

# ATAL BHUJAL YOJANA (AtalJal)

**State : HARYANA**

**Department : IRRIGATION & WATER  
RESOURCE DEPARTMENT**

**BLOCK : SAMALKHA**

**DISTRICT : PANIPAT**

**YEAR : 2023-2024**

---

*Towards partial fulfilment of requirements for Disbursement of  
Incentive under DLI -1*

---

# HYDROGEOLOGICAL REPORT

## (YEAR: 2023-24)

|                 |   |          |
|-----------------|---|----------|
| STATE           | : | HARYANA  |
| DISTRICT        | : | PANIPAT  |
| BLOCK/TALUK     | : | SAMALKHA |
| BLOCK/TALUK HQs | : | SAMALKHA |

| A  |                        | GENERAL INFORMATION |                                 |             |        |
|----|------------------------|---------------------|---------------------------------|-------------|--------|
| 1. | Geographical area (Ha) | :                   | 22558.16                        |             |        |
| 2. | No. of Gram Panchayats | :                   | 31                              |             |        |
| 3. | No. of towns           | :                   | 1                               |             |        |
| 4. | No. of villages        | :                   | 32                              |             |        |
| 5. | Population (2022)      | :                   | Male                            | Female      | Total  |
|    |                        |                     | 73766                           | 62412       | 136178 |
| 6. | Rainfall (mm) (2022)   | :                   | Monsoon                         | Non-monsoon | Annual |
|    |                        |                     | 472.86                          | 151.11      | 623.97 |
| 7. | River basin            | :                   | Yamuna river basin              |             |        |
| 8. | Major soil types       | :                   | Loamy to Sandy loamy in texture |             |        |

| B  |                         | LAND USE |          |  |
|----|-------------------------|----------|----------|--|
| 1. | Forest area (Ha)        | :        | 0        |  |
| 2. | Cultivable area (Ha)    | :        | 17880.60 |  |
| 3. | Net sown area (Ha)      | :        | 17228.40 |  |
| 4. | Gross cropped area (Ha) | :        | 31176,48 |  |

| C  |                   | CROPPING PATTERN (As in 2022-23) |        |       |        |            |
|----|-------------------|----------------------------------|--------|-------|--------|------------|
| 1. | Major crops grown | :                                | Kharif | Rabi  | Summer | Perennial  |
|    |                   |                                  | Paddy  | Wheat | NA     | Sugar cane |
|    |                   |                                  |        |       |        |            |
|    |                   |                                  |        |       |        |            |
|    |                   |                                  |        |       |        |            |

| D  |                                          | IRRIGATION FACILITIES (As in 2022-23) |          |       |             |        |        |
|----|------------------------------------------|---------------------------------------|----------|-------|-------------|--------|--------|
| 1. | Net irrigated area (Ha)                  | :                                     | 17226.80 |       |             |        |        |
| 2. | Gross irrigated area (Ha)                | :                                     | 27711.64 |       |             |        |        |
| 3. | Area under irrigation (Ha) (Source-wise) | :                                     | DW       | BW/TW | Tanks/Ponds | Canals | Others |
|    |                                          |                                       | 0        | 15500 | 0           | 12211  | 0      |

| E  |                                    | GEOLOGY & HYDROGEOLOGY |                                              |  |
|----|------------------------------------|------------------------|----------------------------------------------|--|
| 1. | Predominant rocktype               | :                      | Sand, Silt mixed with Kankar                 |  |
| 2. | Major geological formations        | :                      | Older & Newer Alluvium                       |  |
| 3. | Important water-bearing formations | :                      | Sand & Silt mixed with Kankar at some places |  |
| 4. | Status of coverage under NAQUIM    | :                      | Covered                                      |  |

| F GROUND WATER CONDITIONS |                                                                        |   |                  |                                            |       |                 |           |       |
|---------------------------|------------------------------------------------------------------------|---|------------------|--------------------------------------------|-------|-----------------|-----------|-------|
| 1.                        | No. of wells used for WaterLevel (WL) monitoring.                      | : | Open wells       |                                            |       | BW/TW/ PZ       |           |       |
|                           |                                                                        |   | CGWB             | SGWB                                       | Total | CGWB            | SGWB      | Total |
|                           |                                                                        |   | 0                | 0                                          | 0     | 8               | 14        | 22    |
| 2.                        | Monitoring mechanism (Nos.)                                            | : | Manual           |                                            | DWLR  |                 | Telemetry |       |
|                           |                                                                        |   | CGWB             | SGWB                                       | CGWB  | SGWB            | CGWB      | SGWB  |
|                           |                                                                        |   | 8                | 13                                         | 0     | 1               | 0         | 1     |
| 3.                        | Monitoring frequency                                                   | : | Agency           | No. of times monitored/year                |       |                 |           |       |
|                           |                                                                        |   | CGWB             | 2 times Pre and Post Monsoon               |       |                 |           |       |
|                           |                                                                        |   | SGWB             | 2 times Pre and Post Monsoon               |       |                 |           |       |
| 4.                        | Period of water level data availability.                               | : | Agency           | Period of WL data availability (From - To) |       |                 |           |       |
|                           |                                                                        |   |                  | From (year)                                |       | To (year)       |           |       |
|                           |                                                                        |   | CGWB             | 2015                                       |       | 2023            |           |       |
|                           |                                                                        |   | SGWB             | 2015                                       |       | 2023            |           |       |
| 5.                        | Water level range (m.bgl)<br>Pre-monsoon (2023)<br>Post-monsoon (2023) | : | Minimum/Village  |                                            |       | Maximum/Village |           |       |
|                           |                                                                        |   | 14.79 (Hathwala) |                                            |       | 41.38 (Karhans) |           |       |
|                           |                                                                        |   | 11.65 (Hathwala) |                                            |       | 41.36 (Karhans) |           |       |
| 6.                        | Seasonal WL fluctuation range (m)                                      | : | Minimum/Village  |                                            |       | Maximum/Village |           |       |
|                           |                                                                        |   | -3.14 (Hathwala) |                                            |       | 1.50 (Behili)   |           |       |

| G GROUND WATER QUALITY |                                                      |  |                                                                                                                          |                                                                                                               |       |           |      |       |
|------------------------|------------------------------------------------------|--|--------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|-------|-----------|------|-------|
| 1.                     | No. of wells used for Water Quality (WQ) monitoring. |  | Open Wells                                                                                                               |                                                                                                               |       | BW/TW/ PZ |      |       |
|                        |                                                      |  | CGWB                                                                                                                     | SGWB                                                                                                          | Total | CGWB      | SGWB | Total |
|                        |                                                      |  | 0                                                                                                                        | 0                                                                                                             | 0     | 11        | 13   | 24    |
| 2.                     | Monitoring frequency                                 |  | Agency                                                                                                                   | No. of times monitored/year                                                                                   |       |           |      |       |
|                        |                                                      |  | CGWB                                                                                                                     | 1 time per year                                                                                               |       |           |      |       |
|                        |                                                      |  | SGWB                                                                                                                     | 1 time per year                                                                                               |       |           |      |       |
| 3.                     | Period of water quality data availability            |  | Agency                                                                                                                   | Period of WQ data availability (Years)                                                                        |       |           |      |       |
|                        |                                                      |  | CGWB                                                                                                                     | 2015-2023                                                                                                     |       |           |      |       |
|                        |                                                      |  | SGWB                                                                                                                     | 2020to 2023                                                                                                   |       |           |      |       |
| 4.                     | Parameters analysed                                  |  | Agency                                                                                                                   | Parameters Analysed                                                                                           |       |           |      |       |
|                        |                                                      |  | CGWB                                                                                                                     | pH, EC, TH, Ca, Mg, Na, K, CO <sub>3</sub> , HCO <sub>3</sub> , SO <sub>4</sub> , Cl, F, NO <sub>3</sub>      |       |           |      |       |
|                        |                                                      |  | SGWB                                                                                                                     | EC                                                                                                            |       |           |      |       |
|                        |                                                      |  | SGWB New                                                                                                                 | pH, EC, TDS, TH, Ca, Mg, Na, K, CO <sub>3</sub> , HCO <sub>3</sub> , SO <sub>4</sub> , Cl, F, NO <sub>3</sub> |       |           |      |       |
| 5.                     | Known ground water quality issues, if any            |  | Ground water is alkaline in nature and is fresh to moderately saline with higher calcium and magnesium content in nature |                                                                                                               |       |           |      |       |

