Century WIRELINE SERVICES

GAMMA - CALIPER THRU PIPE DENSITY DHGH-14-15

OTHER SERVICES: NEUTRON

COMPANY	ATRUM COAL
WELL	DHGH-14-15
FIELD	GROUNDHOG
COUNTRY	CANADA
PROVINCE	BRITISH COLUMBIA
LSD	GROUNDHOG
SECTION	N/A
TOWNSHIP	N/A
RANGE	N/A
LICENSE NO.	N/A
UNIQUE WELL ID.	N/A

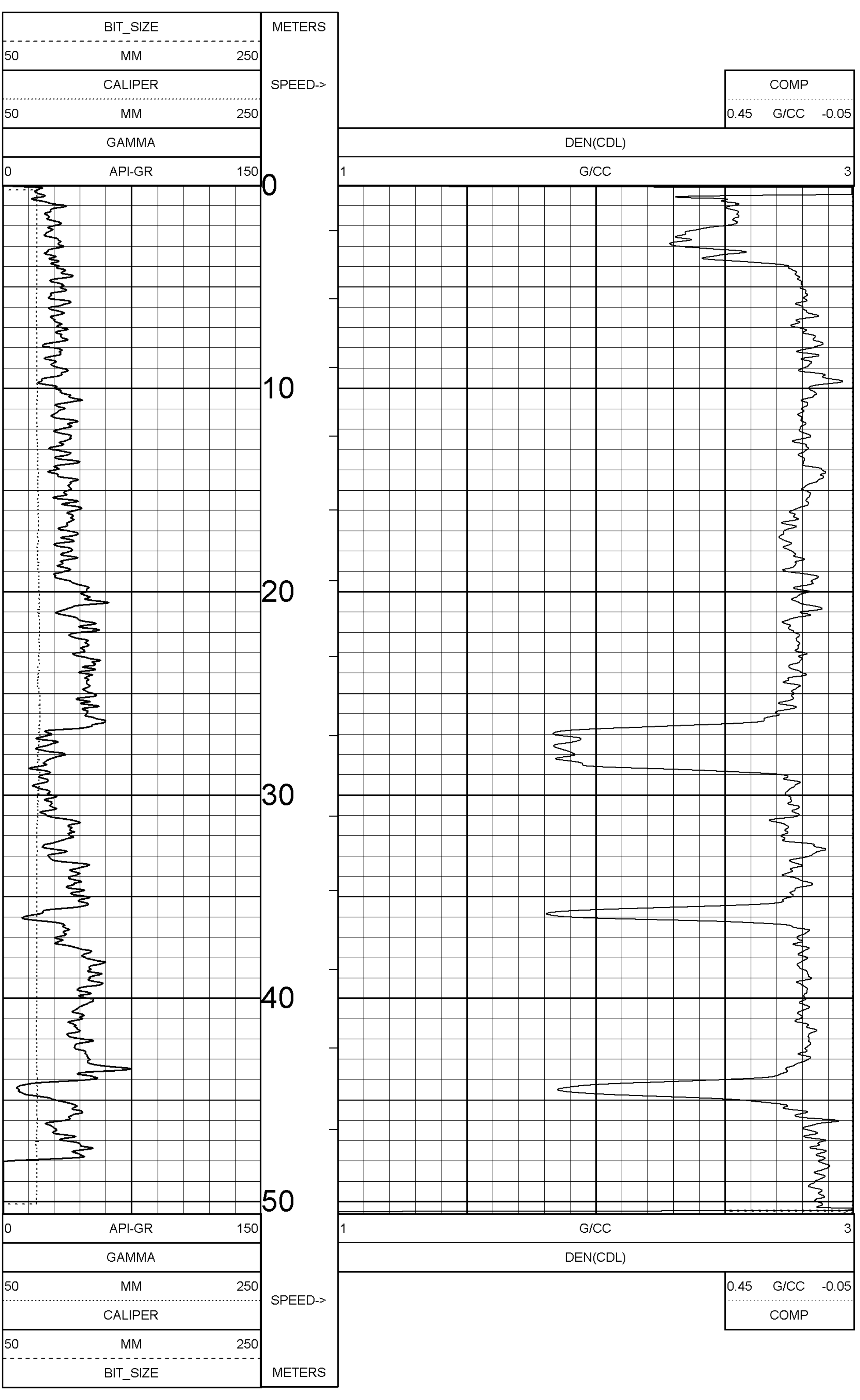
PERMANENT DATUM	GL	ELEVATION KB	N/A
LOG MEASURED FROM	GL	ELEVATION DF	N/A
DRL MEASURED FROM	GL	ELEVATION GL	N/A
DATE	06/16/14	RIG NUMBER	2
DEPTH DRILLER	51.20	LOGGER TD	50.61
BIT SIZE	9.80	ARRIVAL TIME	19:30
LOG TOP	-1.92	DEPARTURE TIME	7:30
LOG BOTTOM	50.56	CIRC STOPPED	N/A
CASING LOGGER	3.048		
CASING DRILLER	3.048		
CASING TYPE	STEEL		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	1.00		
WITNESSED BY	N/A		
RECORDED BY	T. NEAL		
REMARKS 1	65 DEGREE		
REMARKS 2	IN-PIPE		

