

See Table 2.3-5 for correct elevations of the boreholes



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GAMMA-RES-DENSITY
SHOB-01R

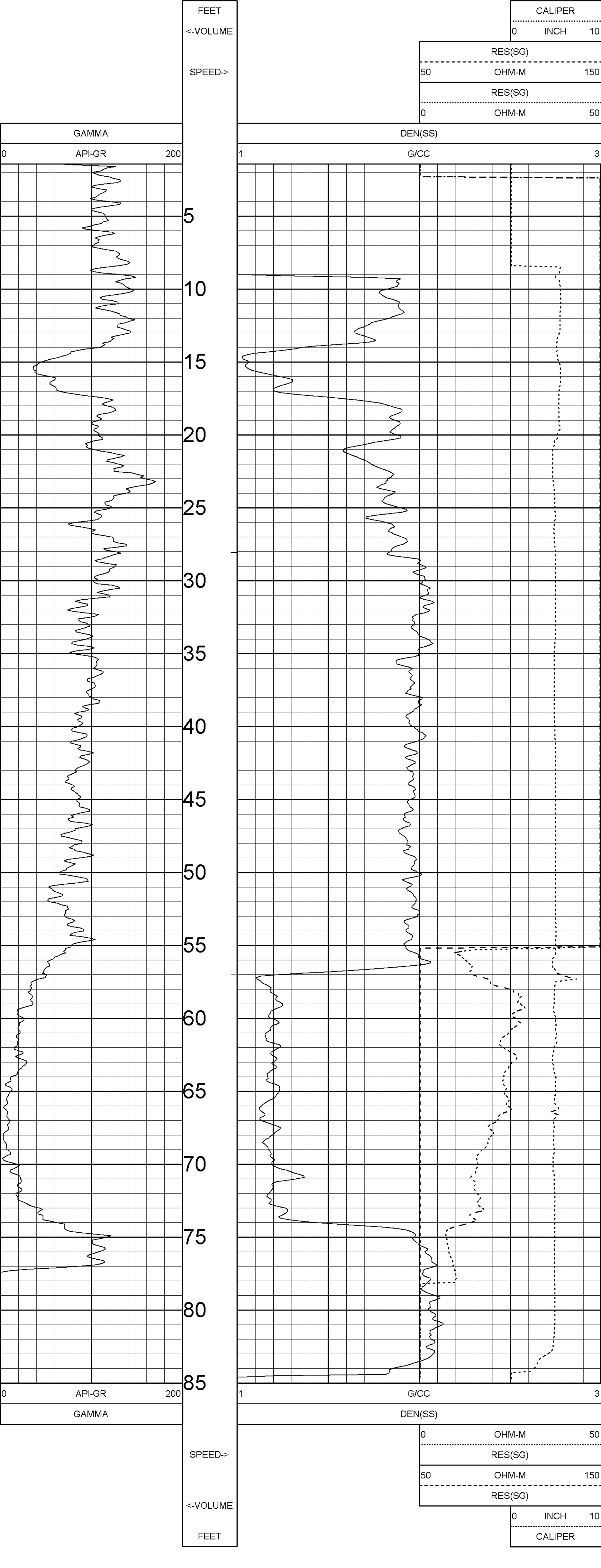
COMPANY :GOLDER ASSOCIATES
 WELL :SHOB-01R
 FIELD :SOUTH HEART
 COUNTY :STARK
 STATE :NORTH DAKOTA

OTHER SERVICES:
 N/A
 N/A
 N/A

LOCATION :N/A
 SECTION :9
 TOWNSHIP :139N
 RANGE :98W
 API NO. :N/A
 UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL
 LOG MEASURED FROM :GL
 DRL MEASURED FROM :GL
 DATE :10/28/06
 DEPTH DRILLER :85
 BIT SIZE :5.0
 LOG TOP :1.40
 LOG BOTTOM :84.90
 CASING OD :N/A
 CASING BOTTOM :N/A
 CASING TYPE :N/A
 BOREHOLE FLUID :WATER
 RM TEMPERATURE :N/A
 MUD RES :N/A
 MUD WEIGHT :0
 WITNESSED BY :J. ELLIOTT
 RECORDED BY :B. MATAS
 REMARKS 1 :SW/SE QUARTER OF SECTION
 REMARKS 2 :E=648268 N=5191823

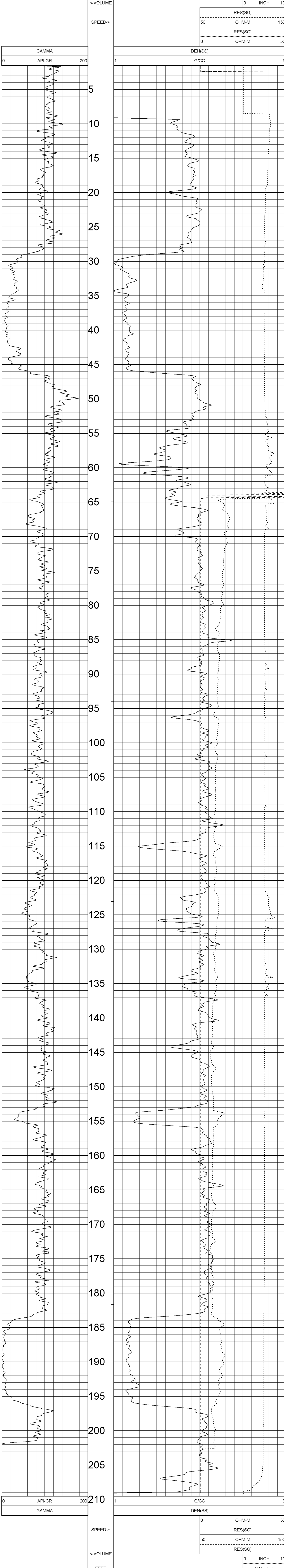
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06	GAMMA	Default	[CPS]
	Aug21,06	GAMMA	Default	[CPS]
2	Aug21,06	DEN(SS)	1.000	[G/CC]
	Aug21,06	DEN(SS)	2.410	[G/CC]
3	Aug28,06	RES(SG)	Default	[CPS]
	Aug28,06	RES(SG)	Default	[CPS]
4	Aug21,06	CALIPER	4.000	[INCH]
	Aug21,06	CALIPER	6.040	[INCH]
5	Aug21,06	DENSITYH	Default	[CPS]
	Aug21,06	DENSITYH	Default	[CPS]
6	Aug21,06	CALIPERL	4.000	[INCH]
	Aug21,06	CALIPERL	8.000	[INCH]

TOOL CALIBRATION SHOB-01R 10/28/06 15:56
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

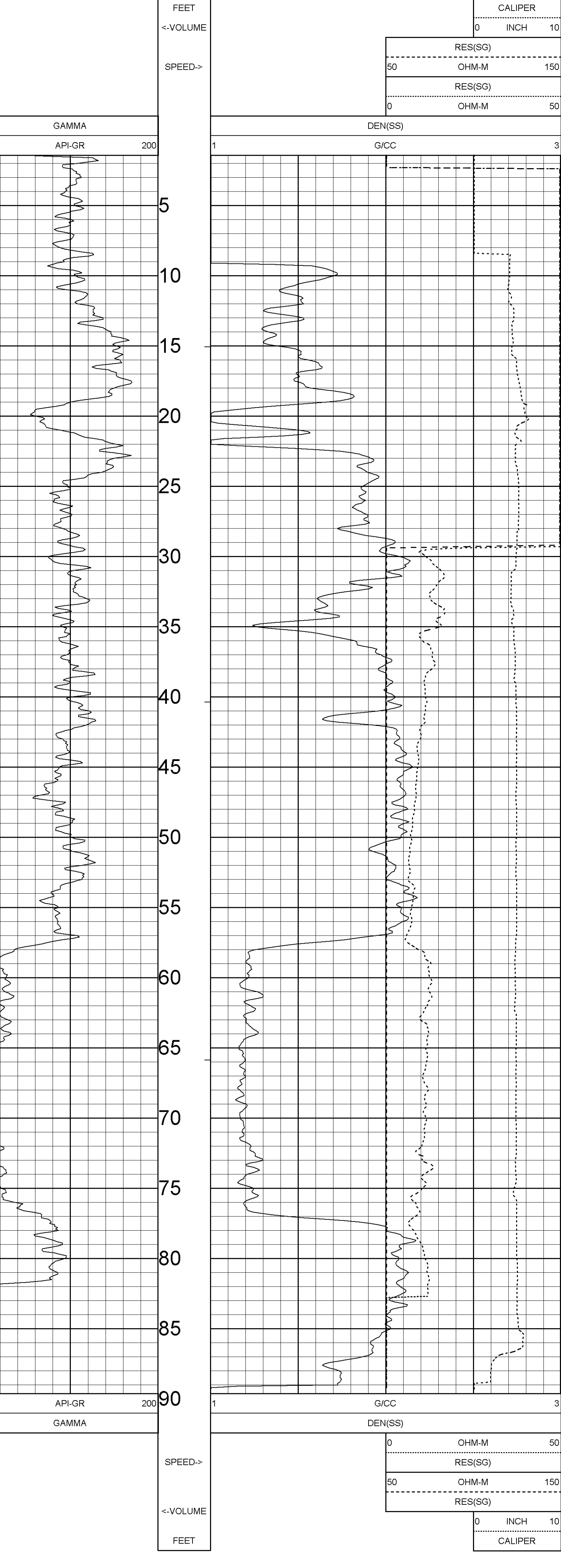
COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	N/A
WELL	SHOB-02R	FIELD	N/A
FIELD	SOUTH HEART	COUNTY	N/A
COUNTY	STARK	STATE	N/A
STATE	NORTH DAKOTA	LOCATION	N/A
SECTION	9	TOWNSHIP	139N
RANGE	98W	API NO.	N/A
UNIQUE WELL ID.	N/A	PERMANENT DATUM	GL
LOG MEASURED FROM GL	ELEVATION OF N/A	DRL MEASURED FROM GL	ELEVATION GL 2713
DATE	10/16/06	DEPTH DRILLER	210
BIT SIZE	5.0	LOG TOP	1.50
LOG BOTTOM	209.40	CASING OD	N/A
CASING BOTTOM	N/A	CASING TYPE	N/A
BOREHOLE FLUID	WATER	RM TEMPERATURE	N/A
MUD RES	N/A	MUD WEIGHT	0
WITNESSED BY	D. LEPPERT	RECORDED BY	B. MATIAS
SEISE QUARTER OF SECTION	E-649070	N-5191855	
REMARKS 2	ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS		



TOOL CALIBRATION SHOB-02R 10/16/06 17:39
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
Aug21,06	21:48:42	GAMMA	Default	[CPS]
Aug21,06	20:48:42	GAMMA	Default	[CPS]
Aug21,06	20:49:17	DEN(SS)	1.000	[G/CC]
Aug28,06	20:49:17	DEN(SS)	2.410	[G/CC]
Aug28,06	18:25:01	RES(SG)	Default	[CPS]
Aug28,06	18:25:01	RES(SG)	Default	[CPS]
Aug21,06	20:50:24	CALIPER	4.000	[INCH]
Aug21,06	20:50:24	CALIPER	6.040	[INCH]
Aug21,06	20:48:42	DENSITYH	Default	[CPS]
Aug21,06	20:48:42	DENSITYH	Default	[CPS]
Aug21,06	20:50:44	CALIPERL	4.000	[INCH]
Aug21,06	20:50:44	CALIPERL	8.000	[INCH]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	SHOB-03R	N/A	
FIELD	SOUTH HEART	N/A	
COUNTY	STARK	N/A	
STATE	NORTH DAKOTA	N/A	
LOCATION	N/A		
SECTION	17		
TOWNSHIP	139N		
RANGE	98W		
API 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	2668
DATE	10/27/06		
DEPTH DRILLER	90		
BIT SIZE	5.0		
LOG TOP	1.40		
LOG BOTTOM	89.50		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	0		
WITNESSED BY	J. ELLIOTT		
RECORDED BY	B. MATAS		
REMARKS 1	NWNW QUARTER OF SECTION		
REMARKS 2	E=646270 N=5191362		



TOOL CALIBRATION SHOB-03R 10/27/06 15:35
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

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GAMMA-RES-DENSITY

SHOB-04R

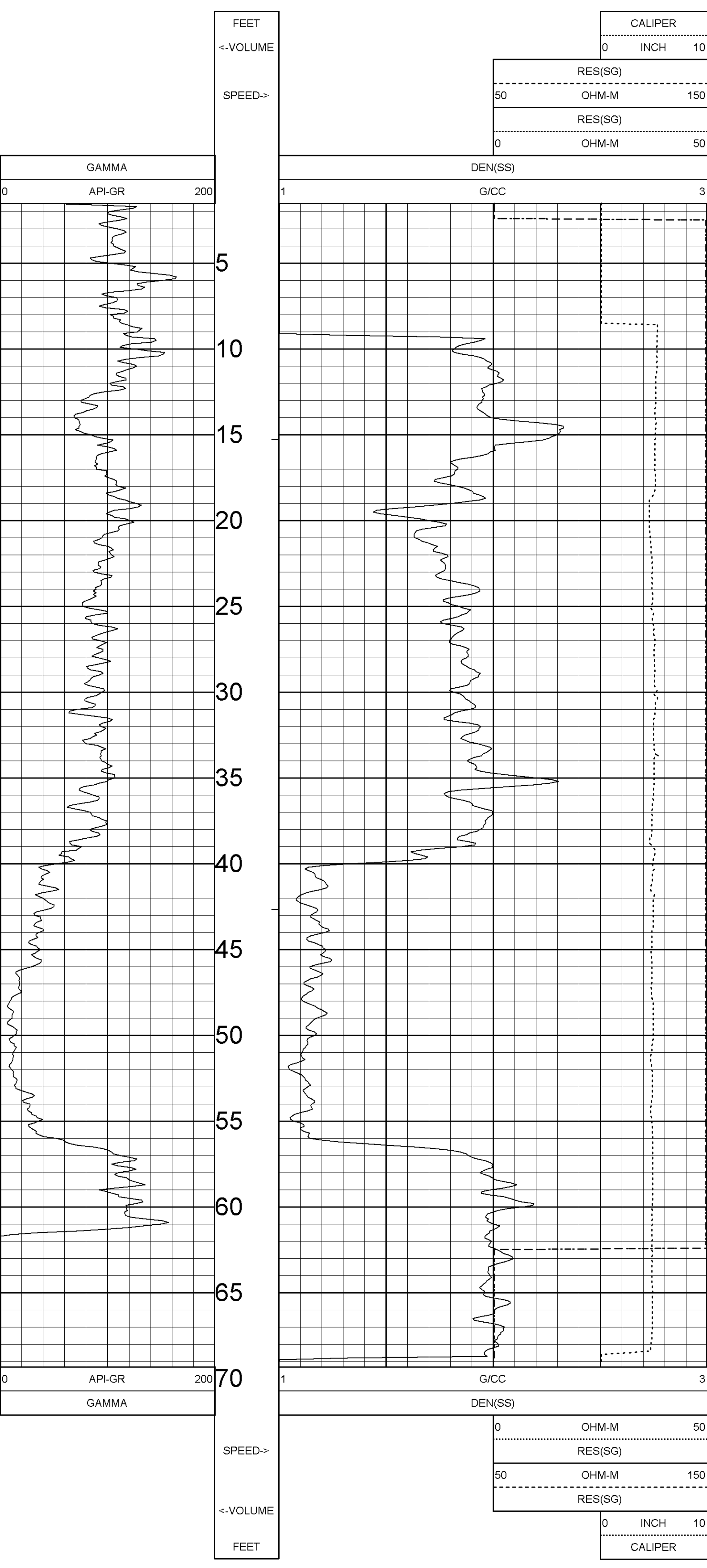
COMPANY :GOLDER ASSOCIATES
 WELL :SHOB-04R
 FIELD :SOUTH HEART
 COUNTY :STARK
 STATE :NORTH DAKOTA

LOCATION :N/A
 SECTION :.16
 TOWNSHIP :.139N
 RANGE :.98W
 API NO. :N/A
 UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL
 LOG MEASURED FROM :GL
 DRL MEASURED FROM :GL
 DATE :10/28/06
 DEPTH DRILLER :70
 BIT SIZE :5.0
 LOG TOP :1.50
 LOG BOTTOM :69.20
 CASING OD :N/A
 CASING BOTTOM :N/A
 CASING TYPE :N/A
 BOREHOLE FLUID :WATER
 RM TEMPERATURE :N/A
 MUD RES :N/A
 MUD WEIGHT :0
 WITNESSED BY :J. ELLIOTT
 RECORDED BY :B. MATIAS
 REMARKS 1 :NENW QUARTER OF SECTION
 REMARKS 2 :E=648679 N=5191434

OTHER SERVICES:
 N/A
 N/A
 N/A
 ELEVATION KB :N/A
 ELEVATION DF :N/A
 ELEVATION GL :2710

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-04R 10/28/06 15:07
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-05R

COMPANY :GOLDER ASSOCIATES

WELL :SHOB-05R

FIELD :SOUTH HEART

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:
N/A
N/A
N/A

LOCATION :N/A

SECTION :15

TOWNSHIP :139N

RANGE :98W

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/29/06

DEPTH DRILLER :75

BIT SIZE :5.0

LOG TOP :1.50

LOG BOTTOM :74.60

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :0

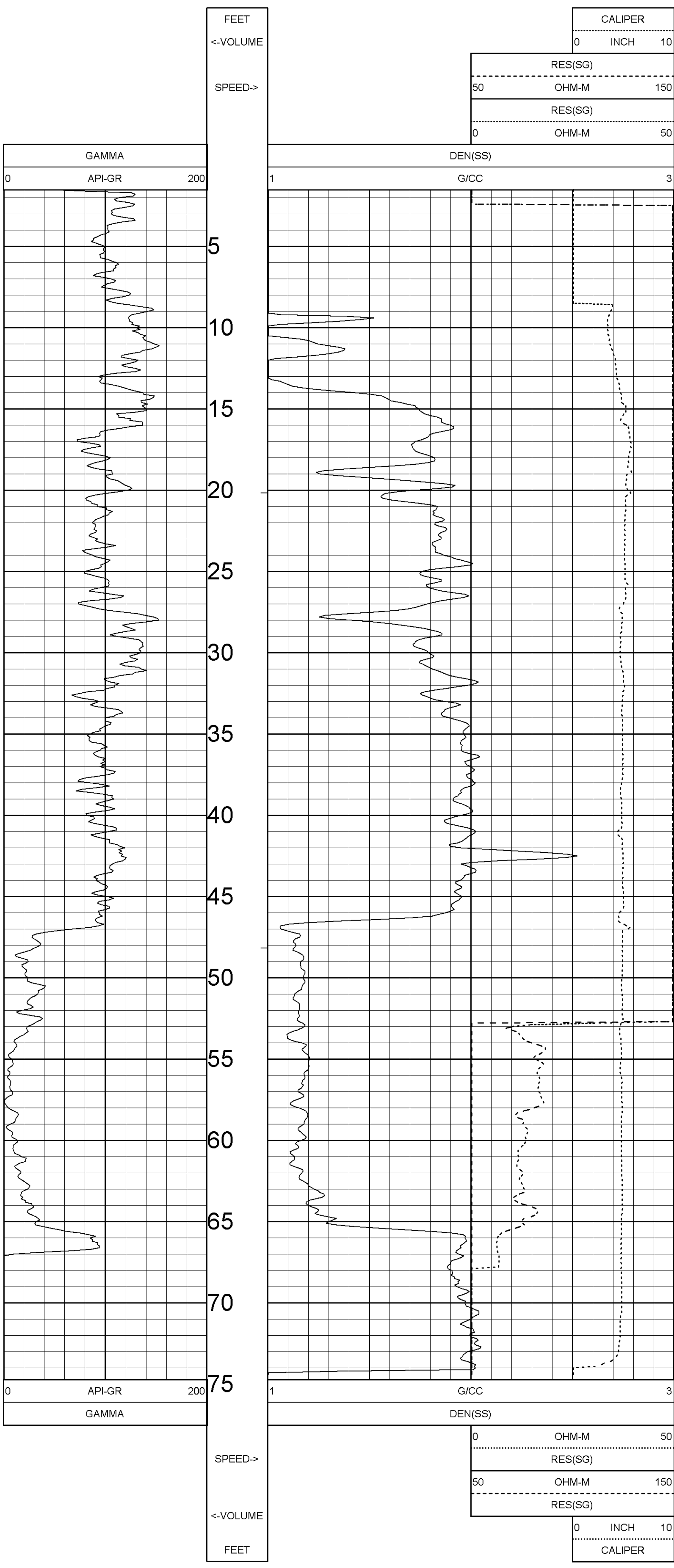
WITNESSED BY :J. ELLIOTT

RECORDED BY :B. MATAS

REMARKS 1 :NWNW QUARTER OF SECTION

REMARKS 2 :E=649482 N=5191466

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-05R 10/29/06 08:27
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
5	Aug21,06 20:50:44	CALIPER	6.040 [INCH]	1515.00 [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-06R