| H. GROUND WATER RESOURCES |                                                  |                |                |                |                |                |                |
|---------------------------|--------------------------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1.                        | Latest assessment year                           | 2022           |                |                |                |                |                |
| 2.                        | Assessment Unit                                  | Block          |                |                |                |                |                |
| 3.                        | Annual extractable GW resource (ha.m)            | 5443.72        |                |                |                |                |                |
| 4.                        | Current annual GW extraction (ha.m)              | 12312.06       |                |                |                |                |                |
| 5.                        | Net GW availability for future use (ha.m)        | 0              |                |                |                |                |                |
| 6.                        | Stage of GW extraction (%)                       | 226.2%         |                |                |                |                |                |
| 7.                        | Category of block/taluk (2022)                   | Over Exploited |                |                |                |                |                |
| 8.                        | Category of block/taluk/ in previous assessments | 2020           | 2017           | 2013           | 2011           | 2009           | 2004           |
|                           |                                                  | Over Exploited | Over Exploited | Over Exploited | Over Exploited | Over Exploited | Over Exploited |

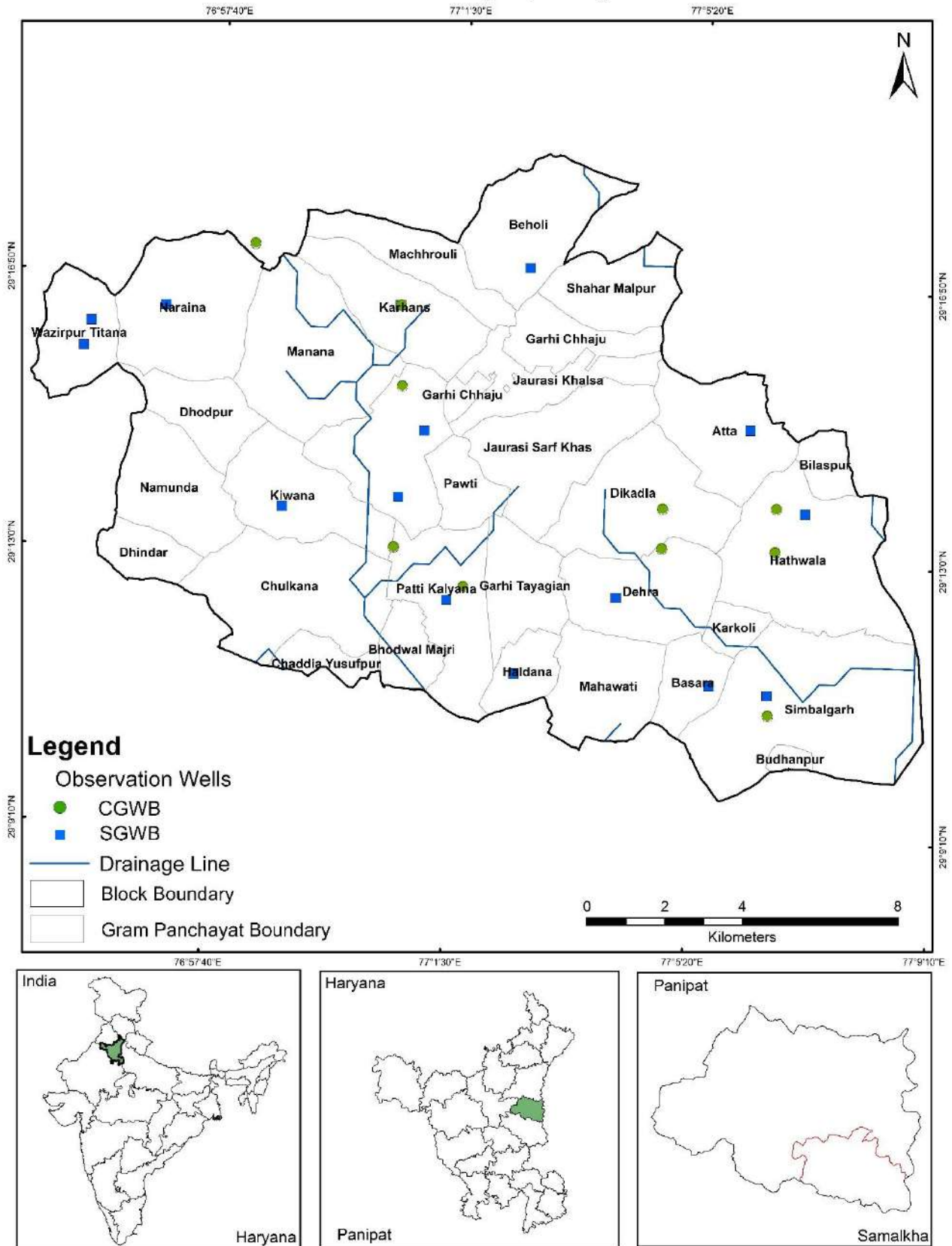
**I WATER-RELATED SCHEMES**

|    |                                                                                 |      |                               |
|----|---------------------------------------------------------------------------------|------|-------------------------------|
| I. | Schemes with a bearing on ground water, being implemented in the block / taluk. |      |                               |
|    | Centrally Sponsored /Central Sector Schemes                                     | i)   | PMKSY                         |
|    |                                                                                 | ii)  | JJM                           |
|    |                                                                                 | iii) | MGNREGA                       |
|    |                                                                                 | iv)  | RKVY                          |
|    |                                                                                 | v)   | NHP                           |
|    |                                                                                 | vi)  | NAQUIM                        |
|    | State Schemes                                                                   | i)   | State Plan Scheme (Head 2402) |
|    |                                                                                 | ii)  | MPMV                          |
|    |                                                                                 | iii) |                               |
|    |                                                                                 | iv)  |                               |

