

Schlumberger

Company: **ESSO Australia Pty Ltd**

8.50 In. Section

Well: **SNA A19A**

Field: **SNAPPER**

Rig: ISDL 175

State:

Victoria

VISION Resistivity
1:200 Measured Depth
Recorded Mode Log (Trip Out)

| Location | |
|--------------------|--------------------------|
| Total depth: | 4888.0 m |
| Spud date: | 27-Mar-08 |
| Run: | 4 |
| Permanent datum: | Mean Sea Level |
| Log measured from: | Drill Floor |
| Depth reference: | Driller's Depth |
| | Elev.: 0.0 m |
| | 41.7 m above Perm. datum |
| | |
| | |

ISDL 175

SNAPPER

Bass Strait

SNA A19A

Company: ESSO Australia Pty Ltd

Service Order
07ASQ0023

X = E 589,787.584 m
Y = N 5,772,180.379 m

| Longitude | Latitude |
|-------------------|------------------|
| E 148° 1' 31.298" | S 38° 11' 37.84" |

Depth logged: 4031.0 m To 4

| | |
|-----|---------------------|
| 6 m | Mag decl: 13.01 deg |
|-----|---------------------|

Other services:

Date logged: 15-Apr-08 To 2

| | |
|-------|--------------------|
| or-08 | Mag dip: -68.71 de |
|-------|--------------------|

See Remarks

| Bore hole record | | | Casing record | | | |
|------------------|----------|----------|---------------------------|------------|----------|----------|
| Hole size | from | to | Size | Density | from | to |
| 8.50 in. | 4100.0 m | 4888.0 m | 9.625 in. | 47.0 lb/ft | 27.1 m | 4031.0 m |
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| Mud record | | | Borehole deviation record | | | |
| Type | from | to | Mln | Max | from | to |
| Accolade SBM | 4100.0 m | 4888.0 m | 34.10 deg. | 81.60 deg. | 4100.0 m | 4888.0 m |
| | | | | | | |
| | | | | | | |
| | | | | | | |

| Surface equipment | | Software record | | | |
|-------------------|------------------|-----------------|------------|--|--|
| Unit | ESSO Office Unit | IDEAL W/IS | ID13_0c_06 | | |
| Depth system | PDAC/CLT | HSPM | 13_0c_03 | | |
| | | LWD | V9.3b | | |
| | | MWD | 9.2C02 | | |

Bit Run Summary

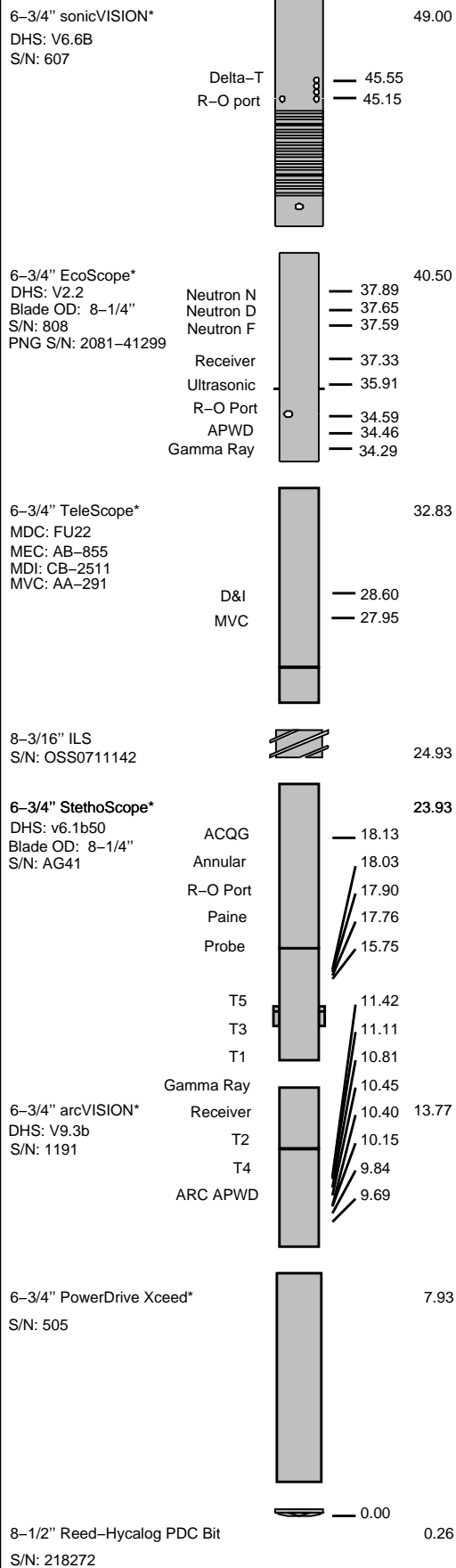
| Run number | | 3 | 4 | 5 | | | | | | |
|------------------------|------------|--------------|--------------|--------------|--|--|--|--|--|--|
| Bit size | in | 8.5 | 8.5 | 8.5 | | | | | | |
| Bit start depth | m | 4031.0 | 4100.0 | 4031.0 | | | | | | |
| Bit end depth | m | 4100.0 | 4888.0 | 4848.0 | | | | | | |
| Top interval logged | m | 4031.0 | 4089.6 | 4031.0 | | | | | | |
| Bottom interval logged | m | 4089.6 | 4877.6 | 4842.5 | | | | | | |
| Begin log: time | | 9:34 | 15:10 | 15:33 | | | | | | |
| Begin log: date | | 15-Apr-08 | 19-Apr-08 | 27-Apr-08 | | | | | | |
| End log: time | | 19:07 | 0:23 | 23:06 | | | | | | |
| End log: date | | 15-Apr-08 | 23-Apr-08 | 27-Apr-08 | | | | | | |
| Mud data | | | | | | | | | | |
| Depth | m | 4099.0 | 4888.0 | 4888.0 | | | | | | |
| Type | | Accolade SBM | Accolade SBM | Accolade SBM | | | | | | |
| Mud weight | ppg | 11.30 | 10.80 | 10.90 | | | | | | |
| Solids | % | 15.80 | 15.60 | 15.70 | | | | | | |
| Chlorides | mg/L | 46,623 | 50,501 | 50,423 | | | | | | |
| Rm | Ohm.m @ °C | n/a | n/a | n/a | | | | | | |
| Rmf | Ohm.m @ °C | n/a | n/a | n/a | | | | | | |
| Rmc | Ohm.m @ °C | n/a | n/a | n/a | | | | | | |

| | | | | | | | | | | |
|---------------------------|-----|------------------|-----------|-------------|-----------|------------|--------|-------------|--|--|
| Potassium | | n/a | n/a | n/a | | | | | | |
| Environmental data | | | | | | | | | | |
| GR | | | | | | | | | | |
| Mud weight | ppg | 11.30 | 10.80 | 10.90 | | | | | | |
| Bit size | in | 8.5 | 8.5 | 8.5 | | | | | | |
| Resistivity | | | | | | | | | | |
| Neutron porosity | | | | | | | | | | |
| Hole Size | in | 8.5 | 8.5 | 8.5 | | | | | | |
| Mud weight | ppg | 11.30 | 10.80 | 10.90 | | | | | | |
| Temperature | °C | 85 | 89 | 89 | | | | | | |
| Mud salinity | ppk | 59.925 | n/a | n/a | | | | | | |
| Formation salinity | | n/a | n/a | n/a | | | | | | |
| Recording rate 1 | SEC | 6 (ARC) 10 (SON) | 6 (ARC) | 6 (ARC) | | | | | | |
| Recording rate 2 | SEC | 2 (Ecoscope) | n/a | n/a | | | | | | |
| Filtering GR | | 3 pts. | 3 pts. | 3 pts. | | | | | | |
| Filtering density | | 3 pts. | n/a | n/a | | | | | | |
| Filtering Neutron | | 3 pts. | n/a | n/a | | | | | | |
| Company representative | | G. Doty | R. Moore | M. Calicutt | R. Spence | D. Daniels | | | | |
| Anadrill personnel | | M. Amarasena | M. Sihite | M. Lu | J. Ikeda | C. Soper | D. Bui | F. Debacker | | |

| | | |
|--|--|--|
| <p style="text-align: center;">DISCLAIMER</p> <p>THE USE OF AND RELIANCE UPON THIS RECORDED-DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS AGREED UPON BETWEEN SCHLUMBERGER AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON USE OF THE RECORDED-DATA; (b) DISCLAIMERS AND WAIVERS OF WARRANTIES AND REPRESENTATIONS REGARDING COMPANY'S USE OF AND RELIANCE UPON THE RECORDED-DATA; AND (c) CUSTOMER'S FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDED-DATA.</p> | | |
| <p>OTHER SERVICES FOR RUN 3</p> <p>Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations</p> | <p>OTHER SERVICES FOR RUN 4</p> <p>Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations</p> | <p>OTHER SERVICES FOR RUN 5</p> <p>Directional Drilling Directional Surveys Annular Pressure & Temperature Shock & Vibrations</p> |
| <p>REMARKS: RUN NUMBER 3</p> <p>Depth is referenced to Driller's depth</p> <p>Gamma ray is corrected for mud weight, tool size and bit size</p> <p>Resistivity is borehole compensated and environmentally corrected</p> <p>Neutron porosity is corrected for the effects of borehole size (bit size), temperature, mud salinity and mud hydrogen index (a factor of mud weight, mud temperature and pressure)</p> <p>Neutron porosity is calculated by using a limestone matrix density of 2.71 g/cm3</p> <p>SSn and LSn variables in the calibration are depicted as "exceeding limits" and Gamma-Gamma density calibration is depicted as "out of date". All inconsequential as operation was sourceless</p> <p>POOH to change out BHA (due to hole condition)</p> | <p>REMARKS: RUN NUMBER 4</p> <p>Depth is referenced to Driller's depth</p> <p>Gamma ray is corrected for mud weight, tool size and bit size</p> <p>Resistivity is borehole compensated and environmentally corrected</p> <p>POOH upon reaching TD of SNA A19A</p> | <p>REMARKS: RUN NUMBER 5</p> <p>Depth is referenced to Driller's depth</p> <p>Gamma ray is corrected for mud weight, tool size and bit size</p> <p>Resistivity is borehole compensated and environmentally corrected</p> <p>POOH due to completion of wiper trip.</p> |

| | | |
|------------------------------|--------------|--------------|
| EQUIPMENT DESCRIPTION | | |
| RUN 3 | RUN 4 | RUN 5 |
| | | |

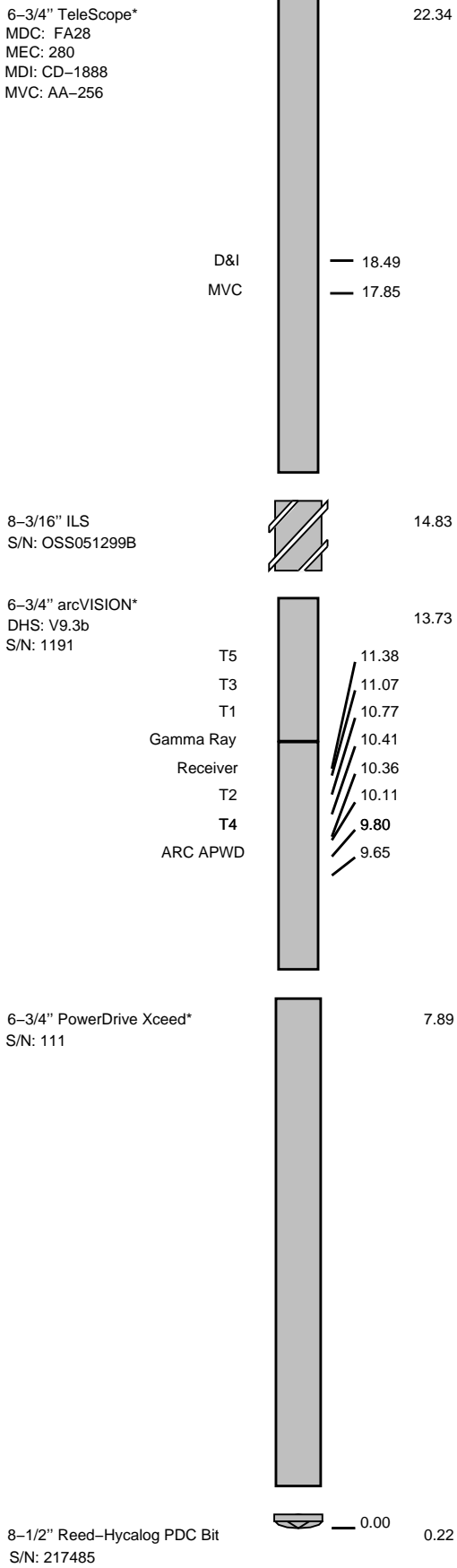
DOWNHOLE EQUIPMENT



Maximum string diameter 8.50 in.

All lengths in Meters

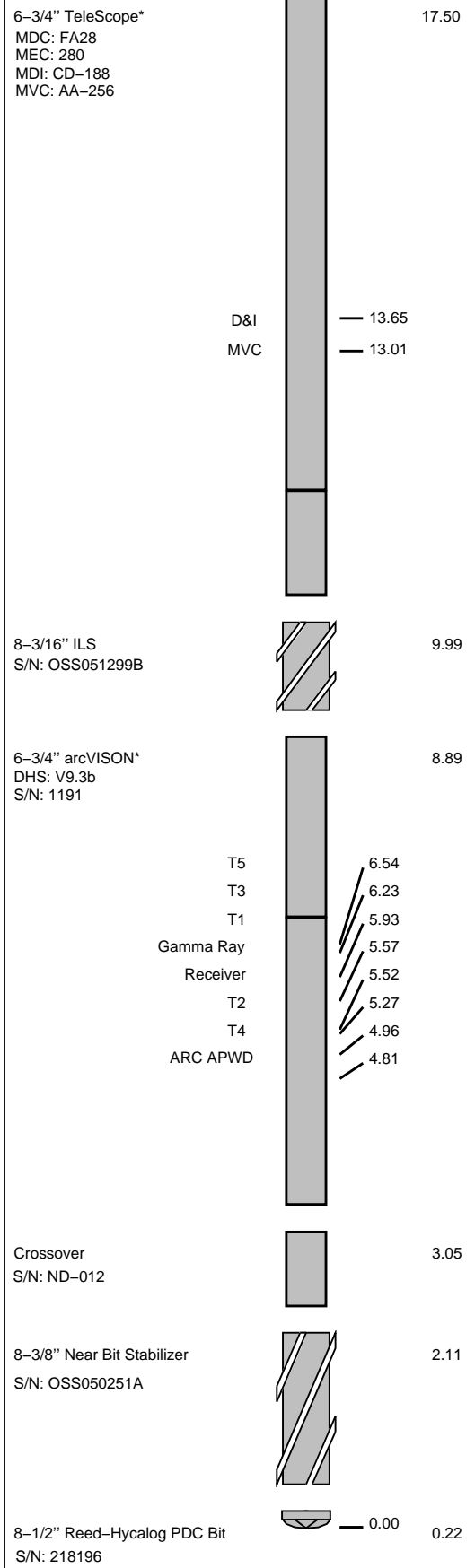
DOWNHOLE EQUIPMENT



Maximum string diameter 8.50 in.

All lengths in Meters

DOWNHOLE EQUIPMENT



Maximum string diameter 8.50 in.

All lengths in Meters

| Variable Name | Variable Description | Run Name & Value | |
|-----------------|---|------------------|--------------|
| | Run Number | | 3 |
| | General Information | | |
| BHT_RM | Bottom Hole Temperature (RM) | DEGC | 85.000 |
| BSAL_RM | Mud Salinity (RM) | PPK | 59.932 |
| BS_RM | Bit Size (RM) | IN | 8.500 |
| COEF_M | User Defined FEXP in Clean Sand | ---- | 1.650 |
| C_WS | Overpressure correction to Sw and M | ---- | 1.000 |
| FEXP | Formation Factor Exponent (RM) | ---- | 2.000 |
| FNUM | Formation Factor Enumerator (RM) | ---- | 1.000 |
| FPHI_RM | Formation Factor Porosity Source (RM) | ---- | XPLOT |
| MST_RM | Mud Sample temperature (RM) | DEGC | 24.000 |
| MW_RM | Mud Weight (RM) | LB/G | 11.300 |
| OBMF_RM | Oil Based Mud (RM) | ---- | YES |
| RHOF_RM | Mud Filtrate Density (RM) | G/C3 | 1.000 |
| RHOM_RM | Matrix density (RM) | G/C3 | 2.710 |
| RMS_RM | Resistivity of Mud Sample (RM) | OHMM | 1000.000 |
| RWA_COMP_M | Rwa computation model | | |
| RWA_DEN_AD | Rwa Density Input ADN | | |
| RWA_DEN_CD | Rwa Density Input CDN | | |
| RWA_DEN_IN | Rwa Density Input | | |
| RWA_FORM_M | Rwa computation formation model | | |
| RWA_RES_IN | Rwa computation resistivity input | | |
| RWS_RM | Resistivity of Connate Water (RM) | OHMM | 1.000 |
| SHT_RM | Ground Level Temperature (Mud-Line When Offshore) (RM) | DEGC | 10.000 |
| TD_RM | Total Measured Depth (RM) | M | 4100.000 |
| TWS_RM | Temperature of Connate Water (RM) | DEGC | 24.000 |
| VF_ILLI | Fraction of illite in shales | ---- | 0.500 |
| VF_KAOL | Fraction of kaolinite in shales | ---- | 0.500 |
| VF_MONT | Fraction of montmorillonite in shales | ---- | 0.000 |
| XPDM_RM | Cross plot density porosity multiplier | ---- | 0.675 |
| XPNM_RM | Cross plot neutron porosity multiplier | ---- | 0.325 |
| | DVD | | |
| ----- | Parameters----- | Parameters----- | -----Sigma |
| ----- | Parameters----- | Parameters----- | -----Sigma |
| A12A | ARC Air Cal Attenuation From T1 at 2 MHz | DB | 8.405 |
| A14A | ARC Air Cal Attenuation From T1 at 400 KHz | DB | 8.370 |
| A22A | ARC Air Cal Attenuation From T2 at 2 MHz | DB | 6.564 |
| A24A | ARC Air Cal Attenuation From T2 at 400 KHz | DB | 6.610 |
| A32A | ARC Air Cal Attenuation From T3 at 2 MHz | DB | 5.028 |
| A34A | ARC Air Cal Attenuation From T3 at 400 KHz | DB | 4.983 |
| A42A | ARC Air Cal Attenuation From T4 at 2 MHz | DB | 4.464 |
| A44A | ARC Air Cal Attenuation From T4 at 400 KHz | DB | 4.503 |
| A52A | ARC Air Cal Attenuation From T5 at 2 MHz | DB | 3.577 |
| A54A | ARC Air Cal Attenuation From T5 at 400 KHz | DB | 3.541 |
| ABNT | Abnormal Transmitter Indicator | ---- | No_Tx_Failed |
| ALPHA_DEN_OPT | Density Enhanced Vertical Resolution Processing Switch | ---- | NO |
| AM2A | ARC Air Cal Amplitude Offset at 2 MHz | ---- | -50000.000 |
| ANISO_COMPUTE | Anisotropy Computation Option | ---- | YES |
| ATMP_ARC | ARC Select Temperature Channel | ---- | Annulus Temp |
| AZMF | Formation DIP Azimuth | DEG | 0.000 |
| BH_COMPUTE | Borehole Inversion Computation Option | ---- | YES |
| CDPTH_ARC | Process Start Depth | M | 30.480 |
| CHI_RM | Caliper High Limit from BS (RM) | IN | 10.000 |
| CLO_RM | Caliper Low Limit from BS (RM) | IN | -5.000 |
| DIELEC_COMPUTE | Dielectric Computation Option | ---- | YES |
| DIPF | Formation DIP Angle | DEG | 0.000 |
| DTMUD | Delta-T for Mud (RM) | US/F | 206.000 |
| DTMUD_DH | Delta-T for Mud Downhole (RT) | US/F | 230.700 |
| DVDMHS | DVDM Down Hole Software Version | ---- | Karl2 (V2.2) |
| DVDM_DATA_LTB | DVDM: Create An DVDM LTB Data File | ---- | NO |
| DVD_DATA_FIX | DVDM: Create A Corrected DVDM Time Data File | ---- | NO |
| DYN_IMAGE_OPT | Generate Dynamic Normalized Image? | ---- | YES |
| EDPTH | Wizard Process Stop Depth | ---- | 50000 |
| EN_WIZARD | Enable ARC Wizard Processing | ---- | NO |
| ERRCT | Percentage Error Cutoff | ---- | 4.500 |
| EVRL | EVR Process averaging number of samples (RM) | ---- | 49 |
| FWVN | Firmware Version Number | ---- | 2.200 |
| GCSE | Generalized Caliper Selection | ---- | BS |
| GRSH | GR Shale (Invasion Computation Cutoff) | GAPI | 1000.000 |
| GR_CF | Gamma Ray Correction Factor | ---- | 1.800 |
| GR_O2COR_OPT | Enable Gamma Ray Oxygen Activation Correction | ---- | YES |
| HIGH_BLEND | High Resistivity Threshold for Blending | OHMM | 2.000 |
| IDQT | Image Derived Quality Threshold | ---- | 2.000 |
| IMAGE_MAX_DCRA | Image Density Caliper Right Scale | IN | 8.000 |
| IMAGE_MAX_IDDQ | Image Density Quality Right Scale | ---- | 1.000 |
| IMAGE_MAX_SPEF | Image PEF(Segment) Right Scale | ---- | 6.000 |
| IMAGE_MAX_SRHOB | Image RHOB(Segment) Right Scale | G/C3 | 2.650 |
| IMAGE_MIN_DCRA | Image Density Caliper Left Scale | IN | 2.000 |
| IMAGE_MIN_IDDQ | Image Density Quality Left Scale | ---- | 0.000 |
| IMAGE_MIN_SPEF | Image PEF(Segment) Left Scale | ---- | 2.000 |
| IMAGE_MIN_SRHOB | Image RHOB(Segment) Left Scale | G/C3 | 2.050 |
| INCLIN_B0 | ARC Bias Constant (mg) | ---- | 0.000 |
| INCLIN_B1 | ARC Bias First-order Coefficient (mg/degC) | ---- | 0.000 |
| INCLIN_B2 | ARC Bias Secod-order Coeeficient (mg/degC) | ---- | 0.000 |
| INCLIN_B3 | ARC Bias Third-order Coeeficient (mg/degC) | ---- | 0.000 |
| INCLIN_C0 | ARC Current Scale Factor Constant (mA/g) | ---- | 1.000 |
| INCLIN_C1 | ARC Scale First-order Coeeficient (mA/g/degC) | ---- | 0.000 |
| INCLIN_C2 | ARC Scale Second-order Coeeficient (mA/g/degC) | ---- | 0.000 |