COMPANY :GOLDER ASSOCIATES
WELL :SHOB-06R
FIELD :SOUTH HEART
COUNTY :STARK
STATE :NORTH DAKOTA

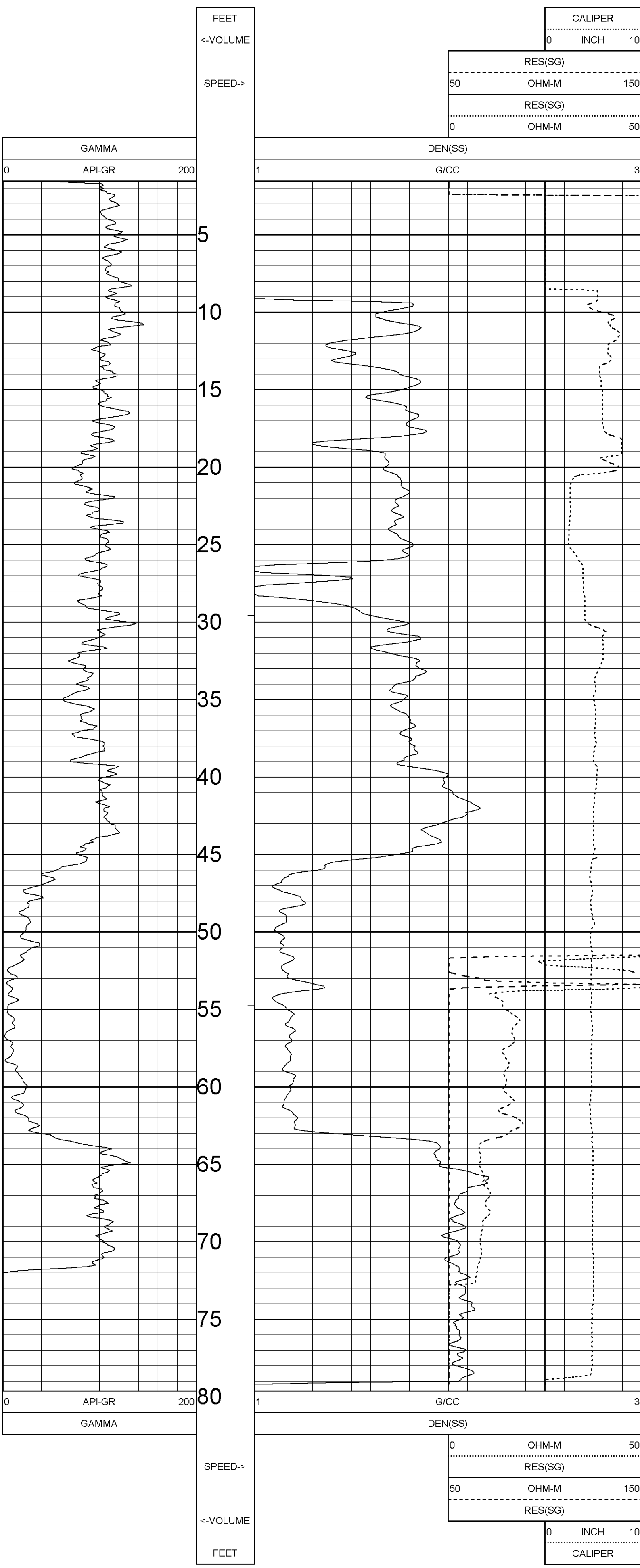
OTHER SERVICES:
N/A
N/A
N/A

LOCATION :N/A
SECTION :15
TOWNSHIP :139N
RANGE :98W
API NO. :N/A
UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL
LOG MEASURED FROM :GL
DRL MEASURED FROM :GL
ELEVATION KB :N/A
ELEVATION DF :N/A
ELEVATION GL :2436

DATE :10/29/06
DEPTH DRILLER :80
BIT SIZE :5.0
LOG TOP :1.50
LOG BOTTOM :79.50
CASING OD :N/A
CASING BOTTOM :N/A
CASING TYPE :N/A
BOREHOLE FLUID :WATER
RM TEMPERATURE :N/A
MUD RES :N/A
MUD WEIGHT :0
WITNESSED BY :J. ELLIOTT
RECORDED BY :B. MATAS
REMARKS 1 :N/WNE QUARTER OF SECTION
REMARKS 2 :E=649884 N=5191477

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-06R 10/29/06 09:50
TOOL 9033AA TM VERSION 3
SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug21,06 20:50:24	RES(SG)	Default [CPS]	Default [CPS]
5	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
6	Aug21,06 20:48:42	CALIPER	6.040 [INCH]	1515.00 [CPS]
7	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
8	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
9	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
10	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY

SHOB-07R

COMPANY: GOLDBER ASSOCIATES OTHER SERVICES: N/A

WELL: SHOB-07R FIELD: SOUTH HEART N/A

COUNTY: STARK STATE: NORTH DAKOTA

LOCATION: N/A SECTION: .15 TOWNSHIP: .139N

RANGE: 98W API NO.: N/A

PERMANENT DATUM: GL ELEVATION KB: N/A

LOG MEASURED FROM: GL ELEVATION DF: N/A

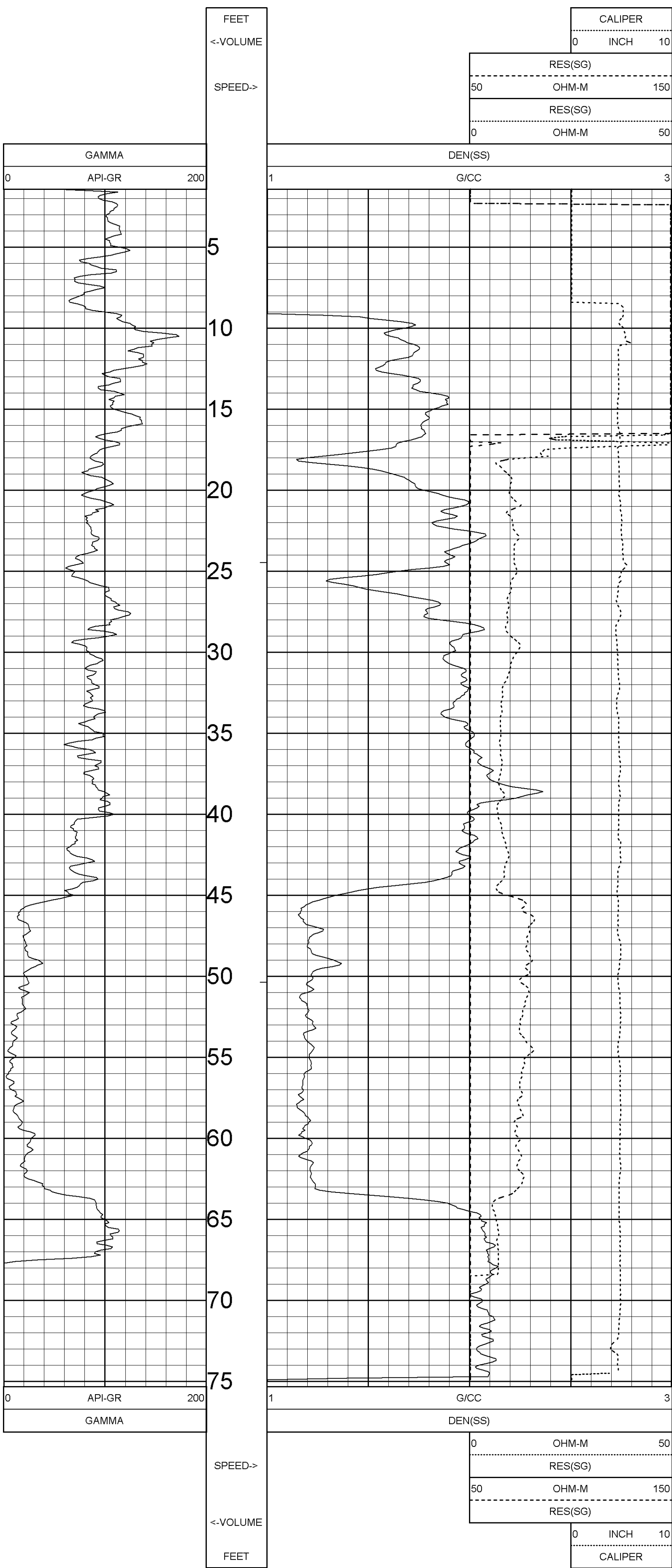
DRL MEASURED FROM: GL ELEVATION GL: 2682

DATE: 10/29/06

DEPTH DRILLER: .75 BIT SIZE: 5.0 LOG TOP: 1.40 LOG BOTTOM: .75.20 CASING OD: N/A CASING BOTTOM: N/A CASING TYPE: N/A BOREHOLE FLUID: WATER RM TEMPERATURE: N/A MUD RES: N/A MUD WEIGHT: 0

WITNESSED BY: J. ELLIOTT RECORDED BY: B. MATAS REMARKS 1: NENW QUARTER OF SECTION REMARKS 2: E=650283 N=5191492

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-07R 10/29/06 11:16
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

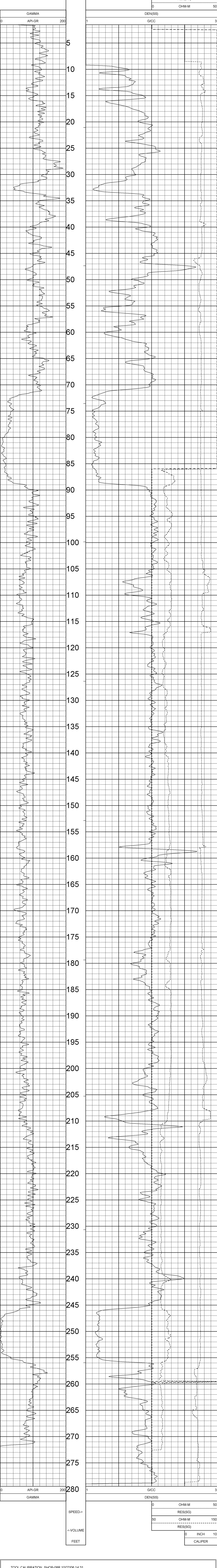
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
4	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
5	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
6	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
7	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
8	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
9	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
10	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
11	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
12	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES	N/A
WELL	SHOB-08R	FIELD	SOUTH HEART
COUNTY	STARK	STATE	NORTH DAKOTA

LOCATION	N/A
SECTION	17
TOWNSHIP	138N
RANGE	98W
API NO.	N/A
UNIQUE WELL ID.	N/A

PERMANENT DATUM	SL	ELEVATION NS N/A
LOG MEASURED FROM	GL	ELEVATION DF N/A
DRL MEASURED FROM	GL	ELEVATION GL 2542

DATE	10/27/06
DEPTH DRILLER	280
BIT SIZE	5.0
LOG TOP	-1.50
LOG BOTTOM	279.90
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BORHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	J. ELLIOTT
RECORDED BY	B. MATIAS
REMARKS 1	NWSE QUARTER OF SECTION
REMARKS 2	EF648978 N=5100987



TOOL CALIBRATION SHOB-08R 10/27/06 14:31
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug28,06 18:25:01	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug21,06 20:50:24	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	RES(SG)	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	CALIPER	4.000 [INCH]	633.00 [CPS]
5	Aug21,06 20:48:42	CALIPER	6.040 [INCH]	1515.00 [CPS]
6	Aug21,06 20:50:44	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY: GOLDER ASSOCIATES

WELL: SHOB-09R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: N/A

SECTION: 16

TOWNSHIP: 139N

RANGE: 98W

API NO.: N/A

UNIQUE WELL ID.: N/A

PERMANENT DATUM: 3GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/28/06

DEPTH DRILLER: 105

BIT SIZE: 5.0

LOG TOP: 1.50

LOG BOTTOM: 105.20

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATAS

REMARKS 1: N/ESE QUARTER OF SECTION

REMARKS 2: E=649090 N=5191042

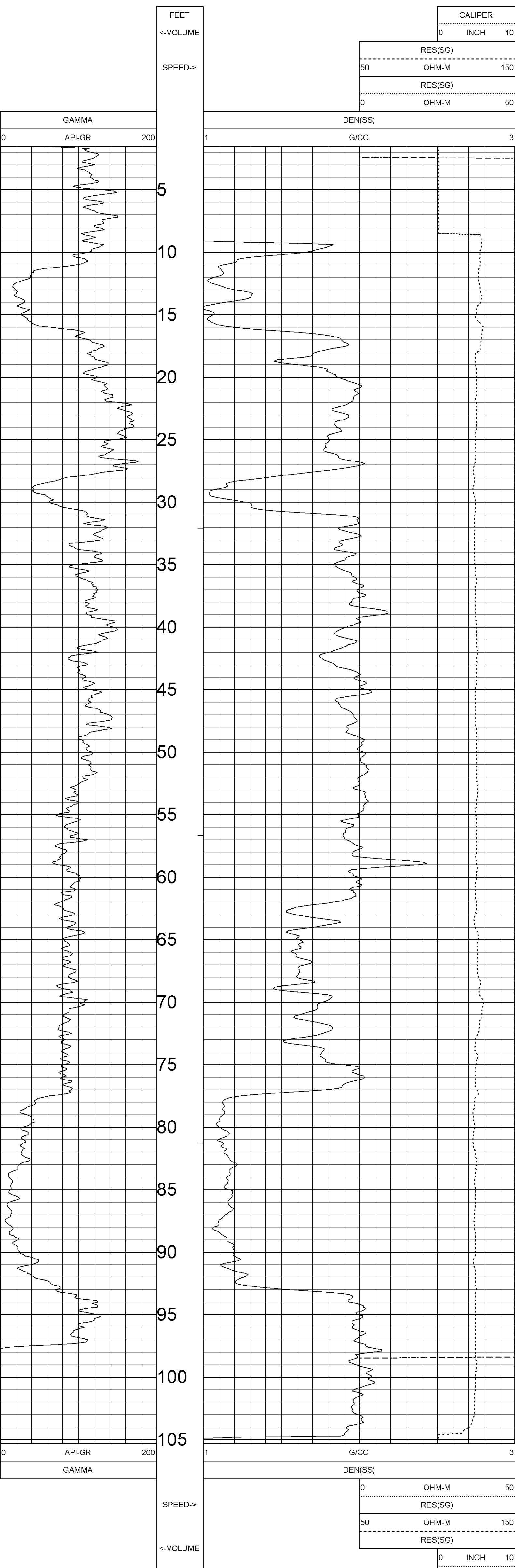
OTHER SERVICES: N/A

ELEVATION KB: N/A

ELEVATION DF: N/A

ELEVATION GL: 2915

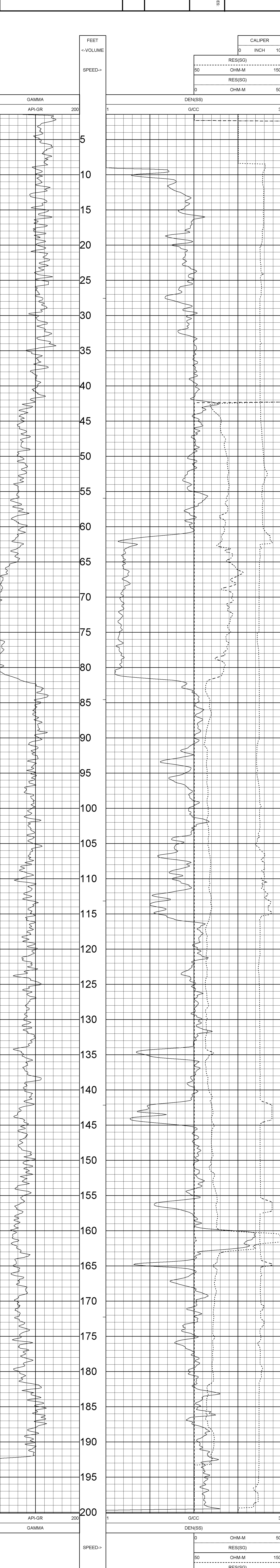
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-09R 10/28/06 14:17
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

	DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06	20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06	20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06	20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06	20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06	20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06	20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:
WELL	SHOB-10R	N/A
FIELD	SOUTH HEART	N/A
COUNTY	STARK	N/A
STATE	NORTH DAKOTA	N/A
LOCATION	N/A	
SECTION	15	
TOWNSHIP	138N	
RANGE	98W	
API 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 QL 2515
DATE	10/12/06	
DEPTH DRILLER	200	
BIT SIZE	5.0	
LOG TOP	1.40	
LOG BOTTOM	200.00	
CASING OD	N/A	
CASING BOTTOM	N/A	
CASING TYPE	N/A	
BOREHOLE FLUID	WATER	
RM TEMPERATURE	N/A	
MUD RES	N/A	
MUD WEIGHT	9	
WITNESSED BY	D. LEPPERT	
RECORDED BY	B. MATAS	
REMARKS 1	N/A	
REMARKS 2	SENE E-5650865 N-5191102 NAD 83	



DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug21,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

TOOL CALIBRATION SHOB-10R 10/12/06 09:36
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958
 ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