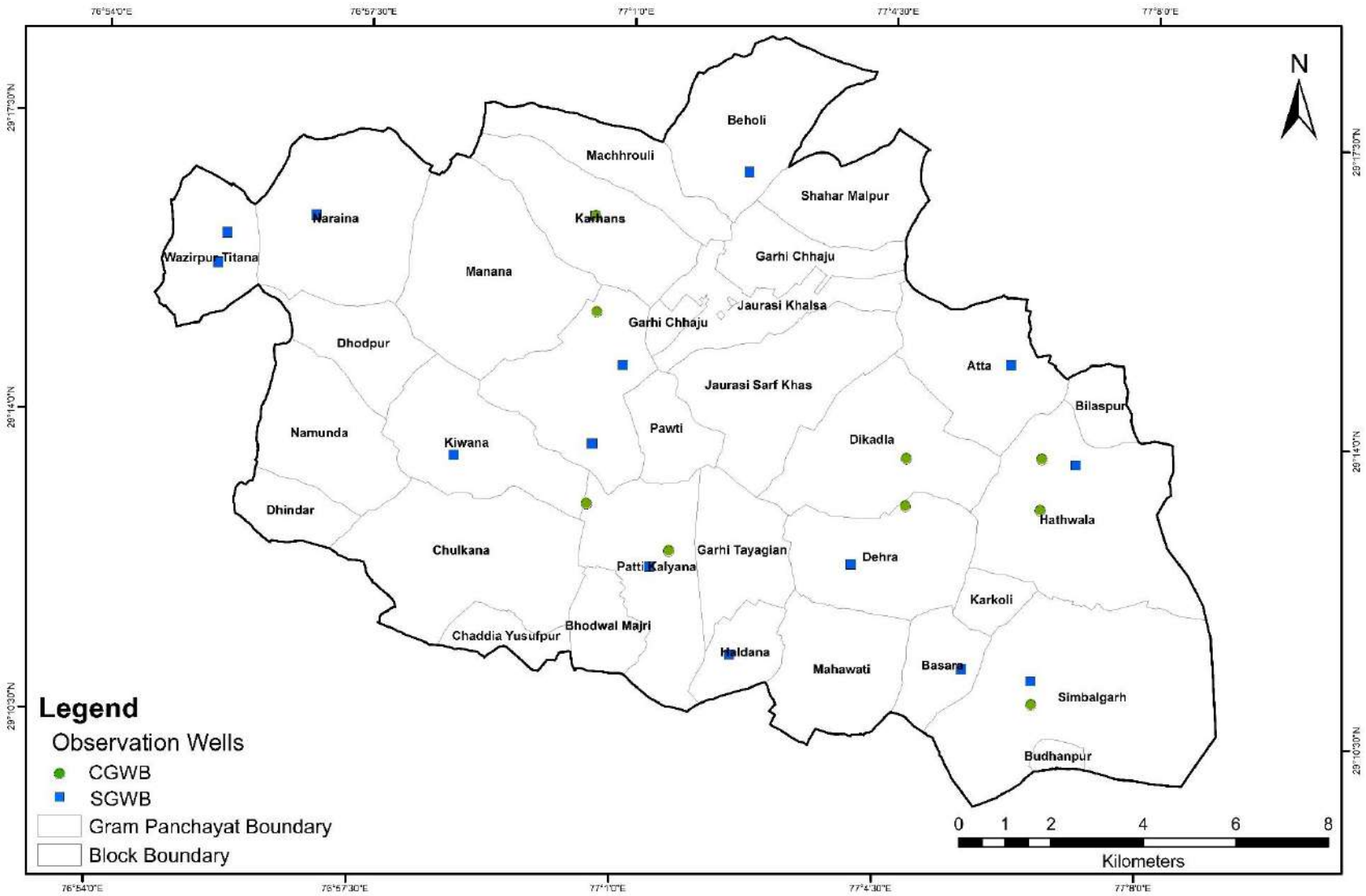
|          |                                           |   |                                                                                                                          |
|----------|-------------------------------------------|---|--------------------------------------------------------------------------------------------------------------------------|
| <b>J</b> | <b>GROUND WATER RELATED ISSUES</b>        |   |                                                                                                                          |
| I.       | Ground water related issues of the block/ |   |                                                                                                                          |
|          | i) Issues related to GW availability      | : | Block under Over Exploited Category & Showing declining water level trend in last decades.                               |
|          | ii) Issues related to GW quality          | : | Ground water is alkaline in nature and is fresh to moderately saline with higher calcium and magnesium content in nature |
|          | iii) Other issues if any.                 | : | No                                                                                                                       |

|          |                                            |
|----------|--------------------------------------------|
| <b>K</b> | <b>ANNEXURES</b>                           |
| I        | Basic data of observation wells – Attached |
| II.      | Historical water level data – Attached     |
| III.     | Historical water quality data – Attached   |

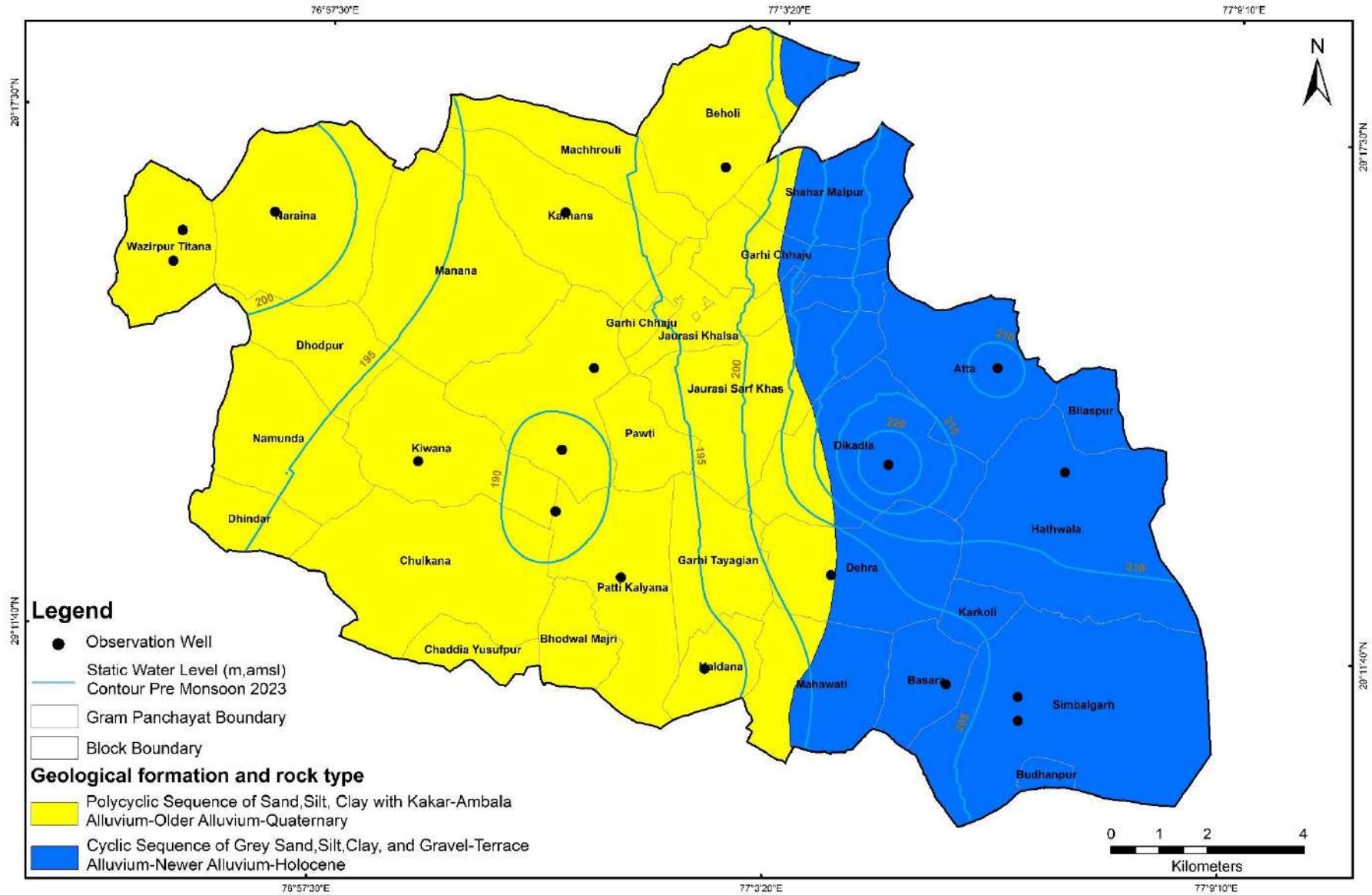
## Location Map of Block-Samalkha, District- Panipat, Haryana



