBE WELL	MIN - MAX (IN METERS)	(in LPM or m ³ /day)	EXCELLENT VERY GOOD GOOD MODERATE LOW VERY LOW	(INDICATE REASONS IF NON POTABLE)	(APPROX . RANGE IN PERCENTAGE)	RW = RECHARGE WELL DT = DESILTING OF TANK RP = RECHARGE PIT CB = CONTOUR BUNDING CT = CONTOUR TRENCHING RS = RECHARGE SHAFT FP = FARM POND SSD = SUB SURFACE DYKE	
RT0-112		NEWER ALLUVIUM Sand, pebbles and boulders. Thin layers of silt and clay are also present. (112)	River Terrace 0 (RT0)	DW-1 (11,9,21)	Excellent	LS	RW	20-25	140-150	Excellent	P	Nil	— SUB SURFACE DINE	Excellent recharge condition. Recharge structure not required. Ring wells suitable
RT1-112			(RT1)		Very Good	LS	RW	5-10	140-150	Excellent	Р	Nil	_	Very good recharge condition. Recharge structure not required. Ring wells suitable
RT1-112			River Terrace 1 (RT1)	BW-1 (18,NA,85)	Good	LS+PR	RW TW	10-15 80-90	140-150	Excellent	Р	Nil	CB/CT	Good recharge condition. Ring wells suitable
AF-112			Alluvial Fan (AF)	_	Good	LS	RW	10-15	50-60	Very Good	Р	Nil	CB/CT	Good recharge condition. Contour bunding / Contour trenching will give result
RT2-111	NARY	OLDER ALLUVIUM	River Terrace 2 (RT2)	_	Moderately Good	LS+PR	RW TW	15-20 35-40	120-130	Very Good	P	Nil	CB/CT	Good recharge from surrounding hills
RT2-111		Sediments range ir size from pebbles to sand, silt and clay; partly oxidised. (111)		BW-1 (43,NA,85)	Moderately Good	LS+PR	RW TW	15-20 85-90	120-130	Very Good	Р	Nil	CB/CT	Good recharge from surrounding hills
RT3-111			River Terrace 3 (RT3)		Moderately Good	LS+PR	RW TW	15-20 75-80	100-120	Very Good	Р	Nil	CB/CT	Good recharge from surrounding hills
UT-111			Uplifted Terrace (UT)	BW-1 (43,NA,67)	Moderately Good	LS+PR	RW TW	15-20 60-70	40-50	Good	Р	Nil	CB/CT/FP	Upper aquifer depends on the thickness of terrace material. Farm pond with semi-leaky lining is suggested in this unit.
V-18	QUATERI	BOULDER CONGLOMERATE - CLAY BED	Valley (V)	BW-3 (6,NA,50)	Good	LS+PR	RW TW	15-20 50-60	50-60	Good	Р	Nil	_	Good recharge from surrounding hills
UT-18	<u> </u>		Uplifted Terrace (UT)	_	Moderate	LS+PR	TW	75-80	20-30	Moderate	Р	Nil	CB/CT/FP	Thickness of terrace material is very less in most of the areas except Mow where terrace material is upto 30 mtr. Because of steep slope, good yield expected from terrace deposits in Mowbll area also. In this unit, small amount of ground water can be expected from underlying rocks .Farm pond with semi-leaky lining is suggested in this unit.
UT-18		Boulders, cobbles, pebbles mainly of granite gneisses in reddish clayey and sandy matrix, partly compacted (18)	Uplifted Terrace (UT)	BW-1 (61,NA,116)	Moderate	LS+PR	TW	110-120	20-30	Moderate	P	Nil	CB/CT/FP	Thickness of terrace material is very less. Small amount of ground water can be expected from underlying siwalik rocks. Farm pond with semi-leaky lining is suggested in this unit.
UT-18			Uplifted Terrace (UT)	DW-1 (26,25,34)	Moderate	LS+PR	TW	75-80	10-20	Moderate	Р	Nil	CB/CT/FP	Thickness of terrace material is very less. Small amount of ground water expected from underlying siwalik rocks. Farm pond with semi-leaky lining is suggested in this unit.
