Section 3. Water-Level Record Components

The WATER LEVEL record is used to store water-level data for ground-water sites. For the water-level file the primary key is a combination of Source Agency Code (C4), Site Identification (Site ID) Number (C1), Measurement Date (C235), and Measurement Time (C709). Of these, Source Agency Code, Site ID, and Measurement Date are mandatory. The data table name for water-level data is GW_LEV_##.

Sub-Section	Attribute Name	Description
3.1	agency_cd	Source agency code (C4) MANDATORY
3.2	site_no	Site identification number (C1) MANDATORY
3.3	lev_dt	Measurement date (C235) MANDATORY
3.4	lev_tm	Measurement time (C709)
3.5	lev_cn	Person creating record (C427)
3.6	lev_cr	Date and time created (C428)
3.7	lev_mn	Person updating record (C429)
3.8	lev_md	Date and time of last update (C710)
3.9	lev_web_cd	Record ready for Web (C858)
3.10	lev_ent_cd	Water-level Type Code (C243)
3.11	lev_va	Water level below LSD MANDATORY (except for WLSTAT equal to D, F, N, O, P, and W) (C237)
3.12	mp_lev_va	Water level referenced to Measuring Point MANDATORY (except for WLSTAT equal to D, F, N, O, P, and W) (C241)
3.13	sl_lev_va	Water level referenced to MSL MANDATORY (except for WLSTAT equal to D, F, N, O, P, and W) (C242)
3.14	lev_status_cd	Status (C238)
3.15	lev_meth_cd	Method of measurement (C239)
3.16	lev_statistics_cd	Statistics code (C240)
3.17	lev_acy_cd	Water-level accuracy (C276)
3.18	lev_src_cd	Water-level source (C244)
3.19	date_acy_cd	Date accuracy (C236)
3.20	sl_datum_cd	Water-level datum (C245)
3.21	lev_party_tx	Water-level party (C246)
3.22	lev_agency_cd	Source Agency (C247)
3.23	lev_mpnt_seq_nu	Sequence Number of MP Record (C248)

3.1 Source Agency Code
(WLAGY/C4 - MANDATORY PRIMARY-KEY CHAR X(5) --agency_cd):

This is the agency that is the source of the data. The Source Agency Code is mandatory and a part of the primary key. Data for a site will not be stored if this field is blank.

3.2 Site Identification Number
(WLID/C1 - MANDATORY PRIMARY-KEY CHAR X(15) -- site_no):

This is the 15-digit site identification (Site ID) number of the site to which the water-level data apply. If the site has not been entered into the Sitefile, this operation must be completed before the water-level data are input. The Site Identification Number is mandatory and a part of the primary key. Data for the site will not be stored if this field is blank.

3.3 Measurement Date
(WLDATE/C235 - PK1 - MANDATORY PRIMARY-KEY CHAR X(8) -- lev_dt):

Enter the date on which the water-level was measured. If the day and/or month are not known, enter blanks in the spaces. Use leading zeros for values of month and day less than ten, and specify all four digits for year. **Note*: The primary key for water-level records is a combination of Source Agency Code, Site Identification Number, Measurement Date, and Measurement Time. Of these, Source Agency Code, Site Identification Number, and Measurement Date are mandatory. Therefore, two entries with the same date and time will not be accepted. Furthermore, if the date is known to the year only, one entry only for that year may be specified.*

3.4 Measurement Time
(WLTIME/C709 - PRIMARY-KEY CHAR X(4) -- lev_tm):

Enter the time of day, when known, using the 24-hour clock.

3.5 Person Creating Record
(WLCUID/C427 - CHAR X(8) -- lev_cn):

This field contains the user identification of the person creating the record. The user ID is entered automatically by the NWIS software.

3.6 Date and Time Created
((WLCRDT/C428 - CHAR X(14) -- lev_cr):

This field contains the date and time that the record was created. The date and time are entered automatically by the NWIS software. **Note*: Before Release 3_1 of the NWIS software, only the date was recorded. Any water-level record created before NWIS release 3_1 has been populated with a time of 0000.*

3.7 Person Updating Record
(WLUUID/C429 - CHAR X(8) -- lev_mn:

This field contains the name of the person updating the record. The user ID is entered automatically by the NWIS software.

3.8 Date and Time of Last Update
(WLUPDT/C710 - CHAR X(14) -- lev_md):

This contains the date and time the record was last updated. The date and time are entered automatically by the NWIS software. ***Note: Before Release 3_1 of the NWIS software, only the date was recorded. Any water-level record updated before NWIS Release 3_1 has been populated with a time of 0000.***

3.9 Record Ready for Web
(WLWBFG/C858 -SK2 - MANDATORY - CHAR X(1) -- lev_web_cd):

This field contains the status and availability of a record for display on the World-Wide-Web. 'Y' is the default. Only records flagged with a 'Y' are made available on the Web. The codes and their meanings are:

Code	Meaning
Y	Record has been checked and is ready for Web display.
C	Record has not been checked. No Web display.
P	Record is proprietary. No Web display.
L	Local use only. No Web display.