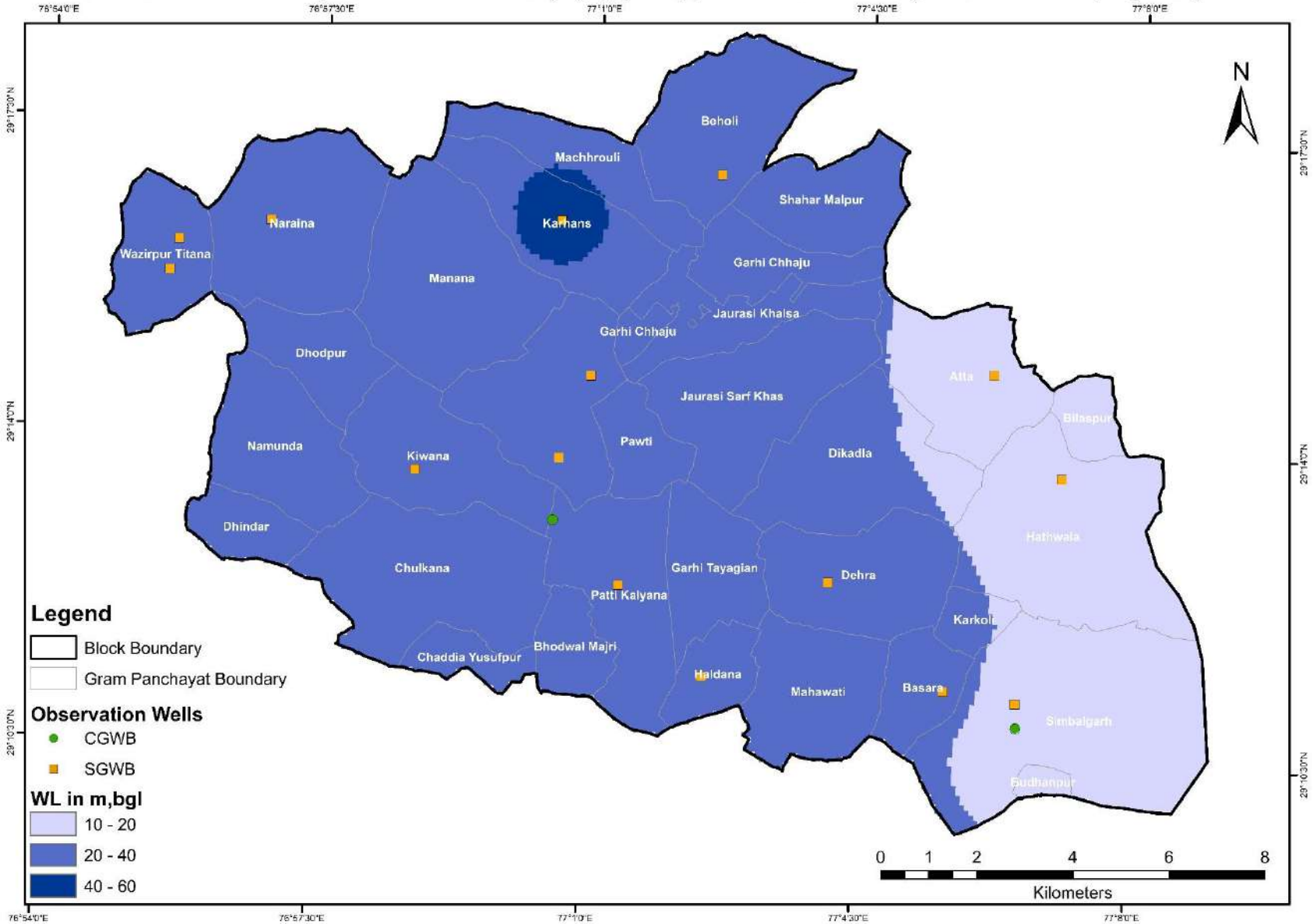
## Location of Observation Wells for Monitoring Water Levels and Water Quality, Block- Samalkha, District- Panipat, Haryana



