**Century WIRELINE SERVICES**

# GAMMA - CALIPER
# THRU PIPE DENSITY
# DHGH-14-29

OTHER SERVICES:
NEU

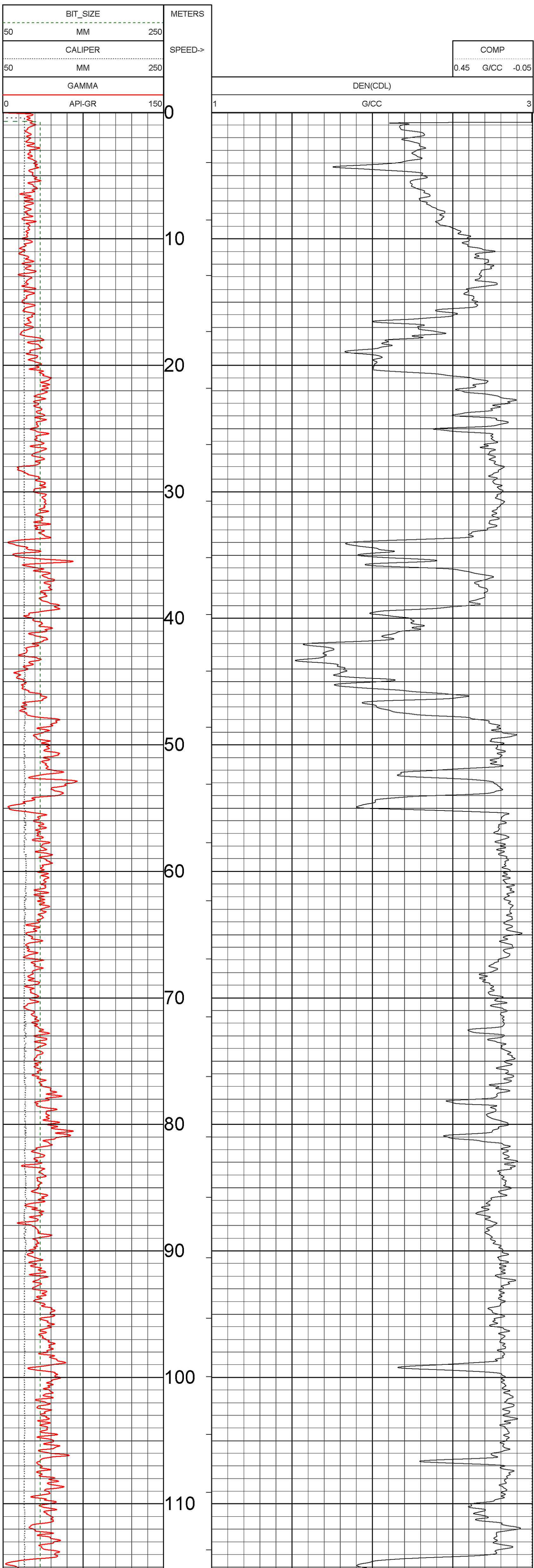
| | | | |
|---|---|---|---|
| COMPANY | :ATRUM COAL | | |
| WELL | :DHGH-14-29 | | |
| FIELD | :GROUNDHOG | | |
| COUNTRY | :CANADA | | |
| PROVINCE | :BRITISH COLUMBIA | | |
| LSD | :N/A | | |
| SECTION | :N/A | | |
| TOWNSHIP | :N/A | | |
| RANGE | :N/A | | |
| LICENSE NO. | :N/A | | |
| UNIQUE WELL ID. | :N/A | | |
| PERMANENT DATUM | :GL | ELEVATION KB | :N/A |
| LOG MEASURED FROM | :GL | ELEVATION DF | :N/A |
| DRL MEASURED FROM | :GL | ELEVATION GL | :N/A |
| DATE | :07/25/14 | RIG NUMBER | :2 |
| DRILLER TD | :377.63 | LOGGER TD | :377.37 |
| BIT SIZE | :97.00 | ARRIVAL TIME | :07:30 |
| LOG TOP | :0.00 | DEPARTURE TIME | :14:00 |
| LOG BOTTOM | :377.13 | CIRC STOPPED | :07:00 |
| LOGGER CASING | :18.29 | | |
| DRILLER CASING | :18.29 | | |
| CASING TYPE | :SURFACE | | |
| BOREHOLE FLUID | :H2O | | |
| RM TEMPERATURE | :N/A | | |
| MUD RES | :N/A | | |
| MUD WEIGHT | :1.01 | | |
| WITNESSED BY | :H.MCKENZIE | | |
| RECORDED BY | :JSTAPELEBRG | | |
| REMARKS 1 | :ONLY DENSITY & NEUTRON LOGGED | | |
| REMARKS 2 | :THROUGH PIPE | | |