COMPANY :GOLDER ASSOCIATES

WELL :SHOB-11R

FIELD :SOUTH HEART

COUNTY :STARK

STATE :NORTH DAKOTA

LOCATION :N/A

SECTION :17

TOWNSHIP :139N

RANGE :98W

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/29/06

DEPTH DRILLER :95

BIT SIZE :5.0

LOG TOP :1.50

LOG BOTTOM :90.10

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :0

WITNESSED BY :J. ELLIOTT

RECORDED BY :B. MATAS

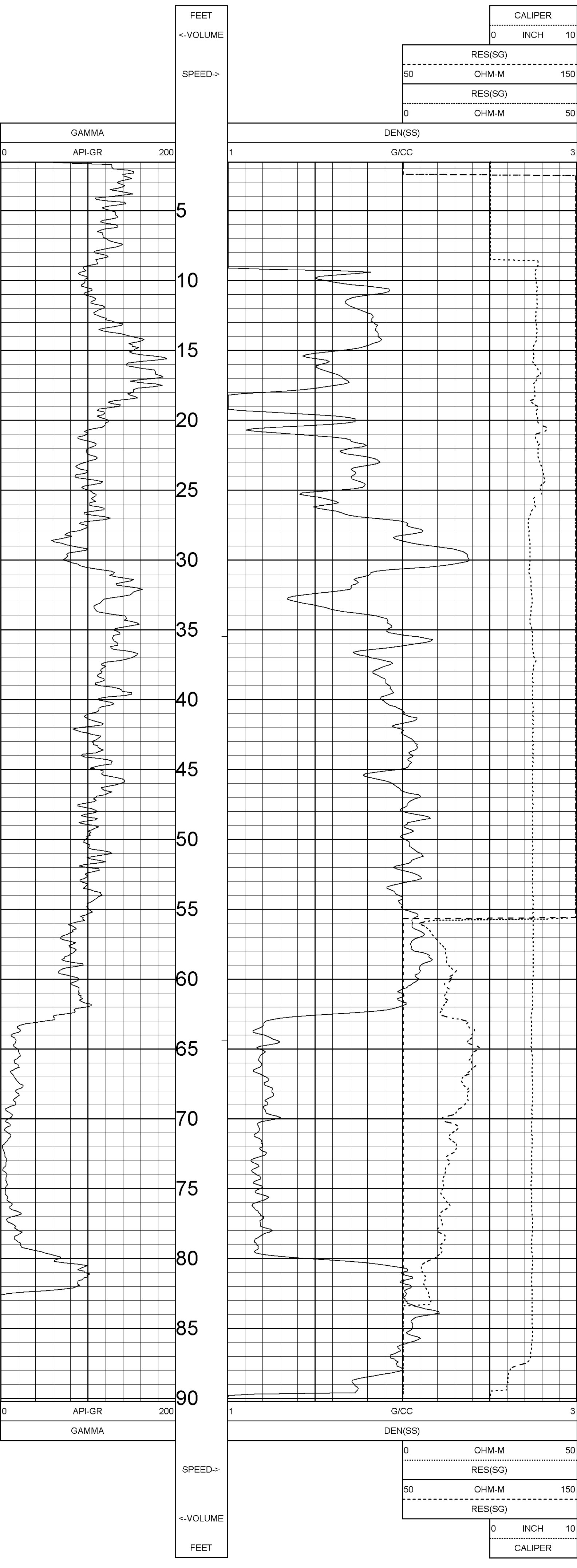
REMARKS 1 :SENE QUARTER OF SECTION

REMARKS 2 :E=647492 N=5190596

OTHER SERVICES:
N/A
N/A
N/A

ELEVATION KB :N/A
ELEVATION DF :N/A
ELEVATION GL :2589

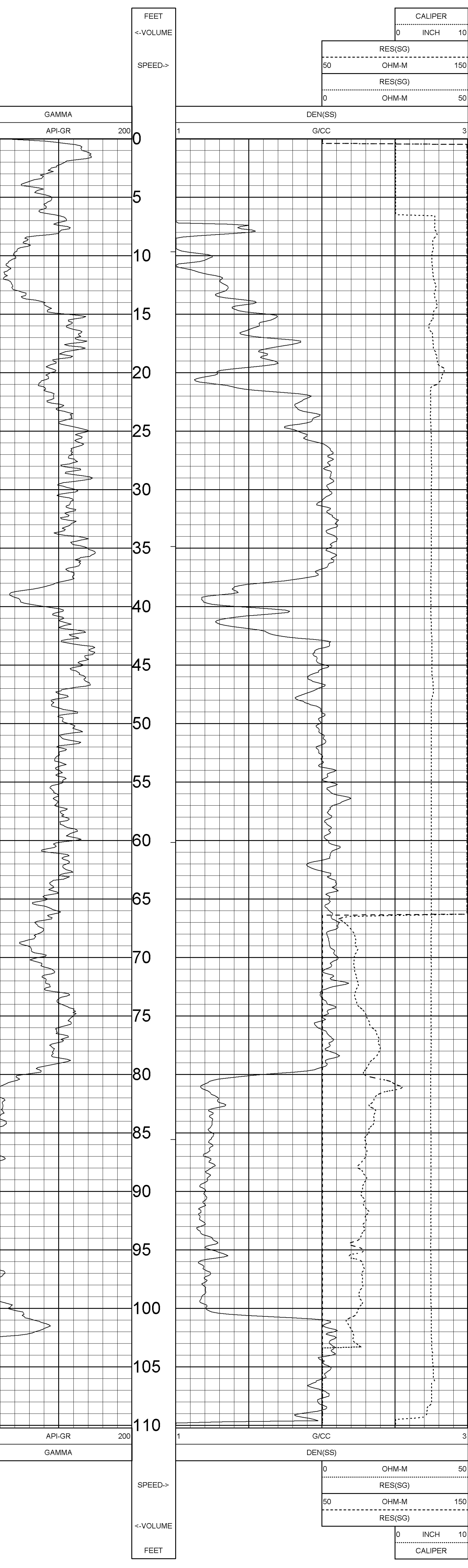
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-11R 10/28/06 09:59
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	:GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	:SHOB-12R	N/A	
FIELD	:SOUTH HEART	N/A	
COUNTY	:STARK	N/A	
STATE	:NORTH DAKOTA	N/A	
LOCATION	N/A		
SECTION	:16		
TOWNSHIP	:139N		
RANGE	:98W		
API 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 2586	
DATE	:10/16/06		
DEPTH DRILLER	:110		
BIT SIZE	:5.0		
LOG TOP	:0.50		
LOG BOTTOM	:110.10		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	:0		
WITNESSED BY	:D. LEPPERT		
RECORDED BY	:B. MATAS		
REMARKS 1	:SWANE QUARTER OF SECTION		
REMARKS 2	:E-648296 N-6190618		



TOOL CALIBRATION SHOB-12R 10/16/06 14:16
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY

SHOB-13R

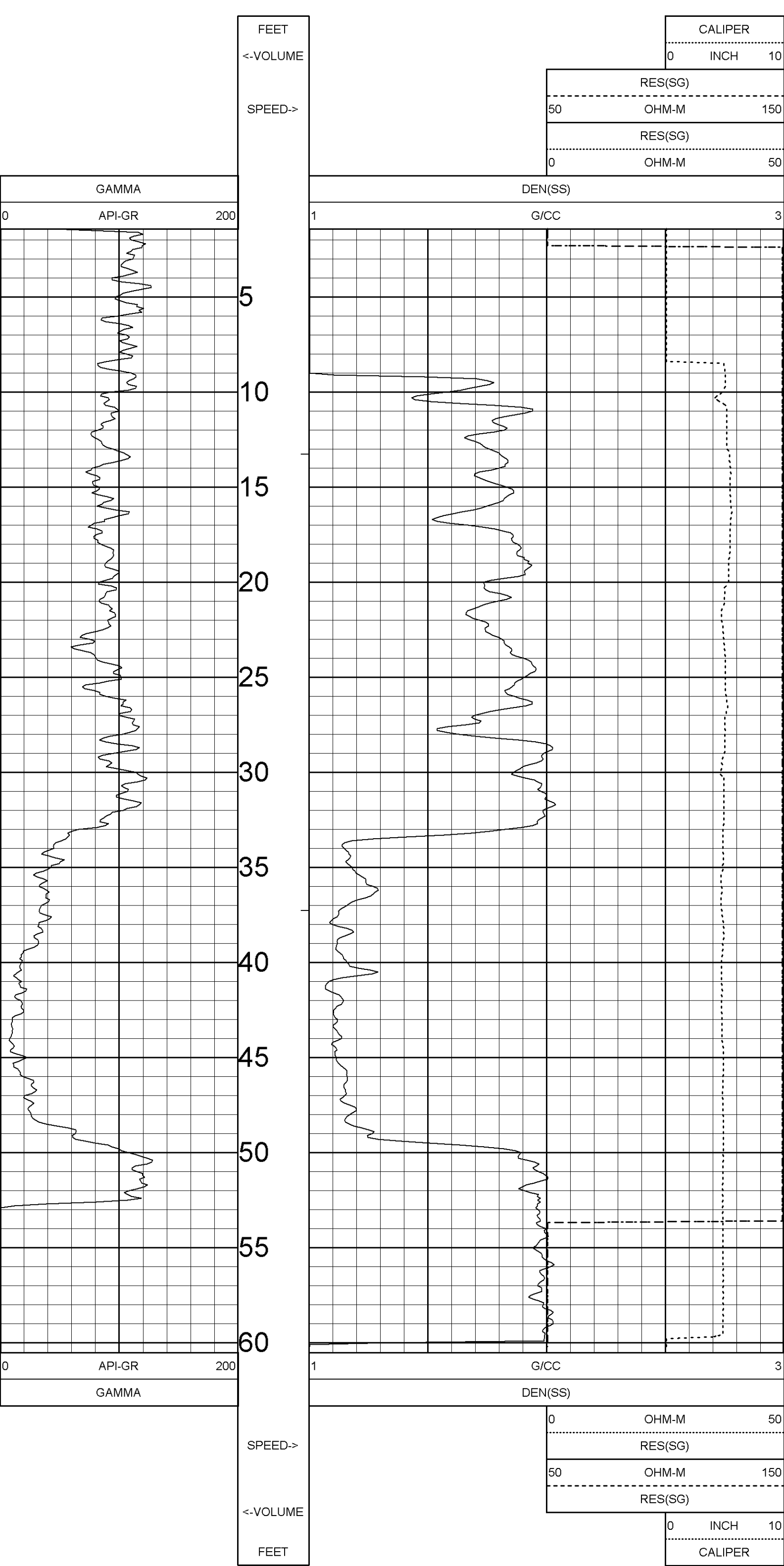
COMPANY : GOLDBER ASSOCIATES
 WELL : SHOB-13R
 FIELD : SOUTH HEART
 COUNTY : STARK
 STATE : NORTH DAKOTA

OTHER SERVICES:
 N/A
 N/A
 N/A

LOCATION : N/A
 SECTION : 16
 TOWNSHIP : 139N
 RANGE : 98W
 API 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 2579

DATE : 10/28/06
 DEPTH DRILLER : 60
 BIT SIZE : 5.0
 LOG TOP : 1.40
 LOG BOTTOM : 80.40
 CASING OD : N/A
 CASING BOTTOM : N/A
 CASING TYPE : N/A
 BOREHOLE FLUID : WATER
 RM TEMPERATURE : N/A
 MUD RES : N/A
 MUD WEIGHT : 0
 WITNESSED BY : J. ELLIOTT
 RECORDED BY : B. MATAS
 REMARKS 1 : SENE QUARTER OF SECTION
 REMARKS 2 : E=648094 N=5190648



TOOL CALIBRATION SHOB-13R 10/28/06 12:50
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
5	Aug21,06 20:49:17	CALIPER	4.000 [INCH]	693.00 [CPS]
6	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
7	Aug21,06 20:50:24	DENSITYH	Default [CPS]	Default [CPS]
8	Aug21,06 20:48:42	CALIPERL	4.000 [INCH]	380.00 [CPS]
9	Aug21,06 20:48:42	CALIPERL	8.000 [INCH]	1125.00 [CPS]

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

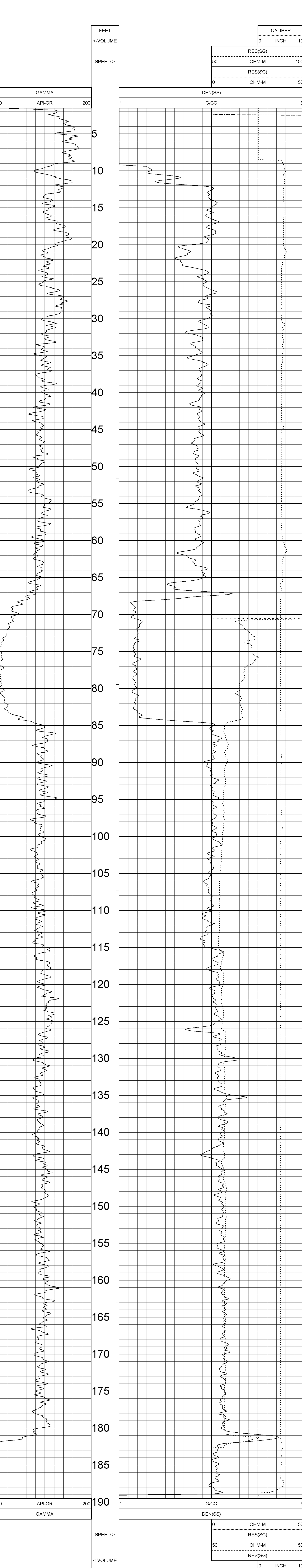
COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	SHOB-14R		
FIELD	SOUTH HEART		
COUNTY	STARK		
STATE	NORTH DAKOTA		

LOCATION	N/A
SECTION	15
TOWNSHIP	138N
RANGE	98W
API 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 2211

DATE	10/12/06
DEPTH DRILLER	180
BIT SIZE	5.0

LOG TOP	1.50
LOG BOTTOM	189.40
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	D. LEPPERT
RECORDED BY	B. MATIAS
REMARKS 1	N/A
REMARKS 2	N-5190982 E-640789



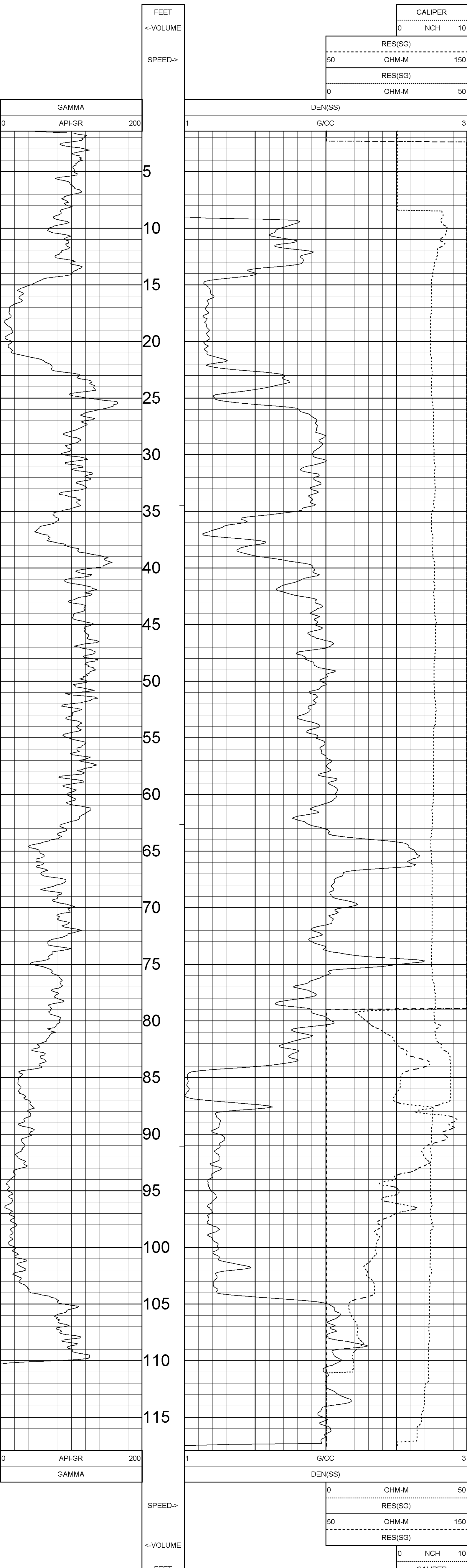
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default	[CPS]
1	Aug21,06 20:48:42	GAMMA	Default	[CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000	[G/CC]
2	Aug21,06 20:49:17	DEN(SS)	2.410	[G/CC]
3	Aug28,06 18:25:01	RES(SG)	Default	[CPS]
3	Aug28,06 18:25:01	RES(SG)	Default	[CPS]
4	Aug21,06 20:50:24	CALIPER	4.000	[INCH]
4	Aug21,06 20:50:24	CALIPER	6.040	[INCH]
5	Aug21,06 20:48:42	DENSITYH	Default	[CPS]
5	Aug21,06 20:48:42	DENSITYH	Default	[CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000	[INCH]
6	Aug21,06 20:50:44	CALIPERL	8.000	[INCH]

COMPANY	:GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	:SHOB-15C		N/A
FIELD	:SOUTH HEART		N/A
COUNTY	:STARK		N/A
STATE	:NORTH DAKOTA		N/A

LOCATION	N/A
SECTION	:15
TOWNSHIP	:139N
RANGE	:98W
API NO.	N/A
UNIQUE WELL ID.	N/A

PERMANENT DATUM	:GL	ELEVATION K8	N/A
LOG MEASURED FROM	:GL	ELEVATION DF	N/A
DRL MEASURED FROM	:GL	ELEVATION GL	:2451

DATE	:10/7/2008
DEPTH DRILLER	:118
BIT SIZE	:4.88
LOG TOP	:1.40
LOG BOTTOM	:117.80
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	:WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	:0
WITNESSED BY	:D. LEPPERT
RECORDED BY	:B. MATAS
REMARKS 1	:SWINE QUARTER OF SECTION
REMARKS 2	:E-649909 N=5190880



DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	1589.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

GAMMA-RES-DENSITY

SHOB-16R

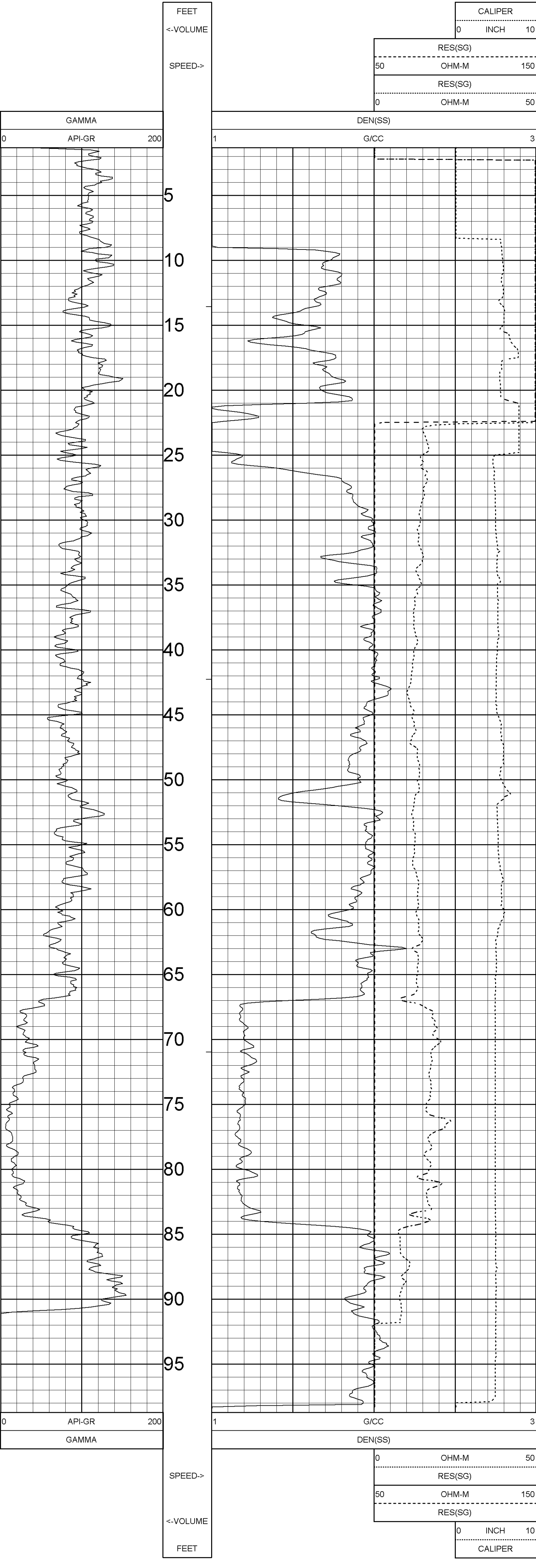
COMPANY: GOLDR ASSOCIATES
 WELL: SHOB-16R
 FIELD: SOUTH HEART
 COUNTY: STARK
 STATE: NORTH DAKOTA

OTHER SERVICES:
 N/A
 N/A
 N/A

LOCATION: N/A
 SECTION: 15
 TOWNSHIP: 139N
 RANGE: 98W
 API NO.: N/A
 UNIQUE WELL ID: N/A

PERMANENT DATUM: GL
 LOG MEASURED FROM: GL
 DRL MEASURED FROM: GL
 ELEVATION KB: N/A
 ELEVATION DF: N/A
 ELEVATION GL: 2852

DATE: 10/14/06
 DEPTH DRILLER: :100
 BIT SIZE: 5.0
 LOG TOP: -1.30
 LOG BOTTOM: 98.60
 CASING OD: N/A
 CASING ID: N/A
 CASING BOTTOM: N/A
 CASING TYPE: N/A
 BOREHOLE FLUID: WATER
 BOREHOLE FLUID: WATER
 RM TEMPERATURE: N/A
 MUD RES: N/A
 MUD WEIGHT: 0
 WITNESSED BY: D. LEPPERT
 RECORDED BY: B. MATAS
 REMARKS 1: SENW QUARTER OF SECTION
 REMARKS 2: E=650304 N=5190686



TOOL CALIBRATION SHOB-16R 10/14/06 11:44
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

