### WITS\_WITSML Record 1 General Time-Based Record Variable Mapping

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| **WITS Record ID:** 01 | **Logical Record Type:** 151 | **Auto/Manual:** Automatic |
| **Trigger:** [EVENT] Transmit at a specified time interval (sec) | | |
| **Data Source:** Data acquired in real time and computed over the trigger interval; record transmitted and computation reset when triggering interval occurs | | |
| **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 | | |

| 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 |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 0101 | Unique Primary  Well Identification | WELLID | WELLID | A | 16 | Ref | ~~~ | ~~~ | Unique Well ID |
| 0102 | Unique Primary Wellbore ID (Stk/By-Pass/Interval) | STKNUM | WELLBOREID | S | 2 | Ref | ~~~ | ~~~ | Unique Wellbore ID |
| 0103 | Record Identifier | RECID | RECID | S | 2 | Ref | ~~~ | ~~~ | Date |
| 0104 | Sequence Identifier | SEQID | SEQID | L | 4 | Ref | ~~~ | ~~~ | Time |
| 0105 | Date (Month-Day-Year) | DATE | DATE | L | 4 | Dts | ~~~ | ~~~ | Date |
| 0106 | Time (HH:MM:SS) | TIME | TIME | L | 4 | Dts | ~~~ | ~~~ | Time |
| 0107 | Activity Code | ACTC | WITSSTAT | S | 2 | Cod | ~~~ | ~~~ | Activity |
| 0108 | Depth Bit (meas) | DEPTBITM | BITDEP | F | 4 | Obs | F | M | Depth |
| 0109 | Depth Bit (vert) | DEPTBITV | VBITDEP | F | 4 | Cal | F | M | Depth |
| 0110 | Depth Hole (meas) | DEPTMEAS | DEPTH | F | 4 | Obs | F | M | Depth |
| 0111 | Depth Hole (vert) | DEPTVERT | VDEPTH | F | 4 | Cal | F | M | Depth |
| 0112 | Block Position | BLKPOS | POSBLOCK | F | 4 | Obs | F | M | Rig |
| 0113 | Rate of Penetration (avg) | ROPA | ROPAVG | F | 4 | Cal | F/HR | M/HR | Rate |
| 0114 | Hookload (avg) | HKLA | HKLDAVG | F | 4 | Cal | KLB | KDN | Tension |
| 0115 | Hookload (max) | HKLX | HKLDMAX | F | 4 | Cal | KLB | KDN | Tension |
| 0116 | Weight-on-Bit (surf, avg) | WOBA | WOBAVG | F | 4 | Cal | KLB | KDN | Load |
| 0117 | Weight-on-Bit (surf, max) | WOBX | WOBMAX | F | 4 | Cal | KLB | KDN | Load |
| 0118 | Rotary Torque (surf, avg) | TORQA | TQAVG | F | 4 | Cal | KFLB | KNM | Torque |
| 0119 | Rotary Torque (surf, max) | TORQX | TQMAX | F | 4 | Cal | KFLB | KNM | Torque |
| 0120 | Rotary Speed (surf, avg) | RPMA | RPMAVG | S | 2 | Cal | RPM | RPM | Speed |
| 0121 | Standpipe Pressure (avg) | SPPA | PRESPUMPPAVG | F | 4 | Cal | PSI | KPA | Pressure |
| 0122 | Casing (Choke) Pressure | CHKP | CHKPRAVG | F | 4 | Cal | PSI | KPA | Pressure |
| 0123 | Pump Stroke Rate #1 | SPM1 | SPM1 | S | 2 | Cnt | SPM | SPM | Rate |
| 0124 | Pump Stroke Rate #2 | SPM2 | SPM2 | S | 2 | Cnt | SPM | SPM | Rate |
| 0125 | Pump Stroke Rate #3 | SPM3 | SPM3 | S | 2 | Cnt | SPM | SPM | Rate |
| 0126 | Tank Volume (active) | TVOLACT | TVOLACT | F | 4 | Obs | BBL | M3 | Volume |
| 0127 | Tank Volume Change (act) | TVOLCACT | TVOLCACT | F | 4 | Dif | BBL | M3 | Volume |
| 0128 | Mud Flow Out (%) | MFOP | FLOWOUTPC | S | 2 | Cal | % | % | Flow |
| 0129 | Mud Flow Out (avg) | MFOA | FLOWOUTAVG | F | 4 | Cal | GPM | L/M | Flow |
| 0130 | Mud Flow In (avg) | MFIA | FLOWINAVG | F | 4 | Cal | GPM | L/M | Flow |
| 0131 | Mud Density Out (avg) | MDOA | WTMUDOUTAVG | F | 4 | Cal | PPG | KGM3 | Weight |
| 0132 | Mud Density In (avg) | MDIA | WTMUDINAVG | F | 4 | Cal | PPG | KGM3 | Weight |
| 0133 | Mud Temperature Out (avg) | MTOA | TEMPMUDINAVG | F | 4 | Cal | DEGF | DEGC | Temperature |
| 0134 | Mud Temperature In (avg) | MTIA | TEMPMUDOUTAVG | F | 4 | Cal | DEGF | DEGC | Temperature |
| 0135 | Mud Conductivity Out (avg) | MCOA | CONDMUDOUTAVG | F | 4 | Cal | MMHO | MMHO | Conductivity |
| 0136 | Mud Conductivity In (avg) | MCIA | CONDMUDINAVG | F | 4 | Cal | MMHO | MMHO | Conductivity |
| 0137 | Pump Stroke Count (cum) | STKC | STKTOT | L | 4 | Cml | ---- | ---- | StrokeCount |
| 0138 | Lag Strokes | LAGSTKS | STKLAG | S | 2 | Cnt | ---- | ---- | StrokeLag |
| 0139 | Depth Returns (meas) | DEPTRETM | MUDRETDEPTH | F | 4 | Cal | F | M | Depth |
| 0140 | Gas (avg) | GASA | GASAVG | F | 4 | Cal | % | % | Percentage |
| 0141 | Mechanical Specific Energy | MSE | MSE | F | 4 | Cal | KPSI | KPSI | Energy |
| 0142 | Cuttings Flow Rate | CUTFR | CUTFLOWRATE | F | 4 | Est | GALUS/MIN | L/min | Flowrate |
| 0143 | Theoretical Vol. – Cumulative Volume | CUTVO | CUTTINGSVOLUME | F | 4 | Est | BBL | M3 | Volume |
| 0144 | Operator Drilling Dynamics | ODD | ODD | F | 4 | Cal | KPSI | KPSI | Energy |
| 0145 | UTC (YYYY-MM-DDTHH:MM:SS) | UTC | UTC | T | 19 | Dts | n/a | n/a | Time |
| 0146 | UTC Time Zone ( +/-HH:MM) | UTCTZ | UTCZONE | T | 6 | Dts | n/a | n/a | Time |