### WITS\_WITSML Record 17 Cementing Record Variable Mapping

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| **WITS Record ID:** 17 | **Logical Record Type:** 167 | **Auto/Manual:** Automatic |
| **Trigger:** [EVENT] Transmit at a specified time interval (sec) | | |
| **Data Source:** Data acquired in real-time (possibly via Level 0 transfer). Averages are computed over the triggering interval and reset when the record is transmitted. Record only transmitted during a cementing operation. | | |
| **Data Typology:** Reference (Ref), Date\_Time\_Stamp(Dts), Real-time-Measure (Rtm), Real-time-Signal (Rts), Limit (Lim), Set-Point (Spt), Calculation (Cal), Distribution (Dis), Command (Com), Parameter (Par), Synthetic Value (Syn), Alarm (Alm), Interpreted (Int), Modeled (Mod), Observed (Obs), Code (Cod), Count (Cnt), Cumulative (Cml), Status (Sta), Expected (Exp), Estimated (Est) | | |
| **Data Field Types:** A = Alphanumeric String, L = 32 bit 2's complement signed integer, S = 16 bit 2's complement signed integer, F = 32 bit IEEE single precision floating point, E = Engineering, B = Boolean (1 if True and 0 if False), D = Date, T = Time, V = Variant, IL = Integer List, FL = Float List, EL = Engineering List, TL = Text List | | |
| **Reserved Characters:** Comma (,) - Separates Fields, Semi Colon (;) - Separates Items in a Standard Record, Colon (:) - Separates items in Date and Time Fields, Ampersand (&) - Separates items in a List | | |
| **Data Mnemonic Abbreviations:** Raw (Raw), Average (Avg), Max (Max), Min (Min), Mean (Men), Root-Mean-Square (Rms), Percent (Pct), Error (Err), Correlation (Cor), Probability (Prob), Variance (Var), Spread (Spd), Mean-Absolute-Deviation (Mad), Ratio (Rat), Standard Deviation (Std), Mode (Mod), Weighted Mean (Wtm), Dispersion (Dis), Product (Pro), Sum (Sum), Cumulative Sum (Csm), Corrected (Cor), Adjusted (Adj), Instantaneous (Ins), State (Sta), Observed (Obs), Expected (Exp), Observed-Cumulative (ObC), Expected-Cumulative (ExC), Total (Tot), Reported (Rep), Interpolated (Itp), Period (Per), Currency (Cur) | | |

| WITS  Record / Item | Description | STD WITS Long Mnemonic | Operator Mnemonic for WITSML & OSIsoft PI & ODA | Field Type | Length | Typology | Transmit Units (FPS) | Transmit Units (Metric) | Data System Type |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1717 | Well Identifier | WELLID | WID | A | 16 | Ref | ---- | ---- | Unique Well ID |
| 1702 | Sidetrack/Hole Sect No. | STKNUM | SKNO | S | 2 | Ref | ---- | ---- | Unique Wellbore ID |
| 1703 | Record Identifier | RECID | RID | S | 2 | Ref | ---- | ---- | Identification |
| 1704 | Sequence Identifier | SEQID | SQID | L | 4 | Ref | ---- | ---- | Identification |
| 1705 | Date | DATE | DATE | L | 4 | Dts | ---- | ---- | Date |
| 1706 | Time | TIME | TIME | L | 4 | Dts | ---- | ---- | Time |
| 1707 | Activity Code | ACTCOD | ACTC | S | 2 | Cod | ---- | ---- | Activity |
| 1708 | Depth Hole (meas) | DEPTMEAS | DMEA | F | 4 | Obs | F | M | Depth |
| 1709 | Depth Hole (vert) | DEPTVERT | DVER | F | 4 | Cal | F | M | Depth |
| 1710 | Depth Casing Shoe (meas) | DEPTCSGM | DCGM | F | 4 | Ref | F | M | Depth |
| 1711 | Depth Casing Shoe (vert) | DEPTCSGV | DCGV | F | 4 | Cal | F | M | Depth |
| 1712 | Cem Pump Pressure (avg) | CEMPPA | CPPA | F | 4 | Rtm | PSI | KPA | Pressure |
| 1713 | Hookload (avg) | HKLA | HKLA | F | 4 | Int | KLB | KDN | Load |
| 1714 | Block Position | BLKPOS | BPOS | F | 4 | Obs | F | M | Position |
| 1715 | Cem Flow Rate In (calc) | CEMFIC | CFIC | F | 4 | Cal | BPM | M3/M | Flowrate |
| 1716 | Cem Flow Rate In (avg) | CEMFIA | CFIA | F | 4 | Cal | BPM | M3/M | Flowrate |
| 1717 | Cem Flow Rate Out (avg) | CEMFOA | CFOA | F | 4 | Cal | BPM | M3/M | Flowrate |
| 1718 | Cem Flow Out % | CEMFOP | CFOP | S | 2 | Cal | % | % | Flowrate |
| 1719 | Cem Fluid Dens In (avg) | CEMDIA | CDIA | F | 4 | Cal | PPG | KGM3 | Density |
| 1720 | Cem Fluid Dens Out (avg) | CEMDOA | CDOA | F | 4 | Cal | PPG | KGM3 | Density |
| 1721 | ECD at Casing Shoe | ECDCSG | ECDC | F | 4 | Cal | PPG | KGM3 | Density |
| 1722 | Cem Fluid Temp In (avg) | CEMTIA | CTIA | F | 4 | Cal | DEGF | DEGC | Temp |
| 1723 | Cem Fluid Temp Out (avg) | CEMTOA | CTOA | F | 4 | Cal | DEGF | DEGC | Temp |
| 1724 | Cem Stage Number | CEMSTAGE | CSTG | S | 2 | Cnt | ---- | ---- | Count |
| 1725 | Cem Depth to DV Tool | DEPTDVT | DDVT | F | 4 | Obs | F | M | Depth |
| 1726 | Cem Fluid Type/Batch | CEMFTYPE | CTYP | A | 16 | Ref | ---- | ---- | Fluid |
| 1727 | Cem Cumulative Returns | CEMCUMRT | CCRT | F | 4 | Obs | BBL | M3 | Returns |
| 1728 | Cem Indiv Vol Pumped | CEMIVOL | CIVL | F | 4 | Cml | BBL | M3 | Volume |
| 1729 | Cem Cement Vol Pumped | CEMCVOL | CCVL | F | 4 | Cml | BBL | M3 | Volume |
| 1730 | Cem Total Vol Pumped | CEMTVOL | CTVL | F | 4 | Cml | BBL | M3 | Volume |
| 1731 | Cem Volume to Bump Plug | CEMBPVOL | CBVL | F | 4 | Exp | BBL | M3 | Volume |
| 1732 | Cem No./Status of Plug(s) | CEMPLUGS | CPLG | A | 8 | Sta | ---- | ---- | Status |
| 1733 | Cem Job Type | CEMJTYP | CJTY | A | 16 | Ref | ---- | ---- | Reference |
| 1734 | < SPARE 1 > | SPARE1 | SPR1 |  |  |  | ---- | ---- |  |
| 1735 | < SPARE 2 > | SPARE2 | SPR2 |  |  |  | ---- | ---- |  |
| 1736 | < SPARE 3 > | SPARE3 | SPR3 |  |  |  | ---- | ---- |  |
| 1737 | < SPARE 4 > | SPARE4 | SPR4 |  |  |  | ---- | ---- |  |
| 1738 | < SPARE 5 > | SPARE5 | SPR5 |  |  |  | ---- | --- |  |