| | | | |
|------------------|--|------|---------------|
| INCLIN_C3 | ARC Scale Third-order Coefficient (mA/g/degC) | ---- | 0.000 |
| INVAS_COMPUTE | Invasion Computation Option | ---- | YES |
| JSD | Acquisition start date | ---- | 14-Apr-08 |
| JSD_ARC | ARC Acquisition start date | ---- | YES |
| LOW_BLEND | Low Resistivity Threshold for Blending | OHMM | 1.000 |
| MATR | Rock Matrix for Neutron Porosity Corrections | ---- | LIMESTONE |
| MSWS | ARC Wizard Model Switch Window | M | 1.524 |
| MULTIEFFECT_COM | Multi Effect Option | ---- | YES |
| NEU_DCOR_OPT | Density Correction Source for Neutron Processing | ---- | None |
| NEU_FTUBE_OPT | Far Thermal Tube Selection | ---- | Both |
| NEU_PRESCOR_OPT | Pressure Correction Source for Neutron Processing | ---- | Annulus Press |
| NEU_TEMPSCOR_OPT | Temperature Correction Source for Neutron Processing | ---- | Tool Temp |
| NTIK_SEL | Neutron Tick Channel Name | ---- | FAZ1 |
| OACF | Oxygen Activation Correction Factor (RM) | ---- | 8.000 |
| P11AC_RM | ARC: Air Calibration For Phase T1 to R1 | DEG | -999.250 |
| P12A | ARC Air Cal Phase-Shift From T1 at 2 MHz | DEG | -0.519 |
| P14A | ARC Air Cal Phase-Shift From T1 at 400 KHz | DEG | 0.870 |
| P22A | ARC Air Cal Phase-Shift From T2 at 2 MHz | DEG | 0.550 |
| P24A | ARC Air Cal Phase-Shift From T2 at 400 KHz | DEG | -0.934 |
| P32A | ARC Air Cal Phase-Shift From T3 at 2 MHz | DEG | -0.574 |
| P34A | ARC Air Cal Phase-Shift From T3 at 400 KHz | DEG | 0.889 |
| P42A | ARC Air Cal Phase-Shift From T4 at 2 MHz | DEG | 0.522 |
| P44A | ARC Air Cal Phase-Shift From T4 at 400 KHz | DEG | -0.927 |
| P52A | ARC Air Cal Phase-Shift From T5 at 2 MHz | DEG | -0.589 |
| P54A | ARC Air Cal Phase-Shift From T5 at 400 KHz | DEG | 0.878 |
| PMUD | Potassium Concentration in Mud | ---- | 0.000 |
| PRTD | Preferred Resistivity Log for Rt Display while Multi-Effects | ---- | P34B |
| PSOF_ADJ_T1 | ARC: User Input Phase offset | DEG | 0.000 |
| RESTIK | ARC resistivity tick source | ---- | Phase |
| RSD | LWD run start date dd-mmm-yy | ---- | 14-Apr-08 |
| RUN_DURATION_OP | Run Duration Type ? | ---- | Normal |
| RWA_COMP_MOD | Rwa computation model | ---- | BASIC |
| RWA_DEN_ADN | Rwa Density Input | ---- | RHOB |
| RWA_DEN_CDN | Rwa Density Input | ---- | RHOB |
| RWA_DEN_INPUT | Rwa Density Input | ---- | RHOB |
| RWA_FORM_MOD | Rwa computation formation model | ---- | CLASTIC |
| RWA_RES_INPUT | Rwa computation resistivity input | ---- | RT |
| SDPTH | Wizard Process Start Depth | ---- | 100 |
| SIG_PCOR_OPT | Porosity Correction Source for Sigma Processing | ---- | Best |
| SPEC_CSG_DEPTH | Casing Depth for Spectroscopy Processing | M | 30.480 |
| SPEC_K_OPT | Potassium standard used during acquisition? | ---- | NO |
| SPL_CLAY_MODEL | SpectroLith Clay Model | ---- | SUBARKOSE |
| SPL_MG_OPT | Magnesium Flag Switch ? | ---- | OFF |
| SPL_SULFUR_MIN | SpectroLith Sulfur Mineral Option | ---- | PYRITE |
| STAB_SIZE | Stabilizer Size | IN | 8.250 |
| STOH | Top of Hole Sector | ---- | SECTOR_0 |
| TRNO | Tool Run Number | M | 3 |
| TSIZ_ARC | ARC Tool Size | IN | 6.750 |
| TSNO | Tool Serial Number | ---- | 808 |
| UNIFORM_COMPUTE | Uniform Rock Option | ---- | YES |
| VERS_ARC | ARC Down hole software version Number | ---- | 9.300 |
| WPPV | Water Phase as Percent of Total Volume in OBM | ---- | 25.000 |
| WPSL | Salinity of the Water Phase Emulsified within the OBM | PPK | 239.727 |
| WRK | to Report Potassium Concentration | ---- | K_by_Wgt_% |
| WSDI | Window Size of Dynamic Normalization Image | M | 4.572 |
| ARC | | | |
| ADHS | ARC Down Hole Software Version | ---- | v9.3b |
| APICG | ARC5 Gamma Ray Gain Factor | ---- | 1.070 |
| APIG | ARC Gamma Ray API Gain Factor | ---- | -1.000 |
| ARC_DATA_FIX | ARC: Create A Corrected ARC Time Data File | ---- | NO |
| ARC_DATA_LTB | ARC: Create An ARC LTB Data File | ---- | NO |
| ATRN | ARC Tool Run Number | ---- | 1 |
| ATSN | ARC Tool Serial Number | ---- | 1191 |
| CALG | ARC Gamma Ray Cal Gain Factor | ---- | 1.070 |
| CALI_SLCT_ARC | ARC Caliper Selection | ---- | BITSIZE |
| KPER | Potassium Concentration (RM) | ---- | 0.000 |
| POFFSET_ARC | ARC: Pressure Offset | PSI | 0.000 |
| SHIG | ARC High Shock Risk Level | CPS | 0.500 |
| SMED | ARC Medium Shock Risk Level | CPS | 0.330 |
| SMIN | ARC Minimum Shock Risk Level | CPS | 0.160 |
| SUPD | ARC Real Time Shock Update Rate | S | 30.000 |
| TCODE_ARC | ARC Tool File Code | S | 30.000 |
| WRK | to Report Potassium Concentration (RM) | ---- | K_by_Wgt_% |

Schlumberger Drilling & Measurements

ID13 Parameter Insert Header Software version 3.0c

| Variable Name | Variable Description | Run Name & Value | | |
|---------------|-------------------------------------|------------------|--------|--------|
| | Run Number | | 4 | 5 |
| | General Information | | | |
| BHT_RM | Bottom Hole Temperature (RM) | DEGC | 89.000 | 89.000 |
| BSAL_RM | Mud Salinity (RM) | PPK | N/A | N/A |
| BS_RM | Bit Size (RM) | IN | 8.500 | 8.500 |
| COEF_M | User Defined FEXP in Clean Sand | ---- | 1.650 | 1.650 |
| C_WS | Overpressure correction to Sw and M | ---- | 1.000 | 1.000 |
| FEXP | Formation Factor Exponent (RM) | ---- | 2.000 | 2.000 |
| FNUM | Formation Factor Enumerator (RM) | ---- | 1.000 | 1.000 |

| | | | | |
|-----------------|--|------|--------------|--------------|
| FPHI_RM | Formation Factor Porosity Source (RM) | ---- | XPLOT | XPLOT |
| MST_RM | Mud Sample temperature (RM) | DEGC | 24.000 | 24.000 |
| MW_RM | Mud Weight (RM) | LB/G | 10.800 | 10.900 |
| OBFM_RM | Oil Based Mud (RM) | ---- | YES | YES |
| RHOF_RM | Mud Filtrate Density (RM) | G/C3 | 1.000 | 1.000 |
| RHOM_RM | Matrix density (RM) | G/C3 | 2.710 | 2.710 |
| RMS_RM | Resistivity of Mud Sample (RM) | OHMM | 1000.000 | 1000.000 |
| RWA_COMP_M | Rwa computation model | | | |
| RWA_DEN_AD | Rwa Density Input ADN | | | |
| RWA_DEN_CD | Rwa Density Input CDN | | | |
| RWA_DEN_IN | Rwa Density Input | | | |
| RWA_FORM_M | Rwa computation formation model | | | |
| RWA_RES_IN | Rwa computation resistivity input | | | |
| RWS_RM | Resistivity of Connate Water (RM) | OHMM | 1.000 | 1.000 |
| SHT_RM | Ground Level Temperature (Mud-Line When Offshore) (RM) | DEGC | 10.000 | 10.000 |
| TD_RM | Total Measured Depth (RM) | M | 4888.000 | 4888.000 |
| TWS_RM | Temperature of Connate Water (RM) | DEGC | 24.000 | 24.000 |
| VF_ILLI | Fraction of illite in shales | ---- | 0.500 | 0.500 |
| VF_KAOL | Fraction of kaolinite in shales | ---- | 0.500 | 0.500 |
| VF_MONT | Fraction of montmorillonite in shales | ---- | 0.000 | 0.000 |
| XPDM_RM | Cross plot density porosity multiplier | ---- | 0.675 | 0.675 |
| XPNM_RM | Cross plot neutron porosity multiplier | ---- | 0.325 | 0.325 |
| ARC | | | | |
| A12A | ARC Air Cal Attenuation From T1 at 2 MHz | DB | 8.405 | 8.405 |
| A14A | ARC Air Cal Attenuation From T1 at 400 KHz | DB | 8.370 | 8.370 |
| A22A | ARC Air Cal Attenuation From T2 at 2 MHz | DB | 6.564 | 6.564 |
| A24A | ARC Air Cal Attenuation From T2 at 400 KHz | DB | 6.610 | 6.610 |
| A32A | ARC Air Cal Attenuation From T3 at 2 MHz | DB | 5.028 | 5.028 |
| A34A | ARC Air Cal Attenuation From T3 at 400 KHz | DB | 4.983 | 4.983 |
| A42A | ARC Air Cal Attenuation From T4 at 2 MHz | DB | 4.464 | 4.464 |
| A44A | ARC Air Cal Attenuation From T4 at 400 KHz | DB | 4.503 | 4.503 |
| A52A | ARC Air Cal Attenuation From T5 at 2 MHz | DB | 3.577 | 3.577 |
| A54A | ARC Air Cal Attenuation From T5 at 400 KHz | DB | 3.541 | 3.541 |
| ABNT | Abnormal Transmitter Indicator | ---- | No_Tx_Failed | No_Tx_Failed |
| ADHS | ARC Down Hole Software Version | ---- | v9.3b | v9.3b |
| AM2A | ARC Air Cal Amplitude Offset at 2 MHz | ---- | -50000.000 | -50000.000 |
| ANISO_COMPUTE | Anisotropy Computation Option | ---- | YES | YES |
| APICG | ARC5 Gamma Ray Gain Factor | ---- | 1.070 | 1.070 |
| APIG | ARC Gamma Ray API Gain Factor | ---- | -1.000 | -1.000 |
| ARC_DATA_FIX | ARC: Create A Corrected ARC Time Data File | ---- | NO | NO |
| ARC_DATA_LTB | ARC: Create An ARC LTB Data File | ---- | NO | NO |
| ATMP_ARC | ARC Select Temperature Channel | ---- | Annulus_Temp | Annulus_Temp |
| ATRN | ARC Tool Run Number | ---- | 4 | 5 |
| ATSN | ARC Tool Serial Number | ---- | 1191 | 1191 |
| AZMF | Formation DIP Azimuth | DEG | 0.000 | 0.000 |
| BH_COMPUTE | Borehole Inversion Computation Option | ---- | YES | YES |
| CALG | ARC Gamma Ray Cal Gain Factor | ---- | 1.070 | 1.070 |
| CALI_SLCT_ARC | ARC Caliper Selection | ---- | BITSIZE | BITSIZE |
| CDPTH_ARC | Process Start Depth | M | 30.480 | 30.480 |
| DIELEC_COMPUTE | Dielectric Computation Option | ---- | YES | YES |
| DIPF | Formation DIP Angle | DEG | 0.000 | 0.000 |
| ERRCT | Percentage Error Cutoff | ---- | 4.500 | 4.500 |
| GRSH | GR Shale (Invasion Computation Cutoff) | GAPI | 1000.000 | 1000.000 |
| HIGH_BLEND | High Resistivity Threshold for Blending | OHMM | 2.000 | 2.000 |
| INCLIN_B0 | ARC Bias Constant (mg) | ---- | 0.000 | 0.000 |
| INCLIN_B1 | ARC Bias First-order Coefficient (mg/degC) | ---- | 0.000 | 0.000 |
| INCLIN_B2 | ARC Bias Secod-order Coeeficient (mg/degC) | ---- | 0.000 | 0.000 |
| INCLIN_B3 | ARC Bias Third-order Coeeficient (mg/degC) | ---- | 0.000 | 0.000 |
| INCLIN_C0 | ARC Current Scale Factor Constant (mA/g) | ---- | 1.000 | 1.000 |
| INCLIN_C1 | ARC Scale First-order Coeeficient (mA/g/degC) | ---- | 0.000 | 0.000 |
| INCLIN_C2 | ARC Scale Second-order Coeeficient (mA/g/degC) | ---- | 0.000 | 0.000 |
| INCLIN_C3 | ARC Scale Third-order Coeeficient (mA/g/degC) | ---- | 0.000 | 0.000 |
| INVAS_COMPUTE | Invasion Computation Option | ---- | YES | YES |
| JSD_ARC | ARC Acquisition start date | ---- | 18-Apr-08 | 26-Apr-08 |
| KPER | Potassium Concentration (RM) | ---- | 0.000 | 0.000 |
| LOW_BLEND | Low Resistivity Threshold for Blending | OHMM | 1.000 | 1.000 |
| MSWS | ARC Wizard Model Switch Window | M | 1.524 | 1.524 |
| MULTIEFFECT_COM | Multi Effect Option | ---- | YES | YES |
| P11AC_RM | ARC: Air Calibration For Phase T1 to R1 | DEG | -999.250 | -999.250 |
| P12A | ARC Air Cal Phase-Shift From T1 at 2 MHz | DEG | -0.519 | -0.519 |
| P14A | ARC Air Cal Phase-Shift From T1 at 400 KHz | DEG | 0.870 | 0.870 |
| P22A | ARC Air Cal Phase-Shift From T2 at 2 MHz | DEG | 0.550 | 0.550 |
| P24A | ARC Air Cal Phase-Shift From T2 at 400 KHz | DEG | -0.934 | -0.934 |
| P32A | ARC Air Cal Phase-Shift From T3 at 2 MHz | DEG | -0.574 | -0.574 |
| P34A | ARC Air Cal Phase-Shift From T3 at 400 KHz | DEG | 0.889 | 0.889 |
| P42A | ARC Air Cal Phase-Shift From T4 at 2 MHz | DEG | 0.522 | 0.522 |
| P44A | ARC Air Cal Phase-Shift From T4 at 400 KHz | DEG | -0.927 | -0.927 |
| P52A | ARC Air Cal Phase-Shift From T5 at 2 MHz | DEG | -0.589 | -0.589 |
| P54A | ARC Air Cal Phase-Shift From T5 at 400 KHz | DEG | 0.878 | 0.878 |
| POFFSET_ARC | ARC: Pressure Offset | PSI | 0.000 | 0.000 |
| PRTD | Preferred Resistivity Log for Rt Display while Multi-Effects | ---- | P34B | P34B |
| PSOF_ADJ_T1 | ARC: User Input Phase offset | DEG | 0.000 | 0.000 |
| RESTIK | ARC resistivity tick source | ---- | Phase | Phase |
| RSD | LWD run start date dd-mmm-yy | ---- | 18-Apr-08 | 26-Apr-08 |
| RWA_COMP_MOD | Rwa computation model | ---- | BASIC | BASIC |
| RWA_DEN_ADN | Rwa Density Input | ---- | RHOB | RHOB |
| RWA_DEN_CDN | Rwa Density Input | ---- | RHOB | RHOB |
| RWA_DEN_INPUT | Rwa Density Input | ---- | RHOB | RHOB |
| RWA_FORM_MOD | Rwa computation formation model | ---- | CLASTIC | CLASTIC |
| RWA_RES_INPUT | Rwa computation resistivity input | ---- | RT | RT |
| SHIG | ARC High Shock Risk Level | CPS | 0.500 | 0.500 |
| SMED | ARC Medium Shock Risk Level | CPS | 0.330 | 0.330 |
| SMIN | ARC Minimum Shock Risk Level | CPS | 0.160 | 0.160 |
| SUPD | ARC Real Time Shock Update Rate | S | 30.000 | 30.000 |
| TCODE_ARC | ARC Tool File Code | S | 30.000 | 30.000 |

TSIZ ARC ARC Tool Size
UNIFORM_COMPUTE Uniform Rock Option
VERS_ARC ARC Down hole software version Number
WRK to Report Potassium Concentration (RM)

IN 6.750 6.750
---- YES YES
---- V9.3b v9.3b
---- K_by_Wgt_% K_by_Wgt_%

Schlumberger Drilling & Measurements

ID13 Parameter Insert Header Software vers:

IDEAL Version: ID13_0C_08

IDF

ARC6A-AA id13_0c_02

Format: VISION Resistivity 2MHz

Vertical Scale: 1:200

Graphics File Created: 03-May-2008 13:03

PIP SUMMARY

- └ ARC Gamma Ray Samples
- └ ARC Resistivity Samples

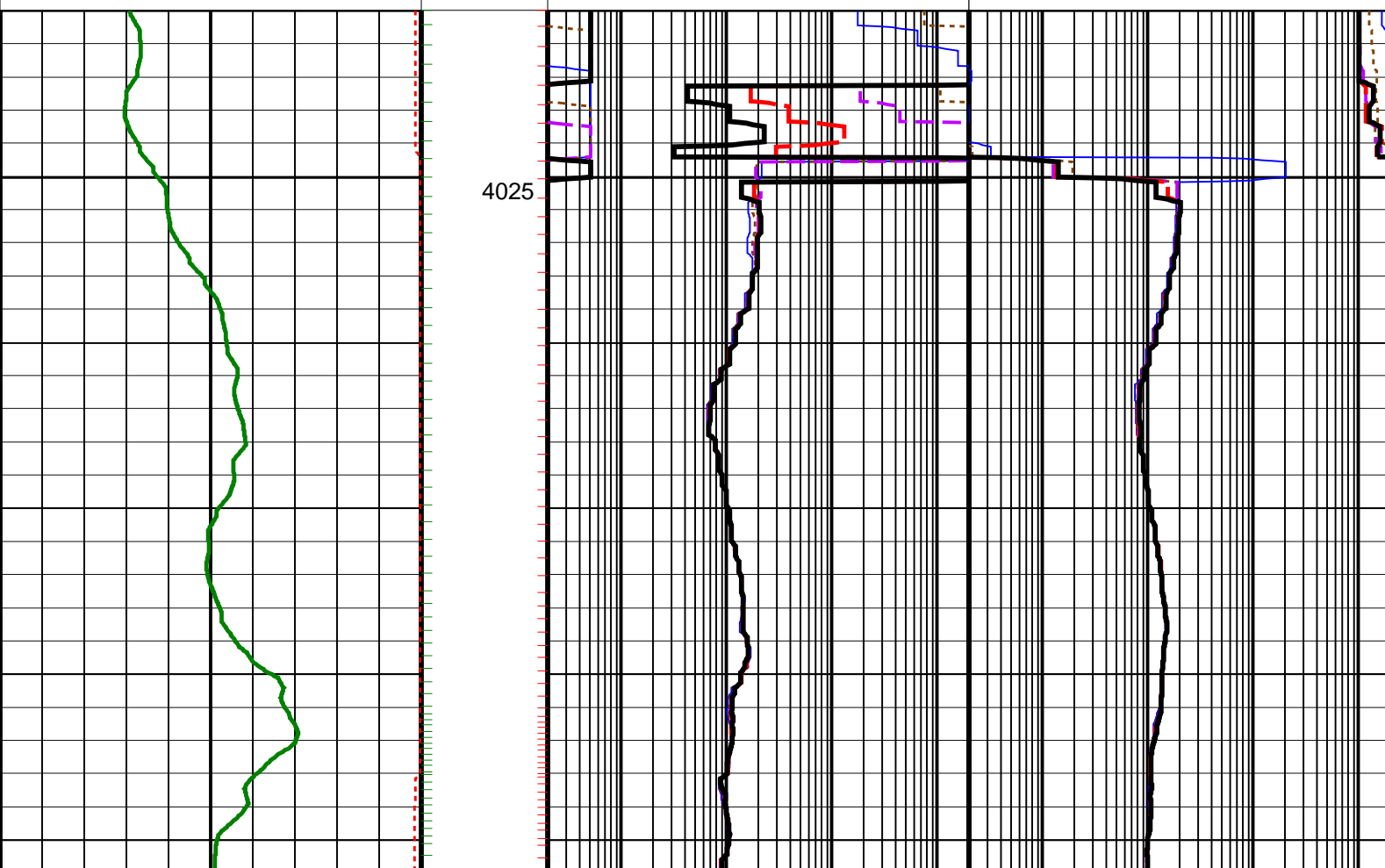
| ARC Phase-Shift Resistivity 40-in. at 2 MHz (P40H) | | | ARC Attenuation Resistivity 40-in. at 2 MHz (A40H) | | |
|--|--------|------|--|--------|------|
| 0.2 | (OHMM) | 2000 | 0.2 | (OHMM) | 2000 |
| ARC Phase-Shift Resistivity 34-in. at 2 MHz (P34H) | | | ARC Attenuation Resistivity 34-in. at 2 MHz (A34H) | | |
| 0.2 | (OHMM) | 2000 | 0.2 | (OHMM) | 2000 |
| ARC Phase-Shift Resistivity 28-in. at 2 MHz (P28H) | | | ARC Attenuation Resistivity 28-in. at 2 MHz (A28H) | | |
| 0.2 | (OHMM) | 2000 | 0.2 | (OHMM) | 2000 |
| ARC Phase-Shift Resistivity 22-in. at 2 MHz (P22H) | | | ARC Attenuation Resistivity 22-in. at 2 MHz (A22H) | | |
| 0.2 | (OHMM) | 2000 | 0.2 | (OHMM) | 2000 |
| ARC Phase-Shift Resistivity 16-in. at 2 MHz (P16H) | | | ARC Attenuation Resistivity 16-in. at 2 MHz (A16H) | | |
| 0.2 | (OHMM) | 2000 | 0.2 | (OHMM) | 2000 |

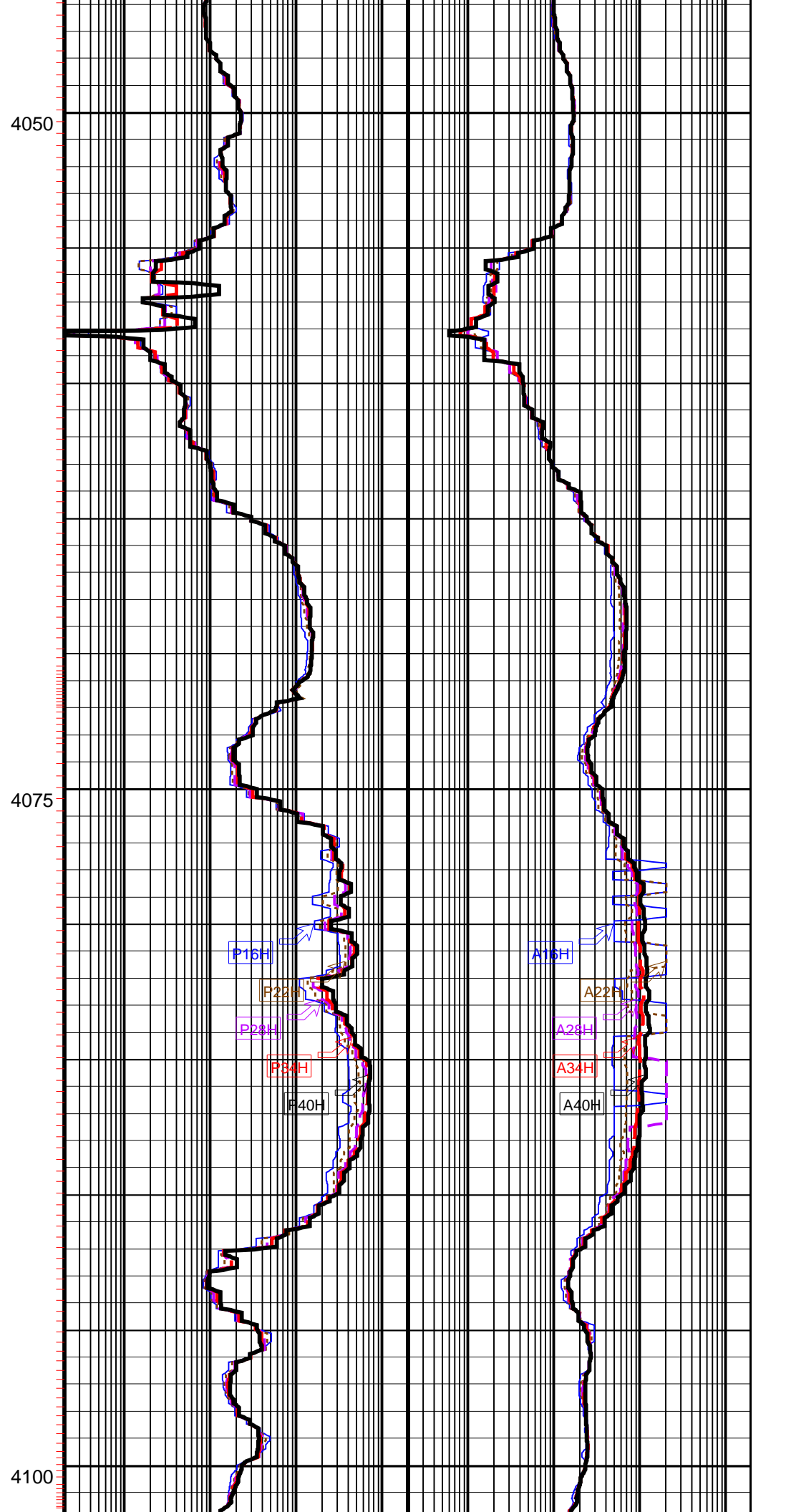
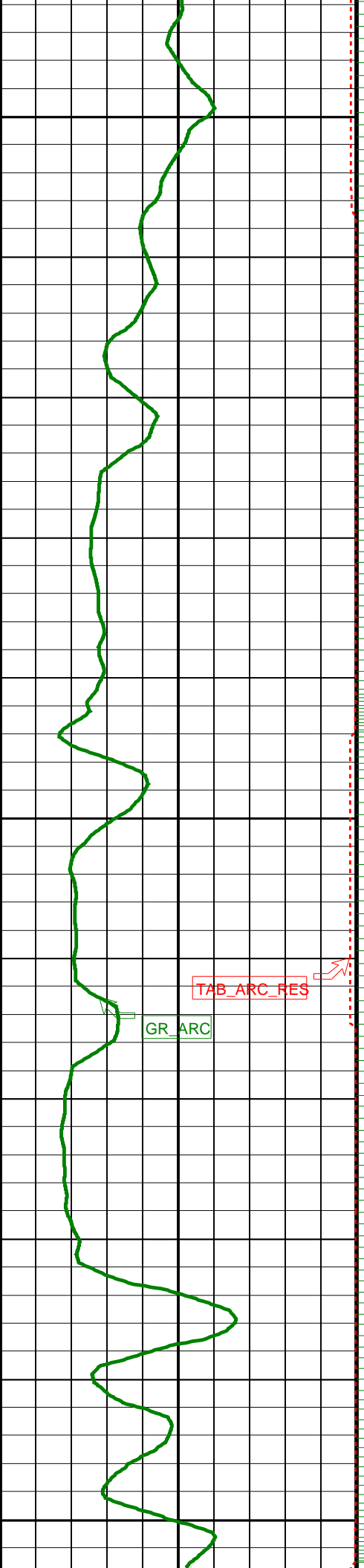
ARC Resistivity Time After Bit (TAB_ARC_RES)
(HR)