# Hydrogeological Map, Block- Samalkha, District- Panipat, Haryana

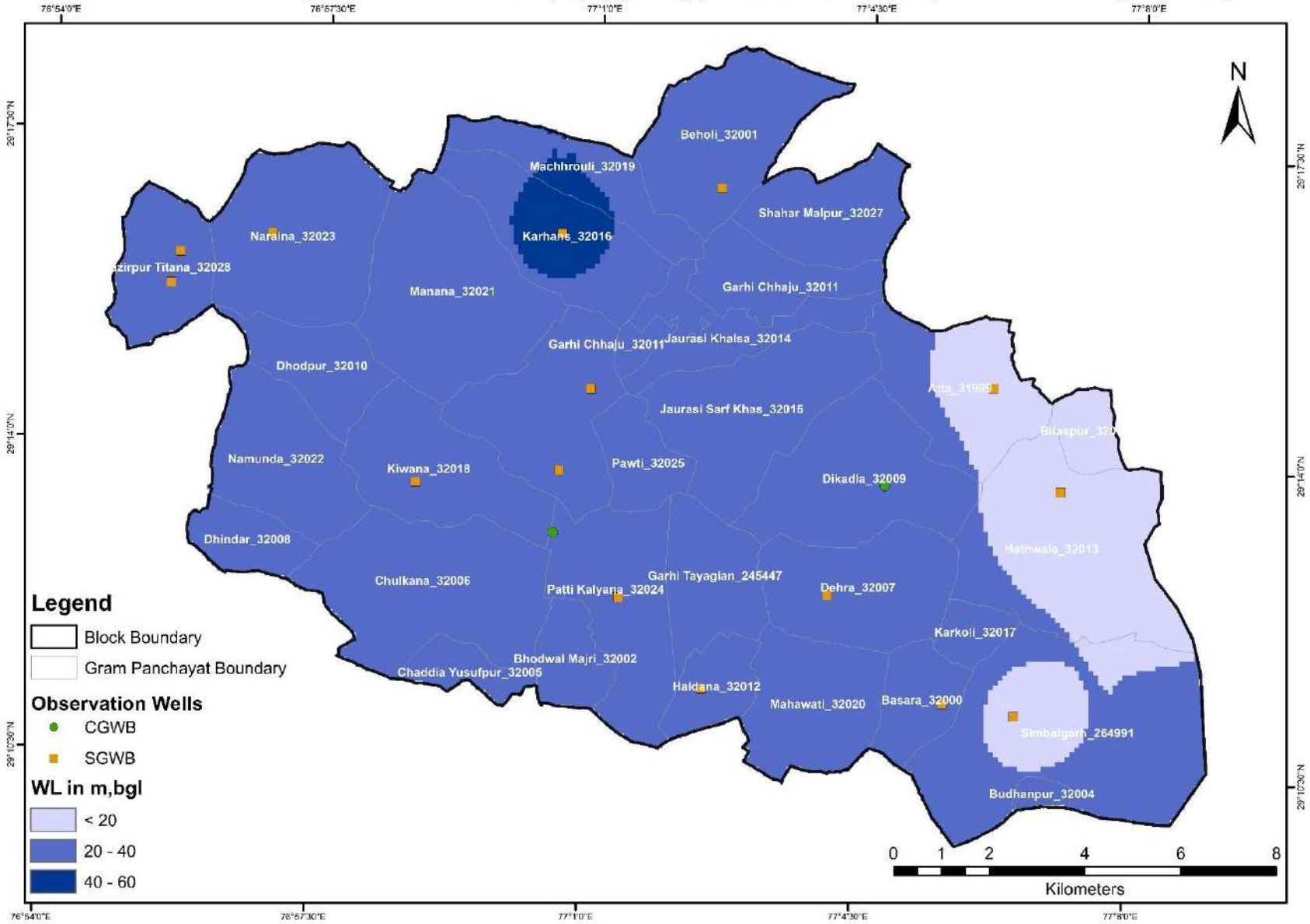


### Pre Monsoon 2023 Depth to Water Level (m,bgl) Map, Block - Samalkha, District - Panipat, Haryana

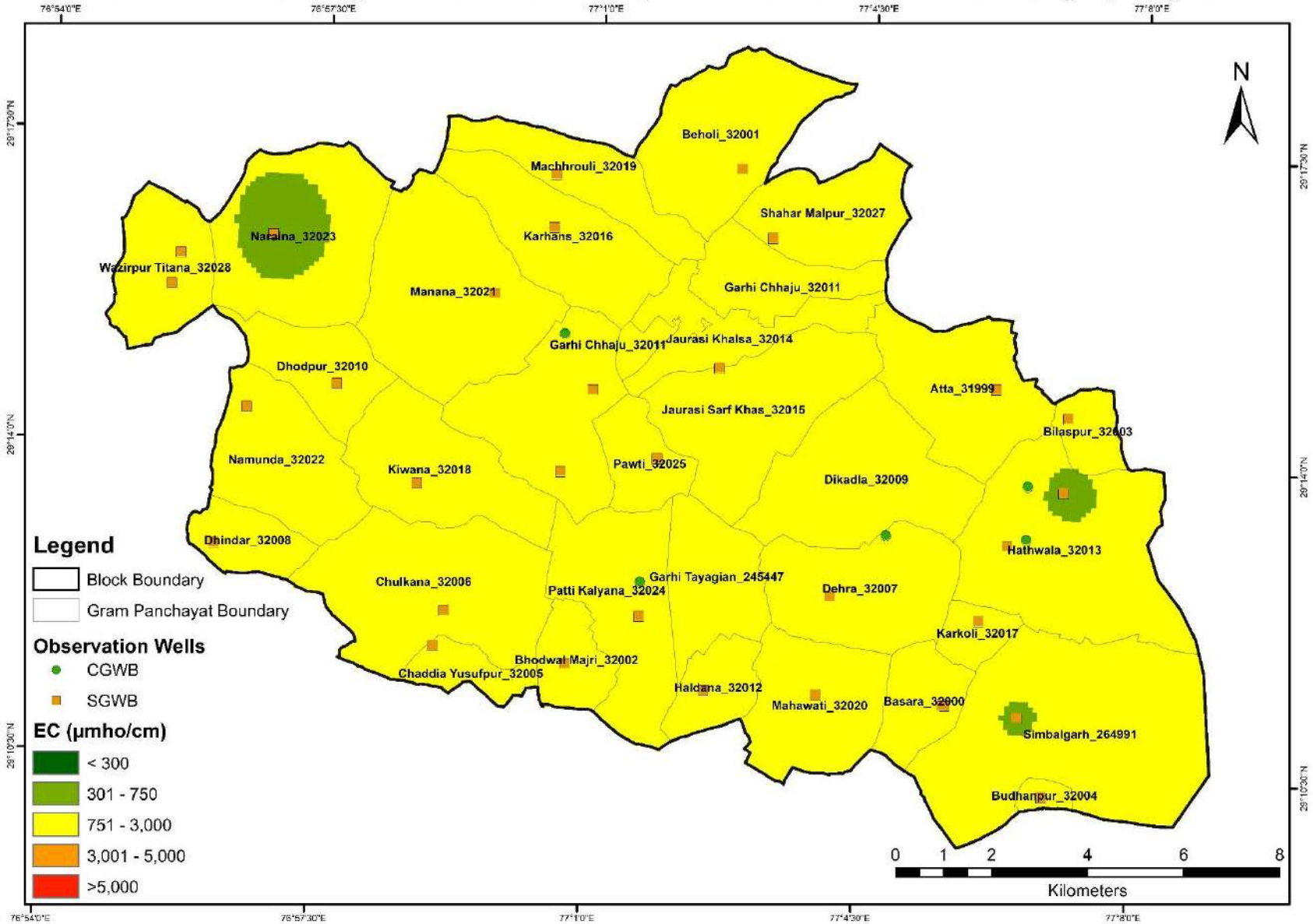




### Post Monsoon 2023 Depth to Water Level (m,bgl) Map, Block - Samalkha, District - Panipat, Haryana



### Electrical Conductivity of Groundwater-2023, Block - Samalkha, District - Panipat, Haryana



**ANNEXURE: I**  
**BASIC DATA OF MONITORING WELLS**

| State | Haryana            |                       |                     | District                                       | Panipat  |           |                      | Block         | Samalkha                    |                     |                |              |                               |                      |        |
|-------|--------------------|-----------------------|---------------------|------------------------------------------------|----------|-----------|----------------------|---------------|-----------------------------|---------------------|----------------|--------------|-------------------------------|----------------------|--------|
| S. No | Well ID            | Gram Panchayat        | Name of the village | Site Name                                      | Latitude | Longitude | Type of Well (DW/Pz) | Reduced Level | Aquifer Type/Lithology      | Height of Measuring | Depth (m, bgl) | Diameter (m) | Purpose of Monitoring (WL/WQ) | Monitoring Mechanism | Agency |
| 1     | At_29.2481_77.1026 | Atta_31999            | Atta                | Govt Sr. Sec School Atta                       | 29.24805 | 77.10257  | PZ                   | 227.38        | Unconfined to Semi Confined | 0.65                | 60             | 0.1          | Both                          | Manual               | SG WB  |
| 2     | Ba_29.1885_77.0937 | Basara_32000          | Bashera             | Dehra to Rakshera Road                         | 29.18847 | 77.09373  | TW                   | 222.7         | Unconfined to Semi Confined | 0.7                 | 90             | 0.254        | Both                          | Manual               | SG WB  |
| 3     | Bh_29.2455_77.0163 | Bhapura               | Bhapura             | Samalkha to Biholi Road                        | 29.24554 | 77.01632  | TW                   | 231.37        | Unconfined to Semi Confined | 0.7                 | 90             | 0.254        | Both                          | Manual               | SG WB  |
| 4     | De_29.2082_77.0684 | Dehra_32007           | Dehra               | Govt. Primary School                           | 29.20822 | 77.06840  | TW                   | 222.85        | Unconfined to Semi Confined | 0.7                 | 70             | 0.254        | Both                          | Manual               | SG WB  |
| 5     | Ha_29.1899_77.042  | Haldana_32012         | Haldana             | In West of Village                             | 29.18988 | 77.04205  | TW                   | 224.6         | Unconfined to Semi Confined | 0.7                 | 80             | 0.254        | Both                          | Manual               | SG WB  |
| 6     | Ha_29.2289_77.1177 | Hathwala_32013        | Hathwala            | Near Veterinary Hospital.                      | 29.22893 | 77.11769  | PZ                   | 227           | Unconfined to Semi Confined | 0.65                | 90             | 0.1          | Both                          | Manual               | SG WB  |
| 7     | Ka_29.275_77.007   | Karhans_32016         | Karhans             | Govt. Middle School.                           | 29.27574 | 77.00700  | TW                   | 227.3         | Unconfined to Semi Confined | 0.7                 | 110            | 0.254        | Both                          | Manual               | SG WB  |
| 8     | Ki_29.2269_76.9794 | Kiwana_32018          | Kiwana              | Govt. Primary School.                          | 29.22691 | 76.97937  | PZ                   | 227.83        | Unconfined to Semi Confined | 0.65                | 60             | 0.1          | Both                          | Manual               | SG WB  |
| 9     | Na_29.2728_76.947  | Naraina_32023         | Naryana             | Near Govt. School.                             | 29.27279 | 76.94697  | TW                   | 233.4         | Unconfined to Semi Confined | 0.7                 | 90             | 0.254        | Both                          | Manual               | SG WB  |
| 10    | Pa_29.2065_77.0236 | Patti Kalyana_32024   | Pattikalyana        | In the Primary School.                         | 29.20648 | 77.02358  | TW                   | 224.3         | Unconfined to Semi Confined | 0.7                 | 100            | 0.254        | Both                          | Manual               | SG WB  |
| 11    | Ra_29.1865_77.1092 | Simbalgarh_264991     | Rakshera            | North of village on Yamuna side                | 29.18655 | 77.10917  | TW                   | 225.5         | Unconfined to Semi Confined | 0.7                 | 100            | 0.254        | Both                          | Manual               | SG WB  |