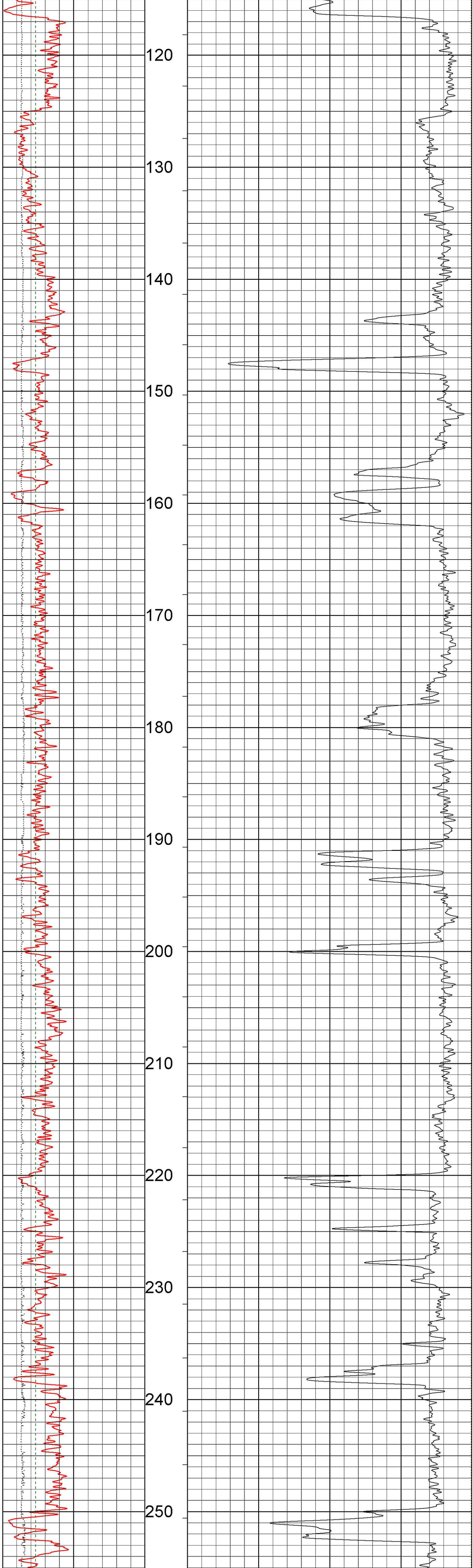
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