3.10 Water-Level Entry Code
(WLVENT/C243 - MANDATORY CHAR X(1) -- lev_ent_cd)

Water levels are referenced to either Land Surface Datum or Mean Sea Level Datum. Only one water-level type may be entered for any date and time. This field is mandatory. Enter the datum to which the water-level will be referenced:

Code	Meaning
L	Water Level below Land Surface Datum (LSD)
M	Water Level referenced to Measuring Point
S	Water Level referenced to Mean Sea Level (MSL)

3.11 Water Level Below Land Surface Datum (LSD)
(WLEVL/C237 - MANDATORY (except for WLSTAT equal to D, F, N, O, P, and W) CHAR X(7) -- lev_va:

Enter the water level at the site, in feet below land surface. Precision can be carried to two decimal places. If the water level is above land surface, precede the value with a minus sign (-). If the site is flowing or being pumped, but a head or water level can be determined, record the appropriate STATUS code and enter the head or water level. If the site is flowing or pumped but the head is not known, the site is dry, the level cannot be

measured, the measurement has been discontinued, or the well was destroyed, leave this field blank and record the appropriate STATUS code. With these six exceptions, this field is mandatory unless the water level is referenced to the MSL. **Note : An entry of Water Level Below LSD also requires the entry of C16 (altitude).**

3.12 Water Level Referenced to Measuring Point
(WLEVMP/C241 - MANDATORY (except for WLSTAT equal to D, F, N, O, P, and W) CHAR X(8) -- mp_lev_va):

Enter the water level at the site referenced to the measuring point, in feet below measuring point. Precision can be carried to two decimal places. If the water level or head is above the measuring point, precede the value with a minus sign (-). If the site is flowing or being pumped, but a head or water level can be determined, record the appropriate STATUS code and enter the head or water level. If the site is flowing or pumped but the head is not known, the site is dry, the level cannot be measured, the measurement has been discontinued, or the well was destroyed, leave this field blank and record the appropriate code under STATUS. With these six exceptions, this field is mandatory unless the water level is referenced to the LSD. **Note: An entry of Water Level below Measuring Point requires the entry of Measuring Point Alitude (C325) or combination station altitude (C16) and MP height (C323); either of these MUST be entered into the database before any entry of water level below MP (C241) can be made.**

3.13 Water Level Referenced to Mean Sea Level (MSL)
(WLEVSL/C242 - MANDATORY (except for WLSTAT equal to D, F, N, O, P, and W) CHAR X(8) -- sl_lev_va):

Enter the water level at the site referenced to the mean sea level, in feet. Precision can be carried to two decimal places. If the water level is below mean sea level, precede the value with a minus sign (-). If the site is flowing or being pumped, but a head or water level can be determined, record the appropriate STATUS code and enter the head or water level. If the site is flowing or pumped, but the head is not known, the site is dry, the level cannot be measured, the measurement has been discontinued, or the well was destroyed, leave this field blank and record the appropriate code under STATUS. With these six exceptions, this field is mandatory unless the water level is referenced to the LSD. **Note: An entry of Water Level Referenced to MSL also requires the entry of C245 (Water-Level Datum).**

3.14 Water-Level Status
(WLSTAT/C238 - CHAR X(1) -- lev_status_cd):

Enter the code indicating the status of the site at the time the water level was measured. If the water level represents a static level, leave this field blank. The codes and their meanings are:

Code	Meaning
A	Water level was affected by atmospheric pressure.
B	Water level was affected by tide stage.
D	Site was dry (no water level was recorded).
E	Site was flowing recently.
F	Site was flowing. Wate level or head could not be measured without additional equipment.
G	Nearby site that taps the same aquifer was flowing.
H	Nearby site that taps the same aquifer had been flowing recently.
I	Recharge water was being injected into the aquifer at this site.
J	Recharge water was being injected into nearby site that taps the same aquifer.
M	Well was plugged and not in hydraulic contact with formation.
N	Measurement was discontinued.
O	Obstruction was encountered in the well (no water level was recorded).
P	Site was being pumped.
R	Site had been pumped recently.
S	Nearby site that taps the same aquifer was being pumped.
T	Nearby site that taps the same aquifer had been pumped recently.
V	Foreign substance was present on the surface of the water.
W	Well was destroyed (no water level was recorded).
X	Water level was affected by stage in nearby surface-water site.
Z	Other conditions existed that would affect the measured water level (explain in remarks).

If no site status is indicated, the reported water-level measurement represents a static level.