| 12    | Sa_29.23_77.01     | Samalkha              | Samalkha            | B.D.P.O. office.                               | 29.23000 | 77.01000  | PZ                   | 230.31        | Unconfined to Semi Confined | 0.65                | 60             | 0.1          | Both                          | Manual               | SG WB  |
| 13    | Wa_29.2629_76.9256 | Wazirpur Titana_32028 | Wazirpur Titana     | East of Village on Road just Enter to Village. | 29.26291 | 76.92556  | TW                   | 227.72        | Unconfined to Semi Confined | 0.7                 | 80             | 0.254        | Both                          | Manual               | SG WB  |
| 14    | W291235077014001   | Patti Kalyana_32024   | Patti Kalyana       | Patti Kalyana M                                | 29.20300 | 77.02800  | PZ                   | 226           | Unconfined to Semi Confined | 1.85                | 187            | 0.102        | Both                          | Manual               | CG WB  |

AtalBhujalYojana - Block Hydrogeological Report

|    |                        |                            |                       |                                           |               |               |                |           |                                |      |     |       |      |               |          |
|----|------------------------|----------------------------|-----------------------|-------------------------------------------|---------------|---------------|----------------|-----------|--------------------------------|------|-----|-------|------|---------------|----------|
| 15 | W29123507<br>7014002   | Patti<br>Kalyana_3202<br>4 | Patti Kalyana<br>S    | Patti Kalyana S                           | 29.20<br>300  | 77.02<br>800  | PZ             | 226.<br>7 | Unconfined to<br>Semi Confined | 1.95 | 68  | 0.102 | Both | Manu<br>al    | CG<br>WB |
| 16 | W291521077<br>003601   | Karhans_3201<br>6          | Karhansh<br>Pzm       | Karhansh Pz                               | 29.25<br>400  | 77.010<br>00  | PZ             | 235       | Unconfined to<br>Semi Confined | 1    | 87  | 0.152 | Both | Manu<br>al    | CG<br>WB |
| 17 | W29132507<br>7040002   | Dikadla_3200<br>9          | Dakadla S             | Dakadla S                                 | 29.22<br>000  | 77.06<br>700  | PZ             | 224       | Unconfined to<br>Semi Confined | 1.13 | 85  | 0.102 | WL   | Manu<br>al    | CG<br>WB |
| 18 | Ha_29.2289<br>_77.1177 | Hathwala_32<br>013         | Hathwale              | Hathwale TW                               | 29.22<br>000  | 77.110<br>00  | TW             | 230       | NA                             | 0.6  | NA  | 0.152 | WQ   | Telem<br>etry | CG<br>WB |
| 19 | Ka_29_275_<br>777.007  | Karhans_3201<br>6          | Karhansh              | Karhansh TW                               | 29.25<br>600  | 77.010<br>00  | TW             | 235       | NA                             | 1    | NA  | 0.152 | WQ   | Manu<br>al    | CG<br>WB |
| 21 | HR_GW_79<br>4          | Wazirpur<br>Titana_32028   | WAZIRPUR<br>TITANA    | Govt. Sr. Sec. School,<br>Wazirpur Titana | 29.26<br>875  | 76.92<br>735  | Piezo<br>meter | 236       | Unconfined to<br>Semi-confined | 0.5  | 68  | 0.1   | Both | Manu<br>al    | SG<br>WB |
| 22 | W291118077<br>062501   | Simbalgarh_2<br>64991      | Rakshera              | Rakshera-Pz                               | 29.18<br>206  | 77.109<br>36  | Piezo<br>meter | NA        | Unconfined to<br>Semi Confined | 0.5  | 432 | 0.1   | WL   | Manu<br>al    | CG<br>WB |
| 23 | W28221007<br>6514501   | Hathwala_32<br>013         | Bilaspur              | Bilaspur                                  | 29.23         | 77.11         | Tube<br>Well   | NA        | Alluvium                       | NA   | NA  | NA    | WQ   | Manu<br>al    | CG<br>WB |
| 24 | W29132507<br>7040002   | Dehra_32007                | Dikadla               | Dikadla                                   | 29.22         | 77.08         | Hand<br>Pump   | NA        | Alluvium                       | NA   | NA  | NA    | WQ   | Manu<br>al    | CG<br>WB |
| 25 | W29133507<br>7070501   | Hathwala_32<br>013         | Hathwale              | Hathwale                                  | 29.22         | 77.11         | Tube<br>Well   | NA        | Alluvium                       | NA   | NA  | NA    | WQ   | Manu<br>al    | CG<br>WB |
| 26 | W291521077<br>003601   | Karhans_3201<br>6          | Karhansh              | Karhansh                                  | 29.25<br>5833 | 77.01         | Hand<br>Pump   | NA        | Alluvium                       | NA   | NA  | NA    | WQ   | Manu<br>al    | CG<br>WB |
| 27 | Kha_29.287_<br>76.97   | Khallilshahla<br>pur       | Khallilshahla<br>lpur | Khallilshahlpur                           | 29.28<br>7778 | 76.97         | Hand<br>Pump   | 221       | Alluvium                       | 1.05 | NA  | 0.152 | WQ   | Manu<br>al    | CG<br>WB |
| 28 | W29123507<br>7014001   | Patti<br>Kalyana_3202<br>4 | Patti Kalyana         | Patti Kalyana                             | 29.20<br>9722 | 77.02<br>7778 | Tube<br>Well   | NA        | Alluvium                       | NA   | NA  | NA    | WQ   | Manu<br>al    | CG<br>WB |