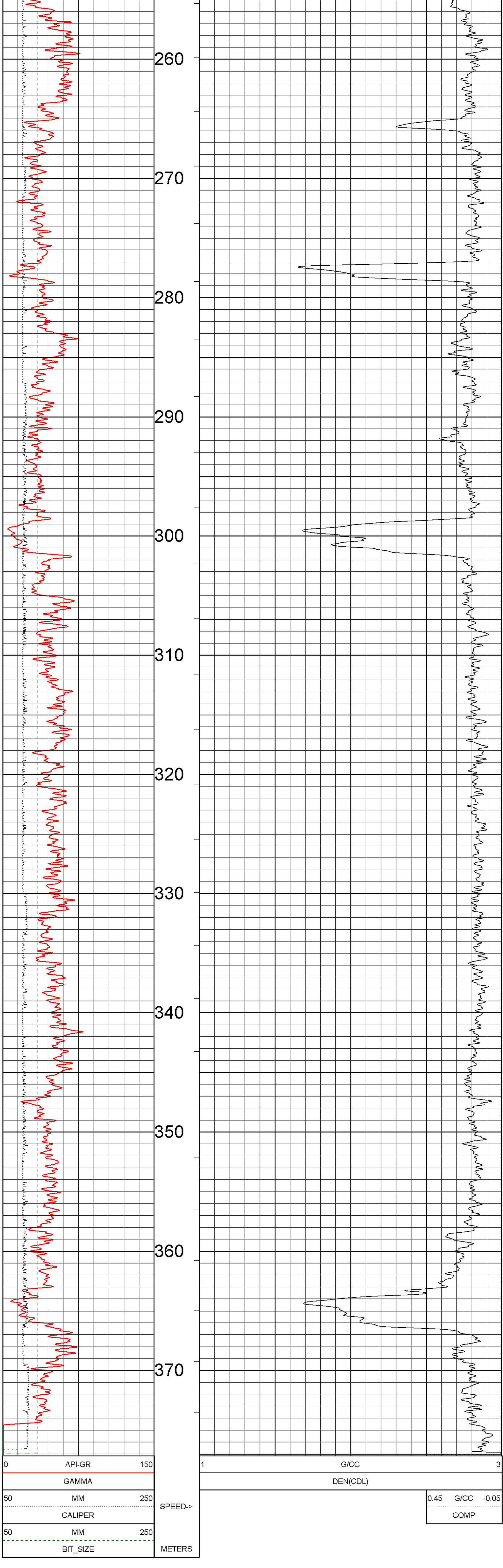
## DENSITY TP 1:200 DHGH-14-29 07/25/14

### LOG PARAMETERS

| | | |
|---|---|---|
| MATRIX DENSITY : 2.65 | NEUTRON MATRIX : SANDSTONE | MATRIX DELTA T : 177 |
| MAGNETIC DECL : 19.50 | ELECT. CUTOFF : 99999 | BIT SIZE : 97.00 |
| PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(200scale).0 06/12/2014 | | VERSION = 3.64LH |







## DENSITY TP 1:200 DHGH-14-29 07/25/14

### LOG PARAMETERS

MATRIX DENSITY : 2.65
NEUTRON MATRIX : SANDSTONE
MATRIX DELTA T : 177
MAGNETIC DECL : 19.50
ELECT. CUTOFF : 99999
BIT SIZE : 97.00
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(200scale).0 06/12/2014
VERSION = 3.64LH

```
     TOOL CALIBRATION  DHGH-14-29 07/25/14 12:39
     TOOL  9239C      TM VERSION 2025
     SERIAL NUMBER    2477
       DATE       TIME              SENSOR          STANDARD                     RESPONSE
1      Mar21,14   15:16:58          GAMMA       0.100    [API-GR ]              4.000    [CPS]
       Mar21,14   15:16:58          GAMMA     545.000    [API-GR ]            589.000    [CPS]
2      Jun14,13   09:36:44          VOLTAGE    26.400    [MV     ]           8050.000    [CPS]
       Jun14,13   09:36:44          VOLTAGE   229.200    [MV     ]          35258.000    [CPS]
3      Mar21,14   14:07:48          CALIPER   100.000    [MM     ]         168300.000    [CPS]
       Mar21,14   14:07:48          CALIPER   200.000    [MM     ]         423180.000    [CPS]
4      Mar21,14   14:58:29          DEN(LS)     1.620    [G/CC   ]           8686.000    [CPS]
       Mar21,14   14:58:29          DEN(LS)     2.612    [G/CC   ]           1205.000    [CPS]
5      Mar21,14   14:59:03          DEN(SS)     1.590    [G/CC   ]          31905.000    [CPS]
       Mar21,14   14:59:03          DEN(SS)     2.580    [G/CC   ]          14021.000    [CPS]
6      Jun14,13   08:59:07          CALIPERL  Default    [CPS]                Default    [CPS]
       Jun14,13   08:59:07          CALIPERL  Default    [CPS]                Default    [CPS]
7      Mar21,14   14:27:18          CURRENT    26.400    [UA     ]           6623.000    [CPS]
       Mar21,14   14:27:18          CURRENT   229.200    [UA     ]          23884.000    [CPS]
8      Jun14,13   08:59:07          F         Default    [CPS]
9      Jun14,13   08:59:07          X         Default    [CPS]
```