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

DENSITY LOG 1:200 (THRU-PIPE) DHGH-14-15 06/16/14

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 9.80
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(200scale).0 06/12/2014 VERSION = 3.64KX



DENSITY LOG 1:200 (THRU-PIPE) DHGH-14-15 06/16/14

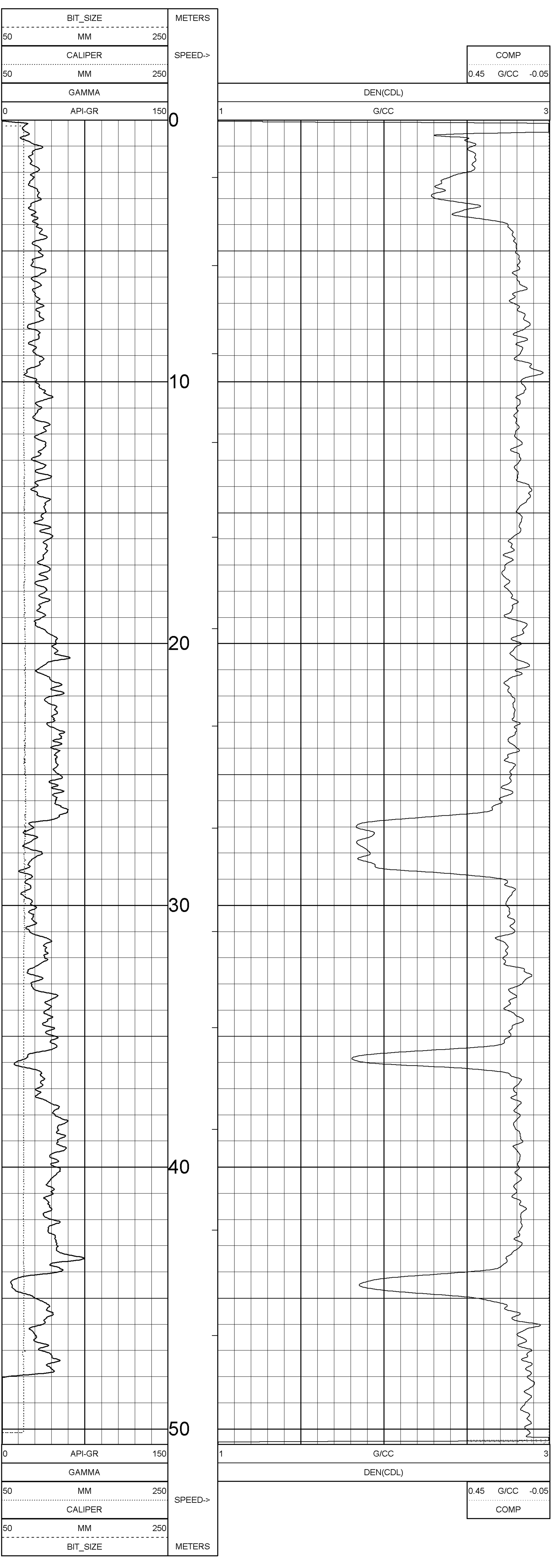
LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 9.80
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(200scale).0 06/12/2014 VERSION = 3.64KX

DENSITY LOG 1:100 (THRU-PIPE) DHGH-14-15 06/16/14

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 9.80
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(100scale).0 06/12/2014 VERSION = 3.64KX



DENSITY LOG 1:100 (THRU-PIPE) DHGH-14-15 06/16/14

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 9.80
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(100scale).0 06/12/2014 VERSION = 3.64KX

TOOL CALIBRATION DHGH-14-15 06/16/14 20:32
TOOL 9239C TM VERSION 2025
SERIAL NUMBER 2477

	DATE	TIME	SENSOR	STANDARD		RESPONSE	
1	Mar21,14	14:16:58	GAMMA	0.100	[API-GR]	4.000	[CPS]
	Mar21,14	14:16:58	GAMMA	545.000	[API-GR]	589.000	[CPS]
2	Jun14,13	08:36:44	VOLTAGE	26.400	[MV]	8050.000	[CPS]
	Jun14,13	08:36:44	VOLTAGE	229.200	[MV]	35258.000	[CPS]
3	Mar21,14	13:07:48	CALIPER	100.000	[MM]	168300.000	[CPS]
	Mar21,14	13:07:48	CALIPER	200.000	[MM]	423180.000	[CPS]
4	Mar21,14	13:58:29	DEN(LS)	1.620	[G/CC]	8686.000	[CPS]
	Mar21,14	13:58:29	DEN(LS)	2.612	[G/CC]	1205.000	[CPS]
5	Jun16,14	20:21:35	DEN(SS)	1.620	[G/CC]	31905.000	[CPS]
	Jun16,14	20:21:35	DEN(SS)	2.580	[G/CC]	14021.000	[CPS]
6	Jun14,13	07:59:07	CALIPERL	Default	[CPS]	Default	[CPS]
	Jun14,13	07:59:07	CALIPERL	Default	[CPS]	Default	[CPS]
7	Mar21,14	13:27:18	CURRENT	26.400	[UA]	6623.000	[CPS]
	Mar21,14	13:27:18	CURRENT	229.200	[UA]	23884.000	[CPS]
8	Jun14,13	07:59:07	F	Default	[CPS]		
9	Jun14,13	07:59:07	X	Default	[CPS]		