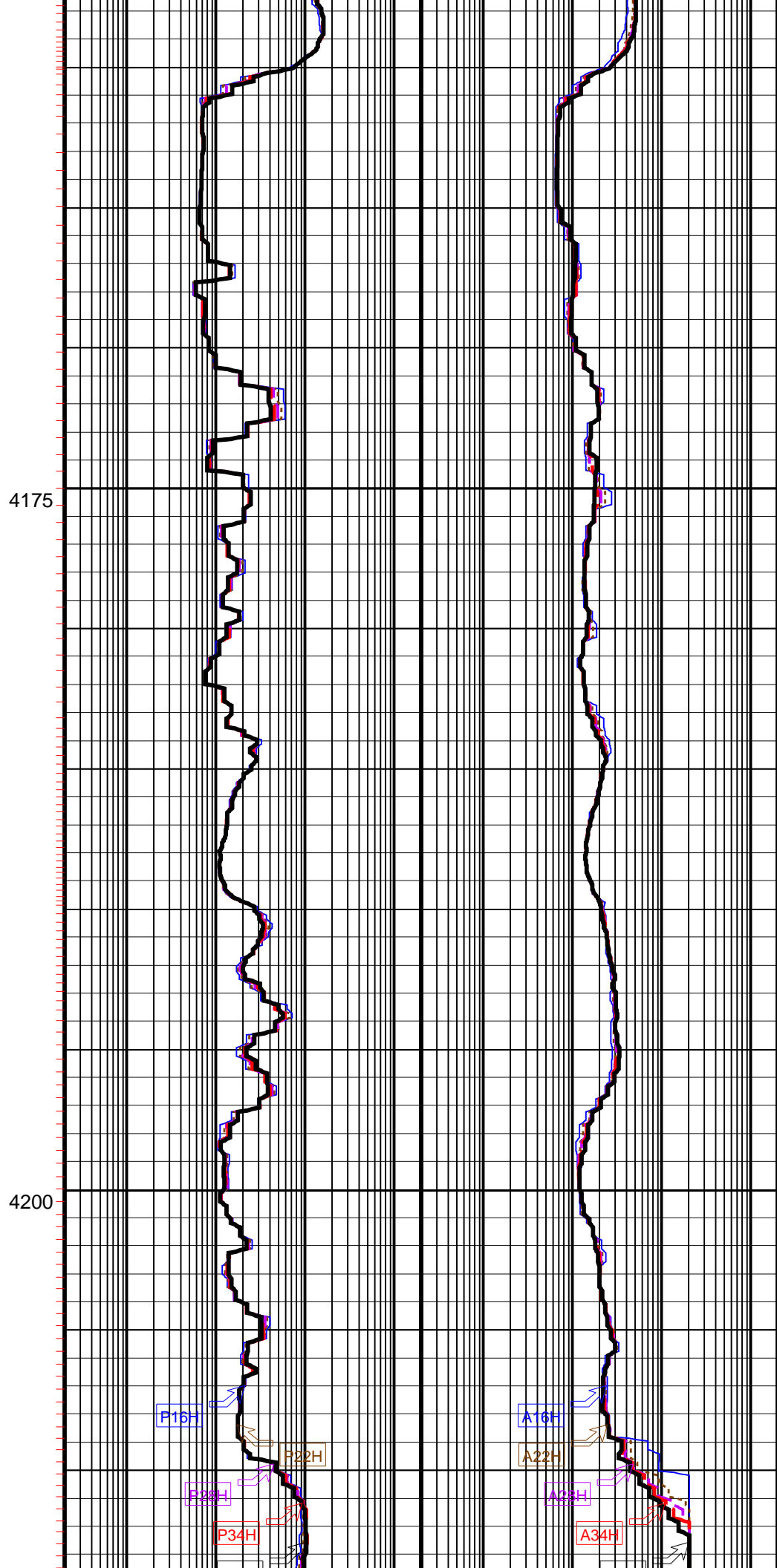
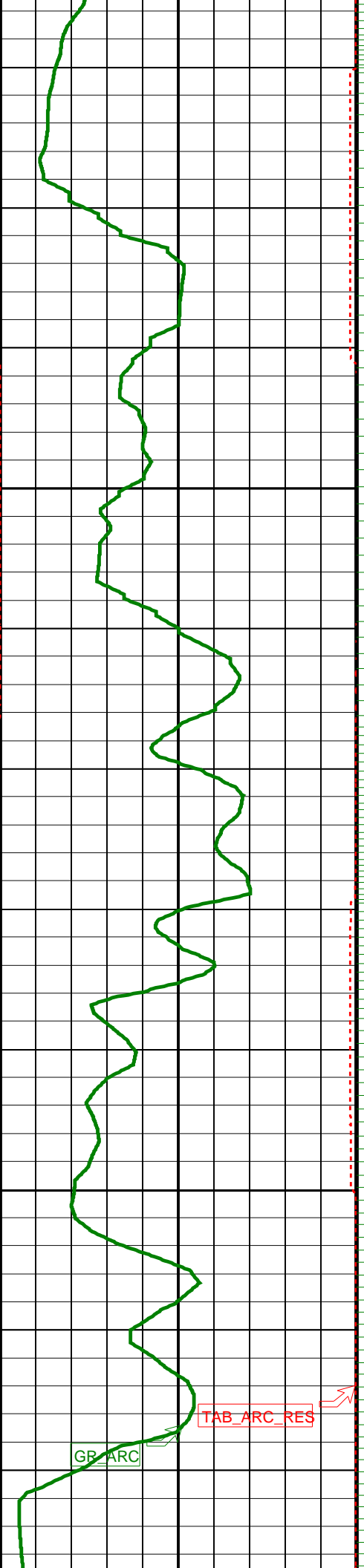
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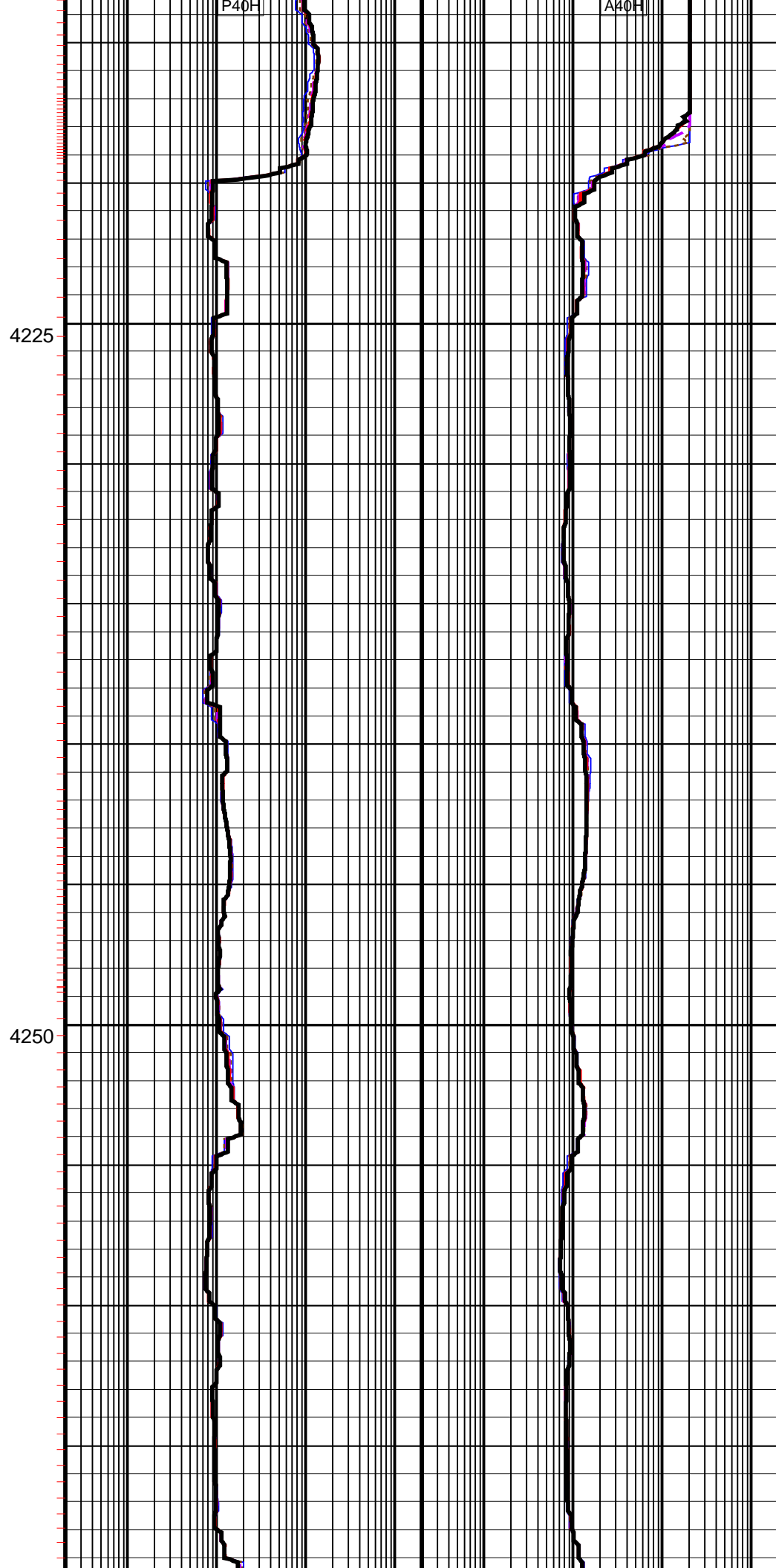
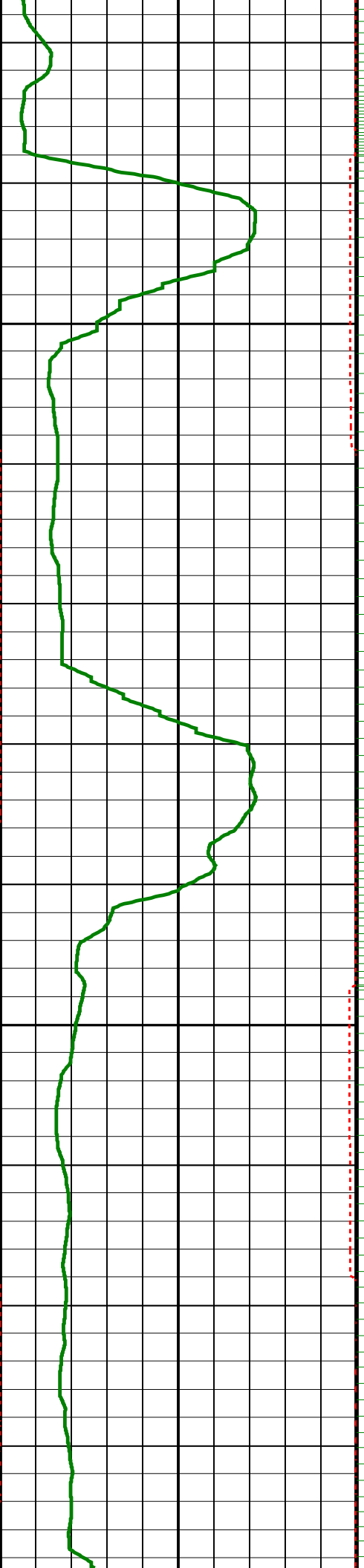
ARC Gamma Ray (GR_ARC)
(GAPI)

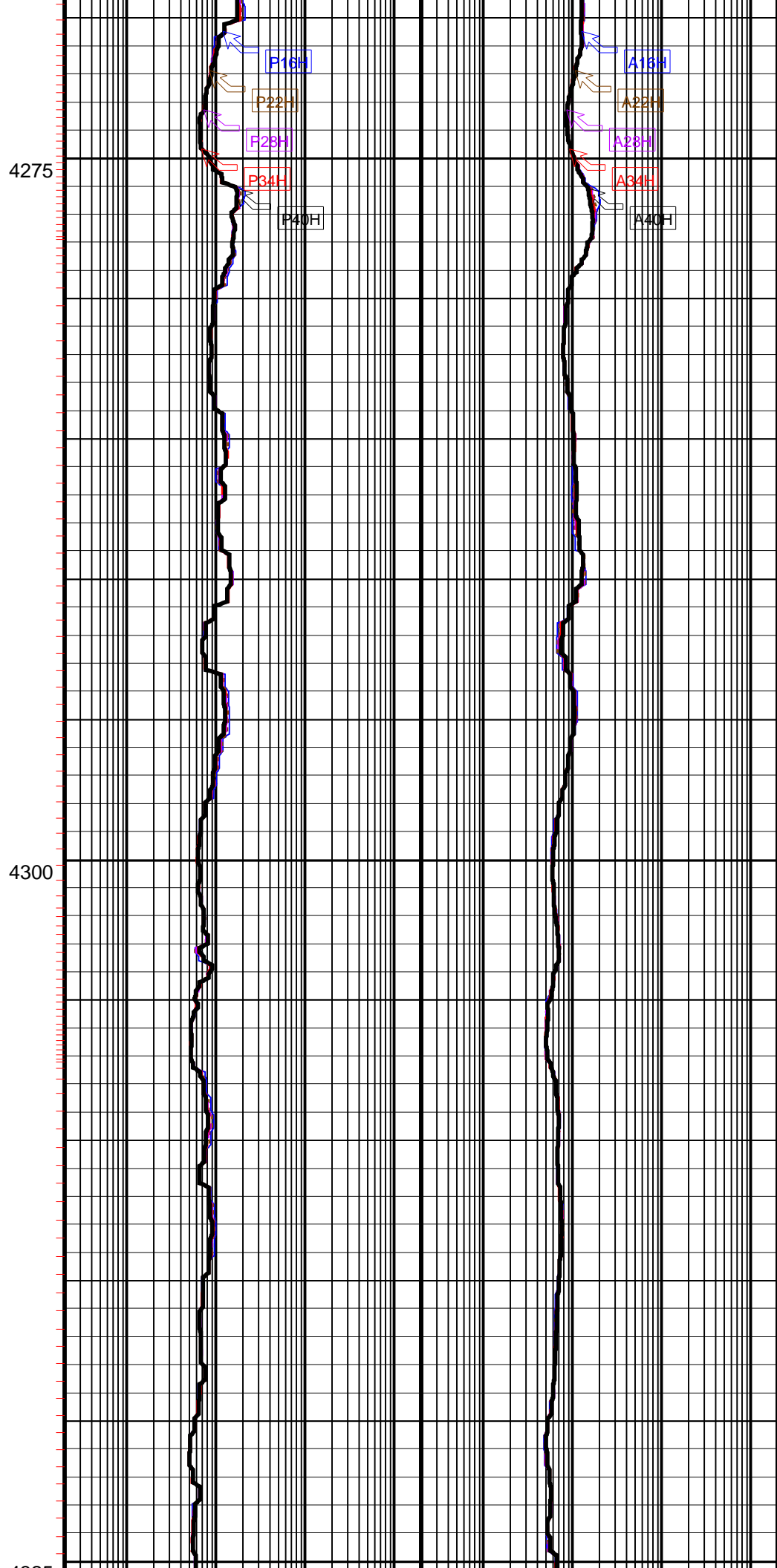
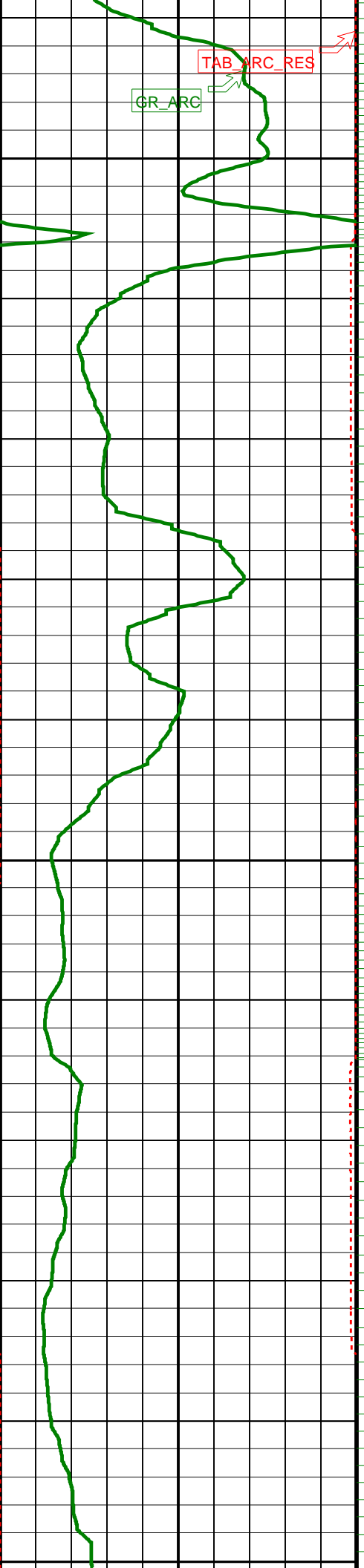
0200

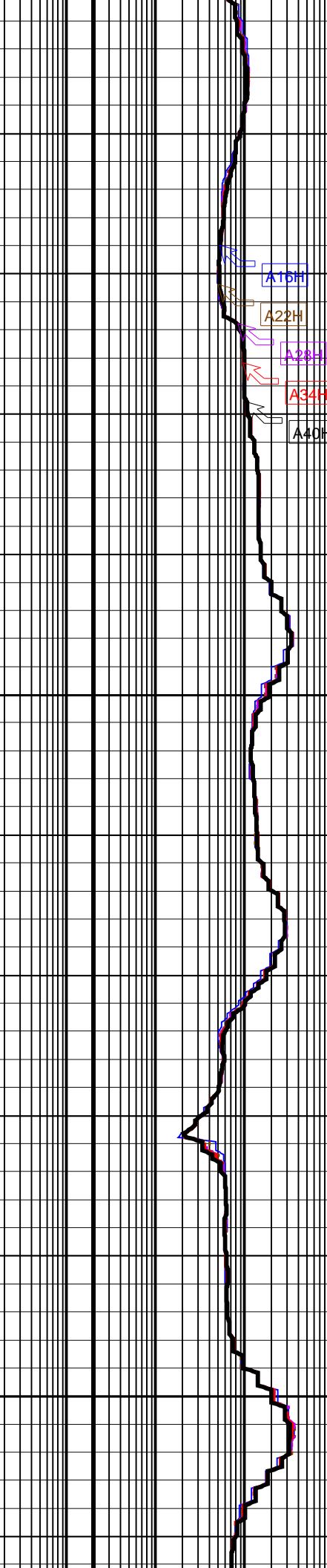
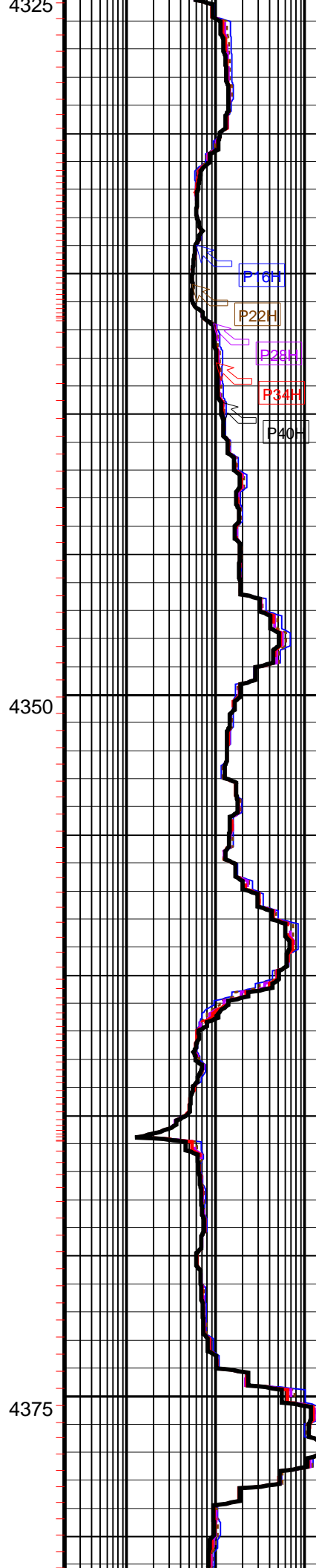
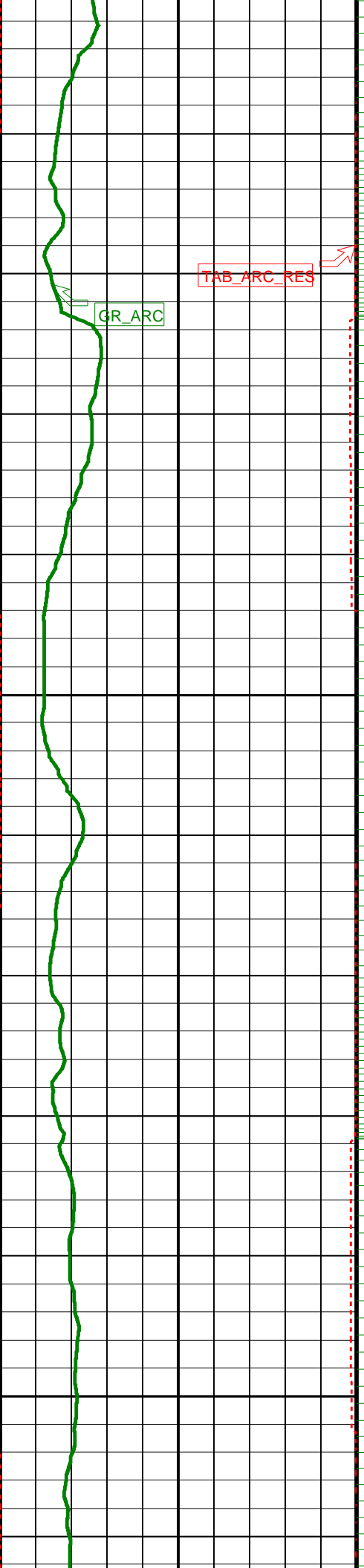