**ANNEXURE: 2  
WATER LEVEL (WL) DATA OF MONITORING WELLS**

|                                               |         |          |         |       |                  |
|-----------------------------------------------|---------|----------|---------|-------|------------------|
| State                                         | Haryana | District | Panipat | Block | Samalkha         |
| Month of Pre-monsoon Water Level Measurement  |         |          |         |       | June             |
| Month of Post-monsoon water Level measurement |         |          |         |       | October/November |

| Observation Point     | Source | Well Types  | Co-ordinate |           | Water Level (m) |       |       |       |       |       |       |       |       |       |       |       |       |       |       |       |           |           |
|-----------------------|--------|-------------|-------------|-----------|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|-----------|
|                       |        |             | Latitude    | Longitude | 2015            |       | 2016  |       | 2017  |       | 2018  |       | 2019  |       | 2020  |       | 2021  |       | 2022  |       | 2023      |           |
|                       |        |             |             |           | Pre             | Post  | Pre   | Post  | Pre   | Post  | Pre   | Post  | Pre   | Post  | Pre   | Post  | Pre   | Post  | Pre   | Post  | Pre       | Post      |
| Dehra_32007           | SG WB  | Tube Well   | 29.208224   | 77.068404 | 25.91           | 26.83 | 27.87 | 25.91 | 27.35 | 26.94 | 29.2  | 30.15 | 30.01 | NA    | NA    | NA    | 28.65 | 28.45 | 27.60 | 27.59 | 26.50     | 26.53     |
| Atta_31999            | SG WB  | Piezo meter | 29.24805    | 77.102573 | 16.01           | 16.44 | 17.35 | 16.99 | 17.58 | 16.79 | 18.73 | 18.35 | 17.78 | 19.3  | 17.11 | 18.95 | 17.5  | 17.5  | 18.40 | 17.41 | 17.40     | 17.52     |
| Haldana_32012         | SG WB  | Tube Well   | 29.189876   | 77.042045 | 31.02           | 32.34 | 33.23 | 32.05 | 33.76 | 33.25 | 34.89 | 34.1  | 35.88 | 37.05 | 35.71 | 37.59 | 35.93 | 35.76 | 35.08 | 35.83 | 36.76     | 35.75     |
| Hathwala_32013        | SG WB  | Piezo meter | 29.22893    | 77.117692 | 13.77           | 14.37 | 15.19 | 14.75 | 15.51 | 14.83 | 16.06 | 16.78 | 18.04 | 13.85 | 11.34 | 12.9  | 11.65 | 11.65 | 13.57 | 13.38 | 14.79     | 11.65     |
| Karhans_32016         | SG WB  | Tube Well   | 29.274511   | 77.009048 | 34.93           | 35.63 | 35.16 | 34.37 | 36.25 | 35.74 | 37.82 | 38.65 | 39.38 | NA    | NA    | NA    | 41.36 | 41.36 | 41.08 | 41.44 | 41.38     | 41.36     |
| Kiwana_32018          | SG WB  | Piezo meter | 29.226914   | 76.979367 | 28.37           | 35.56 | 29.54 | 29.13 | 30.22 | 30.49 | 31.35 | 32.25 | 34.36 | 30.6  | 35.35 | 34.47 | 36.6  | 36.6  | 37.00 | 39.08 | 36.03     | 36.13     |
| Naraina_32023         | SG WB  | Tube Well   | 29.272787   | 76.946966 | 17.97           | 18.77 | 19.26 | 18.92 | 19.77 | 20.17 | 21.36 | 20.7  | 21.7  | 23.05 | NA    | NA    | 27.7  | 28.2  | 26.95 | 27.18 | 28.80     | 29.00     |
| Patti Kalyana_32024   | SG WB  | Tube Well   | 29.206476   | 77.023578 | 31.46           | 32.41 | 33.05 | 32.86 | 33.36 | 32.87 | 34.63 | 35.65 | 36.2  | 37.65 | NA    | NA    | 35.75 | 33.75 | 34.30 | 34.49 | 33.05     | 32.53     |
| Simbalgarh_264991     | SG WB  | Tube Well   | 29.186549   | 77.10917  | 13.16           | 13.6  | 14.57 | 14.83 | 15.6  | 14.98 | 16.97 | 16.09 | 18.31 | 17.85 | 18.56 | 18.71 | 18.71 | 17.86 | 17.55 | 17.26 | 18.86     | 17.87     |
| Samalkha              | SG WB  | Piezo meter | 29.23       | 77.01     | 32.88           | 34.64 | 33.5  | 36.37 | 35.48 | 35.9  | 36.78 | 38.95 | 34.75 | 36.7  | 34.88 | 36.83 | 35.38 | 36.12 | 36.48 | 37.81 | 36.88     | 37.02     |
| Wazirpur Titana_32028 | SG WB  | Tube Well   | 29.262909   | 76.92556  | 19.29           | 19.85 | 20.51 | 20.62 | 21.23 | 20.76 | 22.35 | 24.05 | 24.57 | 25.33 | NA    | NA    | 25.81 | 25.81 | 25.20 | 25.44 | 26.81     | 25.81     |
| Dikadla_32009         | CG WB  | Piezo meter | 29.220278   | 77.066667 | 20.6            | NA    | 24.45 | NA    | 23.72 | 25.42 | 24.42 | 26.28 | 24.47 | 23.77 | 24.87 | NA    | 25.17 | NA    | 25.09 | 27.7  | NA        | 27.70     |
| Karhans_32016         | CG WB  | Piezo meter | 29.274511   | 77.009048 | 34.94           | 34.1  | 33.1  | 35.35 | 34.16 | 35.88 | 36.1  | 37.34 | NA    | NA    | NA    | NA    | 41.36 | 41.36 | 41.08 | NA    | Abandoned | Abandoned |
| Basara_32000          | SG     | Tube        | 29.188      | 77.093    | 20.             | 21.   | 21.   | 21.   | 22.   | 22.   | 24.   | 25.   | 25.   | 22.   | 23.   | 23.   | 24.   | 23.   | 24.   | 24.   | 21.90     | 23.30     |