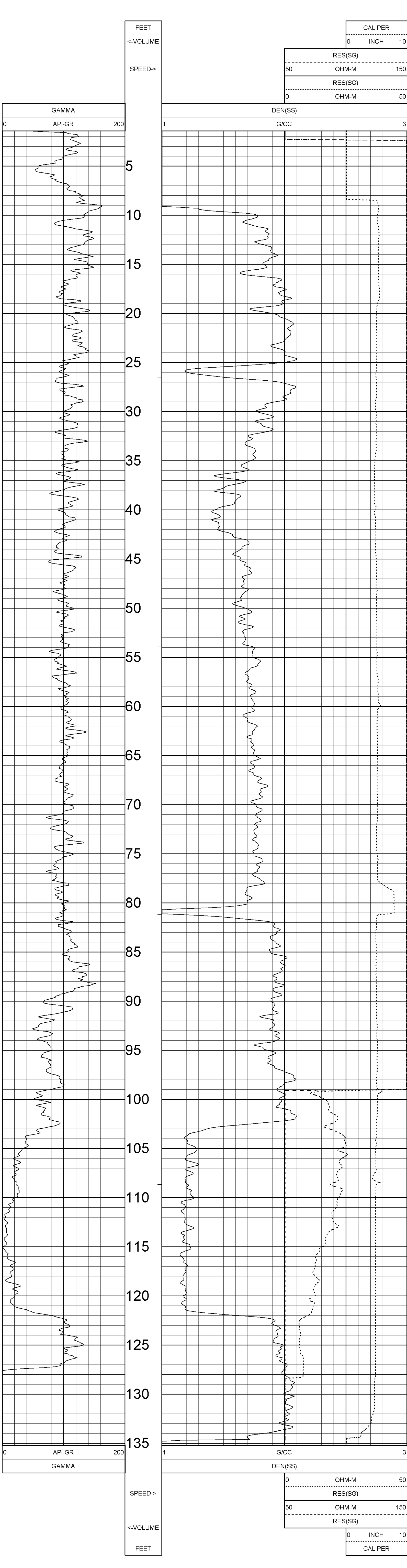
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.000 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES	
WELL	SHOB-17R		N/A
FIELD	SOUTH HEART		N/A
COUNTY	STARK		N/A
STATE	NORTH DAKOTA		N/A

LOCATION	N/A
SECTION	17
TOWNSHIP	139N
RANGE	98W
API NO.	N/A
UNIQUE WELL ID.	N/A

PERMANENT DATUM	GL	ELEVATION K8 N/A
LOG MEASURED FROM GL		ELEVATION DF N/A
DRL MEASURED FROM GL		ELEVATION GL 2997

DATE	10/27/06
DEPTH DRILLER	135
BIT SIZE	5.0
LOG TOP	1.40
LOG BOTTOM	135.10
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	J. ELLIOTT
RECORDED BY	B. MATIAS
REMARKS 1	SW/SE QUARTER OF SECTION
REMARKS 2	E=646703 N=8190171



TOOL CALIBRATION SHOB-17R 10/27/06 16:48
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
5	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

COMPANY GOLDBER ASSOCIATES

WELL SHOB-18R

FIELD SOUTH HEART

COUNTY STARK

STATE NORTH DAKOTA

LOCATION N/A

SECTION 17

TOWNSHIP 138N

RANGE 98W

API NO. N/A

UNIQUE WELL ID. N/A

PERMANENT DATUM GL

LOG MEASURED FROM GL

DATE 10/28/06

DEPTH DRILLER 130

BIT SIZE 5.0

LOG TOP 1.40

LOG BOTTOM 128.70

CASING OD N/A

CASING BOTTOM N/A

CASING TYPE N/A

BOREHOLE FLUID WATER

RM TEMPERATURE N/A

MUD RES N/A

MUD WEIGHT 0

WITNESSED BY J. ELLIOTT

RECORDED BY B. MATAS

REMARKS 1 SESW QUARTER OF SECTION

REMARKS 2 E-647106 N-6190185

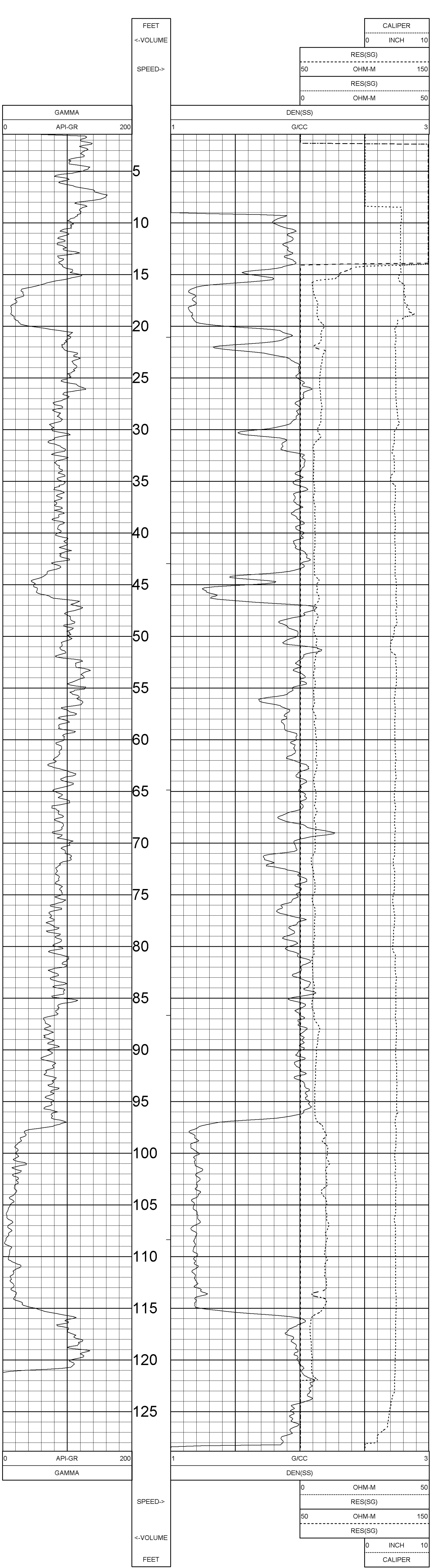
OTHER SERVICES:

N/A

N/A

N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-18R 10/28/06 08:41
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
5	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY

SHOB-19R

COMPANY: GOLDER ASSOCIATES

WELL: SHOB-19R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: N/A

SECTION: .16

TOWNSHIP: .139N

RANGE: .98W

API NO.: N/A

UNIQUE WELL ID.: N/A

PERMANENT DATUM: GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/28/06

DEPTH DRILLER: 70

BIT SIZE: 5.0

LOG TOP: 1.40

LOG BOTTOM: 70.10

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

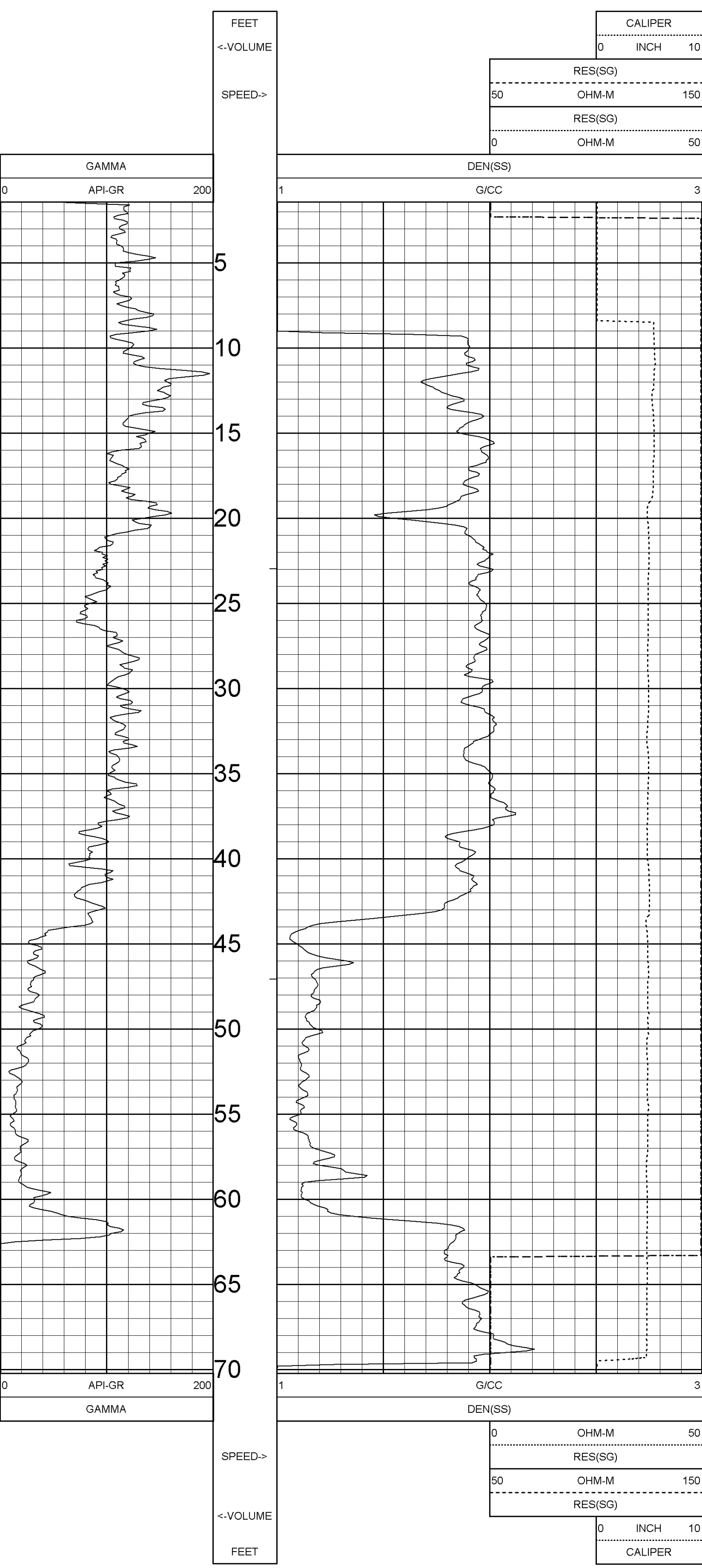
WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATIAS

REMARKS 1: SWSW QUARTER OF SECTION

REMARKS 2: E=647890 N=5190210

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-19R 10/28/06 11:03
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY

SHOB-20R

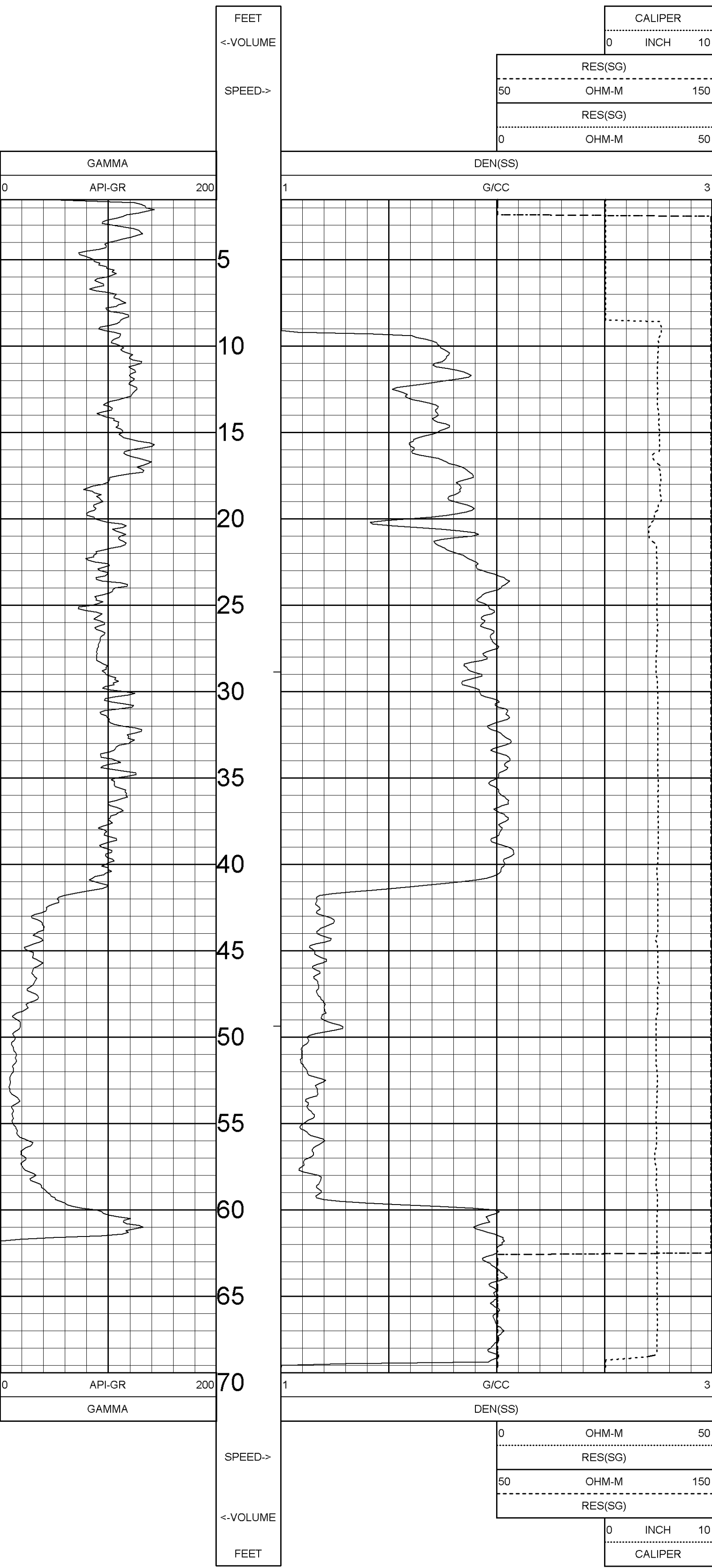
COMPANY: GOLDBER ASSOCIATES
 WELL: SHOB-20R
 FIELD: SOUTH HEART
 COUNTY: STARK
 STATE: NORTH DAKOTA

OTHER SERVICES:
 N/A
 N/A
 N/A

LOCATION: N/A
 SECTION: .16
 TOWNSHIP: .139N
 RANGE: .98W
 API NO.: N/A
 UNIQUE WELL ID.: N/A

PERMANENT DATUM: GL
 LOG MEASURED FROM: GL
 DRL MEASURED FROM: GL
 ELEVATION KB: N/A
 ELEVATION DF: N/A
 ELEVATION GL: 2688

DATE: 10/28/06
 DEPTH DRILLER: 70
 BIT SIZE: 5.0
 LOG TOP: 1.50
 LOG BOTTOM: 69.30
 CASING OD: N/A
 CASING BOTTOM: N/A
 CASING TYPE: N/A
 BOREHOLE FLUID: WATER
 RM TEMPERATURE: N/A
 MUD RES: N/A
 MUD WEIGHT: 0
 WITNESSED BY: J. ELLIOTT
 RECORDED BY: B. MATIAS
 REMARKS 1: SE/SW QUARTER OF SECTION
 REMARKS 2: E=648702 N=5190237



TOOL CALIBRATION SHOB-20R 10/28/06 11:56
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

COMPANY: GOLDER ASSOCIATES
WELL: SHOB-21R
FIELD: SOUTH HEART
COUNTY: STARK
STATE: NORTH DAKOTA

OTHER SERVICES:
N/A
N/A
N/A

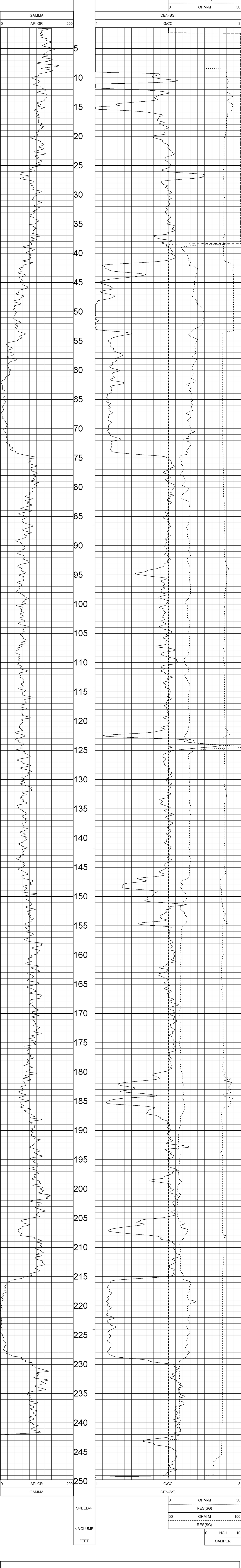
LOCATION: N/A
SECTION: 16
TOWNSHIP: 138N
RANGE: 38W
API NO.: N/A
UNIQUE WELL ID: N/A

PERMANENT DATUM: GL
ELEVATION: N/A
LOG MEASURED FROM: GL
DRL MEASURED FROM: GL
ELEVATION OF: N/A
ELEVATION: GL 3964

DATE: 10/15/06
DEPTH DRILLER: 250
BIT SIZE: 4.88
LOG TOP: 1.40
LOG BOTTOM: 249.80
CASING OD: N/A
CASING BOTTOM: N/A

CASING TYPE: N/A
BORHOLE FLUID: WATER
RM TEMPERATURE: N/A
MUD RES: N/A
MUD WEIGHT: 0
WITNESSED BY: D. LEPPERT
RECORDED BY: B. MATAS
REMARKS 1: SEISE QUARTER OF SECTION
REMARKS 2: E=649022 N=5190236

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-21R 10/15/06 15:24
TOOL 9033AA TM VERSION 3
SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1599.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	893.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY

SHOB-22R

COMPANY

:GOLDER ASSOCIATES

OTHER SERVICES:

WELL

:SHOB-22R

FIELD

:SOUTH HEART

COUNTY

:STARK

STATE

:NORTH DAKOTA

LOCATION

:N/A

SECTION

:15

TOWNSHIP

:139N

RANGE

:98W

API NO.

:N/A

UNIQUE WELL ID.