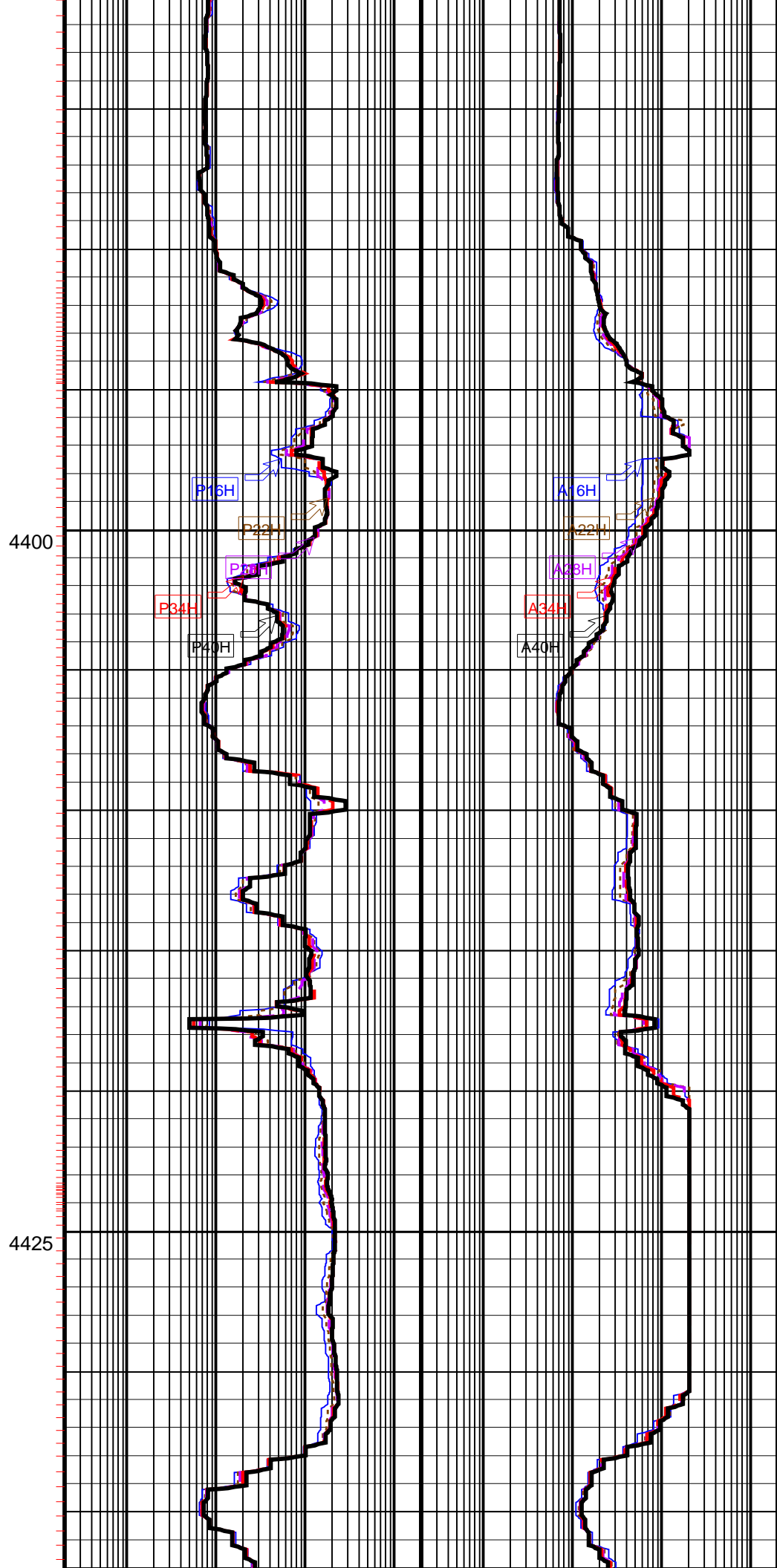
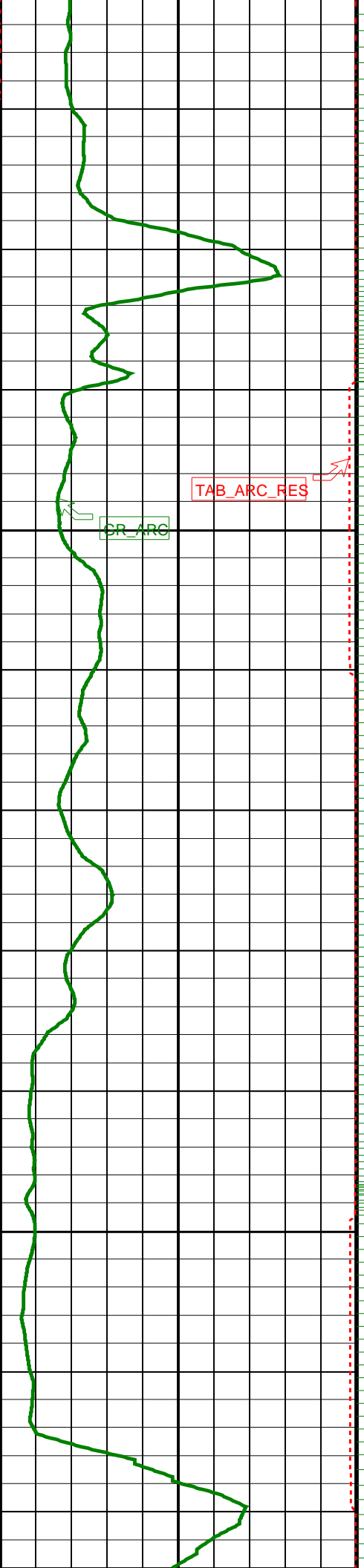


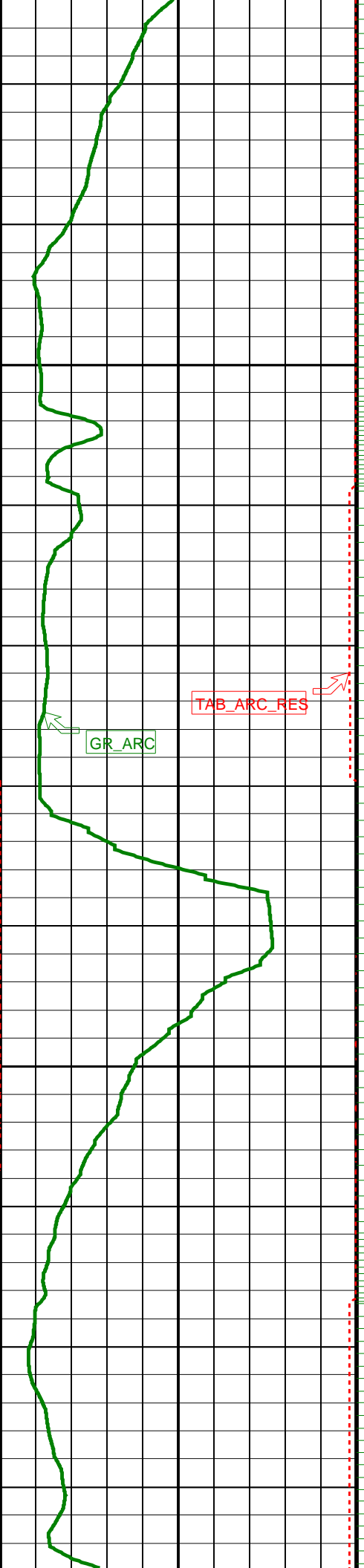






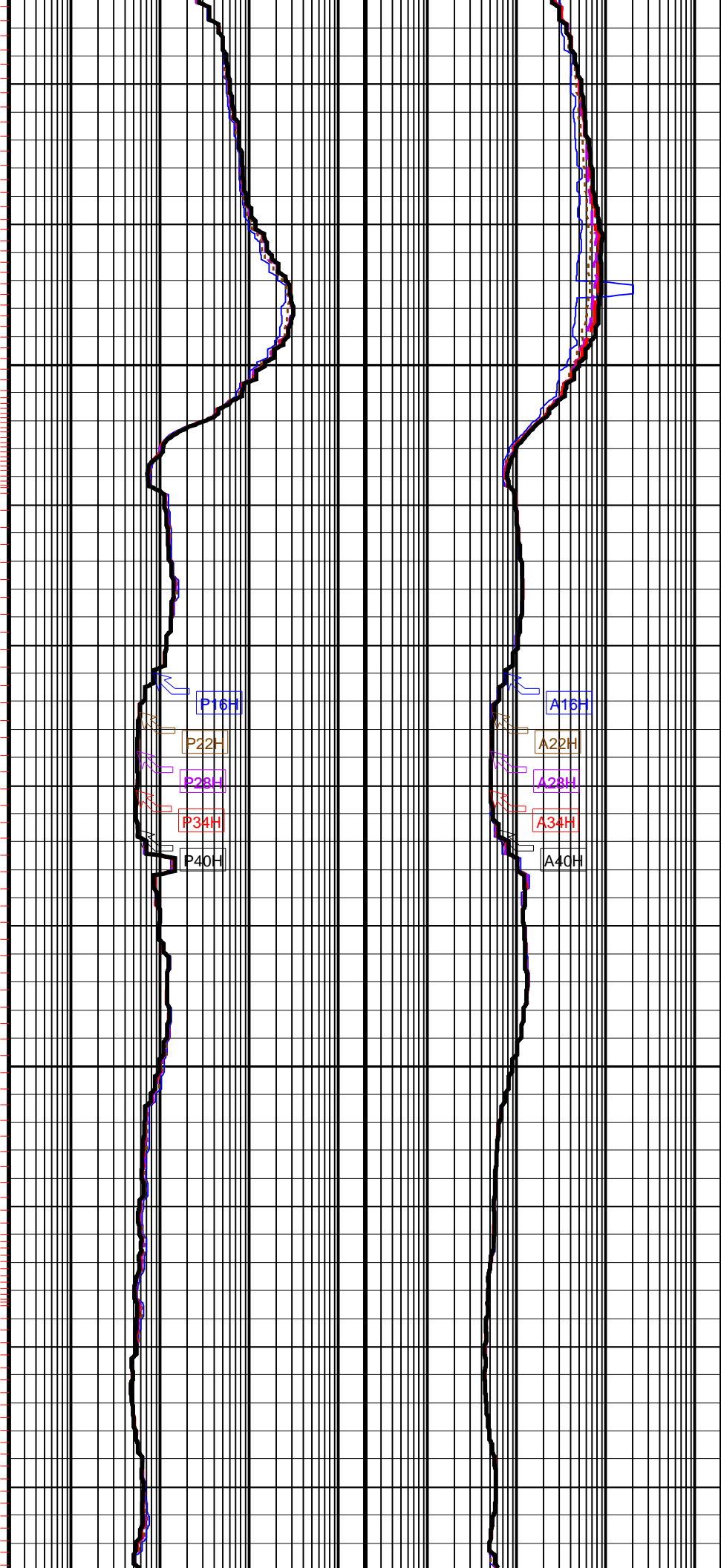


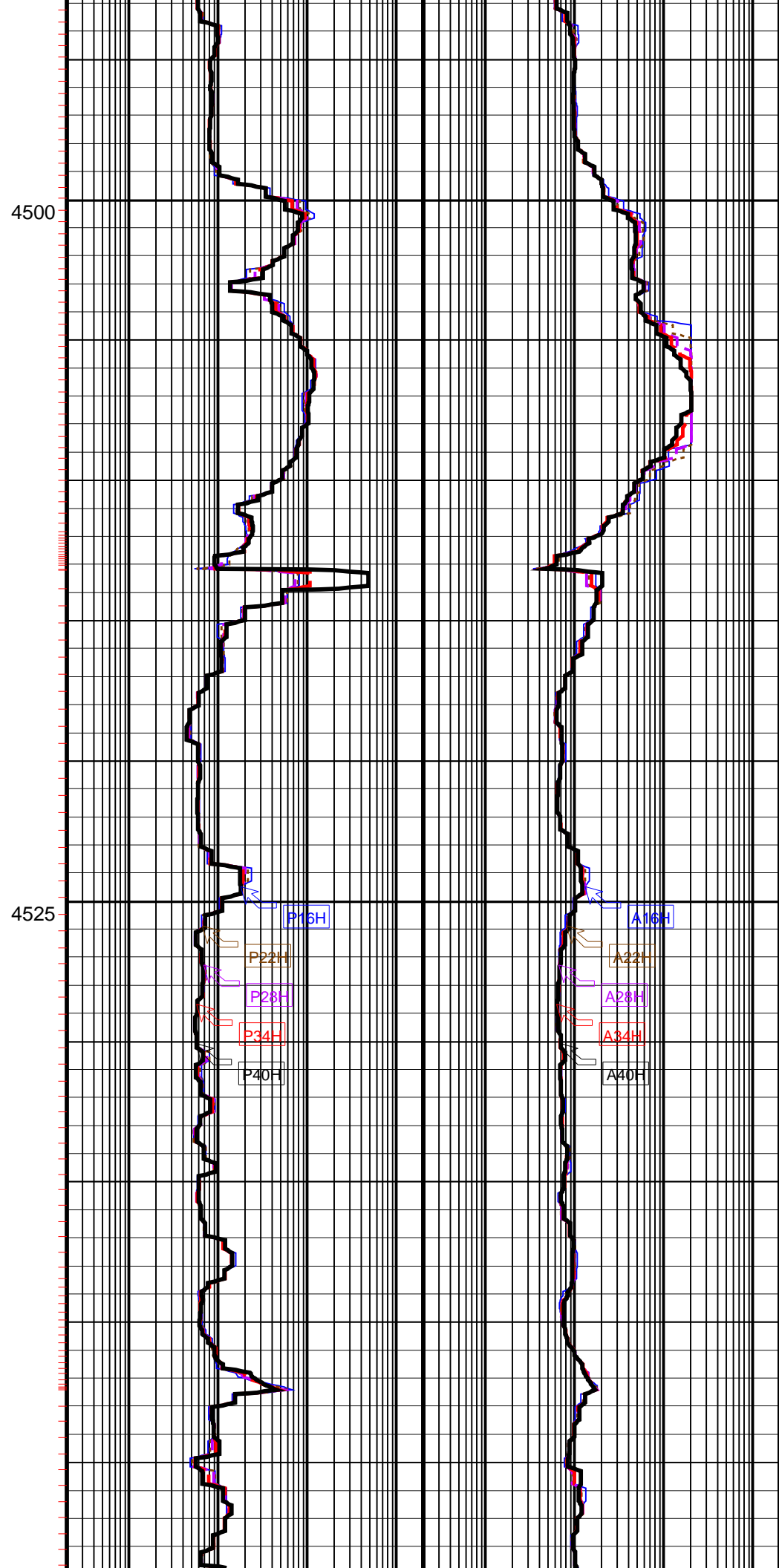
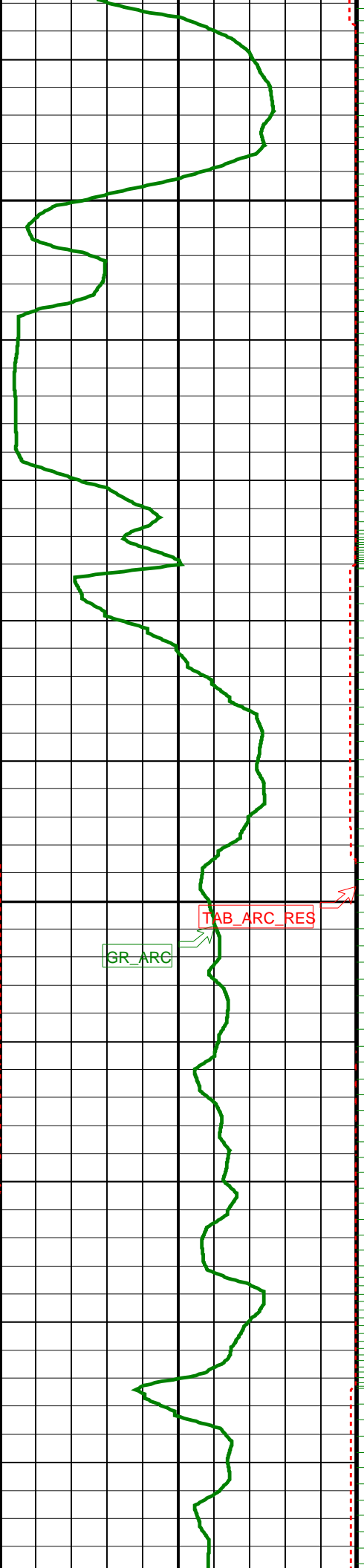


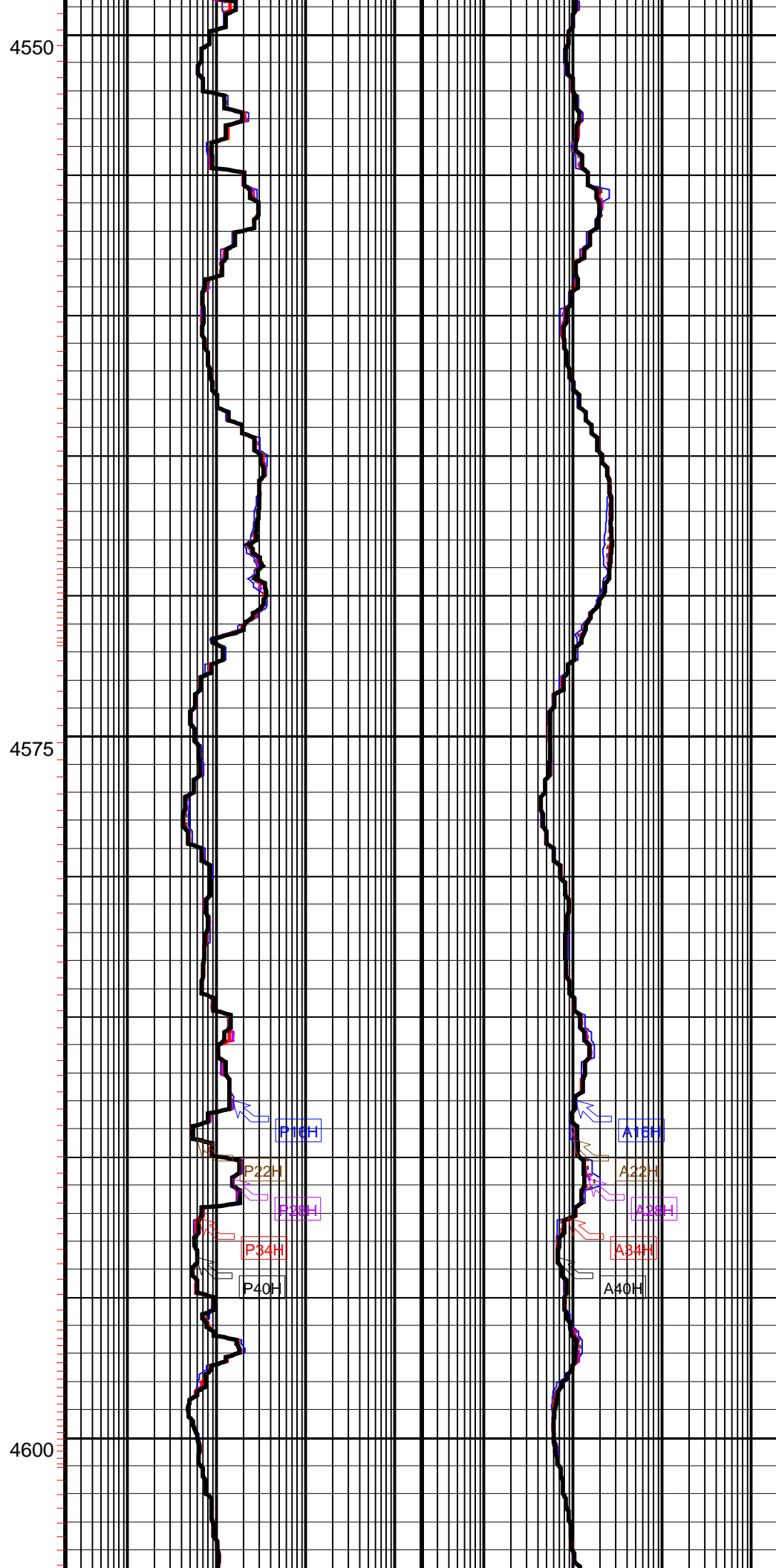
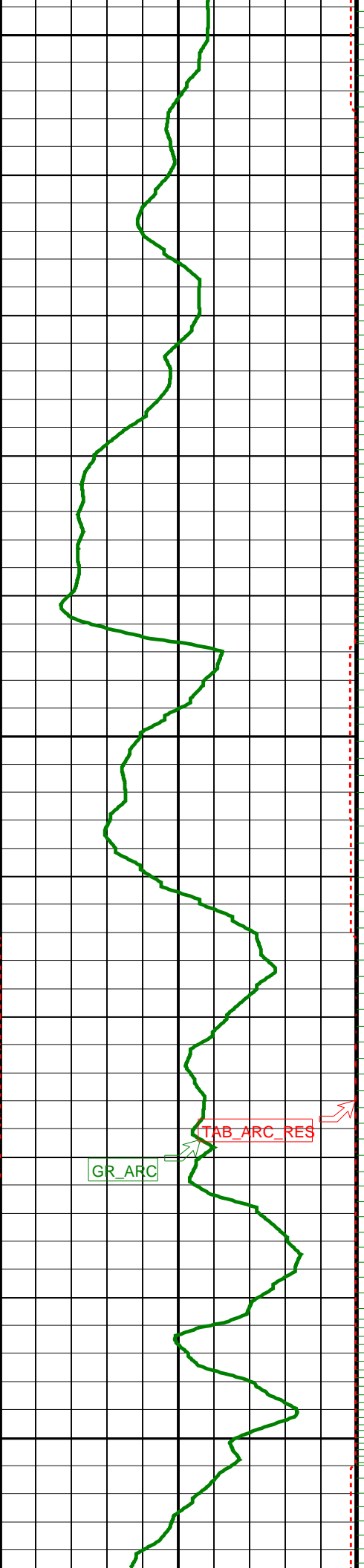


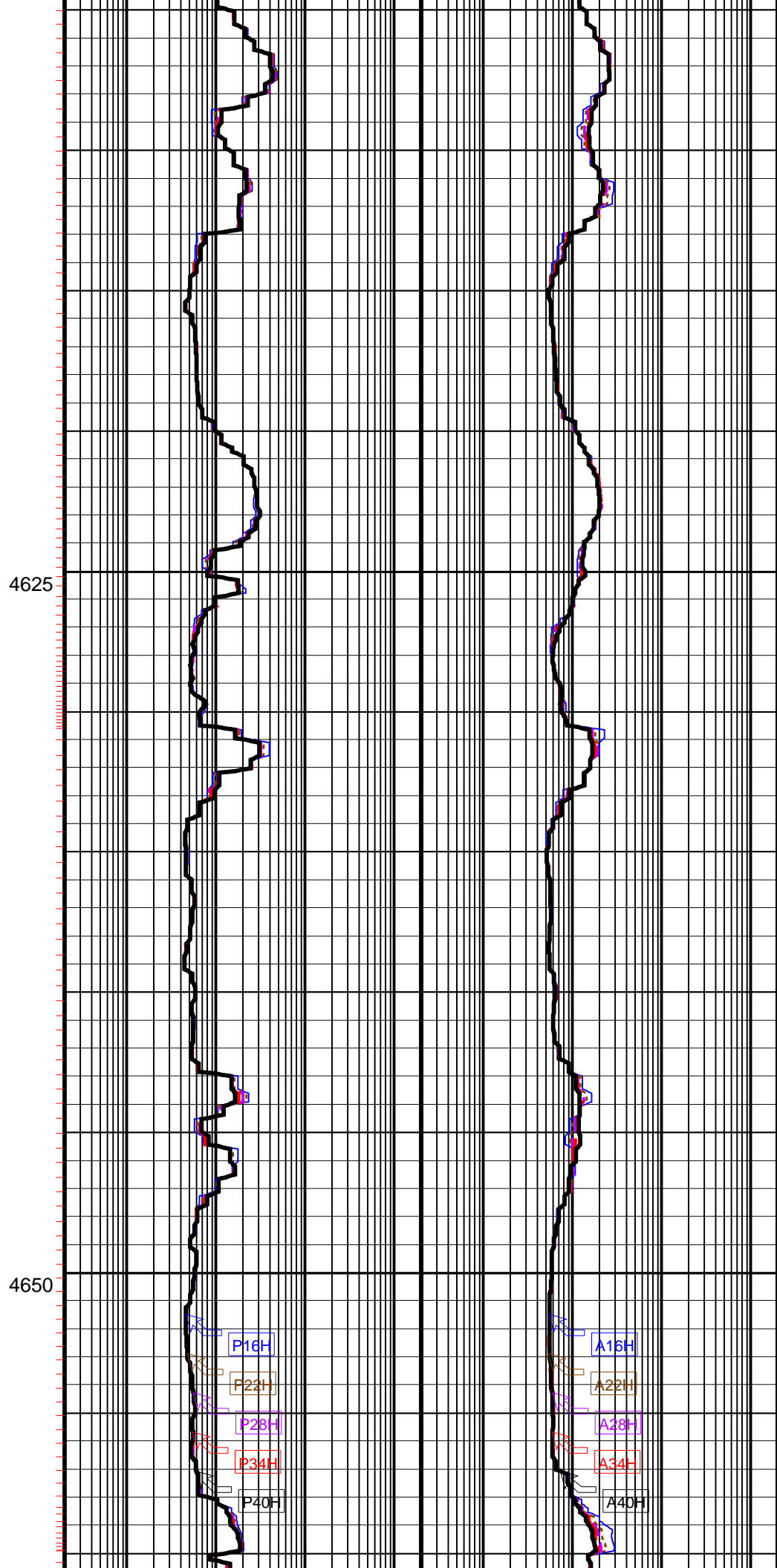
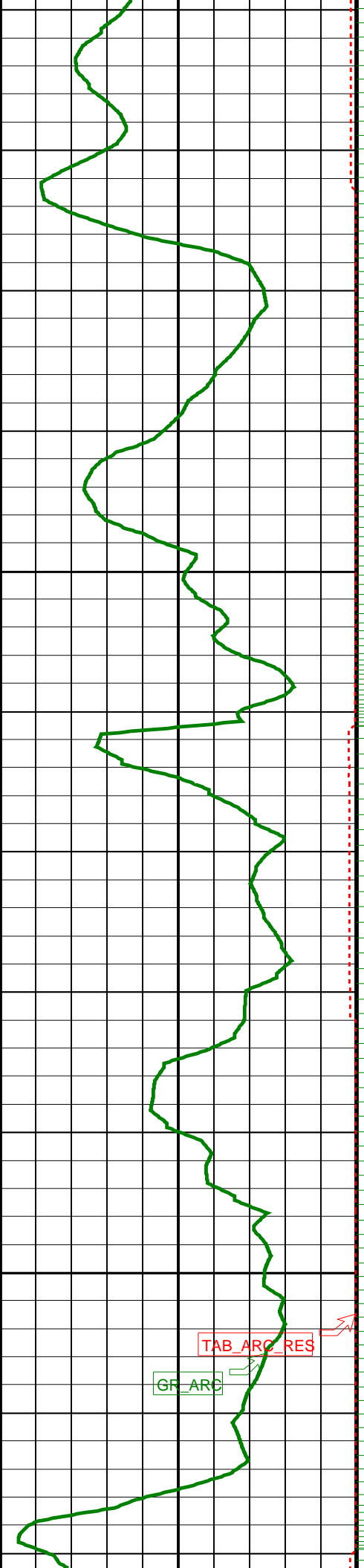
4450

