![Century Wireline Services]

GAMMA - CALIPER
THRU PIPE DENSITY
DHGH-14-25

COMPANY	:ATRUM COAL		
WELL	:DHGH-14-25		
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	:06/29/14	RIG NUMBER	:2
DEPTH DRILLER	:81.88	LOGGER TD	:80.96
BIT SIZE	:98.40	ARRIVAL TIME	:10:00
LOG TOP	:0.00	DEPARTURE TIME :	
LOG BOTTOM	:80.96	CIRC STOPPED	:N/A
CASING LOGGER	:3.05		
CASING DRILLER	:3.05		
CASING TYPE	:STEEL		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	:N/A		
MUD RES	:N/A		
MUD WEIGHT	:1.00		
WITNESSED BY	:N/A		
RECORDED BY	:D. SINKWICH		
REMARKS 1	:70 DEGREES		
REMARKS 2	:		

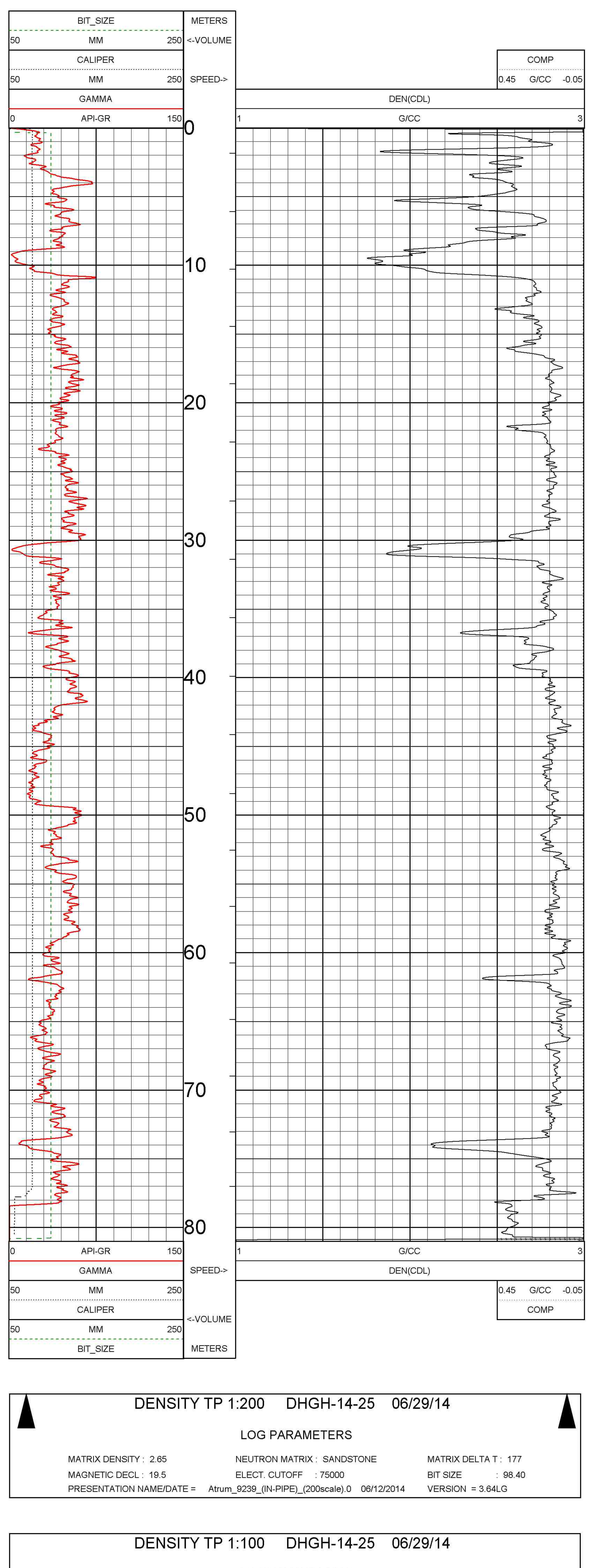
OTHER SERVICES:
DIP
NEUTP

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

DENSITY TP 1:200 DHGH-14-25 06/29/14

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 98.40
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(200scale).0 06/12/2014 VERSION = 3.64LG



DENSITY TP 1:200 DHGH-14-25 06/29/14


LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 98.40
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(200scale).0 06/12/2014 VERSION = 3.64LG

DENSITY TP 1:100 DHGH-14-25 06/29/14

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 98.40
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(100scale).0 06/12/2014 VERSION = 3.64LG



DENSITY TP 1:100 DHGH-14-25 06/29/14

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 177
MAGNETIC DECL : 19.5 ELECT. CUTOFF : 75000 BIT SIZE : 98.40
PRESENTATION NAME/DATE = Atrum_9239_(IN-PIPE)_(100scale).0 06/12/2014 VERSION = 3.64LG

TOOL CALIBRATION DHGH-14-25 06/29/14 10:05
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	Jun21,14	10:45:39	DEN(SS)	1.620	[G/CC]	31905.000	[CPS]
	Jun21,14	10:45:39	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]		