:N/A

PERMANENT DATUM

:GL

LOG MEASURED FROM

:GL

DRL MEASURED FROM

:GL

ELEVATION KB

:N/A

ELEVATION DF

:N/A

ELEVATION GL

:2743

DATE

:10/29/06

DEPTH DRILLER

:70

BIT SIZE

:5.0

LOG TOP

:1.50

LOG BOTTOM

:67.00

CASING OD

:N/A

CASING BOTTOM

:N/A

CASING TYPE

:N/A

BOREHOLE FLUID

:WATER

RM TEMPERATURE

:N/A

MUD RES

:N/A

MUD WEIGHT

:0

WITNESSED BY

:J. ELLIOTT

RECORDED BY

:B. MATAS

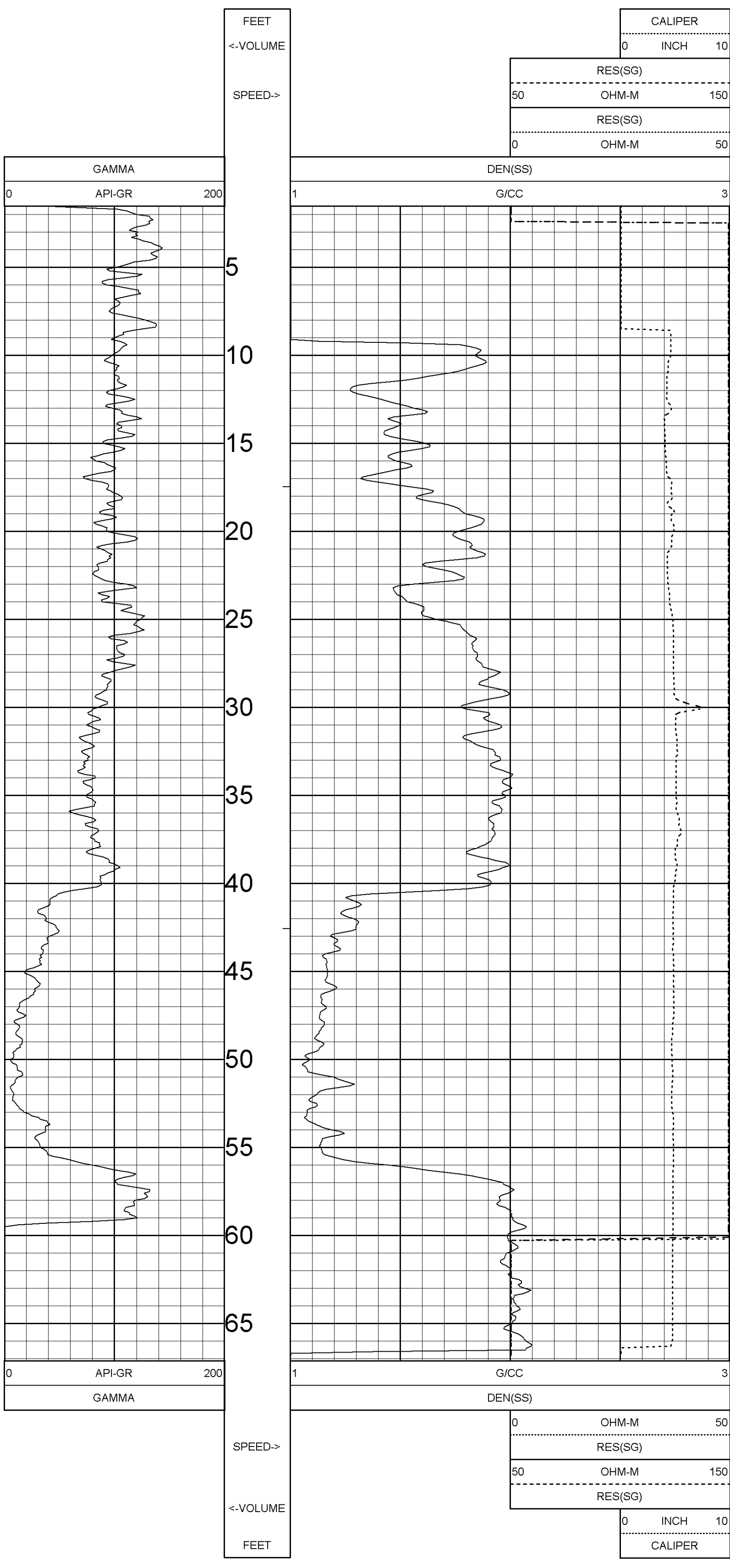
REMARKS 1

:S/W SW QUARTER OF SECTION

REMARKS 2

:E=649511 N=5190256

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-22R 10/29/06 12:03
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

	DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06	20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06	20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06	20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06	20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06	20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06	20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY: GOLDBER ASSOCIATES

WELL: SHOB-23R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

OTHER SERVICES:

N/A

N/A

N/A

LOCATION: N/A

SECTION: 15

TOWNSHIP: 139N

RANGE: 98W

API NO.: N/A

UNIQUE WELL ID.: N/A

PERMANENT DATUM: 3GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/29/06

DEPTH DRILLER: 105

BIT SIZE: 5.0

LOG TOP: 1.50

LOG BOTTOM: 105.10

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

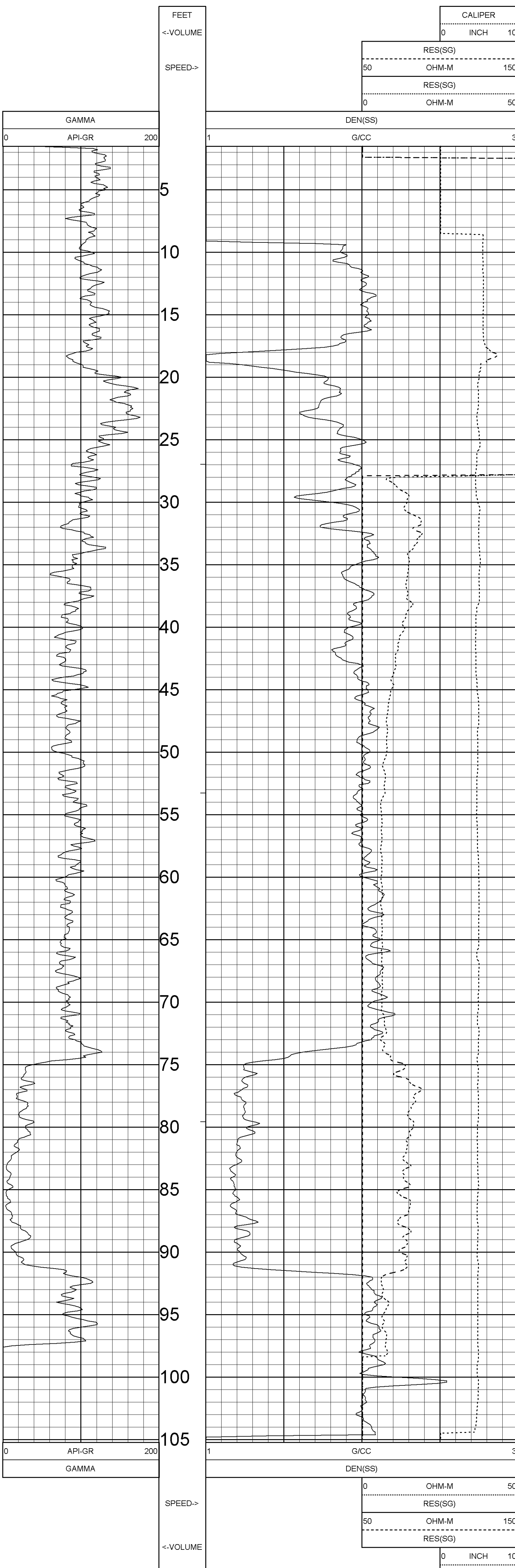
WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATAS

REMARKS 1: SW/SE QUARTER OF SECTION

REMARKS 2: E=649911 N=6190274

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-23R 10/29/06 13:44
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY: GOLDBER ASSOCIATES

WELL: SHOB-24R
 FIELD: SOUTH HEART
 COUNTY: STARK
 STATE: NORTH DAKOTA

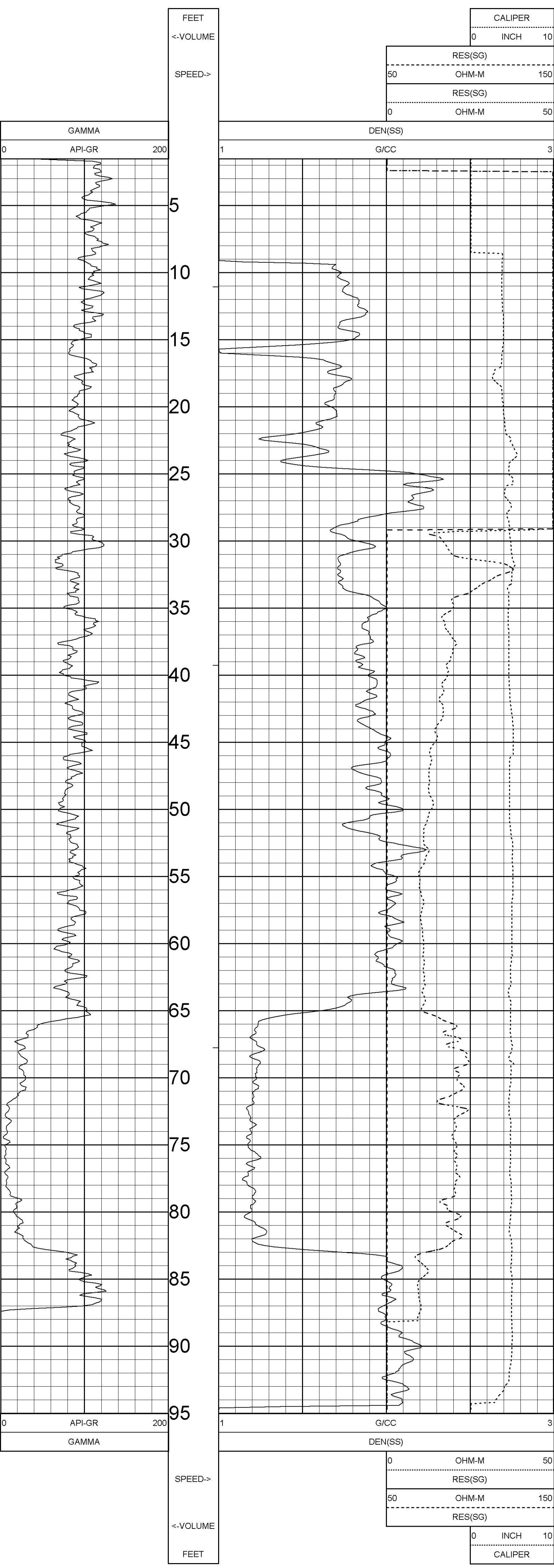
OTHER SERVICES:
 N/A
 N/A
 N/A

LOCATION: N/A
 SECTION: 15
 TOWNSHIP: 139N
 RANGE: 98W
 API NO.: N/A
 UNIQUE WELL ID.: N/A

PERMANENT DATUM: GL
 LOG MEASURED FROM: GL
 DRL MEASURED FROM: GL
 ELEVATION KB: N/A
 ELEVATION DF: N/A
 ELEVATION GL: 2572

DATE: 10/29/06
 DEPTH DRILLER: 95
 BIT SIZE: 5.0
 LOG TOP: 1.50
 LOG BOTTOM: 94.90
 CASING OD: N/A
 CASING BOTTOM: N/A
 CASING TYPE: N/A
 BOREHOLE FLUID: WATER
 RM TEMPERATURE: N/A
 MUD RES: N/A
 MUD WEIGHT: 0
 WITNESSED BY: J. ELLIOTT
 RECORDED BY: B. MATAS
 SEISE QUARTER OF SECTION: SEISE QUARTER OF SECTION
 REMARKS 1: E=650710 N=5190293
 REMARKS 2:

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-24R 10/29/06 14:55
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-25C

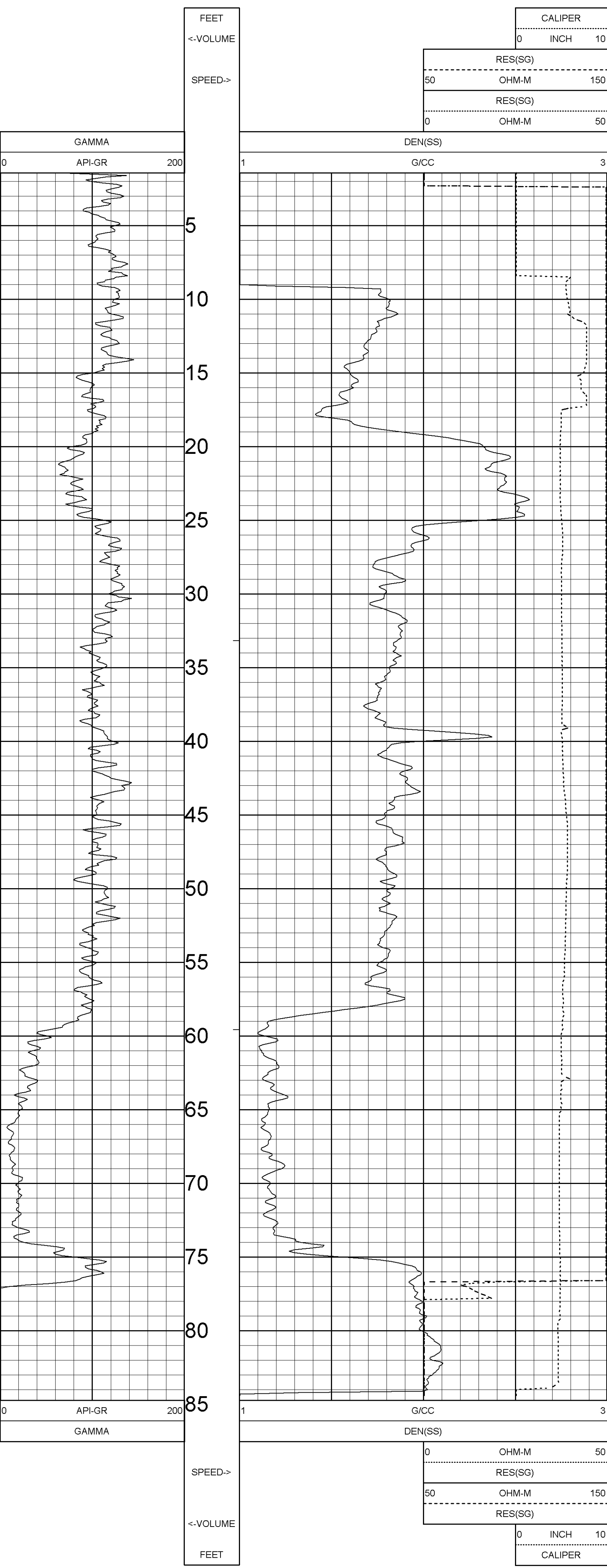
COMPANY :GOLDER ASSOCIATES
 WELL :SHOB-25C
 FIELD :SOUTH HEART
 COUNTY :STARK
 STATE :NORTH DAKOTA

OTHER SERVICES:
 N/A
 N/A
 N/A

LOCATION :N/A
 SECTION :21
 TOWNSHIP :139N
 RANGE :98W
 API NO. :N/A
 UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL
 LOG MEASURED FROM :GL
 DRL MEASURED FROM :GL
 ELEVATION KB :N/A
 ELEVATION DF :N/A
 ELEVATION GL :2803

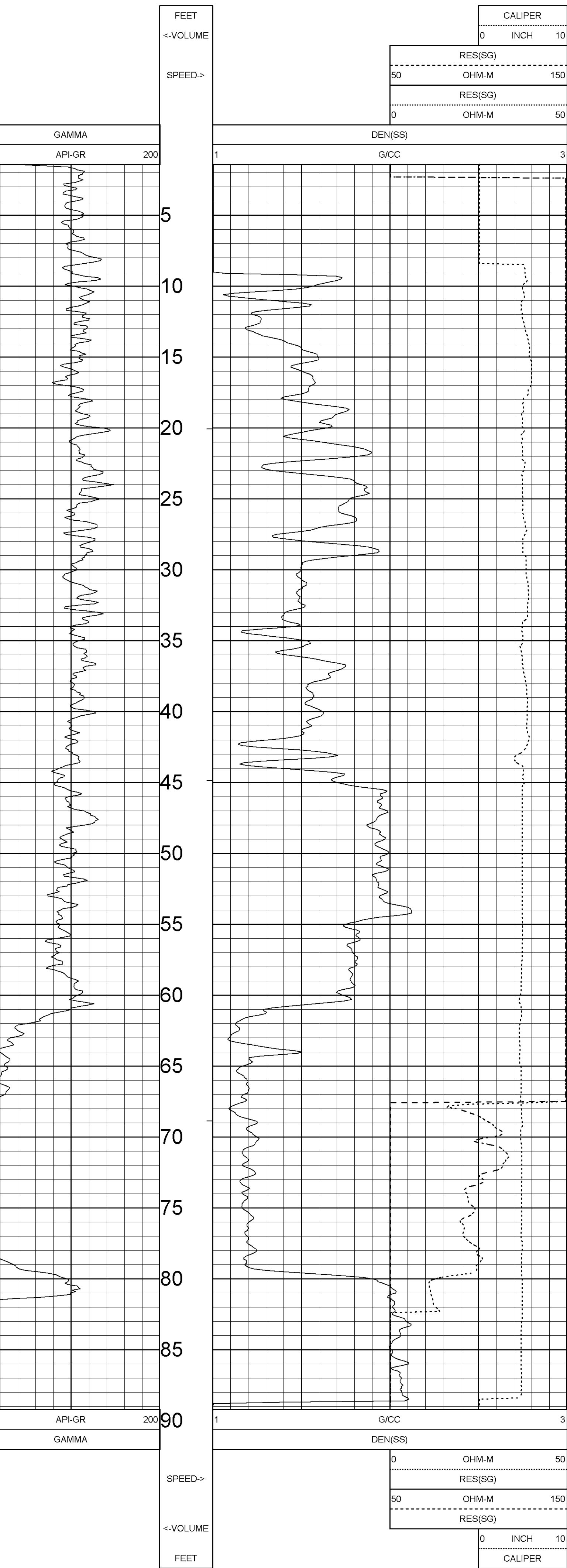
DATE :10/19/06
 DEPTH DRILLER :85
 BIT SIZE :5.0
 LOG TOP :1.40
 LOG BOTTOM :84.60
 CASING OD :N/A
 CASING BOTTOM :N/A
 CASING TYPE :N/A
 BOREHOLE FLUID :WATER
 BOREHOLE TEMPERATURE :N/A
 RM TEMPERATURE :N/A
 MUD RES :N/A
 MUD WEIGHT :0
 WITNESSED BY :D. LEPPERT
 RECORDED BY :B. MATAS
 N/W/NE QUARTER OF SECTION
 REMARKS 1 :E=648311 N=5189816
 REMARKS 2 :
 ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-25C 10/19/06 12:13
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug28,06 18:25:01	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	SHOB-26R	N/A	
FIELD	SOUTH HEART	N/A	
COUNTY	STARK	N/A	
STATE	NORTH DAKOTA	N/A	
LOCATION	N/A		
SECTION	21		
TOWNSHIP	139N		
RANGE	98W		
API 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	2765
DATE	10/26/06		
DEPTH DRILLER	90		
BIT SIZE	5.0		
LOG TOP	1.40		
LOG BOTTOM	89.10		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	0		
WITNESSED BY	J. ELLIOTT		
RECORDED BY	B. MATAS		
REMARKS 1	NENE QUARTER OF SECTION		
REMARKS 2	E=649125 N=5189844		

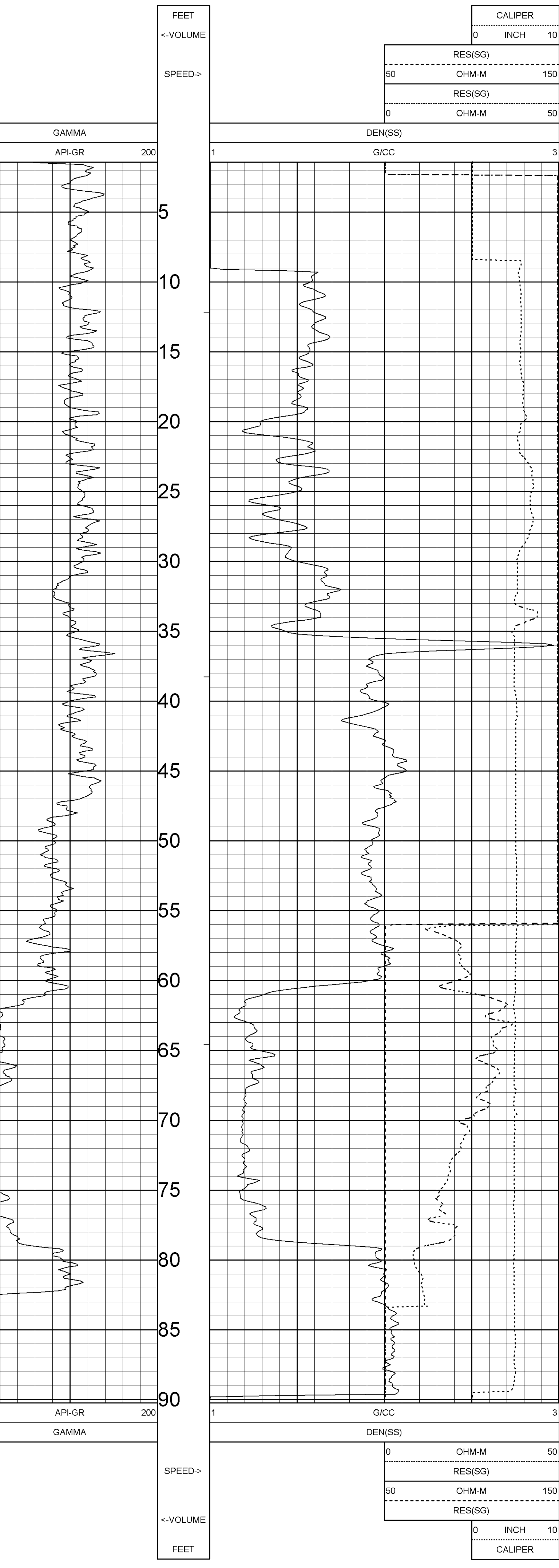


TOOL CALIBRATION SHOB-26R 10/26/06 14:17
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
5	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	SHOB-27R	N/A	
FIELD	SOUTH HEART	N/A	
COUNTY	STARK	N/A	
STATE	NORTH DAKOTA	N/A	
LOCATION	N/A		
SECTION	22		
TOWNSHIP	139N		
RANGE	98W		
API 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	2732
DATE	10/26/06		
DEPTH DRILLER	90		
BIT SIZE	5.0		
LOG TOP	1.40		
LOG BOTTOM	90.10		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	0		
WITNESSED BY	J. ELLIOTT		
RECORDED BY	B. MATAS		
REMARKS 1	NWNW QUARTER OF SECTION		
REMARKS 2	E=649525 N=5189854		