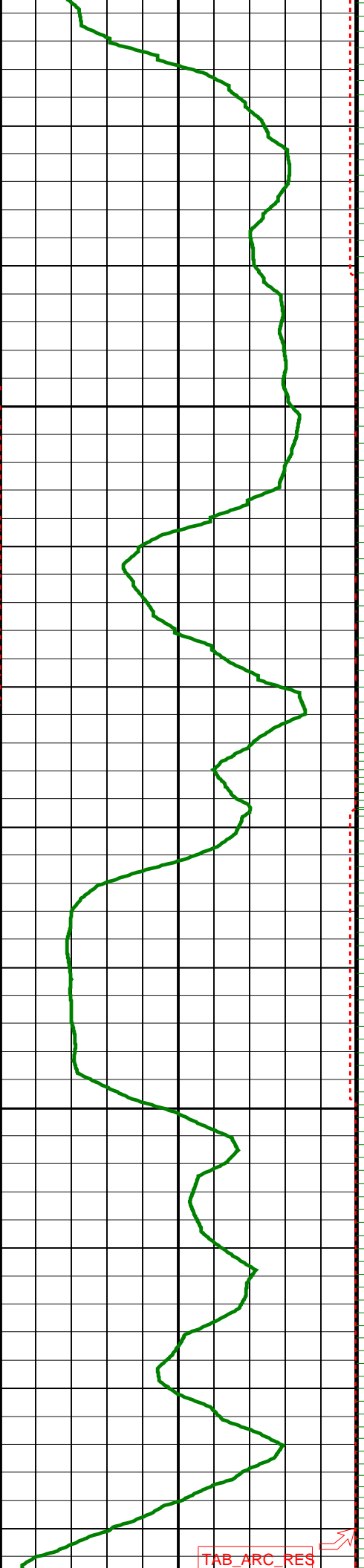
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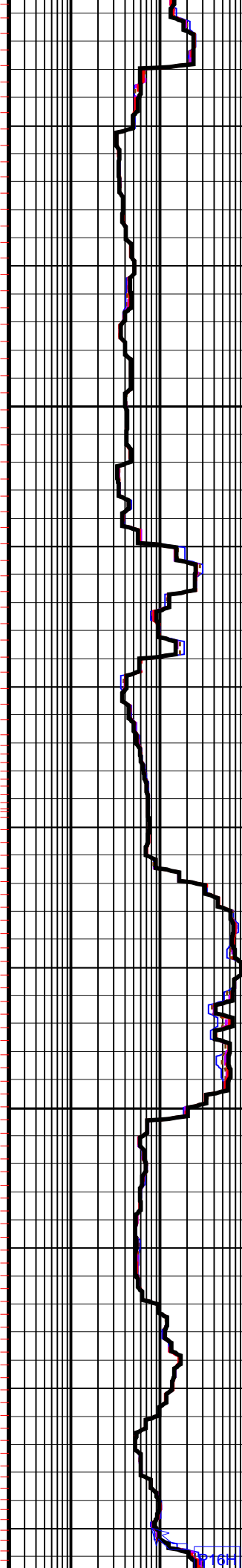




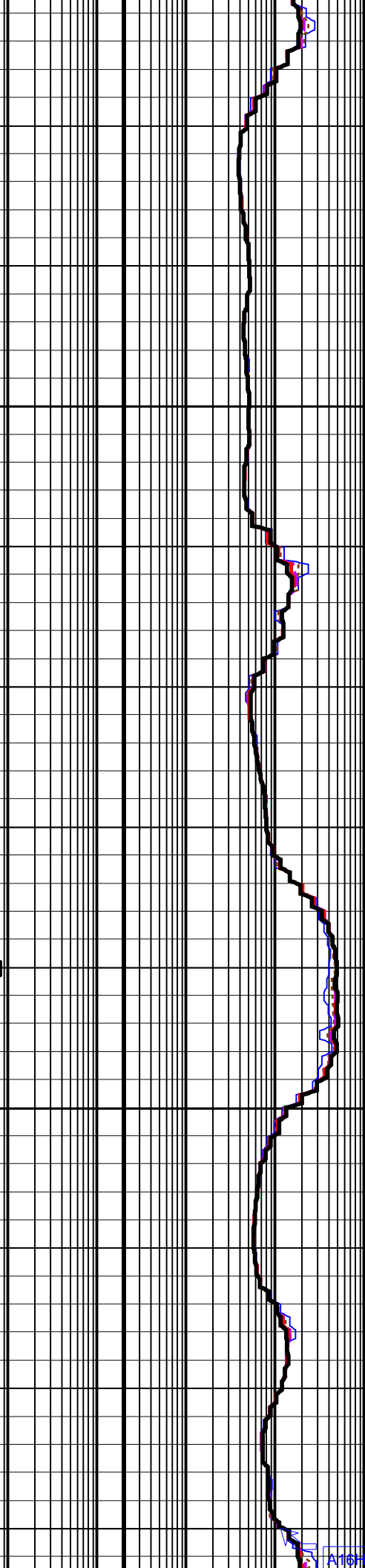
TAB_ARC_RES

4675

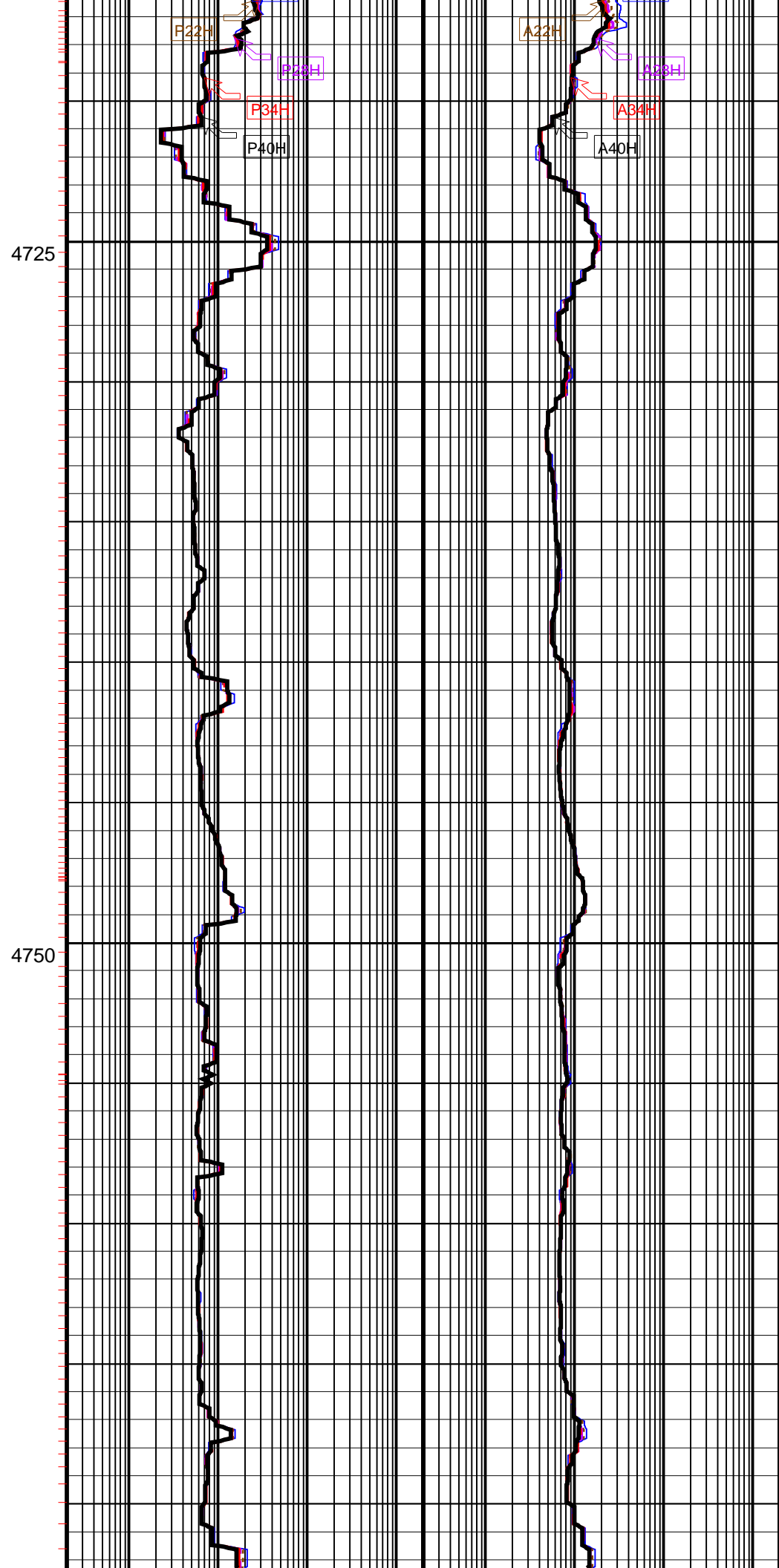
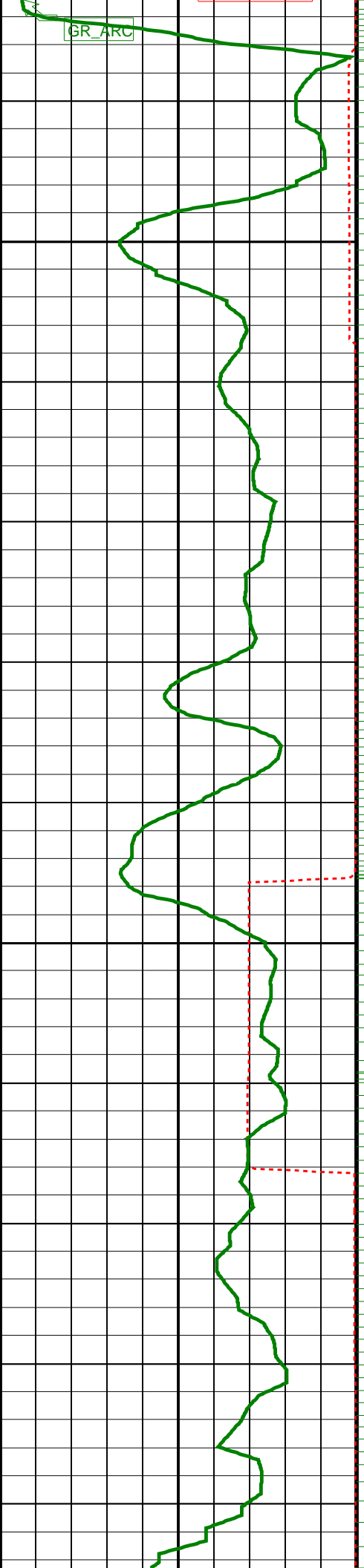
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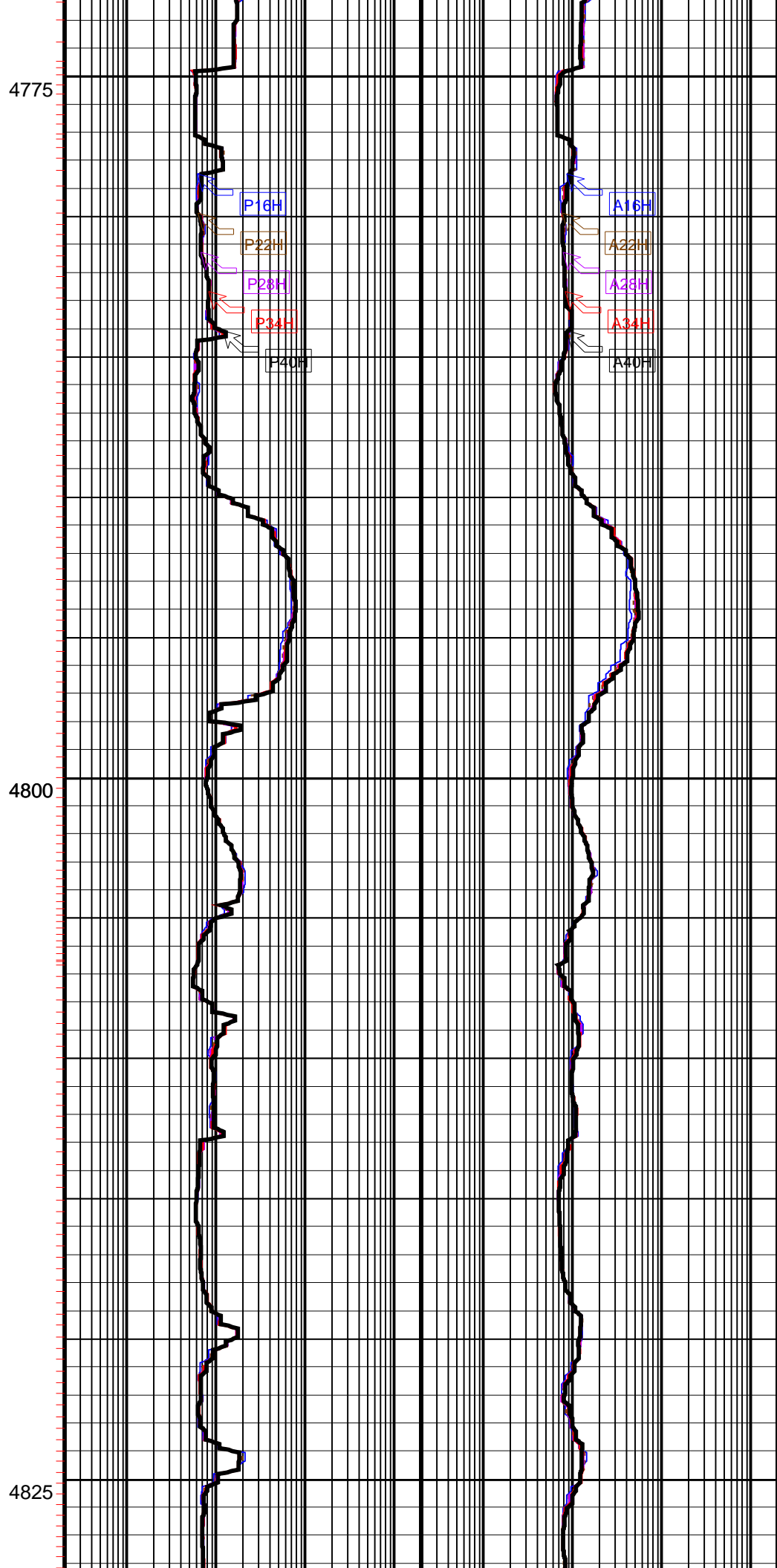
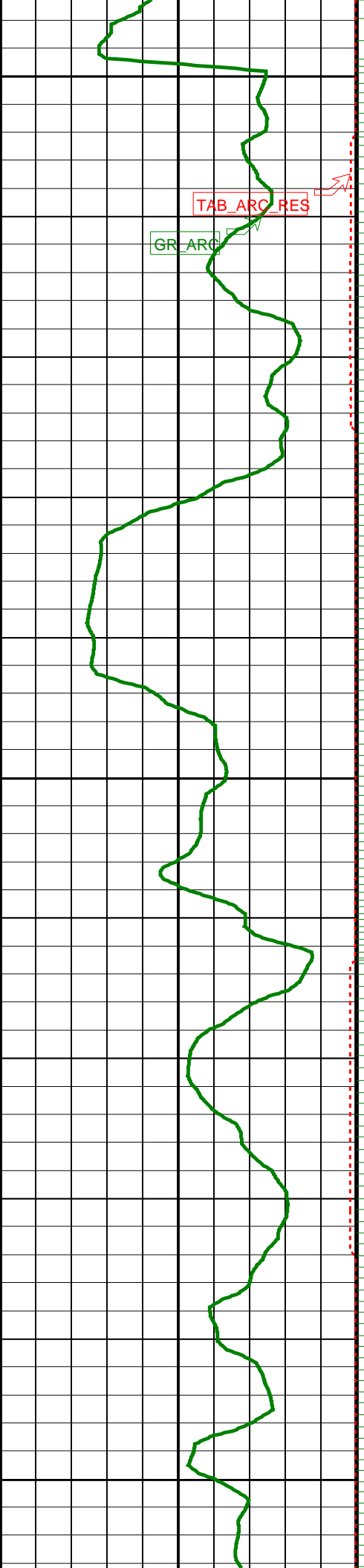


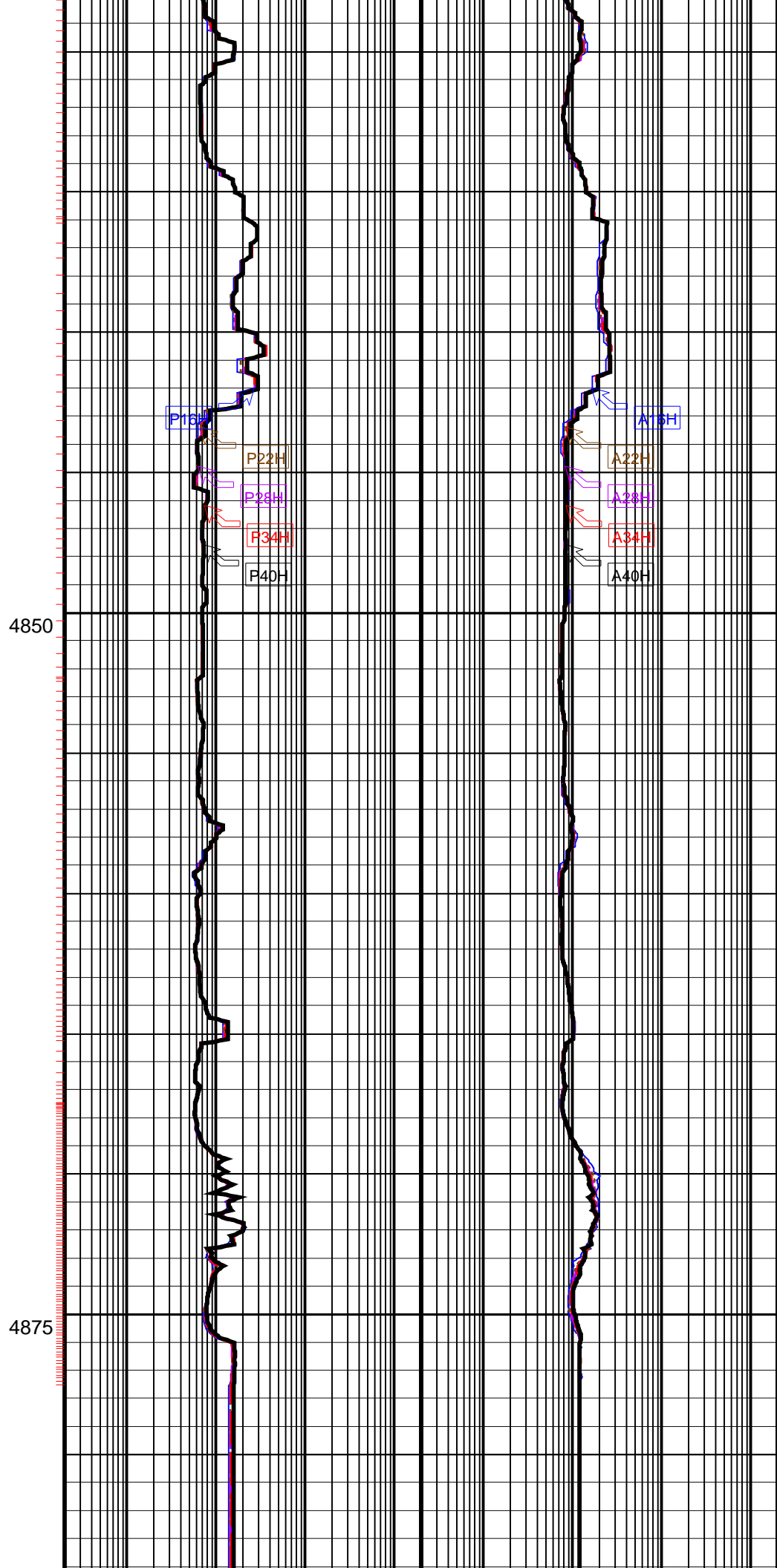
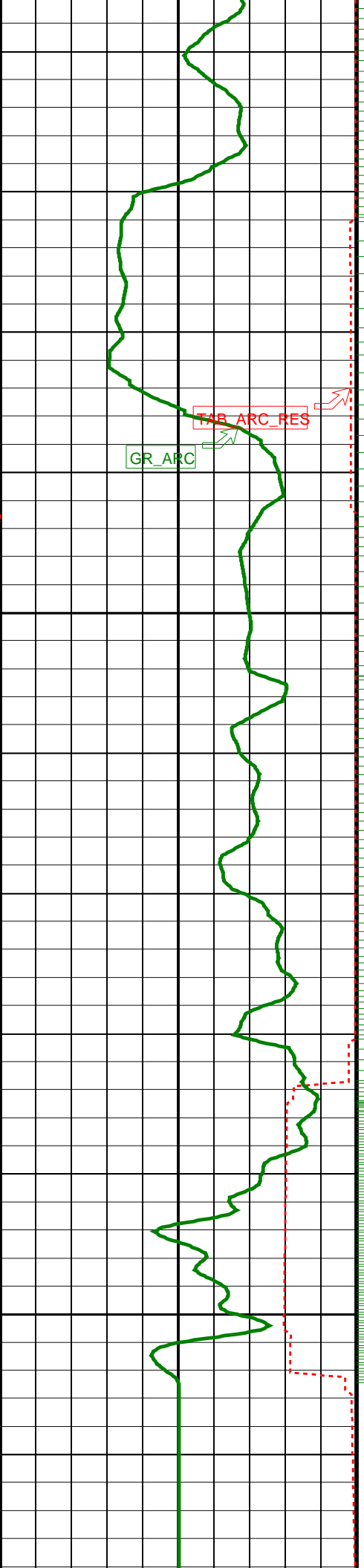
A16H