CUL-18			Cuesta Less Dissected (CUL)	<u>DW-5, BW-3</u> (6,4,10) (40,NA,80)	Moderately Good	LS	RW TW	10-20 80-90	90-100	Good	Р	Nil	GP, RP	Good thickness of terrace material. Boulder conglomerate makes good a
CUM-18			Cuesta Mod.Dissected (CUM)	-	Moderate	LS	RW TW	10-20 25-30	90-100	Good	Р	Nil	GP,RP	Good thickness of terrace material. Boulder conglomerate makes good a
CUM-18			Cuesta Mod.Dissected (CUM)	<u>DW-3, BW-3</u> (13,10,18) (21,NA,58)	Moderately Good	LS	RW TW	15-20 50-60	90-100	Good	Р	Nil	GP,RP	Good thickness of terrace material. Boulder conglomerate makes good a
CUH-18	MIO-PLIOCENE	UPPER SIWALIK ROCKS Alternations of graded conglomerate and soft sandstone, silty clay and gravelly beds (513)	Cuesta Highly Dissected (CUH)	_	Moderate	LS	TW	70-80	40-50	Good	Р	Nil	GP,RP	Good thickness of terrace material. Boulder conglomerate makes good a
PS-513			Piedmont Slope (PS)	_	Moderate	WR+PR	TW	80-90	50-60	Moderate	Р	Nil	CB/CT	Colluvial material makes good aquifer
V-513			Valley (V)	-	Good	PR	RW TW	15-20 50-60	20-30	Moderate	Р	Nil	_	Good recharge from surrounding hills
SHL-513			Structural Hills Less Dissected (SHL) Structural Hills		Limited	WR+PR	TW	70-80	10-20	Moderate	P	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer conditio
SHM-513			Mod.Dissected (SHM)	DW-1 (10,8,17)	Limited	WR+PR	TW	70-80	10-20	Moderate	P	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer conditio
SHH-513			Structural Hills Highly.Dissected (SHH)	DW-1 (15,1,24)	Poor	WR+PR	TW	105-115	10-20	Moderate	Р	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer conditio
V-512	OCENE	MIDDLE SIWALIK ROCKS	Valley (V)	_	Good	PR	RW TW	15-20 50-60	20-30	Moderate	Р	Nil	_	Good recharge from surrounding hills
HTW-512			Hilltop Weathered (HTW)	_	Moderate	WR+PR	TW	70-80	20-30	Moderate	Р	Nil	CB/CT/FP	Very less weathering material. Some quantity of ground water can be ex from deeper aquifer.Farm pond with semi-leaky lining is suggested in the
SHL-512		Sandstone with	Structural Hills Less Dissected (SHL)	_	Limited	WR+PR	TW	70-80	20-30	Moderate	Р	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer condition
SHL-512	_ O=PL	silt stone (512)	Structural Hills Less Dissected (SHL) Structural Hills	<u>DW-1, BW-1</u> (2,3,7) (61,NA,110)	Poor	WR+PR	TW	105-115	20-30	Moderate	Р	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer conditio
SHM-512	Ĕ		Mod.Dissected (SHM) Structural Hills	DW-1 (8,7,11)	Limited	WR+PR	TW	70-80	20-30	Moderate	P	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer condition
SHH-512			Structural Hills Highly.Dissected (SHH)	_	Poor	WR+PR	TW	105-115	20-30	Moderate	Р	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer condition
V-511		LOWER CHARLES	Valley (V)	_	Good	PR	RW TW	15-20 50-60	40-50	Moderate	Р	Nil	_	Good recharge from surrounding hills
HTW-511	 <u> </u>	LOWER SIWALIK ROCKS	Hilltop Weathered (HTW)	1	Moderate	WR+PR	TW	70-80	40-50	Moderate	Р	Nil	CB/CT/FP	Very less weathering material. Some quantity of ground water can be exfrom deeper aquifer.Farm pond with semi-leaky lining is suggested in the