TOOL CALIBRATION SHOB-27R 10/26/06 11:29
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
5	Aug21,06 20:50:24	CALIPER	6.000 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



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GAMMA-RES-DENSITY
SHOB-28R

COMPANY: GOLDBER ASSOCIATES

WELL: SHOB-28R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: N/A

SECTION: 22

TOWNSHIP: 139N

RANGE: 98W

API NO.: N/A

UNIQUE WELL ID.: N/A

PERMANENT DATUM: 3GL

LOG MEASURED FROM: GL

DATE: 10/26/06

DEPTH DRILLER: 105

BIT SIZE: 5.0

LOG TOP: 1.40

LOG BOTTOM: 105.00

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATAS

REMARKS 1: N/MI NE QUARTER OF SECTION

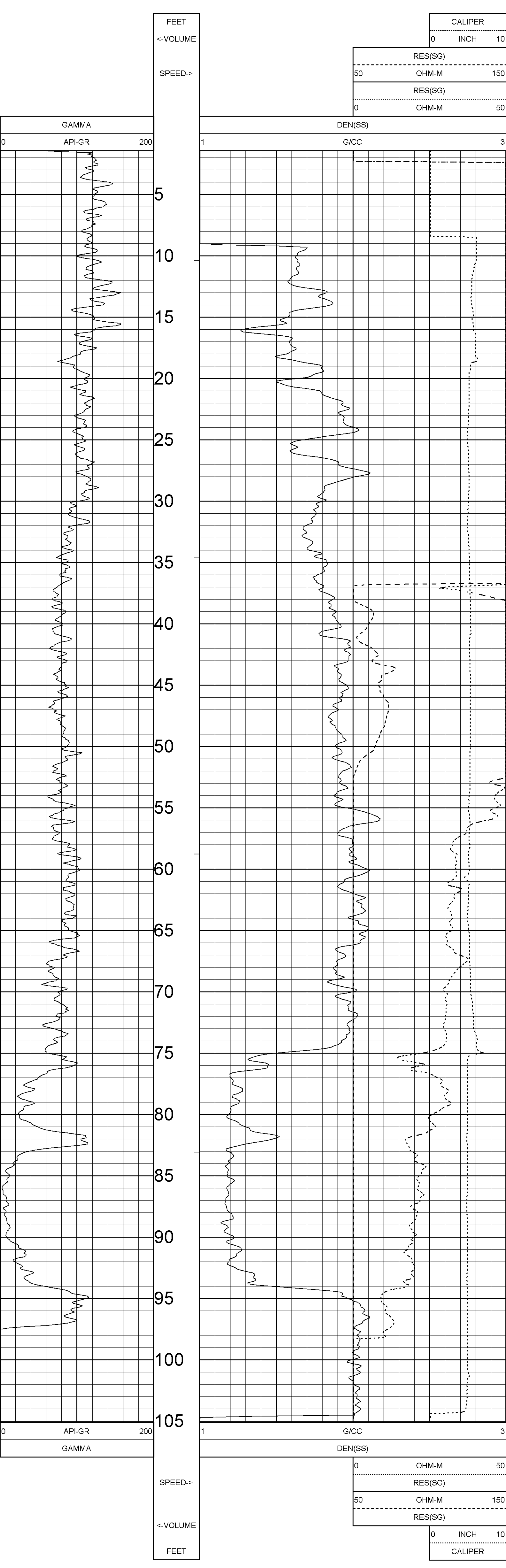
REMARKS 2: E=649830 N=5188863

ELEVATION KB: N/A

ELEVATION DF: N/A

ELEVATION GL: 2617

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-28R 10/26/06 10:32
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-29R

COMPANY :GOLDER ASSOCIATES

WELL :SHOB-29R

FIELD :SOUTH HEART

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:

N/A

LOCATION :N/A

SECTION :22

TOWNSHIP :139N

RANGE :98W

API 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 :2639

DATE :10/26/06

DEPTH DRILLER :85

BIT SIZE :5.0

LOG TOP :1.40

LOG BOTTOM :85.00

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :0

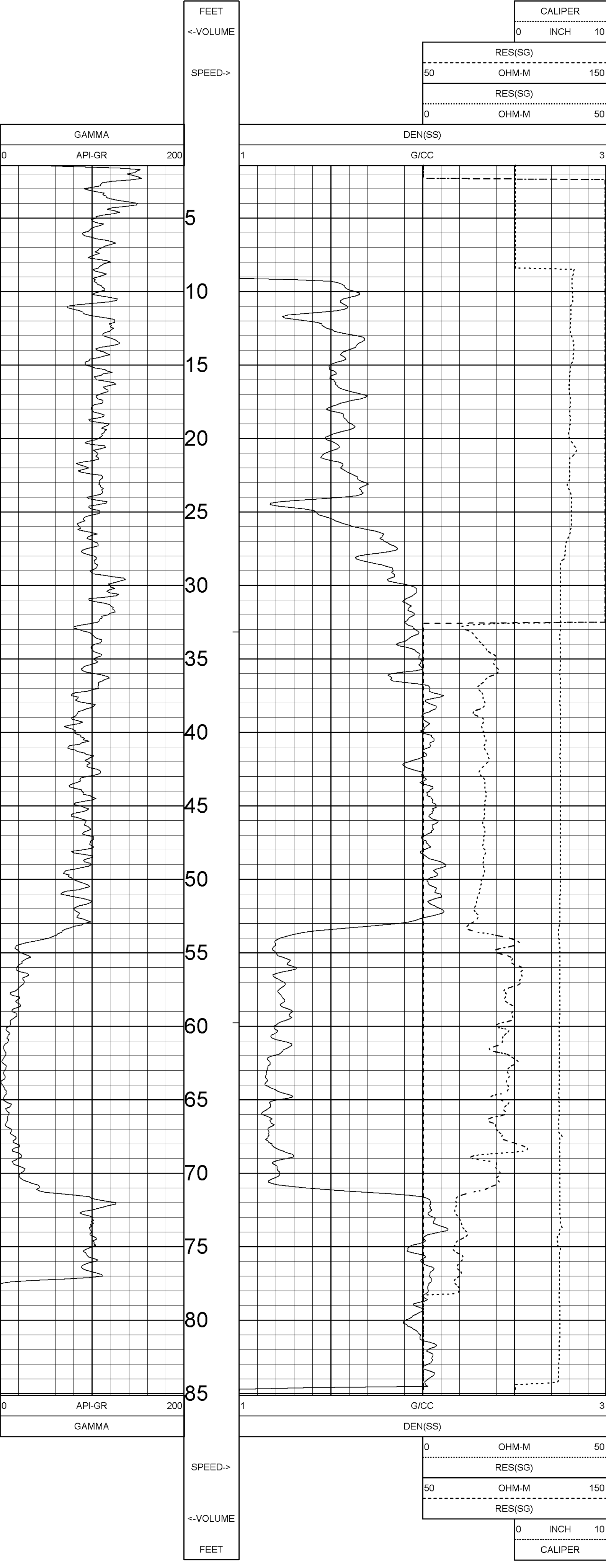
WITNESSED BY :J. ELLIOTT

RECORDED BY :B. MATAS

REMARKS 1 :NENW QUARTER OF SECTION

REMARKS 2 :E=650324 N=5189880

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-29R 10/26/06 09:17
TOOL 9033AA TM VERSION 3
SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.000 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

GAMMA-RES-DENSITY

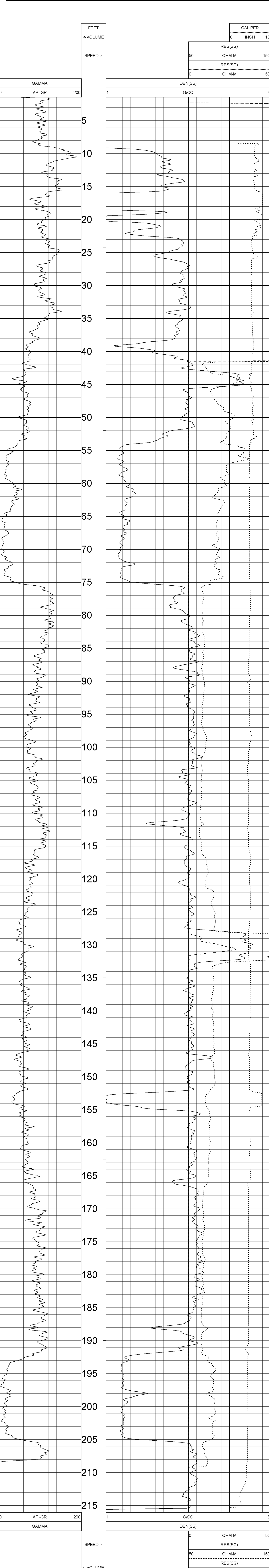
SHOB-30C

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES	
WELL	SHOB-30C		
FIELD	SOUTH HEART		
COUNTY	STARK		
STATE	NORTH DAKOTA		

LOCATION	N/A		
SECTION	23		
TOWNSHIP	138N		
RANGE	98W		
API 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 GI 2583

DATE	10/20/06
DEPTH DRILLER	220
BIT SIZE	5.0
LOG TOP	1.40
LOG BOTTOM	215.90
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	D. LEPPERT
RECORDED BY	B. MATIAS
NE/NW QUARTER OF SECTION	
REMARKS 1	E-661937 N-5169937
REMARKS 2	



DATE	TIME	SENSOR	STANDARD	RESPONSE
Aug21,06	21:48:42	GAMMA	Default	Default [CPS]
Aug21,06	20:48:42	GAMMA	Default	Default [CPS]
Aug21,06	20:49:17	DEN(SS)	1.000	5780.00 [CPS]
Aug21,06	20:49:17	DEN(SS)	2.410	1589.00 [CPS]
Aug28,06	18:25:01	RES(SG)	Default	Default [CPS]
Aug28,06	18:25:01	RES(SG)	Default	Default [CPS]
Aug21,06	20:50:24	CALIPER	4.000	693.00 [CPS]
Aug21,06	20:50:24	CALIPER	6.040	1515.00 [CPS]
Aug21,06	20:48:42	DENSITYH	Default	Default [CPS]
Aug21,06	20:48:42	DENSITYH	Default	Default [CPS]
Aug21,06	20:50:44	CALIPERL	4.000	380.00 [CPS]
Aug21,06	20:50:44	CALIPERL	8.000	1125.00 [CPS]

TOOL CALIBRATION SHOB-30C 10/20/06 11:39
TOOL 9033AA TM VERSION 3
SERIAL NUMBER 958

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

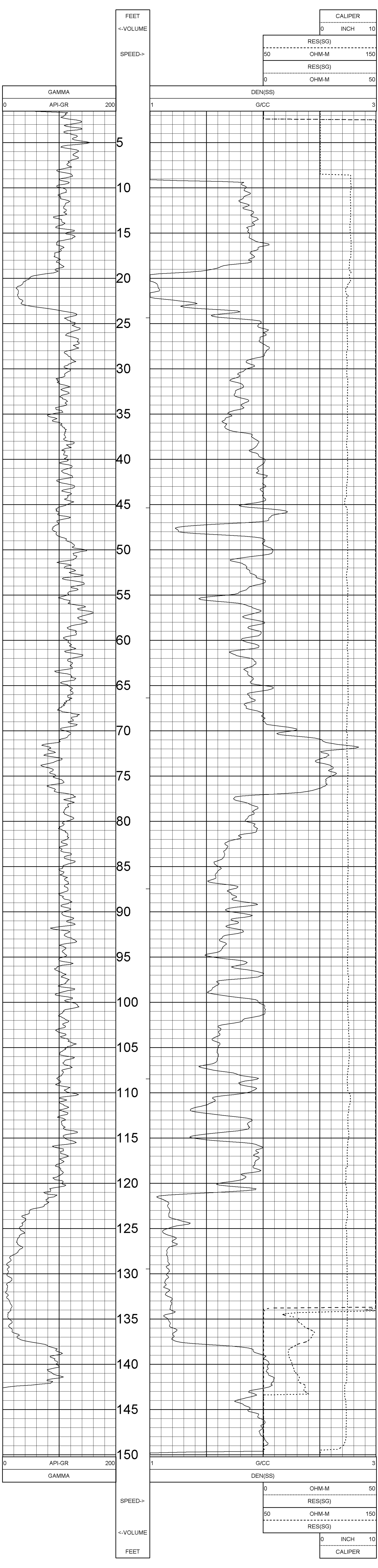
COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	N/A
WELL	SHOB-31R		N/A
FIELD	SOUTH HEART		N/A
COUNTY	STARK		N/A
STATE	NORTH DAKOTA		N/A

LOCATION	N/A		
SECTION	21		
TOWNSHIP	139N		
RANGE	98W		
API 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 SL	2494

DATE	10/27/06
DEPTH DRILLER	150
BIT SIZE	5.0
LOG TOP	1.50
LOG BOTTOM	150.10
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	J. ELLIOTT
RECORDED BY	B. MATAS
REMARKS 1	NW/SW QUARTER OF SECTION
REMARKS 2	E=647927 N=5189403

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS.



TOOL CALIBRATION SHOB-31R 10/27/06 11:35
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY

SHOB-32R

COMPANY: GOLDER ASSOCIATES
 WELL: SHOB-32R
 FIELD: SOUTH HEART
 COUNTY: STARK
 STATE: NORTH DAKOTA

OTHER SERVICES:
 N/A
 N/A
 N/A

LOCATION: N/A
 SECTION: 21
 TOWNSHIP: 139N
 RANGE: 98W
 API NO: N/A
 UNIQUE WELL ID: N/A

PERMANENT DATUM: GL
 LOG MEASURED FROM: GL
 DRL MEASURED FROM: GL
 DATE: 10/29/06

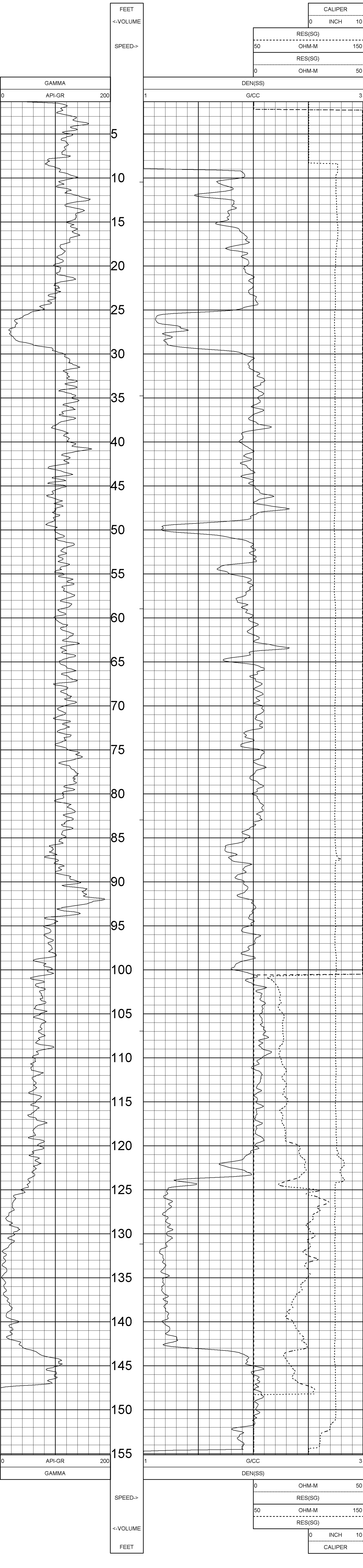
ELEVATION KB: N/A
 ELEVATION DF: N/A
 ELEVATION GL: 2743

DEPTH DRILLER: 155
 BIT SIZE: 5.0
 LOG TOP: 1.30
 LOG BOTTOM: 155.00
 CASING OD: N/A

CASING BOTTOM: N/A
 CASING TYPE: N/A
 BOREHOLE FLUID: WATER
 RM TEMPERATURE: N/A
 MUD RES: N/A
 MUD WEIGHT: 0

WITNESSED BY: J. ELLIOTT
 RECORDED BY: B. MATAS
 REMARKS 1: NEWSY QUARTER OF SECTION
 REMARKS 2: E=648729 N=5189438

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-32R 10/26/06 16:09
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-33R

COMPANY :GOLDER ASSOCIATES

WELL :SHOB-33R

FIELD :SOUTH HEART

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:
N/A
N/A
N/A

LOCATION :N/A

SECTION :22

TOWNSHIP :139N

RANGE :98W

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/26/06

DEPTH DRILLER :75

BIT SIZE :5.0

LOG TOP :1.40

LOG BOTTOM :75.10

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :0

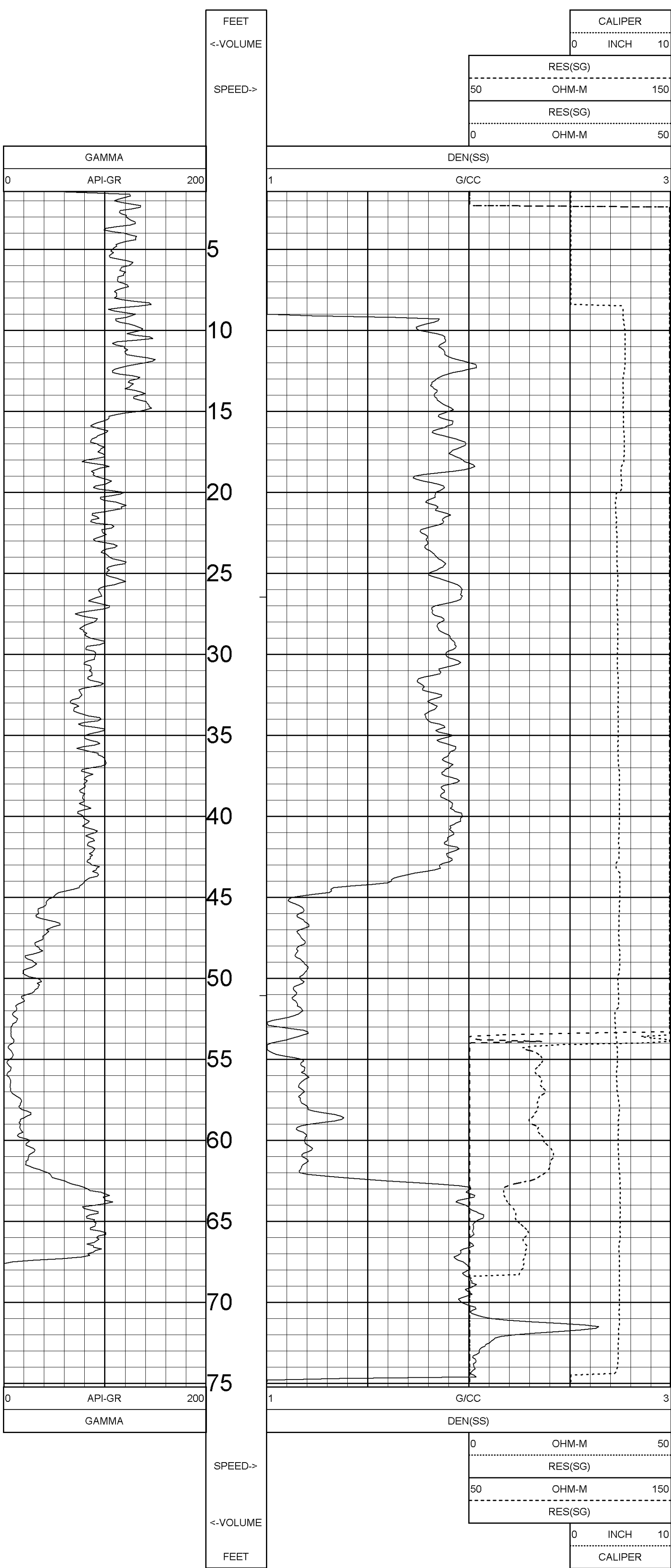
WITNESSED BY :J. ELLIOTT

RECORDED BY :B. MATAS

REMARKS 1 :NWSW QUARTER OF SECTION

REMARKS 2 :E=649529 N=5189461

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-33R 10/26/06 12:12
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
4	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
5	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
6	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
7	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
8	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
9	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
10	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
11	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
12	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES	N/A
WELL	SHOB-34R	FIELD	SOUTH HEART
COUNTY	STARK	STATE	NORTH DAKOTA