A16H




















| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| <div><div>ARC Gamma Ray (GR_ARC)</div><div>0 (GAPI) 200</div></div> <div><div>ARC Resistivity Time After Bit (TAB_ARC_RES)</div><div>0 (HR) 10</div></div> | | | <div><div>ARC Phase-Shift Resistivity 16-in. at 2 MHz (P16H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Phase-Shift Resistivity 22-in. at 2 MHz (P22H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Phase-Shift Resistivity 28-in. at 2 MHz (P28H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Phase-Shift Resistivity 34-in. at 2 MHz (P34H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Phase-Shift Resistivity 40-in. at 2 MHz (P40H)</div><div>0.2 (OHMM) 2000</div></div> | | | <div><div>ARC Attenuation Resistivity 16-in. at 2 MHz (A16H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Attenuation Resistivity 22-in. at 2 MHz (A22H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Attenuation Resistivity 28-in. at 2 MHz (A28H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Attenuation Resistivity 34-in. at 2 MHz (A34H)</div><div>0.2 (OHMM) 2000</div></div> <div><div>ARC Attenuation Resistivity 40-in. at 2 MHz (A40H)</div><div>0.2 (OHMM) 2000</div></div> | | |
| <div>PIP SUMMARY</div> <div><div>└ ARC Gamma Ray Samples</div><div>└ ARC Resistivity Samples</div></div> | | | | | | | | |
| <div>IDEAL Version: ID13_OC_08</div> <div>IDF</div> | | | | | | | | |
| ARC6A-AA | | | id13_oc_02 | | | | | |

| | | |
|---|-----------|-----|
| 6.75-in. Array Resistivity Compensated / Equipment Identification | | |
| Primary Equipment: | | |
| Tool Name and Serial Number | ARC6 – BA | 447 |
| ARC675 Calibration Status | Valid | |

| | | | | | | | | | | | | | | |
|--|---|---------------------|--------------------|---------|--------|---|---------------------|--------------------|---------|--------|---|---------------------|--------------------|---------|
| Master: 7-Apr-2008 5:16 | | | | | | | | | | | | | | |
| 6.75-in. Array Resistivity Compensated Calibration | | | | | | | | | | | | | | |
| Resistivity: Air | | | | | | | | | | | | | | |
| Phase | Phase-Shift T1 | | | Value | Phase | Phase-Shift T2 | | | Value | Phase | Phase-Shift T3 | | | Value |
| Master |  | | | -0.5190 | Master |  | | | 0.5500 | Master |  | | | -0.5740 |
| | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | | | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | | | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | |
| Phase | Phase-Shift T4 | | | Value | Phase | Phase-Shift T5 | | | Value | Phase | Phase-Shift T1 at 400KHz | | | Value |
| Master |  | | | 0.5220 | Master |  | | | -0.5890 | Master |  | | | 0.8700 |
| | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | | | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | | | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | |
| Phase | Phase-Shift T2 at 400KHz | | | Value | Phase | Phase-Shift T3 at 400KHz | | | Value | Phase | Phase-Shift T4 at 400KHz | | | Value |
| Master |  | | | -0.9340 | Master |  | | | 0.8890 | Master |  | | | -0.9270 |
| | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | | | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | | | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | |
| Phase | Phase-Shift T5 at 400KHz | | | Value | | | | | | | | | | |
| Master |  | | | 0.8780 | | | | | | | | | | |
| | -3.900 (Minimum) | 0.1000 (Nominal) | 4.100 (Maximum) | | | | | | | | | | | |

| | | | | | | | | | | | |
|--|---|--|-------|-------|---|--|-------|-------|---|--|-------|
| Master: 7-Apr-2008 5:16 | | | | | | | | | | | |
| 6.75-in. Array Resistivity Compensated Calibration | | | | | | | | | | | |
| Resistivity: Air | | | | | | | | | | | |
| Phase | Attenuation T1 | | Value | Phase | Attenuation T2 | | Value | Phase | Attenuation T3 | | Value |
| |  | | | |  | | | |  | | |

| | | | | | | | | | | | | | | |
|--------|--------------------------|--------------------|--------------------|-------|--------------------|--------------------------|--------------------|-------|--------------------|--------------------|--------------------------|--|--|-------|
| Master | | 8.405 | Master | | 6.564 | Master | | 5.028 | | | | | | |
| | 6.500 (Minimum) | 8.500 (Nominal) | 10.50 (Maximum) | | 4.500 (Minimum) | 6.500 (Nominal) | 8.500 (Maximum) | | 2.500 (Minimum) | 4.500 (Nominal) | 6.500 (Maximum) | | | |
| Phase | Attenuation T4 | | | Value | Phase | Attenuation T5 | | | Value | Phase | Attenuation T1 at 400KHz | | | Value |
| Master | | | | 4.464 | Master | | | | 3.577 | Master | | | | 8.370 |
| | 2.600 (Minimum) | 4.600 (Nominal) | 6.600 (Maximum) | | 1.600 (Minimum) | 3.600 (Nominal) | 5.600 (Maximum) | | 6.500 (Minimum) | 8.500 (Nominal) | 10.50 (Maximum) | | | |
| Phase | Attenuation T2 at 400KHz | | | Value | Phase | Attenuation T3 at 400KHz | | | Value | Phase | Attenuation T4 at 400KHz | | | Value |
| Master | | | | 6.610 | Master | | | | 4.983 | Master | | | | 4.503 |
| | 4.500 (Minimum) | 6.500 (Nominal) | 8.500 (Maximum) | | 2.500 (Minimum) | 4.500 (Nominal) | 6.500 (Maximum) | | 2.600 (Minimum) | 4.600 (Nominal) | 6.600 (Maximum) | | | |
| Phase | Attenuation T5 at 400KHz | | | Value | | | | | | | | | | |
| Master | | | | 3.541 | | | | | | | | | | |
| | 1.600 (Minimum) | 3.600 (Nominal) | 5.600 (Maximum) | | | | | | | | | | | |




| | | | | | | | | | | | |
|--|--|--|--|--------------------|--|--|--------------------|--|--|-------|--|
| Master: 20-Mar-2008 14:59 | | | | | | | | | | | |
| 6.75-in. Array Resistivity Compensated Calibration | | | | | | | | | | | |
| Gamma Ray: Blanket | | | | | | | | | | | |
| Phase | Gamma ray factor (equals Calibration Gain multiplied by API Gain Factor) CPS | | | | | | | | | Value | |
| Master | | | | | | | | | | 5.134 | |
| | 2.780 (Minimum) | | | 4.800 (Nominal) | | | 6.000 (Maximum) | | | | |




| | | | | | | | | | | | |
|--|--|--|--|--|--|------------|--|------------|--|--|--|
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch / Equipment Identification | | | | | | | | | | | |
| Primary Equipment: | | | | | | | | | | | |
| Tool Name and Serial Number | | | | | | ECO – 675 | | 804 | | | |
| Calibration Status | | | | | | Valid | | | | | |
| Neutron Logging Source | | | | | | PNG – C | | 2081-41299 | | | |
| Density Logging Source | | | | | | N/A | | | | | |
| Stabilizer Size | | | | | | 8.25 – in. | | | | | |



| | | | | | | | | | | | |
|---|---------------------|--------------------|--------------------|--|-------|--------|---------------------|----------------|--------------------|--|-------|
| Master: 9-Apr-2008 6:30 | | | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | | | |
| SSn LSn : Water Tank | | | | | | | | | | | |
| Phase | SSn Gain ---- | | | | Value | Phase | SSn Offset ---- | | | | Value |
| Master | | | | | 1.085 | Master | | | | | 317.9 |
| | 0.6000 (Minimum) | 1.000 (Nominal) | 1.400 (Maximum) | | | | -3.000 (Minimum) | 0 (Nominal) | 3.000 (Maximum) | | |
| Phase | LSn Gain ---- | | | | Value | Phase | LSn Offset ---- | | | | Value |
| Master | | | | | 1.049 | Master | | | | | 37.38 |
| | 0.6000 (Minimum) | 1.000 (Nominal) | 1.400 (Maximum) | | | | -3.000 (Minimum) | 0 (Nominal) | 3.000 (Maximum) | | |











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|---|---------------------------|--------------------|--------------------|--|--------|--------|-----------------------------|----------------|--------------------|--|-------|
| Master: 9-Apr-2008 6:30 | | | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | | | |
| Neutron: Water Tank | | | | | | | | | | | |
| Phase | Far 2 Gain ---- | | | | Value | Phase | Far 2 Offset ---- | | | | Value |
| Master | | | | | 0.9766 | Master | | | | | 1.825 |
| | 0.7000 (Minimum) | 1.000 (Nominal) | 1.300 (Maximum) | | | | -3.000 (Minimum) | 0 (Nominal) | 3.000 (Maximum) | | |
| Phase | Far 1 Gain ---- | | | | Value | Phase | Far 1 Offset ---- | | | | Value |
| Master | | | | | 1.000 | Master | | | | | 1.294 |
| | 0.7000 (Minimum) | 1.000 (Nominal) | 1.300 (Maximum) | | | | -3.000 (Minimum) | 0 (Nominal) | 3.000 (Maximum) | | |
| Phase | Thermal Near gain ---- | | | | Value | Phase | Thermal Near offset ---- | | | | Value |
| Master | | | | | 1.026 | Master | | | | | 44.00 |
| | 0.7000 (Minimum) | 1.000 (Nominal) | 1.300 (Maximum) | | | | -500.0 (Minimum) | 0 (Nominal) | 500.0 (Maximum) | | |
| Phase | Epithermal Near gain ---- | | | | Value | Phase | Epithermal Near offset ---- | | | | Value |
| Master | | | | | 1.056 | Master | | | | | 85.55 |
| | 0.7000 (Minimum) | 1.000 (Nominal) | 1.300 (Maximum) | | | | -300.0 (Minimum) | 0 (Nominal) | 300.0 (Maximum) | | |

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|---|--------------------------|-------------------|-------------------|-------|--------|----------------------|-------------------|-------------------|-------|--------|----------------------|--------------------|--------------------|-------|
| Master: Calibration out of date 15-Sep-2007 12:07 | | | | | | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | | | | | | |
| Gamma Density: Magnesium Block | | | | | | | | | | | | | | |
| Phase | LS window 3 – Mg CPS | | | Value | Phase | SS window 1 – Mg CPS | | | Value | Phase | SS window 3 – Mg CPS | | | Value |
| Master | <div>EXCEEDS LIMIT</div> | | | 1965 | Master | <div></div> | | | 4716 | Master | <div></div> | | | 11100 |
| | 2200 (Minimum) | 3350 (Nominal) | 4500 (Maximum) | | | 4560 (Minimum) | 6830 (Nominal) | 9100 (Maximum) | | | 11100 (Minimum) | 16700 (Nominal) | 22300 (Maximum) | |

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|---|--|--------------------|--------------------|-------|--------|---|-------------------|-------------------|-------|--------|---|--------------------|--------------------|-------|
| Master: Calibration out of date 15-Sep-2007 12:07 | | | | | | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | | | | | | |
| Gamma Density: Aluminum Block | | | | | | | | | | | | | | |
| Phase | LS window 3 – Al CPS | | | Value | Phase | SS window 1 – Al CPS | | | Value | Phase | SS window 3 – Al CPS | | | Value |
| Master |  | | | 368.8 | Master |  | | | 2457 | Master |  | | | 8183 |
| | 350.0 (Minimum) | 575.0 (Nominal) | 800.0 (Maximum) | | | 2300 (Minimum) | 3550 (Nominal) | 4800 (Maximum) | | | 7600 (Minimum) | 11550 (Nominal) | 15500 (Maximum) | |

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|---|---|--------------------|--------------------|--------|---|--------------------|--------------------|--------|---|--------------------|--------------------|
| Master: Calibration out of date 15-Sep-2007 12:07 | | | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | | | |
| Gamma Density: Background | | | | | | | | | | | |
| Phase | LS window 3 – Background CPS | | Value | Phase | SS window 1 – Background CPS | | Value | Phase | SS window 3 – Background CPS | | Value |
| Master |  | | 59.30 | Master |  | | 72.40 | Master |  | | 353.9 |
| | 50.00 (Minimum) | 70.00 (Nominal) | 90.00 (Maximum) | | 50.00 (Minimum) | 75.00 (Nominal) | 100.0 (Maximum) | | 270.0 (Minimum) | 370.0 (Nominal) | 470.0 (Maximum) |

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|---|---|--------------------|--------------------|--------|---|--------------------|--------------------|--|--|
| Master: Calibration out of date 15-Sep-2007 12:07 | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | |
| Gamma Density: Water Block Check | | | | | | | | | |
| Phase | Long spacing water density G/C3 | | Value | Phase | Short spacing water density G/C3 | | Value | | |
| Master |  | | 1.024 | Master |  | | 1.280 | | |
| | 1.026 (Minimum) | 1.043 (Nominal) | 1.059 (Maximum) | | 1.221 (Minimum) | 1.256 (Nominal) | 1.291 (Maximum) | | |

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|---|---|----------------|--------------------|---------|---------------------|---|--------------------|--|---------------------|----------------|---|--|--------------------|--------|
| Master: 7-Apr-2008 12:08 | | | | | | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | | | | | | |
| Resistivity: Air | | | | | | | | | | | | | | |
| Phase | Phase-Shift T1 | | | Value | Phase | Phase-Shift T2 | | | Value | Phase | Phase-Shift T3 | | | Value |
| Master |  | | | 0.8622 | Master |  | | | -0.9757 | Master |  | | | 0.8405 |
| | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | 4.000 (Maximum) | |
| Phase | Phase-Shift T4 | | | Value | Phase | Phase-Shift T5 | | | Value | Phase | Phase-Shift T1 at 400KHz | | | Value |
| Master |  | | | -0.9681 | Master |  | | | 0.8605 | Master |  | | | 1.597 |
| | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | 4.000 (Maximum) | |
| Phase | Phase-Shift T2 at 400KHz | | | Value | Phase | Phase-Shift T3 at 400KHz | | | Value | Phase | Phase-Shift T4 at 400KHz | | | Value |
| Master |  | | | -1.590 | Master |  | | | 1.596 | Master |  | | | -1.610 |
| | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | 4.000 (Maximum) | |
| Phase | Phase-Shift T5 at 400KHz | | | Value | | | | | | | | | | |
| Master |  | | | 1.601 | | | | | | | | | | |
| | -4.000 (Minimum) | 0 (Nominal) | 4.000 (Maximum) | | | | | | | | | | | |

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|---|--------------------------|--------------------|--------------------|-------|--------------------|--------------------------|--------------------|--|-------|--------------------|--------------------------|--------------------|--|-------|
| Master: 7-Apr-2008 12:08 | | | | | | | | | | | | | | |
| EcoScope Integrated Logging-While-Drilling Tool – 6.75 inch Calibration | | | | | | | | | | | | | | |
| Resistivity: Air | | | | | | | | | | | | | | |
| Phase | Attenuation T1 | | | Value | Phase | Attenuation T2 | | | Value | Phase | Attenuation T3 | | | Value |
| Master | <div><div></div></div> | | | 8.404 | Master | <div><div></div></div> | | | 6.020 | Master | <div><div></div></div> | | | 5.002 |
| | 7.000 (Minimum) | 9.000 (Nominal) | 11.00 (Maximum) | | 4.000 (Minimum) | 6.000 (Nominal) | 8.000 (Maximum) | | | 3.500 (Minimum) | 5.500 (Nominal) | 7.500 (Maximum) | | |
| Phase | Attenuation T4 | | | Value | Phase | Attenuation T5 | | | Value | Phase | Attenuation T1 at 400KHz | | | Value |
| Master | <div><div></div></div> | | | 4.422 | Master | <div><div></div></div> | | | 3.556 | Master | <div><div></div></div> | | | 8.401 |
| | 2.500 (Minimum) | 4.500 (Nominal) | 6.500 (Maximum) | | 2.000 (Minimum) | 4.000 (Nominal) | 6.000 (Maximum) | | | 7.000 (Minimum) | 9.000 (Nominal) | 11.00 (Maximum) | | |
| Phase | Attenuation T2 at 400KHz | | | Value | Phase | Attenuation T3 at 400KHz | | | Value | Phase | Attenuation T4 at 400KHz | | | Value |

| | | | | | | | | | | | |
|--------------------|--------------------------|--------------------|-------|--------------------|--------------------|--------------------|-------|--------------------|--------------------|--------------------|-------|
| Master | | | 6.038 | Master | | | 4.992 | Master | | | 4.434 |
| 4.000 (Minimum) | 6.000 (Nominal) | 8.000 (Maximum) | | 3.500 (Minimum) | 5.500 (Nominal) | 7.500 (Maximum) | | 2.500 (Minimum) | 4.500 (Nominal) | 6.500 (Maximum) | |
| Phase | Attenuation T5 at 400KHz | | Value | | | | | | | | |
| Master | | | 3.549 | | | | | | | | |
| 2.000 (Minimum) | 4.000 (Nominal) | 6.000 (Maximum) | | | | | | | | | |

SCHLUMBERGER

Survey report

2-May-2008 03:11:54

Client.....: Esso Australia Pty. Ltd.
Field.....: SNAPPER

Well.....: SNA A-19A
Service Order no.....: 07ASQ0023
Engineer.....: MA/MS/JI

Spud date.....: 27-Mar-08
Last survey date.....: 23-Apr-2008
Total accepted surveys....: 297
MD of first survey.....: 0.00 m
MD of last survey.....: 4888.00 m

RIG.....: ISDL 175
STATE:.....: Victoria

----- Survey calculation methods-----
Method for positions.....: Minimum curvature
Method for DLS.....: Mason & Taylor

----- Geomagnetic data -----
Magnetic model.....: BGGM version 2007
Magnetic date.....: 12-Apr-2008
Magnetic field strength...: 1197.78 HCNT
Magnetic dec (+E/W-).....: 13.01 degrees
Magnetic dip.....: -68.71 degrees

----- Depth reference -----
Permanent datum.....: GROUND LEVEL
Depth reference.....: Driller's Depth
GL above permanent.....: -51.00 m
KB above permanent.....: Top Drive
DF above permanent.....: 47.10 m

----- MWD survey Reference Criteria -----
Reference G.....: 1000.02 mGal
Reference H.....: 1197.78 HCNT
Reference Dip.....: -68.71 degrees
Tolerance of G.....: (+/-) 2.50 mGal
Tolerance of H.....: (+/-) 6.00 HCNT
Tolerance of Dip.....: (+/-) 0.45 degrees

----- Vertical section origin-----
Latitude (+N/S-).....: -4.23 m
Departure (+E/W-).....: 0.54 m

----- Corrections -----
Magnetic dec (+E/W-).....: 13.01 degrees
Grid convergence (+E/W-)..: -0.63 degrees
Total az corr (+E/W-).....: 13.64 degrees
(Total az corr = magnetic dec - grid conv)
Survey Correction Type ...: I, D
I=Sag Corrected Inclination
M=Schlumberger Magnetic Correction
S=Shell Magnetic Correction
F=Failed Axis Correction
R=Magnetic Resonance Tool Correction
D=Dmag Magnetic Correction

Azimuth from Vsect Origin to target: 222.93 degrees

[(c)2008 IDEAL ID13_OC_08]
SCHLUMBERGER Survey Report

2-May-2008 03:11:54

| Seq # | Measured depth (m) | Incl angle (deg) | Azimuth angle (deg) | Course length (m) | TVD depth (m) | Vertical section (m) | Displ +N/S- (m) | Displ +E/W- (m) | Total displ (m) | At Azim (deg) | DLS (deg/100f) | Srvy tool type | Tool Corr (deg) |
|-------|--------------------|------------------|---------------------|-------------------|---------------|----------------------|-----------------|-----------------|-----------------|---------------|----------------|----------------|-----------------|
| 1 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | -4.23 | 0.54 | 4.26 | 172.73 | 0.00 | TIP | None |
| 2 | 6.98 | 0.00 | 0.00 | 6.98 | 6.98 | 0.00 | -4.23 | 0.54 | 4.26 | 172.73 | 0.00 | MWD_M | None |
| 3 | 51.98 | 0.57 | 256.84 | 45.00 | 51.98 | 0.19 | -4.28 | 0.32 | 4.29 | 175.70 | 0.39 | MWD_M | None |
| 4 | 56.98 | 0.58 | 254.94 | 5.00 | 56.98 | 0.23 | -4.29 | 0.27 | 4.30 | 176.36 | 0.13 | MWD_M | None |
| 5 | 61.98 | 0.57 | 255.53 | 5.00 | 61.98 | 0.27 | -4.31 | 0.22 | 4.31 | 177.01 | 0.07 | MWD_M | None |
| 6 | 66.98 | 0.60 | 260.17 | 5.00 | 66.98 | 0.31 | -4.32 | 0.17 | 4.32 | 177.68 | 0.34 | MWD_M | None |
| 7 | 71.98 | 0.62 | 257.38 | 5.00 | 71.98 | 0.36 | -4.33 | 0.12 | 4.33 | 178.37 | 0.22 | MWD_M | None |
| 8 | 76.98 | 0.59 | 257.95 | 5.00 | 76.98 | 0.40 | -4.34 | 0.07 | 4.34 | 179.06 | 0.19 | MWD_M | None |
| 9 | 81.98 | 0.64 | 260.43 | 5.00 | 81.98 | 0.44 | -4.35 | 0.02 | 4.35 | 179.76 | 0.35 | MWD_M | None |
| 10 | 86.98 | 0.57 | 258.86 | 5.00 | 86.98 | 0.48 | -4.36 | -0.03 | 4.36 | 180.44 | 0.44 | MWD_M | None |
| 11 | 91.98 | 0.63 | 257.65 | 5.00 | 91.98 | 0.53 | -4.37 | -0.08 | 4.37 | 181.11 | 0.37 | MWD_M | None |
| 12 | 96.98 | 0.68 | 260.93 | 5.00 | 96.98 | 0.57 | -4.38 | -0.14 | 4.38 | 181.84 | 0.38 | MWD_M | None |
| 13 | 101.98 | 0.79 | 260.49 | 5.00 | 101.98 | 0.62 | -4.39 | -0.20 | 4.39 | 182.66 | 0.67 | MWD_M | None |
| 14 | 106.98 | 0.99 | 264.34 | 5.00 | 106.98 | 0.68 | -4.40 | -0.28 | 4.41 | 183.66 | 1.27 | MWD_M | None |
| 15 | 111.98 | 1.17 | 266.07 | 5.00 | 111.97 | 0.75 | -4.41 | -0.38 | 4.42 | 184.86 | 1.12 | MWD_M | None |
| 16 | 116.98 | 1.32 | 267.06 | 5.00 | 116.97 | 0.83 | -4.41 | -0.48 | 4.44 | 186.25 | 0.92 | MWD_M | None |
| 17 | 121.98 | 1.45 | 265.71 | 5.00 | 121.97 | 0.92 | -4.42 | -0.60 | 4.46 | 187.78 | 0.82 | MWD_M | None |
| 18 | 126.98 | 1.61 | 265.82 | 5.00 | 126.97 | 1.02 | -4.43 | -0.74 | 4.49 | 189.45 | 0.98 | MWD_M | None |
| 19 | 131.98 | 1.87 | 266.12 | 5.00 | 131.97 | 1.13 | -4.44 | -0.89 | 4.53 | 191.31 | 1.59 | MWD_M | None |
| 20 | 136.98 | 2.05 | 264.52 | 5.00 | 136.97 | 1.25 | -4.46 | -1.06 | 4.58 | 193.37 | 1.15 | MWD_M | None |
| 21 | 141.98 | 2.26 | 263.84 | 5.00 | 141.96 | 1.40 | -4.47 | -1.25 | 4.65 | 195.56 | 1.29 | MWD_M | None |
| 22 | 146.98 | 2.47 | 262.65 | 5.00 | 146.96 | 1.55 | -4.50 | -1.45 | 4.73 | 197.87 | 1.31 | MWD_M | None |
| 23 | 151.98 | 2.62 | 261.95 | 5.00 | 151.95 | 1.73 | -4.52 | -1.63 | 4.82 | 200.07 | 1.25 | MWD_M | None |