SHL-511		Fine grained	Structural Hills Less Dissected (SHL)		Limited	WR+PR	TW	70-80	40-50	Moderate	Р	Nil	CB/CT	Mainly runoff zone. CB/CT will improve aquifer condition
SHM-511	_ \	sandstone with coaly streaks and clay or	Structural Hills Mod. Dissected (SHM)	DW-1 (8,7,14)	Limited	WR+PR	TW	70-80	40-50	Moderate	Р	Nil	CB/CT,GP	Mainly runoff zone. CB/CT & gully plugging will improve aquifer conditio
SHH-511		mudstones (511)	Structural Hills Highly.Dissected (SHH)	_	Poor	WR+PR	TW	105-115	40-50	Moderate	Р	Nil	CB/CT	Mainly runoff zone. CB/CT will improve aquifer condition
F//	<u></u>		se are fault / fracture zones, which	h generally act as conduit	ts for movement of ground w	ater in hard rocks. Along ti	hese zones, the yields ar	re significantly higher	and wells are likely to	be sustainable for longer	r duration. However, th	ne inferred fractures ne	eed to be confirmed by detailed	ground surveys. Fractures more than 1 km are treated
Fractures / lineaments Exact location on the	s whic groun	h are clearly observed / d may vary a little withii	within the unit because of cell inferred are indicated on the n the lith-geom polygon. net zones, and selection of the	map. There could be s	some obscured fractures				of the recharge on t	he map are indicated k	based on the litholo	gy, geomorphology,	lineament and weathering	conditions.
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STRUCTURAL INFORMATION GROUND WATER PROSPECTS INFORMATION HYDROLOGICAL INFORMATION DESCRIPTION BEDDING DIPS < 30 METERS 30 - 80 METERS > 80 METERS GROUND WATER IRRIGATED AREA +++ MODERATE (15 - 45) RIVER / STREAM (with sand) > 800 LPM SUB - VERTICAL TO VERTICAL (> 80) WATER BODY / SPRING RAIN GUAGE STATION (With average annual rainfall in mm) RECHARGE STRUCTURES SUGGESTED SYNCLINE / SYNFORM **GULLY PLUG** NALLAH BUND -RECHARGE WELL DESILTING OF TANK 100 - 200 LPM RECHARGE PIT SUBSURFACE DYKE RECHARGE SHAFT **ESCARPMENT** LITHOLOGY / GEOMORPHIC UNIT BOUNDARY 50 - 100 LPM 30 - 50 LPM THRUST FRACTURE / LINEAMENT 20 - 30 LPM FRACTURE / LINEAMENT ----20 - 30 LPM + 15/70 10 - 15 m³/day 10 - 20 LPM (Confirmed / Inferred) S - S/S - S (Confirmed / Inferred) Prospects limited to valley portions only (Hills, Plateaus etc.) QUARTZ REEF (Confirmed / Inferred) Colour inside well symbol indicates yield range. The figures on the top right hand side of well indicate the depth to water level and depth of well in meters Run-off zone/ Barrier for G.W. movement PEGMATITIE VEIN (Confirmed / Inferred) DUG - CUM- BORE WELL
 HAND PUMP WELL (Inselberg / Ridge / Dyke etc.) Lithologic contacts are inferred at places & Geomorphic boundaries OBSERVATION WELL OF G.W DEPT. / C.G.W.B. ARTESIAN WELL

Run-off zone/
Barrier for
G.W. movement

PREPARED BY

ARTESIAN WELL

PREPARED BY

ARTIONAL REMOTE SENSING CENTRE

Dept. of Science & Technology
Govt. of Arunachal Pradesh

AP Civil Secretariat, Block-I, Room No. 106
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PARTICIPATING ORGANIZATION

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