LOCATION	N/A
SECTION	22
TOWNSHIP	138N
RANGE	58W
API NO.	N/A
UNIQUE WELL ID.	N/A

PERMANENT DATUM	GL	ELEVATION	N/A
LOG MEASURED FROM	GL	ELEVATION DF	N/A
DRL MEASURED FROM	GL	ELEVATION GL	2750

DATE	10/20/06
DEPTH DRILLER	250
BIT SIZE	5.0

LOG TOP	1.30
LOG BOTTOM	246.90
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	D. LEPPERT
RECORDED BY	B. MATIAS
REMARKS 1	NW/SE QUARTER OF SECTION
REMARKS 2	E=649934 N=5199468



DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21.06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21.06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21.06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21.06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28.06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28.06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21.06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21.06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21.06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21.06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21.06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21.06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-35R

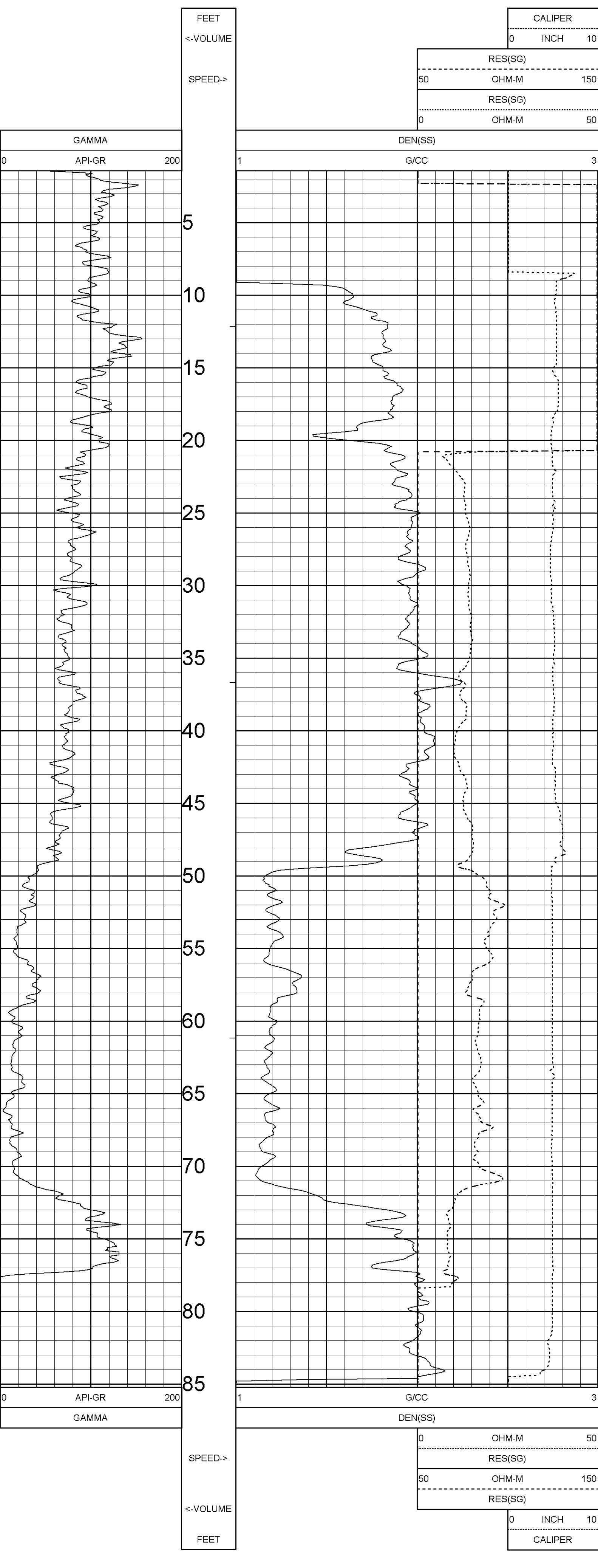
COMPANY :GOLDER ASSOCIATES
 WELL :SHOB-35R
 FIELD :SOUTH HEART
 COUNTY :STARK
 STATE :NORTH DAKOTA

LOCATION :N/A
 SECTION :23
 TOWNSHIP :139N
 RANGE :98W
 API NO. :N/A
 UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL
 LOG MEASURED FROM :GL
 DRL MEASURED FROM :GL
 DATE :10/25/06
 DEPTH DRILLER :85
 BIT SIZE :5.0
 LOG TOP :1.40
 LOG BOTTOM :85.10
 CASING OD :N/A
 CASING BOTTOM :N/A
 CASING TYPE :N/A
 BOREHOLE FLUID :WATER
 BOREHOLE TEMPERATURE :N/A
 MUD RES :N/A
 MUD WEIGHT :0
 WITNESSED BY :J. ELLIOTT
 RECORDED BY :B. MATAS
 REMARKS 1 :NE/SE QUARTER OF SECTION
 REMARKS 2 :E=652353 N=5189539

OTHER SERVICES:
 N/A
 N/A
 N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-35R 10/25/06 09:28
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
5	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
6	Aug21,06 20:50:44	DENSITYH	Default [CPS]	Default [CPS]
7	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
8	Aug21,06 20:48:42	CALIPERL	4.000 [INCH]	380.00 [CPS]
9	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY: GOLDER ASSOCIATES
WELL: SHOB-36R
FIELD: SOUTH HEART
COUNTY: STARK
STATE: NORTH DAKOTA

OTHER SERVICES:
N/A
N/A
N/A

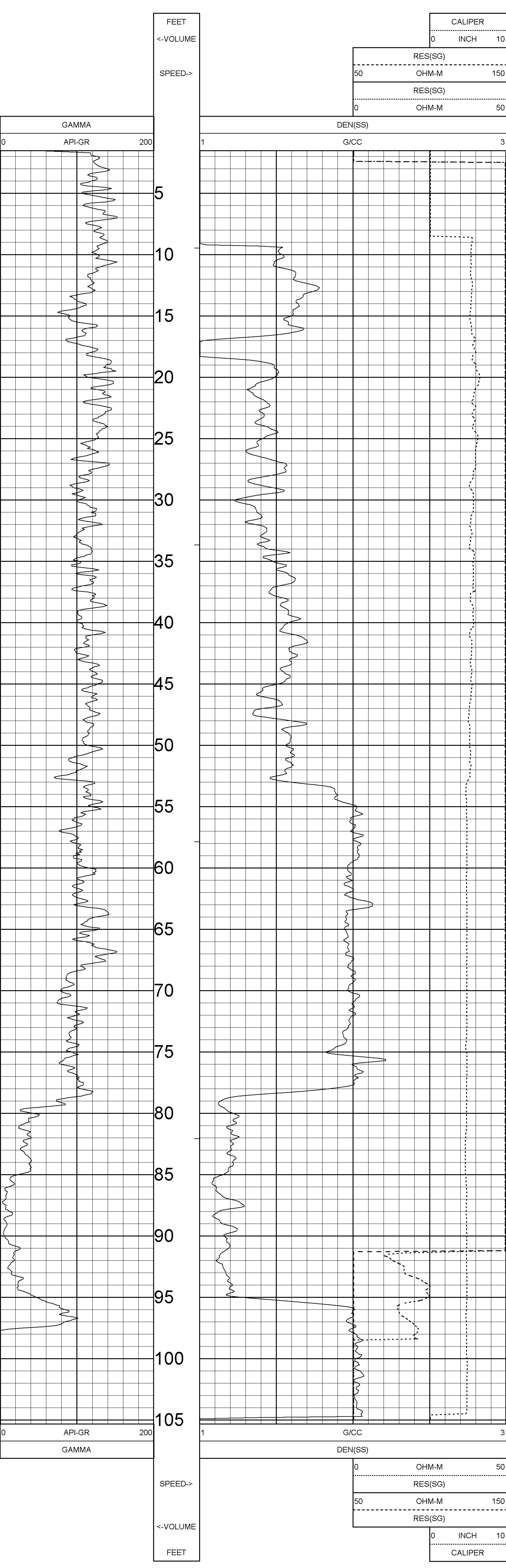
LOCATION: N/A
SECTION: 21
TOWNSHIP: 139N
RANGE: 98W
API NO.: N/A
UNIQUE WELL ID.: N/A

PERMANENT DATUM: 3GL
LOG MEASURED FROM: GL
DRL MEASURED FROM: GL
ELEVATION KB: N/A
ELEVATION DF: N/A
ELEVATION GL: 2565

DATE: 10/27/06
DEPTH DRILLER: 105
BIT SIZE: 5.0
LOG TOP: 1.50
LOG BOTTOM: 105.20
CASING OD: N/A
CASING BOTTOM: N/A

CASING TYPE: N/A
BOREHOLE FLUID: WATER
RM TEMPERATURE: N/A
MUD RES: N/A
MUD WEIGHT: 0
WITNESSED BY: J. ELLIOTT
RECORDED BY: B. MATAS
REMARKS 1: SWINE QUARTER OF SECTION
REMARKS 2: E=648333 N=5189017

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS.



TOOL CALIBRATION SHOB-36R 10/27/06 09:28
TOOL 9033AA TM VERSION 3
SERIAL NUMBER 958

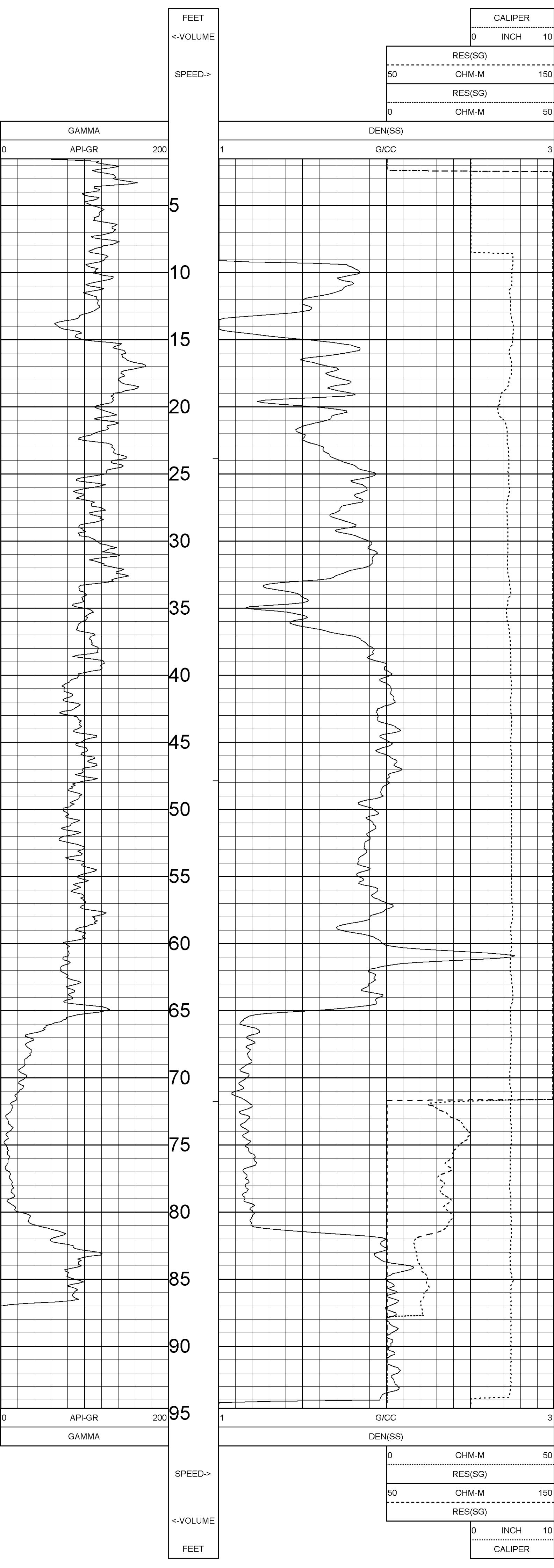
	DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06	20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06	20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06	20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06	20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06	20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06	20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	SHOB-37R		N/A
FIELD	SOUTH HEART		N/A
COUNTY	STARK		N/A
STATE	NORTH DAKOTA		N/A

LOCATION	N/A		
SECTION	21		
TOWNSHIP	139N		
RANGE	98W		
API 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	2566

DATE	10/27/06
DEPTH DRILLER	95
BIT SIZE	5.0
LOG TOP	1.50
LOG BOTTOM	94.50
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	J. ELLIOTT
RECORDED BY	B. MATAS
REMARKS 1	SENE QUARTER OF SECTION
REMARKS 2	E=649138 N=6189043



TOOL CALIBRATION SHOB-37R 10/27/06 08:26						
TOOL 9033AA TM VERSION 3						
SERIAL NUMBER 958						
DATE	TIME	SENSOR	STANDARD	RESPONSE		
1	Aug21,06 20:48:42	GAMMA	Default	[CPS]	Default	[CPS]
	Aug21,06 20:48:42	GAMMA	Default	[CPS]	Default	[CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000	[G/CC]	5780.00	[CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410	[G/CC]	1589.00	[CPS]
3	Aug28,06 18:25:01	RES(SG)	Default	[CPS]	Default	[CPS]
	Aug28,06 18:25:01	RES(SG)	Default	[CPS]	Default	[CPS]
4	Aug21,06 20:50:24	CALIPER	4.000	[INCH]	693.00	[CPS]
	Aug21,06 20:50:24	CALIPER	6.040	[INCH]	1515.00	[CPS]
5	Aug21,06 20:48:42	DENSITYH	Default	[CPS]	Default	[CPS]
	Aug21,06 20:48:42	DENSITYH	Default	[CPS]	Default	[CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000	[INCH]	380.00	[CPS]
	Aug21,06 20:50:44	CALIPERL	8.000	[INCH]	1125.00	[CPS]



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GAMMA-RES-DENSITY

SHOB-38R

COMPANY: GOLDR ASSOCIATES

WELL: SHOB-38R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: N/A

SECTION: 22

TOWNSHIP: 139N

RANGE: 98W

API NO.: N/A

UNIQUE WELL ID.: N/A

PERMANENT DATUM: GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/28/06

DEPTH DRILLER: 70

BIT SIZE: 5.0

LOG TOP: 1.50

LOG BOTTOM: 70.30

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

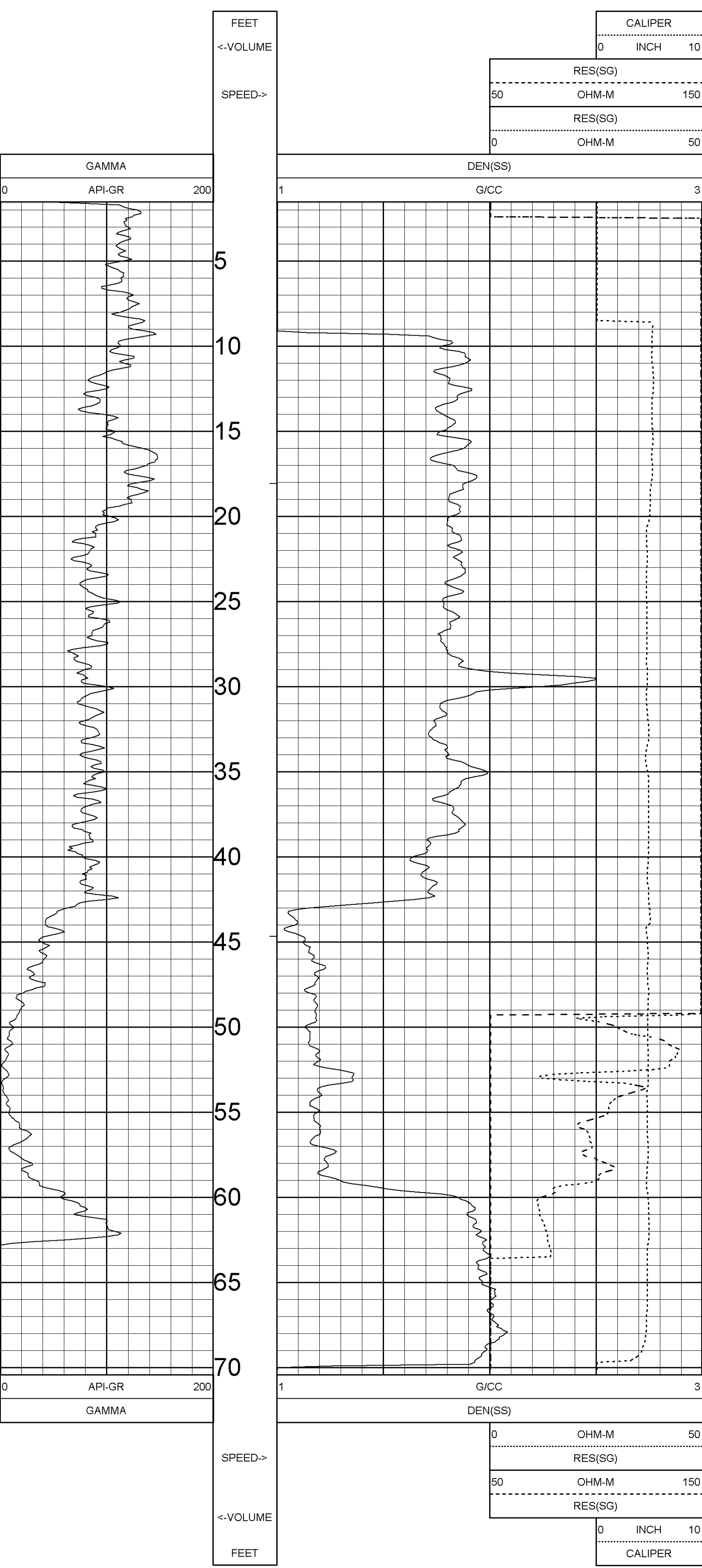
WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATIAS

REMARKS 1: SWNW QUARTER OF SECTION

REMARKS 2: E=649541 N=5189054

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-38R 10/26/06 13:20
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

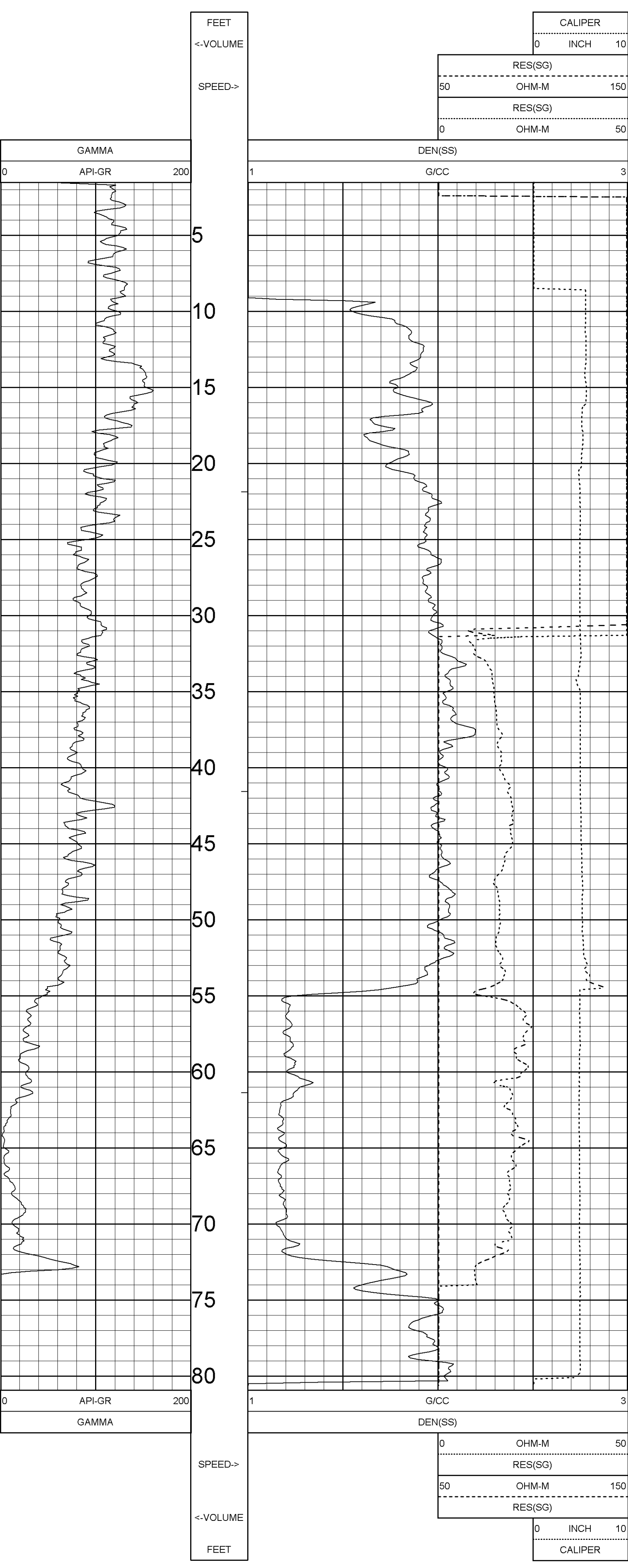
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY :GOLDER ASSOCIATES OTHER SERVICES:
WELL :SHOB-39R N/A
FIELD :SOUTH HEART N/A
COUNTY :STARK N/A
STATE :NORTH DAKOTA N/A