| | | | | | | | | | | | | | |
|-----|--------|-------|--------|------|--------|--------|---------|---------|--------|--------|------|-------|------|
| 23 | 151.98 | 2.63 | 261.25 | 5.00 | 151.95 | 1.73 | -4.53 | -1.67 | 4.83 | 200.25 | 1.05 | MWD_M | None |
| 24 | 156.98 | 2.87 | 260.10 | 5.00 | 156.95 | 1.92 | -4.57 | -1.91 | 4.95 | 202.66 | 1.50 | MWD_M | None |
| 25 | 161.98 | 3.08 | 259.03 | 5.00 | 161.94 | 2.12 | -4.62 | -2.16 | 5.10 | 205.11 | 1.32 | MWD_M | None |
| 26 | 166.98 | 3.41 | 255.74 | 5.00 | 166.93 | 2.36 | -4.68 | -2.44 | 5.28 | 207.53 | 2.31 | MWD_M | None |
| 27 | 171.98 | 3.82 | 253.42 | 5.00 | 171.92 | 2.63 | -4.76 | -2.74 | 5.50 | 209.94 | 2.65 | MWD_M | None |
| 28 | 176.98 | 4.45 | 249.90 | 5.00 | 176.91 | 2.94 | -4.88 | -3.08 | 5.77 | 212.31 | 4.14 | MWD_M | None |
| 29 | 181.98 | 5.11 | 247.18 | 5.00 | 181.89 | 3.32 | -5.03 | -3.47 | 6.11 | 214.62 | 4.25 | MWD_M | None |
| 30 | 186.98 | 5.86 | 245.33 | 5.00 | 186.87 | 3.76 | -5.22 | -3.91 | 6.52 | 216.81 | 4.70 | MWD_M | None |
| 31 | 191.98 | 6.71 | 243.55 | 5.00 | 191.84 | 4.27 | -5.46 | -4.40 | 7.01 | 218.88 | 5.32 | MWD_M | None |
| 32 | 196.98 | 7.56 | 242.03 | 5.00 | 196.80 | 4.85 | -5.74 | -4.95 | 7.59 | 220.78 | 5.31 | MWD_M | None |
| 33 | 201.98 | 8.27 | 240.91 | 5.00 | 201.75 | 5.50 | -6.07 | -5.56 | 8.23 | 222.47 | 4.43 | MWD_M | None |
| 34 | 206.98 | 9.00 | 239.78 | 5.00 | 206.70 | 6.22 | -6.44 | -6.21 | 8.95 | 223.94 | 4.57 | MWD_M | None |
| 35 | 211.98 | 9.60 | 238.89 | 5.00 | 211.63 | 7.00 | -6.86 | -6.91 | 9.73 | 225.21 | 3.76 | MWD_M | None |
| 36 | 216.98 | 10.23 | 237.64 | 5.00 | 216.55 | 7.83 | -7.31 | -7.64 | 10.57 | 226.26 | 4.06 | MWD_M | None |
| 37 | 221.98 | 10.86 | 236.40 | 5.00 | 221.47 | 8.71 | -7.81 | -8.41 | 11.47 | 227.11 | 4.08 | MWD_M | None |
| 38 | 226.98 | 11.34 | 235.78 | 5.00 | 226.38 | 9.65 | -8.35 | -9.20 | 12.42 | 227.80 | 3.02 | MWD_M | None |
| 39 | 231.98 | 11.80 | 235.08 | 5.00 | 231.28 | 10.63 | -8.91 | -10.03 | 13.42 | 228.37 | 2.93 | MWD_M | None |
| 40 | 236.98 | 12.14 | 234.58 | 5.00 | 236.17 | 11.64 | -9.51 | -10.88 | 14.45 | 228.83 | 2.17 | MWD_M | None |
| 41 | 241.98 | 12.47 | 234.17 | 5.00 | 241.05 | 12.69 | -10.13 | -11.74 | 15.51 | 229.21 | 2.08 | MWD_M | None |
| 42 | 246.98 | 12.73 | 233.78 | 5.00 | 245.93 | 13.76 | -10.77 | -12.63 | 16.60 | 229.53 | 1.67 | MWD_M | None |
| 43 | 251.98 | 12.99 | 233.25 | 5.00 | 250.81 | 14.85 | -11.44 | -13.52 | 17.71 | 229.78 | 1.74 | MWD_M | None |
| 44 | 256.98 | 13.27 | 232.75 | 5.00 | 255.68 | 15.97 | -12.12 | -14.43 | 18.84 | 229.97 | 1.84 | MWD_M | None |
| 45 | 261.98 | 13.57 | 232.33 | 5.00 | 260.54 | 17.12 | -12.83 | -15.35 | 20.00 | 230.12 | 1.92 | MWD_M | None |
| 46 | 266.98 | 13.90 | 232.00 | 5.00 | 265.40 | 18.29 | -13.55 | -16.29 | 21.19 | 230.23 | 2.07 | MWD_M | None |
| 47 | 271.98 | 14.27 | 231.60 | 5.00 | 270.25 | 19.49 | -14.31 | -17.24 | 22.41 | 230.32 | 2.33 | MWD_M | None |
| 48 | 276.98 | 14.71 | 231.16 | 5.00 | 275.09 | 20.73 | -15.09 | -18.22 | 23.66 | 230.37 | 2.76 | MWD_M | None |
| 49 | 281.98 | 15.25 | 230.52 | 5.00 | 279.92 | 22.01 | -15.90 | -19.22 | 24.95 | 230.40 | 3.44 | MWD_M | None |
| 50 | 286.98 | 15.85 | 230.02 | 5.00 | 284.73 | 23.34 | -16.76 | -20.25 | 26.29 | 230.39 | 3.75 | MWD_M | None |
| 51 | 291.98 | 16.57 | 229.56 | 5.00 | 289.53 | 24.72 | -17.66 | -21.32 | 27.68 | 230.36 | 4.46 | MWD_M | None |
| 52 | 296.98 | 17.29 | 229.18 | 5.00 | 294.32 | 26.17 | -18.61 | -22.42 | 29.14 | 230.31 | 4.44 | MWD_M | None |
| 53 | 301.98 | 17.94 | 229.04 | 5.00 | 299.08 | 27.67 | -19.60 | -23.57 | 30.65 | 230.25 | 3.97 | MWD_M | None |
| 54 | 306.98 | 18.66 | 228.83 | 5.00 | 303.83 | 29.23 | -20.63 | -24.75 | 32.22 | 230.19 | 4.41 | MWD_M | None |
| 55 | 311.98 | 19.37 | 228.65 | 5.00 | 308.56 | 30.86 | -21.71 | -25.98 | 33.85 | 230.12 | 4.34 | MWD_M | None |
| 56 | 316.98 | 20.04 | 228.65 | 5.00 | 313.26 | 32.53 | -22.82 | -27.24 | 35.54 | 230.05 | 4.08 | MWD_M | None |
| 57 | 321.98 | 20.68 | 228.71 | 5.00 | 317.95 | 34.26 | -23.97 | -28.55 | 37.28 | 229.98 | 3.90 | MWD_M | None |
| 58 | 326.98 | 21.30 | 228.74 | 5.00 | 322.62 | 36.05 | -25.15 | -29.89 | 39.07 | 229.93 | 3.78 | MWD_M | None |
| 59 | 331.98 | 21.91 | 228.78 | 5.00 | 327.27 | 37.88 | -26.36 | -31.28 | 40.91 | 229.87 | 3.72 | MWD_M | None |
| 60 | 336.98 | 22.48 | 228.79 | 5.00 | 331.90 | 39.76 | -27.61 | -32.70 | 42.80 | 229.83 | 3.47 | MWD_M | None |
| 61 | 341.98 | 23.12 | 228.76 | 5.00 | 336.51 | 41.68 | -28.88 | -34.16 | 44.73 | 229.78 | 3.90 | MWD_M | None |
| 62 | 346.98 | 23.74 | 228.82 | 5.00 | 341.10 | 43.66 | -30.19 | -35.65 | 46.72 | 229.74 | 3.78 | MWD_M | None |
| 63 | 351.98 | 24.36 | 228.85 | 5.00 | 345.66 | 45.69 | -31.54 | -37.19 | 48.76 | 229.70 | 3.78 | MWD_M | None |
| 64 | 356.98 | 25.01 | 228.93 | 5.00 | 350.20 | 47.77 | -32.91 | -38.76 | 50.85 | 229.67 | 3.97 | MWD_M | None |
| 65 | 361.98 | 25.69 | 228.95 | 5.00 | 354.72 | 49.89 | -34.31 | -40.37 | 52.99 | 229.64 | 4.15 | MWD_M | None |
| 66 | 366.98 | 26.33 | 229.04 | 5.00 | 359.22 | 52.07 | -35.75 | -42.03 | 55.18 | 229.61 | 3.91 | MWD_M | None |
| 67 | 371.98 | 26.95 | 229.13 | 5.00 | 363.69 | 54.30 | -37.22 | -43.72 | 57.42 | 229.59 | 3.79 | MWD_M | None |
| 68 | 376.98 | 27.50 | 229.13 | 5.00 | 368.13 | 56.58 | -38.72 | -45.45 | 59.71 | 229.57 | 3.35 | MWD_M | None |
| 69 | 381.98 | 28.03 | 229.19 | 5.00 | 372.56 | 58.89 | -40.24 | -47.21 | 62.04 | 229.56 | 3.24 | MWD_M | None |
| 70 | 386.98 | 28.52 | 229.25 | 5.00 | 376.96 | 61.25 | -41.79 | -49.01 | 64.41 | 229.55 | 2.99 | MWD_M | None |
| 71 | 391.98 | 28.98 | 229.40 | 5.00 | 381.34 | 63.64 | -43.36 | -50.83 | 66.81 | 229.54 | 2.84 | MWD_M | None |
| 72 | 396.98 | 29.44 | 229.42 | 5.00 | 385.71 | 66.06 | -44.94 | -52.68 | 69.25 | 229.53 | 2.80 | MWD_M | None |
| 73 | 401.98 | 29.82 | 229.46 | 5.00 | 390.05 | 68.52 | -46.55 | -54.56 | 71.72 | 229.53 | 2.32 | MWD_M | None |
| 74 | 406.98 | 30.28 | 229.38 | 5.00 | 394.38 | 71.01 | -48.18 | -56.46 | 74.23 | 229.53 | 2.81 | MWD_M | None |
| 75 | 411.98 | 30.75 | 229.34 | 5.00 | 398.69 | 73.53 | -49.83 | -58.39 | 76.76 | 229.52 | 2.87 | MWD_M | None |
| 76 | 416.98 | 31.21 | 229.47 | 5.00 | 402.98 | 76.09 | -51.51 | -60.35 | 79.34 | 229.52 | 2.83 | MWD_M | None |
| 77 | 421.98 | 31.67 | 229.52 | 5.00 | 407.24 | 78.68 | -53.20 | -62.33 | 81.95 | 229.52 | 2.81 | MWD_M | None |
| 78 | 426.98 | 32.14 | 229.46 | 5.00 | 411.49 | 81.30 | -54.92 | -64.34 | 84.59 | 229.52 | 2.87 | MWD_M | None |
| 79 | 431.98 | 32.64 | 229.45 | 5.00 | 415.71 | 83.96 | -56.66 | -66.37 | 87.27 | 229.51 | 3.05 | MWD_M | None |
| 80 | 436.98 | 33.12 | 229.59 | 5.00 | 419.91 | 86.66 | -58.42 | -68.44 | 89.98 | 229.51 | 2.96 | MWD_M | None |
| 81 | 441.98 | 33.60 | 229.64 | 5.00 | 424.08 | 89.39 | -60.20 | -70.53 | 92.73 | 229.52 | 2.93 | MWD_M | None |
| 82 | 446.98 | 34.09 | 229.66 | 5.00 | 428.24 | 92.16 | -62.01 | -72.65 | 95.52 | 229.52 | 2.99 | MWD_M | None |
| 83 | 451.98 | 34.63 | 229.69 | 5.00 | 432.36 | 94.96 | -63.83 | -74.81 | 98.34 | 229.53 | 3.29 | MWD_M | None |
| 84 | 456.98 | 35.17 | 229.58 | 5.00 | 436.46 | 97.80 | -65.69 | -76.98 | 101.20 | 229.53 | 3.31 | MWD_M | None |
| 85 | 461.98 | 35.72 | 229.51 | 5.00 | 440.54 | 100.68 | -67.57 | -79.19 | 104.10 | 229.53 | 3.36 | MWD_M | None |
| 86 | 466.98 | 36.31 | 229.64 | 5.00 | 444.58 | 103.60 | -69.47 | -81.43 | 107.04 | 229.53 | 3.63 | MWD_M | None |
| 87 | 471.98 | 36.92 | 229.73 | 5.00 | 448.60 | 106.56 | -71.40 | -83.70 | 110.02 | 229.53 | 3.73 | MWD_M | None |
| 88 | 476.98 | 37.48 | 229.76 | 5.00 | 452.58 | 109.56 | -73.36 | -86.01 | 113.04 | 229.54 | 3.42 | MWD_M | None |
| 89 | 481.98 | 37.99 | 229.72 | 5.00 | 456.53 | 112.60 | -75.33 | -88.35 | 116.10 | 229.55 | 3.11 | MWD_M | None |
| 90 | 486.98 | 38.59 | 229.71 | 5.00 | 460.46 | 115.68 | -77.34 | -90.71 | 119.20 | 229.55 | 3.66 | MWD_M | None |
| 91 | 491.98 | 39.34 | 229.64 | 5.00 | 464.34 | 118.80 | -79.37 | -93.11 | 122.35 | 229.55 | 4.58 | MWD_M | None |
| 92 | 496.98 | 40.05 | 229.66 | 5.00 | 468.19 | 121.97 | -81.44 | -95.54 | 125.54 | 229.56 | 4.33 | MWD_M | None |
| 93 | 501.98 | 40.71 | 229.70 | 5.00 | 472.00 | 125.19 | -83.53 | -98.01 | 128.78 | 229.56 | 4.03 | MWD_M | None |
| 94 | 506.98 | 41.53 | 229.68 | 5.00 | 475.77 | 128.45 | -85.66 | -100.52 | 132.07 | 229.56 | 5.00 | MWD_M | None |
| 95 | 511.98 | 42.30 | 229.73 | 5.00 | 479.49 | 131.77 | -87.82 | -103.06 | 135.41 | 229.57 | 4.70 | MWD_M | None |
| 96 | 516.98 | 43.13 | 229.67 | 5.00 | 483.16 | 135.14 | -90.02 | -105.65 | 138.80 | 229.57 | 5.07 | MWD_M | None |
| 97 | 521.98 | 43.89 | 229.72 | 5.00 | 486.79 | 138.56 | -92.24 | -108.28 | 142.24 | 229.57 | 4.64 | MWD_M | None |
| 98 | 526.98 | 44.69 | 229.74 | 5.00 | 490.37 | 142.02 | -94.50 | -110.94 | 145.73 | 229.58 | 4.88 | MWD_M | None |
| 99 | 531.98 | 45.45 | 229.77 | 5.00 | 493.90 | 145.54 | -96.79 | -113.64 | 149.27 | 229.58 | 4.63 | MWD_M | None |
| 100 | 536.98 | 46.22 | 229.85 | 5.00 | 497.38 | 149.10 | -99.10 | -116.38 | 152.86 | 229.59 | 4.71 | MWD_M | None |
| 101 | 541.98 | 46.87 | 229.97 | 5.00 | 500.82 | 152.70 | -101.44 | -119.16 | 156.49 | 229.59 | 4.00 | MWD_M | None |
| 102 | 546.98 | 47.64 | 229.94 | 5.00 | 504.21 | 156.35 | -103.80 | -121.97 | 160.16 | 229.60 | 4.70 | MWD_M | None |

| | | | | | | | | | | | | | |
|-----|---------|-------|--------|-------|--------|--------|---------|---------|--------|--------|-------|-------|------|
| 103 | 551.98 | 48.34 | 229.87 | 5.00 | 507.56 | 160.03 | -106.19 | -124.81 | 163.88 | 229.61 | 4.28 | MWD_M | None |
| 104 | 556.98 | 49.03 | 230.00 | 5.00 | 510.86 | 163.76 | -108.61 | -127.69 | 167.63 | 229.62 | 4.25 | MWD_M | None |
| 105 | 561.98 | 49.60 | 230.01 | 5.00 | 514.12 | 167.52 | -111.05 | -130.59 | 171.42 | 229.62 | 3.48 | MWD_M | None |
| | | | | | | | | | | | | | |
| 106 | 566.98 | 50.07 | 230.01 | 5.00 | 517.35 | 171.32 | -113.50 | -133.52 | 175.24 | 229.63 | 2.87 | MWD_M | None |
| 107 | 571.98 | 50.38 | 230.08 | 5.00 | 520.54 | 175.13 | -115.97 | -136.46 | 179.09 | 229.64 | 1.92 | MWD_M | None |
| 108 | 576.98 | 50.71 | 230.12 | 5.00 | 523.72 | 178.96 | -118.45 | -139.43 | 182.95 | 229.65 | 2.02 | MWD_M | None |
| 109 | 581.98 | 51.07 | 230.13 | 5.00 | 526.88 | 182.81 | -120.93 | -142.40 | 186.83 | 229.66 | 2.20 | MWD_M | None |
| 110 | 586.98 | 51.42 | 230.05 | 5.00 | 530.01 | 186.68 | -123.44 | -145.39 | 190.72 | 229.67 | 2.17 | MWD_M | None |
| | | | | | | | | | | | | | |
| 111 | 591.98 | 51.74 | 230.02 | 5.00 | 533.11 | 190.56 | -125.95 | -148.40 | 194.64 | 229.68 | 1.96 | MWD_M | None |
| 112 | 596.98 | 52.08 | 230.00 | 5.00 | 536.20 | 194.47 | -128.48 | -151.41 | 198.58 | 229.68 | 2.07 | MWD_M | None |
| 113 | 601.98 | 52.44 | 229.98 | 5.00 | 539.26 | 198.39 | -131.02 | -154.44 | 202.53 | 229.69 | 2.20 | MWD_M | None |
| 114 | 606.98 | 52.85 | 229.89 | 5.00 | 542.29 | 202.34 | -133.58 | -157.48 | 206.51 | 229.69 | 2.54 | MWD_M | None |
| 115 | 611.98 | 53.20 | 229.98 | 5.00 | 545.30 | 206.30 | -136.15 | -160.54 | 210.50 | 229.70 | 2.18 | MWD_M | None |
| | | | | | | | | | | | | | |
| 116 | 616.98 | 53.63 | 229.91 | 5.00 | 548.28 | 210.29 | -138.74 | -163.61 | 214.51 | 229.70 | 2.64 | MWD_M | None |
| 117 | 621.98 | 54.09 | 229.87 | 5.00 | 551.23 | 214.30 | -141.34 | -166.70 | 218.55 | 229.71 | 2.81 | MWD_M | None |
| 118 | 626.98 | 54.59 | 229.82 | 5.00 | 554.14 | 218.33 | -143.96 | -169.80 | 222.61 | 229.71 | 3.06 | MWD_M | None |
| 119 | 631.98 | 55.15 | 229.71 | 5.00 | 557.02 | 222.39 | -146.60 | -172.93 | 226.70 | 229.71 | 3.46 | MWD_M | None |
| 120 | 636.98 | 55.66 | 229.73 | 5.00 | 559.86 | 226.48 | -149.26 | -176.07 | 230.82 | 229.71 | 3.11 | MWD_M | None |
| | | | | | | | | | | | | | |
| 121 | 641.98 | 56.22 | 229.71 | 5.00 | 562.66 | 230.59 | -151.94 | -179.23 | 234.96 | 229.71 | 3.42 | MWD_M | None |
| 122 | 646.98 | 56.86 | 229.62 | 5.00 | 565.42 | 234.73 | -154.64 | -182.41 | 239.13 | 229.71 | 3.93 | MWD_M | None |
| 123 | 651.98 | 57.51 | 229.47 | 5.00 | 568.13 | 238.91 | -157.36 | -185.60 | 243.34 | 229.71 | 4.04 | MWD_M | None |
| 124 | 656.98 | 58.07 | 229.45 | 5.00 | 570.79 | 243.11 | -160.11 | -188.82 | 247.57 | 229.70 | 3.42 | MWD_M | None |
| 125 | 661.98 | 58.58 | 229.49 | 5.00 | 573.42 | 247.34 | -162.88 | -192.05 | 251.82 | 229.70 | 3.12 | MWD_M | None |
| | | | | | | | | | | | | | |
| 126 | 666.98 | 59.12 | 229.36 | 5.00 | 576.00 | 251.59 | -165.66 | -195.30 | 256.10 | 229.69 | 3.36 | MWD_M | None |
| 127 | 671.98 | 59.65 | 229.20 | 5.00 | 578.55 | 255.86 | -168.47 | -198.56 | 260.40 | 229.69 | 3.34 | MWD_M | None |
| 128 | 676.98 | 61.46 | 229.13 | 5.00 | 581.01 | 260.19 | -171.32 | -201.86 | 264.76 | 229.68 | 11.04 | MWD_M | None |
| 129 | 681.98 | 62.53 | 228.98 | 5.00 | 583.35 | 264.58 | -174.21 | -205.19 | 269.17 | 229.67 | 6.57 | MWD_M | None |
| 130 | 686.98 | 62.08 | 228.89 | 5.00 | 585.68 | 268.99 | -177.12 | -208.53 | 273.60 | 229.66 | 2.79 | MWD_M | None |
| | | | | | | | | | | | | | |
| 131 | 691.98 | 62.38 | 228.87 | 5.00 | 588.01 | 273.39 | -180.03 | -211.86 | 278.02 | 229.64 | 1.83 | MWD_M | None |
| 132 | 696.98 | 62.97 | 228.86 | 5.00 | 590.30 | 277.80 | -182.95 | -215.21 | 282.46 | 229.63 | 3.60 | MWD_M | None |
| 133 | 701.98 | 63.49 | 228.85 | 5.00 | 592.56 | 282.24 | -185.89 | -218.57 | 286.93 | 229.62 | 3.17 | MWD_M | None |
| 134 | 706.98 | 64.01 | 228.88 | 5.00 | 594.77 | 286.70 | -188.84 | -221.95 | 291.41 | 229.61 | 3.17 | MWD_M | None |
| 135 | 711.98 | 63.74 | 229.00 | 5.00 | 596.97 | 291.17 | -191.79 | -225.33 | 295.90 | 229.60 | 1.77 | MWD_M | None |
| | | | | | | | | | | | | | |
| 136 | 716.98 | 64.20 | 229.24 | 5.00 | 599.16 | 295.64 | -194.73 | -228.73 | 300.39 | 229.59 | 3.10 | MWD_M | None |
| 137 | 721.98 | 66.54 | 229.69 | 5.00 | 601.25 | 300.15 | -197.68 | -232.18 | 304.94 | 229.59 | 14.48 | MWD_M | None |
| 138 | 726.98 | 66.41 | 230.21 | 5.00 | 603.24 | 304.70 | -200.63 | -235.69 | 309.52 | 229.59 | 3.01 | MWD_M | None |
| 139 | 731.98 | 67.11 | 230.69 | 5.00 | 605.21 | 309.26 | -203.55 | -239.24 | 314.12 | 229.61 | 5.04 | MWD_M | None |
| 140 | 736.98 | 66.29 | 231.14 | 5.00 | 607.19 | 313.80 | -206.45 | -242.80 | 318.71 | 229.63 | 5.60 | MWD_M | None |
| | | | | | | | | | | | | | |
| 141 | 741.98 | 66.73 | 231.72 | 5.00 | 609.19 | 318.34 | -209.31 | -246.39 | 323.29 | 229.65 | 4.21 | MWD_M | None |
| 142 | 746.98 | 66.99 | 232.33 | 5.00 | 611.15 | 322.88 | -212.14 | -250.01 | 327.88 | 229.68 | 3.77 | MWD_M | None |
| 143 | 751.98 | 66.05 | 233.16 | 5.00 | 613.14 | 327.40 | -214.91 | -253.66 | 332.46 | 229.73 | 7.37 | MWD_M | None |
| 144 | 756.98 | 65.58 | 234.19 | 5.00 | 615.19 | 331.88 | -217.62 | -257.33 | 337.01 | 229.78 | 6.40 | MWD_M | None |
| 145 | 761.98 | 63.99 | 235.32 | 5.00 | 617.32 | 336.31 | -220.23 | -261.03 | 341.52 | 229.85 | 11.52 | MWD_M | None |
| | | | | | | | | | | | | | |
| 146 | 766.98 | 63.80 | 236.33 | 5.00 | 619.52 | 340.68 | -222.75 | -264.74 | 345.99 | 229.92 | 5.65 | MWD_M | None |
| 147 | 771.98 | 63.66 | 237.08 | 5.00 | 621.73 | 345.04 | -225.21 | -268.49 | 350.44 | 230.01 | 4.19 | MWD_M | None |
| 148 | 776.98 | 63.71 | 237.52 | 5.00 | 623.95 | 349.38 | -227.63 | -272.26 | 354.88 | 230.10 | 2.42 | MWD_M | None |
| 149 | 781.98 | 63.63 | 237.58 | 5.00 | 626.17 | 353.71 | -230.04 | -276.04 | 359.33 | 230.19 | 0.59 | MWD_M | None |
| 150 | 786.98 | 64.25 | 237.59 | 5.00 | 628.36 | 358.06 | -232.44 | -279.84 | 363.78 | 230.29 | 3.78 | MWD_M | None |
| | | | | | | | | | | | | | |
| 151 | 791.98 | 64.09 | 237.61 | 5.00 | 630.54 | 362.41 | -234.85 | -283.64 | 368.25 | 230.37 | 0.98 | MWD_M | None |
| 152 | 796.98 | 64.73 | 237.63 | 5.00 | 632.70 | 366.78 | -237.27 | -287.44 | 372.72 | 230.46 | 3.90 | MWD_M | None |
| 153 | 801.98 | 65.08 | 237.59 | 5.00 | 634.82 | 371.16 | -239.70 | -291.27 | 377.21 | 230.55 | 2.14 | MWD_M | None |
| 154 | 806.98 | 65.42 | 237.57 | 5.00 | 636.92 | 375.55 | -242.13 | -295.10 | 381.72 | 230.63 | 2.08 | MWD_M | None |
| 155 | 811.98 | 65.16 | 237.55 | 5.00 | 639.01 | 379.94 | -244.57 | -298.93 | 386.23 | 230.71 | 1.59 | MWD_M | None |
| | | | | | | | | | | | | | |
| 156 | 816.98 | 65.13 | 237.47 | 5.00 | 641.11 | 384.33 | -247.00 | -302.76 | 390.74 | 230.79 | 0.48 | MWD_M | None |
| 157 | 818.00 | 65.15 | 237.47 | 1.02 | 641.54 | 385.23 | -247.50 | -303.54 | 391.66 | 230.81 | 0.60 | MWD_M | None |
| 158 | 825.33 | 66.85 | 236.89 | 7.33 | 644.52 | 391.72 | -251.13 | -309.17 | 398.31 | 230.91 | 7.40 | MWD_M | None |
| 159 | 844.01 | 67.54 | 235.57 | 18.68 | 651.76 | 408.48 | -260.70 | -323.48 | 415.46 | 231.13 | 2.28 | MWD_M | None |
| 160 | 934.88 | 72.09 | 232.69 | 90.87 | 683.11 | 492.12 | -310.68 | -392.55 | 500.62 | 231.64 | 1.78 | MWD_M | None |
| | | | | | | | | | | | | | |
| 161 | 964.33 | 73.97 | 231.11 | 29.45 | 691.71 | 519.94 | -328.06 | -414.71 | 528.78 | 231.65 | 2.50 | MWD_M | None |
| 162 | 993.65 | 75.85 | 229.32 | 29.32 | 699.34 | 548.02 | -346.18 | -436.46 | 557.08 | 231.58 | 2.65 | MWD_M | None |
| 163 | 1022.61 | 78.51 | 227.17 | 28.96 | 705.77 | 576.13 | -364.98 | -457.52 | 585.27 | 231.42 | 3.56 | MWD_M | None |
| 164 | 1051.74 | 79.96 | 224.41 | 29.13 | 711.21 | 604.71 | -384.94 | -478.03 | 613.75 | 231.16 | 3.22 | MWD_M | None |
| 165 | 1080.99 | 80.88 | 221.07 | 29.25 | 716.08 | 633.54 | -406.12 | -497.60 | 642.29 | 230.78 | 3.56 | MWD_M | None |
| | | | | | | | | | | | | | |
| 166 | 1109.77 | 81.36 | 218.53 | 28.78 | 720.52 | 661.93 | -427.96 | -515.80 | 670.23 | 230.32 | 2.71 | MWD_M | None |
| 167 | 1139.06 | 81.18 | 218.70 | 29.29 | 724.97 | 690.80 | -450.58 | -533.87 | 698.60 | 229.84 | 0.26 | MWD_M | None |
| 168 | 1168.54 | 81.15 | 219.37 | 29.48 | 729.49 | 719.86 | -473.21 | -552.22 | 727.23 | 229.41 | 0.69 | MWD_M | None |
| 169 | 1197.52 | 81.19 | 220.70 | 28.98 | 733.94 | 748.46 | -495.13 | -570.64 | 755.50 | 229.05 | 1.38 | MWD_M | None |
| 170 | 1226.81 | 81.37 | 221.45 | 29.29 | 738.38 | 777.40 | -516.96 | -589.66 | 784.18 | 228.76 | 0.79 | MWD_M | None |
| | | | | | | | | | | | | | |
| 171 | 1256.11 | 81.22 | 220.88 | 29.30 | 742.82 | 806.35 | -538.76 | -608.72 | 812.90 | 228.49 | 0.61 | MWD_M | None |
| 172 | 1286.01 | 81.22 | 220.82 | 29.90 | 747.38 | 835.88 | -561.11 | -628.05 | 842.20 | 228.22 | 0.06 | MWD_M | None |
| 173 | 1314.74 | 80.98 | 220.55 | 28.73 | 751.83 | 864.24 | -582.64 | -646.55 | 870.34 | 227.98 | 0.38 | MWD_M | None |
| 174 | 1342.72 | 81.24 | 219.97 | 27.98 | 756.15 | 891.85 | -603.73 | -664.42 | 897.75 | 227.74 | 0.69 | MWD_M | None |
| 175 | 1368.44 | 81.53 | 219.81 | 25.72 | 760.00 | | | | | | | | |