Water Levels (C237, C241,or C242) cannot be entered with Status codes of D, N, O, or W; one or the other must be left blank. Water Levels (C237, C241, or C242) are allowed, but may not be compatible with Site Status codes of F or P.

3.15 Water-Level Method of Measurement
(WLMETH/C239 – MANDATORY CHAR X(1) -- lev_meth_cd):

Enter the code indicating how the water level was measured. This field is mandatory. The codes and their meanings are:

Code	Meaning
A	Airline measurement
B	Analog or graphic recorder
C	Calibrated airline measurement
E	Estimated
F	Transducer
G	Pressure-gage measurement
H	Calibrated pressure-gage measurement
L	Interpreted from geophysical logs

Code	Meaning
M	Manometer measurement
N	Non-recording gage
R	Reported, method not known
S	Steel-tape measurement
T	Electric-tape measurement
U	Unknown
V	Calibrated electric tape – accuracy of instrument has been checked
Z	Other

3.16 Water-Level Reference Code
(WLREF/C240 - CHAR X(1) -- lev_statistics_cd):

If the water level was obtained from a continuous recorder (analog or digital), enter the code that indicates how the value was selected from the readings available for that day. The possible codes and their meanings are:

Code	Meaning
M	Water level shown is a daily maximum (i.e., deepest water level for the day).
N	Water level shown is a daily minimum (i.e., shallowest water level for the day).
X	Water level shown is the daily mean.
A	Water level is 12:00 noon reading.
P	Water level is l2:00 midnight reading.

3.17 Water-Level Accuracy
(WLACC/C276 – MANDATORY CHAR X(1) --lev_acy_cd):

Use the following codes to qualify the accuracy of the water-level data. Accuracy will be calculated from the entered value for new water levels and automatically populated; this value may be over-ridden by manual entry of a water-level accuracy code from the following list of codes. This field is mandatory if a water level has been entered:

Code	Meaning
0	Water level accurate to nearest foot
1	Water level accurate to nearest tenth of a foot
2	Water level accurate to nearest one-hundredth of a foot
9	Water level accuracy not to nearest foot

3.18 Water-Level Source
(WLVSRC/C244 – MANDATORY CHAR X(1) -- lev_src_cd):

Enter the code that best indicates source of the water-level data. The codes are the same as those used for Source of Depth Data (SWDSRC). Entry of this component is mandatory with water-level measurement. The codes and their meanings are:

Code	Meaning
A	Reported by another government agency. Do not use **A** if the reporting agency is the owner of the well--use **O**.
D	From driller's log or report.
G	Private geologist-consultant or university associate.
L	Depth interpreted from geophysical logs by personnel of source agency.
M	Memory (owner, operator, driller): less reliable than **D** – reported by owner.
O	Reported by the owner of the well.
R	Reported by person other than the owner, driller, or another government agency.
S	Measured by personnel of reporting agency.
Z	Other source (explain in remarks).

3.19 Water-Level Date Accuracy
(WLDACC/C236 - CHAR X(1) -- date_acy_cd):

This field is populated automatically based on the contents of WLDATE (C235). The following codes indicate the accuracy of the entered water-level date:

Code	Meaning
D	Date to nearest day
M	Date to nearest month
Y	Date to nearest year

3.20 Water-Level Datum
(WLVDTM/C245 - Mandatory CHAR X(10)-- sl_datum_cd):

If the water level is referenced to Mean Sea Level (MSL), component C242, entry of the vertical datum for the altitude of the water surface is mandatory. Valid codes include:

Datum	Meaning
NGVD29	National Geodetic Vertical Datum of 1929
NAVD88	North American Vertical Datum of 1988
OLDAK	Old Alaska (Mainland) and Aleutian Island Datum
OLDPR	Old Puerto Rico and Virgin Island Datum
HILOCAL	Local Hawaiian Datum
ASLOCAL	Local American Samoa Datum
GULOCAL	Local Guam Datum
COE1912	COE Datum 1912

If new datums need to be added to this reference list, please refer to Database Administrator's Manual, section 6.3.1. *Note: No conversions to alternate datums will be provided for the new datums.*

3.21 Water-Level Party
(WLPRTY/C246 - CHAR X(6) -- lev_party_tx

Enter the name or initials of the person measuring the water level.

3.22 Source Agency
(WLSAGY/C247 – CHAR X(5) – lev_agency_cd

Enter the agency code of the person measuring the water level.

3.23 Sequence Number of Measuring Point (MP) Record
(WLMPSQ/C248 – CHAR X(3) - lev_mpnt_seq_nu

If the water level is referenced to a measuring point, component C248 is mandatory.
Enter the sequence number of the MP Record in use at the time the water level referenced
to the measuring point was recorded. This defaults to "001". This must be changed if it
is incorrect.