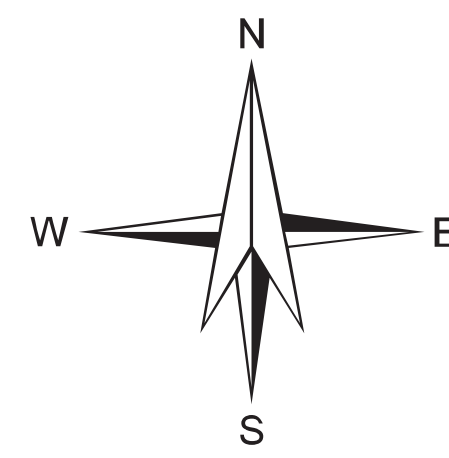


0 1 2 3 4 5 Kilometers

SCALE - 1 : 50,000



MAP SHEET NO. 73I/7

PURULIYA DISTRICT, WEST BENGAL



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DATA USED : IRS - P6 LISS III FCC dated February 2006, GROUND TRUTH & WELL OBSERVATION during April-May, 2009 & Jan-Feb, 2010, Published Geological maps & Literatures

Designed & Developed by Hydrogeology Division, NRSC, ISRC

| MAP UNIT (HYDROGEOLOGIC UNIT) REPRESENTED IN THE MAP WITH ALPHABETIC CODE (COLOUR INDICATES YIELD RANGE AND MATCHING INDICATE DEPTH RANGE) | | GEOLOGICAL SEQUENCE/ ROCK TYPE | GEOGRAPHIC UNIT / LANDFORM | DEPTH TO WATER LEVEL PRE / POST-MONSOON (AVERAGE IN METERS) | RECHARGE CONDITIONS BASED ON AVAILABILITY OF WATER (RAINFALL & OTHER SOURCES) | GROUND WATER PROSPECTS | | | | | | RECHARGE STRUCTURES SUITABLE & PRIORITY | REMARKS (PROBLEMS / LIMITATIONS) | | |
|--|---|--|--|---|---|---|---|--|---|---|---|--|---|--|---|
| | | (REPRESENTED IN THE MAP WITH NUMERIC CODE) | (REPRESENTED IN THE MAP WITH ALPHABETIC CODE) | NO OF WELLS OBSERVED | | AQUIFER MATERIAL LS = LIOSE-NEUMATE PS = PERMEABLE ROCK FS = FISSURED ROCK FR = FRACTURED ROCK WM = WEATHERED MATERIAL IS = IMPERVIOUS ROCK BE = IMPERVIOUS MATERIAL | TYPE OF WELLS SUITABLE DW = DUG WELL RW = RING WELL BW = BORED WELL TW = TUBE WELL DTW = DRILL CORE-BORE WELL / DTW DOW = COME-TORE WELL | DEPTH RANGE OF WELLS (SUGGESTED) MM - MAX (IN METERS) | YIELD RANGE OF WELLS (EXPECTED) (in LPM or m ³ / day) | HOMOGENEITY IN THE UNIT & SUCCESS RATE OF WELLS (PROBABILITY) VERY HIGH MODERATE LOW | QUALITY OF WATER POTABLE (P) NON-POTABLE (NP) (INDICATE REASON IF NON-POTABLE) | GROUND WATER IRRIGATED AREA (APPROX. RANGE IN PERCENTAGE) | PT = HYDROLOGIC-TYPE CD = CHECK DAM ND = NALDA DOME DW = DIGGING WELL DT = DISTINGUISHING OF TANK SP = SURFACE DYKE RS = RECHARGE SHAFT SCN = SOL CONSERVATION MEASURES | | |
| VFS832 | <div>Chotanagpur Granite Gneiss Complex (Lower Proterozoic 230 - 240 myr)</div> | Granitoid Gneiss (832) | Valley Fill Shallow (VFS) | No wells observed | Moderate | LS Underlain by WM+FR | TW / BW | 30 - 50 | 150 - 175 LPM | Moderate | P | 20% | CD/DT Moderate | Prospects inferred as no wells observed. Recharge condition is moderate with moderate groundwater prospects | |
| BPM832 | | | Buried Pediplain Moderate (BPM) | No wells observed | Moderate | WM+FR | DW TW / BW | 5 - 10 40 - 50 | 15 - 25 m ³ /day 150 - 175 LPM | Moderate | P | 10% | Not Required | Smaller units with sparse settlements, recharge structures not required | |
| BPS832 | | | Buried Pediplain Shallow (BPS) | 1.25 - 7.51 DW - 57 HP - 4 | Limited | WM+FR | DW TW / BW | 5 - 10 40 - 60 | 10 - 15 m ³ /day 75 - 100 LPM | Low | P | 10% | RP/DT High | Recharge structures will improve sustainability of groundwater sources | |
| PPS832 | | | Weathered Pediplain Shallow (PPS) | 4.15 DW - 1 | Poor | FR | DW TW / BW | 5 - 10 40 - 60 | 5 - 10 m ³ /day 30 - 50 LPM | Low | P | Negligible | RP High | Due to high run-off and poor infiltration, recharge structures are required to maintain sustainability of groundwater sources | |
| BJS832 | | | Bajada Shallow (BJS) | No wells observed | Moderate | LS Underlain by WM+FR | DW TW / BW | 10 - 15 90 - 100 | 15 - 25 m ³ /day 150 - 175 LPM | Moderate | P | Nil | Not Required | Recharge is moderate. Better yields at greater depths within fractured rock | |
| RH832 | | | Residual Hill (RH) | No wells observed | | | | | | | | | | | Runoff zone. Not suitable for groundwater development |
| VFS923 | | | <div>Unclassified Metamorphics (Older Metamorphics) (Archaean)</div> | Mica Schist (923) | Valley Fill Shallow (VFS) | No wells observed | Moderate | LS Underlain by WM+FR | TW / BW | 30 - 50 | 100 - 125 LPM | Moderate | P | 5% | CD/DT Moderate |
| BPM923 | Buried Pediplain Moderate (BPM) | No wells observed | | | Moderate | WM+FR | DW TW / BW | 15 - 20 40 - 50 | 10 - 15 m ³ /day 100 - 125 LPM | Moderate | P | 10% | Not Required | Smaller units with sparse settlements, recharge structures not required | |
| BPS923 | Buried Pediplain Shallow (BPS) | 1.5 - 6.04 DW - 9 | | | Limited | WM+FR | DW TW / BW | 5 - 10 40 - 60 | 5 - 10 m ³ /day 50 - 75 LPM | Low | P | Negligible | RP High | Recharge structures will improve sustainability of groundwater sources | |
| PPS923 | Weathered Pediplain Shallow (PPS) | No wells observed | | | Poor | FR | DW TW / BW | 5 - 10 40 - 60 | 5 - 10 m ³ /day 30 - 50 LPM | Low | P | Nil | RP High | Due to high run-off and poor infiltration, recharge structures are required to maintain sustainability of ground water sources | |

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 / Q --- Q / P --- P
D --- D / Q --- 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 heterogeneities. Fractures/inclusions 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]