| | | | | | | | | | | | | | |
|-----|---------|-------|--------|-------|---------|---------|----------|----------|---------|--------|------|-------|------|
| 183 | 1605.64 | 80.15 | 220.46 | 29.41 | 798.14 | 1151.10 | -801.96 | -831.94 | 1155.54 | 226.05 | 0.73 | MWD_M | None |
| 184 | 1634.87 | 80.32 | 220.54 | 29.23 | 803.09 | 1179.88 | -823.87 | -850.65 | 1184.22 | 225.92 | 0.20 | MWD_M | None |
| 185 | 1663.67 | 80.73 | 221.96 | 28.80 | 807.84 | 1208.27 | -845.23 | -869.38 | 1212.53 | 225.81 | 1.54 | MWD_M | None |
| | | | | | | | | | | | | | |
| 186 | 1693.30 | 80.64 | 221.29 | 29.63 | 812.63 | 1237.50 | -867.08 | -888.80 | 1241.69 | 225.71 | 0.69 | MWD_M | None |
| 187 | 1721.76 | 80.72 | 220.31 | 28.46 | 817.24 | 1265.57 | -888.34 | -907.15 | 1269.68 | 225.60 | 1.04 | MWD_M | None |
| 188 | 1750.85 | 80.65 | 220.10 | 29.09 | 821.95 | 1294.24 | -910.27 | -925.68 | 1298.26 | 225.48 | 0.23 | MWD_M | None |
| 189 | 1778.12 | 80.57 | 219.58 | 27.27 | 826.40 | 1321.11 | -930.92 | -942.92 | 1325.04 | 225.37 | 0.58 | MWD_M | None |
| 190 | 1808.70 | 80.38 | 219.55 | 30.58 | 831.46 | 1351.21 | -954.17 | -962.13 | 1355.04 | 225.24 | 0.19 | MWD_M | None |
| | | | | | | | | | | | | | |
| 191 | 1838.39 | 80.83 | 220.24 | 29.69 | 836.31 | 1380.46 | -976.65 | -980.92 | 1384.21 | 225.13 | 0.84 | MWD_M | None |
| 192 | 1867.48 | 80.28 | 220.10 | 29.09 | 841.08 | 1409.13 | -998.57 | -999.43 | 1412.80 | 225.02 | 0.59 | MWD_M | None |
| 193 | 1896.95 | 80.70 | 221.42 | 29.47 | 845.95 | 1438.17 | -1020.59 | -1018.40 | 1441.79 | 224.94 | 1.41 | MWD_M | None |
| 194 | 1925.66 | 81.13 | 222.12 | 28.71 | 850.48 | 1466.51 | -1041.73 | -1037.29 | 1470.09 | 224.88 | 0.86 | MWD_M | None |
| 195 | 1953.25 | 80.70 | 221.87 | 27.59 | 854.84 | 1493.75 | -1061.98 | -1055.52 | 1497.30 | 224.83 | 0.55 | MWD_M | None |
| | | | | | | | | | | | | | |
| 196 | 1983.62 | 81.07 | 221.75 | 30.37 | 859.65 | 1523.73 | -1084.33 | -1075.51 | 1527.25 | 224.77 | 0.39 | MWD_M | None |
| 197 | 2012.53 | 80.93 | 221.32 | 28.91 | 864.17 | 1552.28 | -1105.70 | -1094.44 | 1555.76 | 224.71 | 0.47 | MWD_M | None |
| 198 | 2042.33 | 80.87 | 221.97 | 29.80 | 868.89 | 1581.70 | -1127.69 | -1113.99 | 1585.14 | 224.65 | 0.66 | MWD_M | None |
| 199 | 2072.85 | 80.93 | 221.91 | 30.52 | 873.71 | 1611.83 | -1150.11 | -1134.14 | 1615.24 | 224.60 | 0.08 | MWD_M | None |
| 200 | 2101.05 | 80.96 | 222.26 | 28.20 | 878.15 | 1639.67 | -1170.78 | -1152.80 | 1643.07 | 224.56 | 0.37 | MWD_M | None |
| | | | | | | | | | | | | | |
| 201 | 2130.10 | 80.70 | 222.11 | 29.05 | 882.78 | 1668.35 | -1192.03 | -1172.06 | 1671.72 | 224.52 | 0.31 | MWD_M | None |
| 202 | 2158.30 | 80.73 | 221.62 | 28.20 | 887.33 | 1696.18 | -1212.75 | -1190.93 | 1699.52 | 224.47 | 0.52 | MWD_M | None |
| 203 | 2187.92 | 80.47 | 221.13 | 29.62 | 892.17 | 1725.39 | -1234.68 | -1209.95 | 1728.70 | 224.42 | 0.56 | MWD_M | None |
| 204 | 2216.87 | 80.29 | 220.82 | 28.95 | 897.01 | 1753.91 | -1256.23 | -1228.66 | 1757.19 | 224.36 | 0.37 | MWD_M | None |
| 205 | 2246.30 | 80.58 | 220.42 | 29.43 | 901.90 | 1782.91 | -1278.26 | -1247.56 | 1786.15 | 224.30 | 0.51 | MWD_M | None |
| | | | | | | | | | | | | | |
| 206 | 2275.82 | 80.41 | 220.26 | 29.52 | 906.77 | 1812.00 | -1300.45 | -1266.40 | 1815.20 | 224.24 | 0.24 | MWD_M | None |
| 207 | 2304.97 | 80.52 | 219.89 | 29.15 | 911.60 | 1840.71 | -1322.45 | -1284.91 | 1843.87 | 224.18 | 0.40 | MWD_M | None |
| 208 | 2334.71 | 80.58 | 220.07 | 29.74 | 916.48 | 1870.01 | -1344.93 | -1303.76 | 1873.13 | 224.11 | 0.19 | MWD_M | None |
| 209 | 2363.60 | 80.32 | 220.65 | 28.89 | 921.28 | 1898.47 | -1366.64 | -1322.21 | 1901.56 | 224.05 | 0.66 | MWD_M | None |
| 210 | 2391.27 | 80.31 | 220.78 | 27.67 | 925.93 | 1925.72 | -1387.31 | -1340.00 | 1928.79 | 224.01 | 0.14 | MWD_M | None |
| | | | | | | | | | | | | | |
| 211 | 2422.94 | 80.52 | 221.30 | 31.67 | 931.20 | 1956.93 | -1410.86 | -1360.51 | 1959.98 | 223.96 | 0.53 | MWD_M | None |
| 212 | 2450.47 | 80.82 | 221.00 | 27.53 | 935.67 | 1984.08 | -1431.32 | -1378.38 | 1987.11 | 223.92 | 0.47 | MWD_M | None |
| 213 | 2480.06 | 80.93 | 220.99 | 29.59 | 940.36 | 2013.28 | -1453.37 | -1397.55 | 2016.29 | 223.88 | 0.11 | MWD_M | None |
| 214 | 2510.37 | 81.02 | 220.91 | 30.31 | 945.11 | 2043.20 | -1475.98 | -1417.17 | 2046.19 | 223.84 | 0.12 | MWD_M | None |
| 215 | 2537.19 | 80.76 | 221.32 | 26.82 | 949.36 | 2069.67 | -1495.93 | -1434.58 | 2072.64 | 223.80 | 0.55 | MWD_M | None |
| | | | | | | | | | | | | | |
| 216 | 2567.88 | 80.26 | 221.91 | 30.69 | 954.42 | 2099.93 | -1518.56 | -1454.68 | 2102.89 | 223.77 | 0.76 | MWD_M | None |
| 217 | 2595.87 | 80.60 | 221.41 | 27.99 | 959.07 | 2127.52 | -1539.18 | -1473.03 | 2130.47 | 223.74 | 0.65 | MWD_M | None |
| 218 | 2624.74 | 80.58 | 222.25 | 28.87 | 963.79 | 2156.00 | -1560.40 | -1492.02 | 2158.93 | 223.72 | 0.88 | MWD_M | None |
| 219 | 2654.71 | 80.64 | 222.52 | 29.97 | 968.68 | 2185.57 | -1582.24 | -1511.96 | 2188.49 | 223.70 | 0.28 | MWD_M | None |
| 220 | 2683.77 | 80.82 | 222.05 | 29.06 | 973.37 | 2214.25 | -1603.46 | -1531.25 | 2217.17 | 223.68 | 0.52 | MWD_M | None |
| | | | | | | | | | | | | | |
| 221 | 2712.74 | 80.67 | 221.95 | 28.97 | 978.02 | 2242.83 | -1624.71 | -1550.38 | 2245.75 | 223.66 | 0.19 | MWD_M | None |
| 222 | 2742.20 | 80.67 | 220.94 | 29.46 | 982.80 | 2271.89 | -1646.50 | -1569.63 | 2274.79 | 223.63 | 1.03 | MWD_M | None |
| 223 | 2772.49 | 80.95 | 220.30 | 30.29 | 987.64 | 2301.77 | -1669.20 | -1589.09 | 2304.65 | 223.59 | 0.70 | MWD_M | None |
| 224 | 2800.58 | 80.86 | 220.32 | 28.09 | 992.08 | 2329.48 | -1690.35 | -1607.04 | 2332.35 | 223.55 | 0.10 | MWD_M | None |
| 225 | 2829.67 | 80.81 | 219.94 | 29.09 | 996.71 | 2358.16 | -1712.31 | -1625.55 | 2361.01 | 223.51 | 0.40 | MWD_M | None |
| | | | | | | | | | | | | | |
| 226 | 2858.19 | 80.90 | 220.73 | 28.52 | 1001.25 | 2386.29 | -1733.77 | -1643.77 | 2389.13 | 223.47 | 0.84 | MWD_M | None |
| 227 | 2887.36 | 80.86 | 220.63 | 29.17 | 1005.87 | 2415.07 | -1755.61 | -1662.54 | 2417.90 | 223.44 | 0.11 | MWD_M | None |
| 228 | 2916.76 | 80.84 | 221.21 | 29.40 | 1010.54 | 2444.08 | -1777.54 | -1681.56 | 2446.89 | 223.41 | 0.59 | MWD_M | None |
| 229 | 2945.85 | 80.61 | 221.74 | 29.09 | 1015.23 | 2472.78 | -1799.05 | -1700.57 | 2475.59 | 223.39 | 0.60 | MWD_M | None |
| 230 | 2975.36 | 80.16 | 222.19 | 29.51 | 1020.16 | 2501.87 | -1820.69 | -1720.03 | 2504.67 | 223.37 | 0.65 | MWD_M | None |
| | | | | | | | | | | | | | |
| 231 | 3003.97 | 80.25 | 221.72 | 28.61 | 1025.03 | 2530.06 | -1841.65 | -1738.87 | 2532.86 | 223.36 | 0.50 | MWD_M | None |
| 232 | 3033.50 | 79.77 | 222.24 | 29.53 | 1030.15 | 2559.14 | -1863.27 | -1758.33 | 2561.93 | 223.34 | 0.72 | MWD_M | None |
| 233 | 3062.62 | 79.77 | 221.55 | 29.12 | 1035.32 | 2587.79 | -1884.60 | -1777.46 | 2590.58 | 223.32 | 0.71 | MWD_M | None |
| 234 | 3091.61 | 79.54 | 222.28 | 28.99 | 1040.53 | 2616.30 | -1905.83 | -1796.51 | 2619.09 | 223.31 | 0.79 | MWD_M | None |
| 235 | 3120.91 | 79.71 | 222.33 | 29.30 | 1045.81 | 2645.12 | -1927.14 | -1815.91 | 2647.91 | 223.30 | 0.18 | MWD_M | None |
| | | | | | | | | | | | | | |
| 236 | 3149.93 | 80.58 | 222.12 | 29.02 | 1050.77 | 2673.71 | -1948.31 | -1835.13 | 2676.49 | 223.29 | 0.94 | MWD_M | None |
| 237 | 3178.97 | 80.73 | 222.47 | 29.04 | 1055.49 | 2702.36 | -1969.51 | -1854.41 | 2705.14 | 223.28 | 0.40 | MWD_M | None |
| 238 | 3208.02 | 81.60 | 222.14 | 29.05 | 1059.95 | 2731.07 | -1990.74 | -1873.73 | 2733.84 | 223.27 | 0.97 | MWD_M | None |
| 239 | 3237.27 | 81.02 | 221.67 | 29.25 | 1064.37 | 2759.98 | -2012.26 | -1893.04 | 2762.75 | 223.25 | 0.77 | MWD_M | None |
| 240 | 3266.58 | 80.75 | 221.14 | 29.31 | 1069.01 | 2788.91 | -2033.96 | -1912.18 | 2791.68 | 223.23 | 0.61 | MWD_M | None |
| | | | | | | | | | | | | | |
| 241 | 3295.91 | 80.38 | 220.73 | 29.33 | 1073.82 | 2817.82 | -2055.82 | -1931.14 | 2820.59 | 223.21 | 0.57 | MWD_M | None |
| 242 | 3324.75 | 80.81 | 220.45 | 28.84 | 1078.53 | 2846.25 | -2077.43 | -1949.65 | 2849.01 | 223.18 | 0.54 | MWD_M | None |
| 243 | 3354.19 | 80.76 | 220.25 | 29.44 | 1083.25 | 2875.28 | -2099.57 | -1968.47 | 2878.03 | 223.15 | 0.21 | MWD_M | None |
| 244 | 3383.34 | 81.16 | 220.52 | 29.15 | 1087.83 | 2904.04 | -2121.50 | -1987.12 | 2906.79 | 223.13 | 0.50 | MWD_M | None |
| 245 | 3411.85 | 80.90 | 220.17 | 28.51 | 1092.27 | 2932.17 | -2142.97 | -2005.35 | 2934.92 | 223.10 | 0.46 | MWD_M | None |
| | | | | | | | | | | | | | |
| 246 | 3441.10 | 80.72 | 219.86 | 29.25 | 1096.94 | 2961.01 | -2165.08 | -2023.92 | 2963.75 | 223.07 | 0.37 | MWD_M | None |
| 247 | 3471.00 | 80.32 | 220.93 | 29.90 | 1101.87 | 2990.47 | -2187.54 | -2043.03 | 2993.21 | 223.04 | 1.15 | MWD_M | None |
| 248 | 3499.53 | 81.08 | 221.49 | 28.53 | 1106.48 | 3018.62 | -2208.72 | -2061.58 | 3021.35 | 223.03 | 1.00 | MWD_M | None |
| 249 | 3526.72 | 80.72 | 221.36 | 27.19 | 1110.78 | 3045.45 | -2228.85 | -2079.34 | 3048.19 | 223.01 | 0.43 | MWD_M | None |
| 250 | 3558.23 | 80.67 | 220.79 | 31.51 | 1115.88 | 3076.53 | -2252.29 | -2099.77 | 3079.26 | 222.99 | 0.55 | MWD_M | None |
| | | | | | | | | | | | | | |
| 251 | 3586.63 | 80.64 | 221.34 | 28.40 | 1120.49 | 3104.54 | -2273.42 | -2118.18 | 3107.27 | 222.98 | 0.58 | MWD | |

| | | | | | | | | | | | | | |
|-----|---------|-------|--------|-------|---------|---------|----------|----------|---------|--------|------|--------------|------|
| 262 | 3907.65 | 57.84 | 220.86 | 29.17 | 1218.54 | 3407.30 | -2502.26 | -2316.69 | 3410.04 | 222.79 | 3.36 | MWD_M | None |
| 263 | 3936.40 | 54.67 | 221.73 | 28.75 | 1234.51 | 3431.19 | -2520.22 | -2332.46 | 3433.93 | 222.78 | 3.45 | MWD_M | None |
| 264 | 3965.37 | 51.73 | 222.11 | 28.97 | 1251.86 | 3454.38 | -2537.48 | -2347.95 | 3457.12 | 222.78 | 3.11 | MWD_M | None |
| 265 | 3995.09 | 48.94 | 222.61 | 29.72 | 1270.83 | 3477.26 | -2554.39 | -2363.37 | 3480.00 | 222.78 | 2.89 | MWD_M | None |
| 266 | 4016.94 | 47.73 | 222.56 | 21.85 | 1285.36 | 3493.58 | -2566.41 | -2374.41 | 3496.32 | 222.77 | 1.69 | MWD_M | None |
| 267 | 4041.42 | 47.23 | 222.59 | 24.48 | 1301.90 | 3511.62 | -2579.69 | -2386.62 | 3514.37 | 222.77 | 0.62 | PUP | None |
| 268 | 4067.92 | 45.79 | 221.18 | 26.50 | 1320.14 | 3530.84 | -2594.00 | -2399.45 | 3533.59 | 222.77 | 2.03 | MWD_M | None |
| 269 | 4097.13 | 41.11 | 219.89 | 29.21 | 1341.34 | 3550.91 | -2609.26 | -2412.51 | 3553.65 | 222.76 | 4.97 | MWD_M | None |
| 270 | 4126.20 | 39.29 | 219.11 | 29.07 | 1363.54 | 3569.64 | -2623.74 | -2424.45 | 3572.39 | 222.74 | 1.98 | MWD_M | None |
| 271 | 4155.65 | 37.03 | 218.71 | 29.45 | 1386.70 | 3587.79 | -2637.89 | -2435.88 | 3590.54 | 222.72 | 2.35 | MWD_M | None |
| 272 | 4184.64 | 35.46 | 219.52 | 28.99 | 1410.08 | 3604.89 | -2651.19 | -2446.69 | 3607.65 | 222.70 | 1.73 | MWD_M | None |
| 273 | 4214.31 | 35.68 | 220.61 | 29.67 | 1434.21 | 3622.13 | -2664.40 | -2457.80 | 3624.89 | 222.69 | 0.69 | MWD_M | None |
| 274 | 4243.31 | 35.95 | 221.23 | 29.00 | 1457.73 | 3639.08 | -2677.22 | -2468.91 | 3641.85 | 222.68 | 0.48 | MWD_M | None |
| 275 | 4272.77 | 36.06 | 220.84 | 29.46 | 1481.56 | 3656.39 | -2690.29 | -2480.28 | 3659.16 | 222.67 | 0.26 | MWD_M | None |
| 276 | 4301.99 | 36.16 | 220.59 | 29.22 | 1505.17 | 3673.60 | -2703.34 | -2491.52 | 3676.37 | 222.67 | 0.19 | MWD_M | None |
| 277 | 4331.45 | 36.23 | 221.07 | 29.46 | 1528.94 | 3690.99 | -2716.50 | -2502.89 | 3693.76 | 222.66 | 0.30 | MWD_M | None |
| 278 | 4360.49 | 35.20 | 221.86 | 29.04 | 1552.52 | 3707.93 | -2729.21 | -2514.12 | 3710.71 | 222.65 | 1.18 | MWD_M | None |
| 279 | 4389.93 | 34.64 | 223.09 | 29.44 | 1576.66 | 3724.78 | -2741.64 | -2525.49 | 3727.56 | 222.65 | 0.93 | MWD_M | None |
| 280 | 4419.22 | 34.97 | 222.89 | 29.29 | 1600.71 | 3741.50 | -2753.86 | -2536.89 | 3744.28 | 222.65 | 0.36 | MWD_M | None |
| 281 | 4448.36 | 36.43 | 221.56 | 29.14 | 1624.37 | 3758.50 | -2766.46 | -2548.32 | 3761.28 | 222.65 | 1.73 | MWD_M | None |
| 282 | 4477.64 | 37.00 | 220.81 | 29.28 | 1647.84 | 3776.00 | -2779.63 | -2559.84 | 3778.78 | 222.64 | 0.75 | MWD_M | None |
| 283 | 4507.15 | 35.14 | 220.89 | 29.51 | 1671.70 | 3793.36 | -2792.77 | -2571.21 | 3796.14 | 222.63 | 1.92 | MWD_M | None |
| 284 | 4536.39 | 34.10 | 223.60 | 29.24 | 1695.76 | 3809.97 | -2805.07 | -2582.37 | 3812.75 | 222.63 | 1.94 | MWD_M | None |
| 285 | 4565.71 | 35.32 | 225.42 | 29.32 | 1719.86 | 3826.66 | -2816.97 | -2594.07 | 3829.43 | 222.64 | 1.66 | MWD_M | None |
| 286 | 4595.07 | 35.27 | 225.01 | 29.36 | 1743.83 | 3843.61 | -2828.92 | -2606.12 | 3846.38 | 222.65 | 0.25 | MWD_M | None |
| 287 | 4624.34 | 35.73 | 224.75 | 29.27 | 1767.66 | 3860.59 | -2840.97 | -2618.11 | 3863.37 | 222.66 | 0.50 | MWD_M | None |
| 288 | 4653.30 | 34.67 | 224.46 | 28.96 | 1791.32 | 3877.28 | -2852.85 | -2629.83 | 3880.05 | 222.67 | 1.13 | MWD_M | None |
| 289 | 4682.94 | 34.47 | 224.25 | 29.64 | 1815.73 | 3894.09 | -2864.88 | -2641.59 | 3896.86 | 222.68 | 0.24 | MWD_M | None |
| 290 | 4712.04 | 36.02 | 222.69 | 29.10 | 1839.49 | 3910.88 | -2877.07 | -2653.14 | 3913.65 | 222.68 | 1.88 | MWD_M | None |
| 291 | 4741.51 | 35.33 | 223.07 | 29.47 | 1863.43 | 3928.07 | -2889.66 | -2664.83 | 3930.84 | 222.68 | 0.75 | MWD_M | None |
| 292 | 4771.06 | 35.17 | 223.40 | 29.55 | 1887.56 | 3945.12 | -2902.09 | -2676.51 | 3947.89 | 222.68 | 0.26 | MWD_M | None |
| 293 | 4800.37 | 35.36 | 223.75 | 29.31 | 1911.49 | 3962.04 | -2914.35 | -2688.18 | 3964.81 | 222.69 | 0.29 | MWD_M | None |
| 294 | 4829.42 | 35.12 | 224.63 | 29.05 | 1935.22 | 3978.80 | -2926.36 | -2699.86 | 3981.56 | 222.69 | 0.59 | MWD_M | None |
| 295 | 4858.67 | 35.48 | 224.20 | 29.25 | 1959.09 | 3995.70 | -2938.44 | -2711.69 | 3998.46 | 222.70 | 0.46 | MWD_M | None |
| 296 | 4868.24 | 35.14 | 223.69 | 9.57 | 1966.90 | 4001.23 | -2942.42 | -2715.53 | 4003.99 | 222.70 | 1.43 | MWD_M | None |
| 297 | 4888.00 | 35.13 | 223.85 | 19.76 | 1983.06 | 4012.60 | -2950.63 | -2723.40 | 4015.36 | 222.71 | 0.14 | Projection t | |

[(c)2008 IDEAL ID13_0C_08]

Company:
ESSO Australia Pty Ltd

Well:
SNA A19A

Field:
SNAPPER

Rig:
ISDL 175

State:
Victoria

8.50 In. Section

Schlumberger

VISION Resistivity
1:200 Measured Depth
Recorded Mode Log (Trip Out)