*AtalBhujalYojana - Block Hydrogeological Report*

|                       |          |                |               |               |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |           |       |       |       |
|-----------------------|----------|----------------|---------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-------|-------|-------|
|                       | WB       | Well           | 469           | 733           | 89        | 54        | 88        | 64        | 77        | 1         | 23        | 2         | 27        | 31        | 77        | 15        | 01        | 3         | 05        | 12        |       |       |       |
| Patti Kalyana_32024   | CG<br>WB | Piezo<br>meter | 29.203<br>333 | 77.027<br>778 | 29.<br>08 | 31.<br>34 | 30.<br>66 | NA        | 32.<br>1  | 34.<br>25 | 34.<br>5  | 35.<br>56 | 37.<br>47 | 38.<br>66 | 39.<br>3  | 35.<br>01 | 35.<br>45 | 36.<br>65 | 33.<br>95 | 37.<br>7  | 38.52 | 37.03 |       |
| Patti Kalyana_32024   | CG<br>WB | Piezo<br>meter | 29.203<br>333 | 77.027<br>778 | 32.<br>94 | 32.<br>72 | 29.<br>45 | 33.<br>25 | 34.<br>34 | 34.<br>3  | NA        | 35.<br>97 | 33.<br>62 | NA        | 36.<br>15 | 35.<br>02 | 34.<br>32 | 38.<br>85 | 33.<br>95 | 37.<br>7  | 38.36 | 38.06 |       |
| Bhapura               | SG<br>WB | Tube<br>Well   | 29.245<br>539 | 77.016<br>315 | 32.<br>91 | 29.<br>07 | 34.<br>31 | 33.<br>88 | 34.<br>84 | 35.<br>27 | 35.<br>98 | 36.<br>36 | 36.<br>43 | 35.<br>75 | NA        | NA        | 37.<br>4  | 37.<br>4  | 37.<br>75 | 37.<br>82 | 37.40 | 37.50 |       |
| Beholi_32001          | SG<br>WB | Tube<br>Well   | 29.284<br>001 | 77.042<br>983 | 32.<br>04 | 31.1<br>2 | 33.<br>54 | 33.<br>15 | 34.<br>01 | 33.<br>1  | 35.<br>18 | 33.<br>5  | 37.<br>08 | 36.<br>37 | 15.<br>85 | 17.<br>32 | 37.<br>65 | 36.<br>12 | 39.<br>64 | 38.<br>48 | 37.50 | 39.00 |       |
| Wazirpur Titana_32028 | SG<br>WB | Piezo<br>meter | 29.268<br>745 | 76.927<br>351 | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA    | 35.53 | 34.48 |
| Simbalgarh_264991     | CG<br>WB | Piezo<br>meter | 29.182<br>06  | 77.109<br>36  | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA        | NA    | 16.15 | 14.84 |







*AtalBhujalYojana - Block Hydrogeological Report*

|                          |      |    |             |             |      |      |      |        |        |      |      |       |     |      |       |       |       |      |        |
|--------------------------|------|----|-------------|-------------|------|------|------|--------|--------|------|------|-------|-----|------|-------|-------|-------|------|--------|
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2015 | 8.59 | 544  | ND     | 205.0  | 29.0 | 32.0 | 46.0  | 3.5 | 35.0 | 154.7 | 60.0  | 28.0  | 0.90 | 20.00  |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2016 | 8.85 | 743  | ND     | 163.0  | 28.0 | 22.0 | 109.0 | 2.6 | 24.0 | 270.0 | 60.0  | 38.0  | 0.89 | 12.00  |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2017 | 8.35 | 860  | ND     | 170.0  | 24.0 | 27.0 | 116.0 | 4.0 | 12.0 | 268.0 | 107.0 | 43.0  | 1.60 | 14.00  |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2018 | 8.32 | 1502 | ND     | 177.0  | 27.0 | 26.0 | 277.0 | 2.1 | 0.0  | 315.0 | 276.0 | 160.0 | 0.30 | 2.90   |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2019 | 8.84 | 985  | ND     | 160.0  | 24.0 | 24.0 | 173.0 | 4.2 | 24.0 | 305.0 | 149.0 | 50.0  | 1.50 | 15.00  |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2020 | 8.55 | 970  | ND     | 200.0  | 16.0 | 39.0 | 166.0 | 6.0 | 12.0 | 281.0 | 212.0 | 57.0  | 1.14 | 18.00  |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2021 | 8.68 | 952  | ND     | 412.0  | 21.0 | 87.0 | 51.0  | 5.3 | 62.0 | 159.0 | 72.0  | 62.0  | 0.47 | 141.00 |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2022 | 8.36 | 1539 | ND     | 260.2  | 48.1 | 34.0 | 250.0 | 5.0 | 60.7 | 277.9 | 0.0   | 326.1 | 1.57 | 9.00   |
| Patti Kalyana            | CGWB | Tw | 29.20972222 | 77.02777778 | 2023 | 7.78 | 978  | ND     | 430.0  | 44.0 | 78.0 | 30.0  | 5.0 | 0.0  | 452.0 | 20.0  | 42.0  | 1.00 | 40.00  |
| Wazirpur<br>Titana_32028 | SGWB | Pz | 29.268745   | 76.927351   | 2023 | 8.05 | 1690 | 1133.4 | 487.35 | 136  | 35.9 | 210   | 35  | 0    | 419.9 | 55.49 | 375.3 | 1.67 | 41.93  |

| Name of District | Name of Block | Source | Name of village/<br>OW data | Latitude | Longitude | Value of<br>EC June<br>2020 | Value of<br>E.C<br>June-<br>2021 | Value of<br>E.C<br>June-<br>2022 | Value of<br>E.C<br>June-<br>2023 |
|------------------|---------------|--------|-----------------------------|----------|-----------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|
| Panipat_71       | Samalkha_535  | SGWB   | Naryana                     | 29.27279 | 76.94697  | 350                         | 450                              | 400                              | 300                              |
| Panipat_71       | Samalkha_535  | SGWB   | Kiwana                      | 29.22691 | 76.97937  | 2000                        | 2050                             | 1900                             | 2000                             |
| Panipat_71       | Samalkha_535  | SGWB   | Bhapura                     | 29.24554 | 77.01632  | 1050                        | 950                              | 900                              | 950                              |
| Panipat_71       | Samalkha_535  | SGWB   | Samalkha                    | 29.23    | 77.01     | 1250                        | 1150                             | 1200                             | 1100                             |
| Panipat_71       | Samalkha_535  | SGWB   | Pattikalyana                | 29.20333 | 77.02778  | 1550                        | 1550                             | 1600                             | 1200                             |
| Panipat_71       | Samalkha_535  | SGWB   | Haldana                     | 29.18988 | 77.04205  | 850                         | 850                              | 800                              | 1400                             |

*AtalBhujalYojana - Block Hydrogeological Report*

|            |              |      |                          |          |          |      |      |      |      |
|------------|--------------|------|--------------------------|----------|----------|------|------|------|------|
| Panipat_71 | Samalkha_535 | SGWB | Dehra                    | 29.20822 | 77.0684  | 1500 | 1550 | 1400 | 1500 |
| Panipat_71 | Samalkha_535 | SGWB | Bashera                  | 29.18847 | 77.09373 | 1200 | 1220 | 1450 | 1550 |
| Panipat_71 | Samalkha_535 | SGWB | Atta                     | 29.24805 | 77.10257 | 900  | 900  | 1200 | 1100 |
| Panipat_71 | Samalkha_535 | SGWB | Karhans                  | 29.27574 | 77.007   | 950  | 900  | 900  | 900  |
| Panipat_71 | Samalkha_535 | SGWB | Wazirpur Titana          | 29.26291 | 76.92556 | 300  | 450  | 950  | 800  |
| Panipat_71 | Samalkha_535 | SGWB | Hathwala                 | 29.22893 | 77.11769 | 900  | 900  | 450  | 400  |
| Panipat_71 | Samalkha_535 | SGWB | Rakshera                 | 29.18655 | 77.10917 | 950  | 950  | 900  | 600  |
| Panipat_71 | Samalkha_535 | SGWB | Wazirpur<br>Titana_32028 | 29.26875 | 76.92735 | NA   | NA   | NA   | 1690 |