LOCATION :N/A
SECTION :23
TOWNSHIP :139N
RANGE :98W
API 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 :2587

DATE :10/25/06
DEPTH DRILLER :80
BIT SIZE :5.0
LOG TOP :1.50
LOG BOTTOM :80.80
CASING OD :N/A
CASING BOTTOM :N/A
CASING TYPE :N/A
BOREHOLE FLUID :WATER
RM TEMPERATURE :N/A
MUD RES :N/A
MUD WEIGHT :0
WITNESSED BY :J. ELLIOTT
RECORDED BY :B. MATAS
REMARKS 1 :SENVU QUARTER OF SECTION
REMARKS 2 :E=651965 N=5189129



TOOL CALIBRATION SHOB-39R 10/25/06 10:14
TOOL 9033AA TM VERSION 3
SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
4	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
5	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
7	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
8	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
9	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
10	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
11	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY

SHOB-40R

COMPANY :GOLDER ASSOCIATES

WELL :SHOB-40R

FIELD :SOUTH HEART

COUNTY :STARK

STATE :NORTH DAKOTA

LOCATION :N/A

SECTION :21

TOWNSHIP :139N

RANGE :98W

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/27/06

DEPTH DRILLER :50

BIT SIZE :5.0

LOG TOP :1.40

LOG BOTTOM :49.30

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :0

WITNESSED BY :J. ELLIOTT

RECORDED BY :B. MATAS

REMARKS 1 :SWSW QUARTER OF SECTION

REMARKS 2 :E=647944 N=5188594

OTHER SERVICES:

N/A

N/A

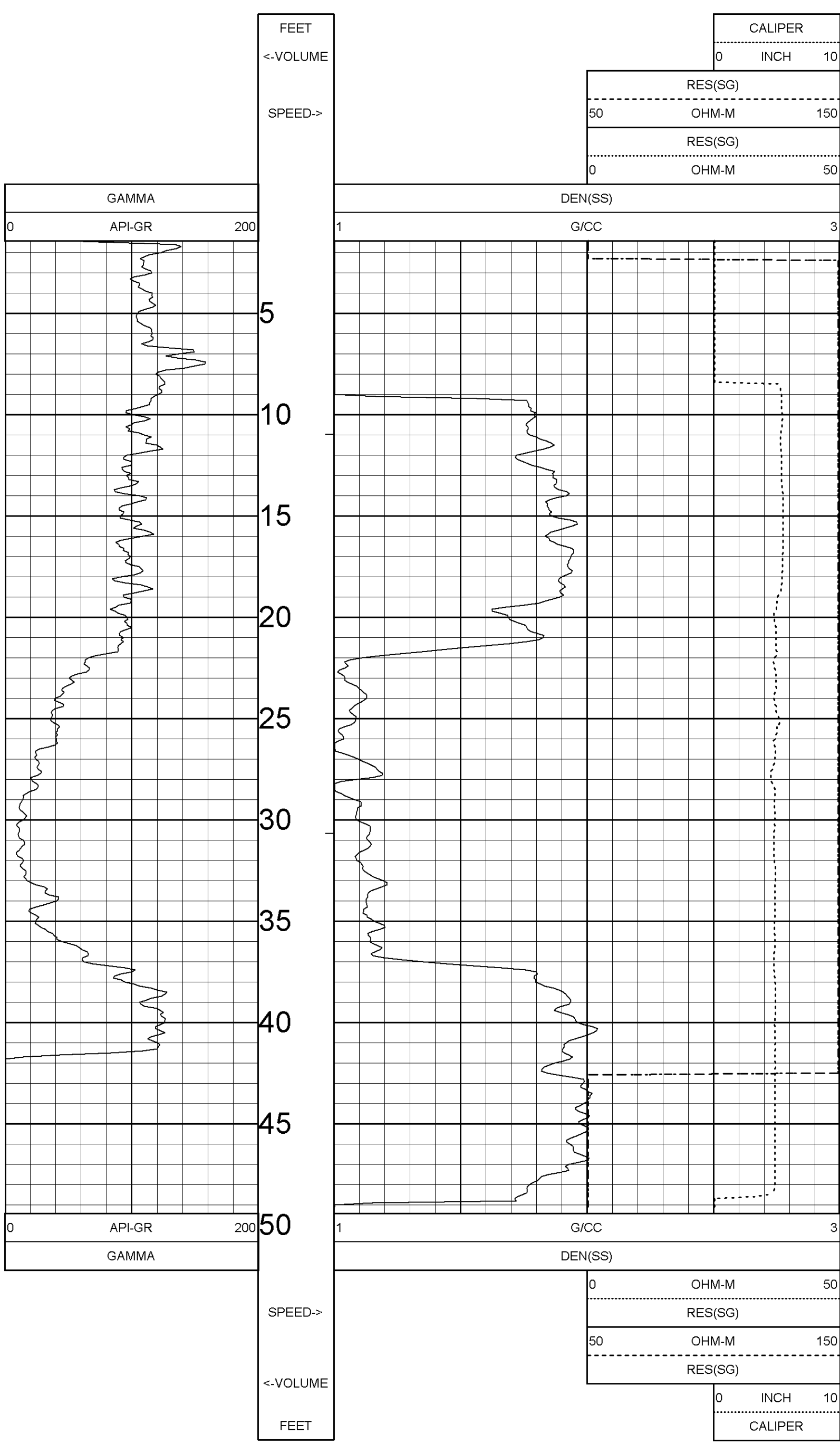
N/A

ELEVATION KB :N/A

ELEVATION DF :N/A

ELEVATION GL :2494

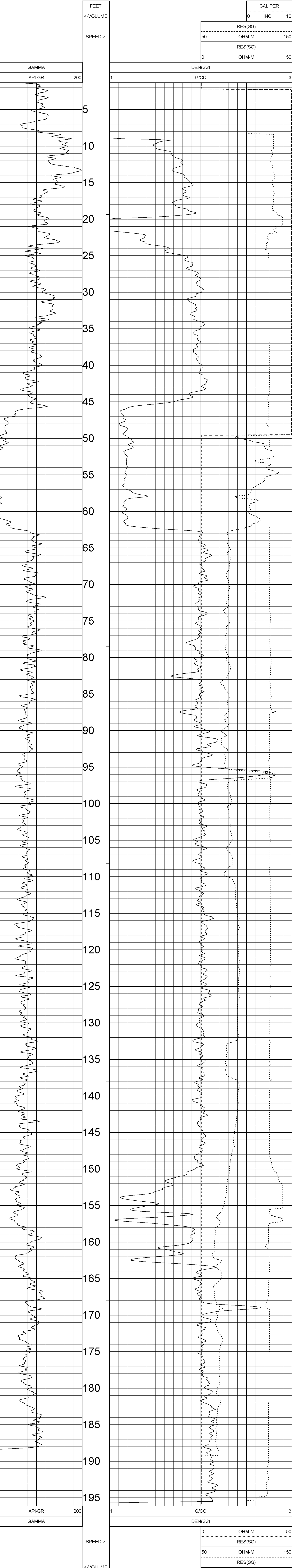
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-40R 10/27/06 10:10
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
2	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:
WELL	SHOB-41R	N/A
FIELD	SOUTH HEART	N/A
COUNTY	STARK	N/A
STATE	NORTH DAKOTA	N/A
LOCATION	N/A	
SECTION	21	
TOWNSHIP	138N	
RANGE	98W	
API 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 2547
DATE	10/14/06	
DEPTH DRILLER	200	
BIT SIZE	5.0	
LOG TOP	1.30	
LOG BOTTOM	198.00	
CASING OD	N/A	
CASING BOTTOM	N/A	
CASING TYPE	N/A	
BOREHOLE FLUID	WATER	
RT TEMPERATURE	N/A	
MUD RES	N/A	
MUD WEIGHT	0	
WITNESSED BY	D. LEPPERT	
RECORDED BY	B. MATAS	
REMARKS 1	SEISE QUARTER OF SECTION	
REMARKS 2	E-869153 N-5198939	



TOOL CALIBRATION SHOB-41R 10/14/06 09:16
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug28,06 18:25:01	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
4	Aug21,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
5	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
5	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-42R

COMPANY: GOLDER ASSOCIATES

WELL: SHOB-42R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: N/A

SECTION: 23

TOWNSHIP: 139N

RANGE: 98W

API NO.: N/A

UNIQUE WELL ID.: N/A

PERMANENT DATUM: GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/25/06

DEPTH DRILLER: 70

BIT SIZE: 5.0

LOG TOP: 1.40

LOG BOTTOM: 71.30

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

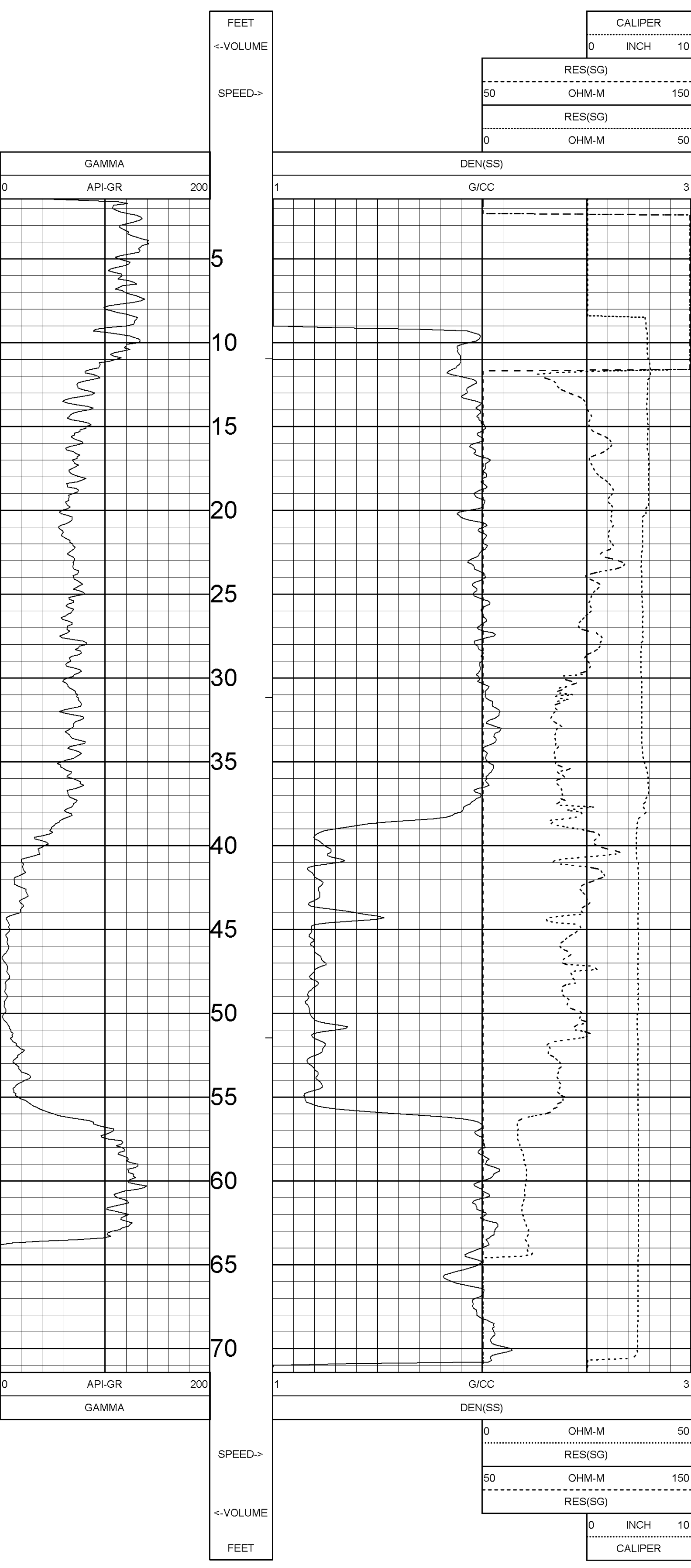
WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATIAS

REMARKS 1: SWSW QUARTER OF SECTION

REMARKS 2: E=651159 N=5188700

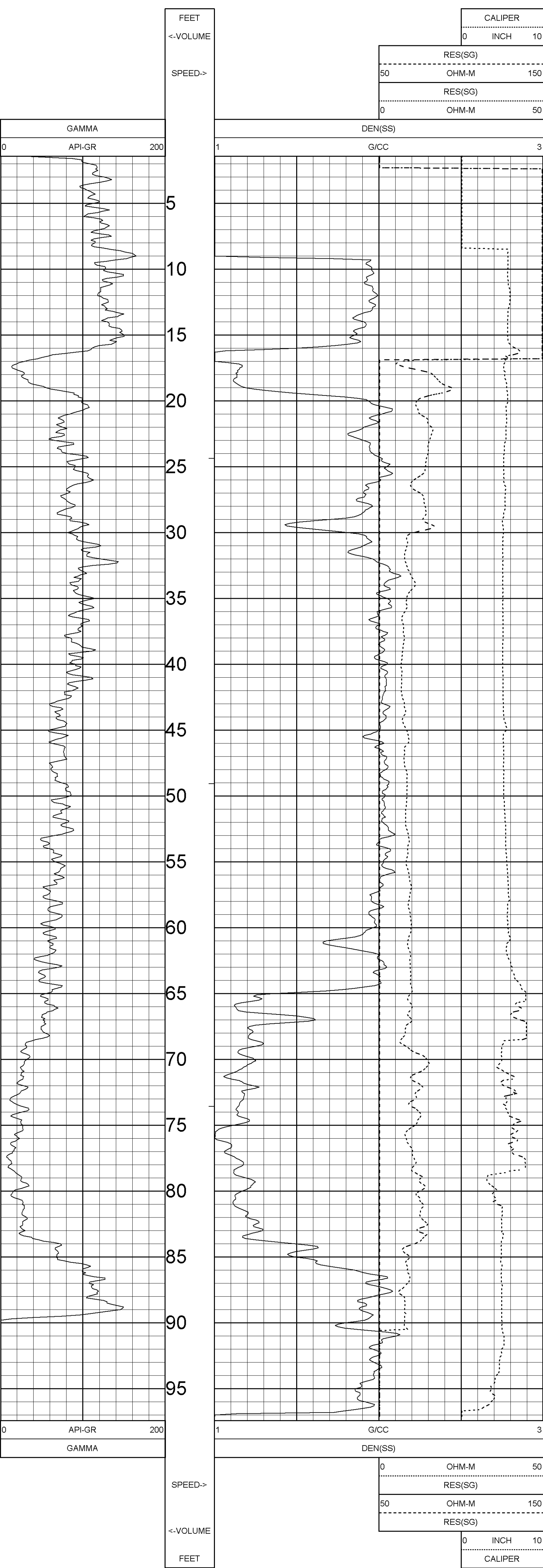
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-42R 10/25/06 12:19
 SERIAL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
3	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
4	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
5	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
6	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
7	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
8	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
9	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
10	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
11	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
12	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

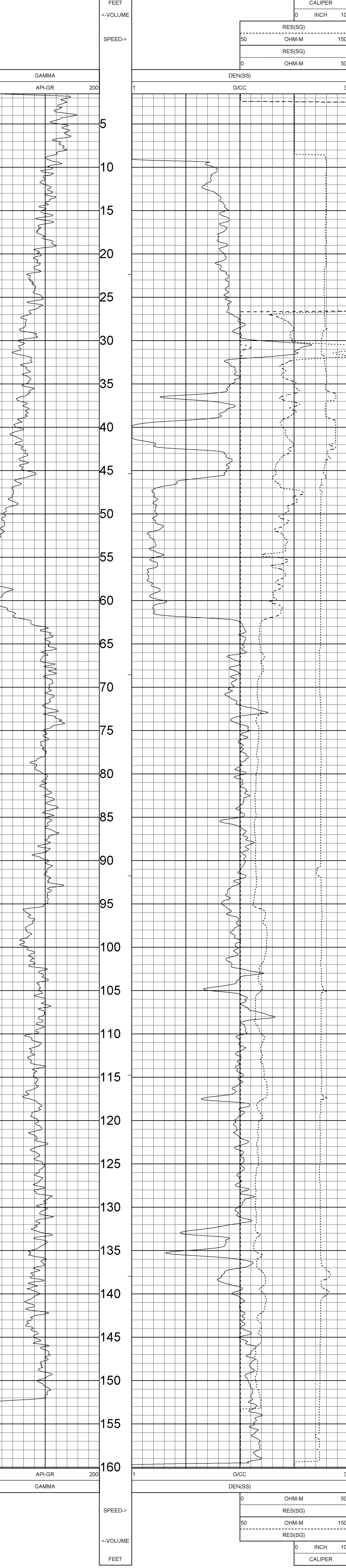
COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:
WELL	SHOB-43R	N/A
FIELD	SOUTH HEART	N/A
COUNTY	STARK	N/A
STATE	NORTH DAKOTA	N/A
LOCATION	N/A	
SECTION	23	
TOWNSHIP	139N	
RANGE	98W	
API NO.	N/A	
UNIQUE WELL ID.	N/A	
PERMANENT DATUM	GL	ELEVATION KB N/A
LOG MEASURED FROM	GL	ELEVATION DF N/A
DRL MEASURED FROM	GL	ELEVATION QL 2517
DATE	10/25/06	
DEPTH DRILLER	100	
BIT SIZE	5.0	
LOG TOP	1.40	
LOG BOTTOM	97.30	
CASING OD	N/A	
CASING BOTTOM	N/A	
CASING TYPE	N/A	
BOREHOLE FLUID	WATER	
RM TEMPERATURE	N/A	
MUD RES	N/A	
MUD WEIGHT	0	
WITNESSED BY	J. ELLIOTT	
RECORDED BY	B. MATAS	
REMARKS 1	SEISE QUARTER OF SECTION	
REMARKS 2	E=652376 N=6188736	



TOOL CALIBRATION SHOB-43R 10/25/06 11:14
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	
WELL	SHOB-44R	OTHER SERVICES:
FIELD	SOUTH HEART	N/A
COUNTY	STARK	N/A
STATE	NORTH DAKOTA	N/A
LOCATION	N/A	
SECTION	27	
TOWNSHIP	139N	
RANGE	98W	
API NO.	N/A	
UNIQUE WELL ID.	N/A	
PERMANENT DATUM	GL	ELEVATION KB N/A
LOG MEASURED FROM	GL	ELEVATION DF N/A
DRI MEASURED FROM	GL	ELEVATION GL 2520
DATE	10/11/09	
DEPTH DRILLER	160	
BIT SIZE	5.0	
LOG TOP	1.50	
LOG BOTTOM	160.00	
CASING OD	N/A	
CASING BOTTOM	N/A	
CASING TYPE	N/A	
BOREHOLE FLUID	WATER	
RM TEMPERATURE	N/A	
MUD RES	N/A	
MUD WEIGHT	0	
WITNESSED BY	D. LEPPERT	
RECORDED BY	B. MATAS	
REMARKS 1	N/A	
REMARKS 2	NE/NE E=650789 N=5188283	



TOOL CALIBRATION SHOB-44R 10/11/06 13:57
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 21:48:42	GAMMA	Default [CPS]	Default [CPS]
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
4	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
6	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



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GAMMA-RES-DENSITY
SHOB-45R

COMPANY: GOLDR ASSOCIATES

WELL: SHOB-45R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: N/A

SECTION: 27

TOWNSHIP: 139N

RANGE: 98W

API NO.: N/A

UNIQUE WELL ID.: N/A

PERMANENT DATUM: GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/28/06

DEPTH DRILLER: 70

BIT SIZE: 5.0

LOG TOP: 1.40

LOG BOTTOM: 69.50

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

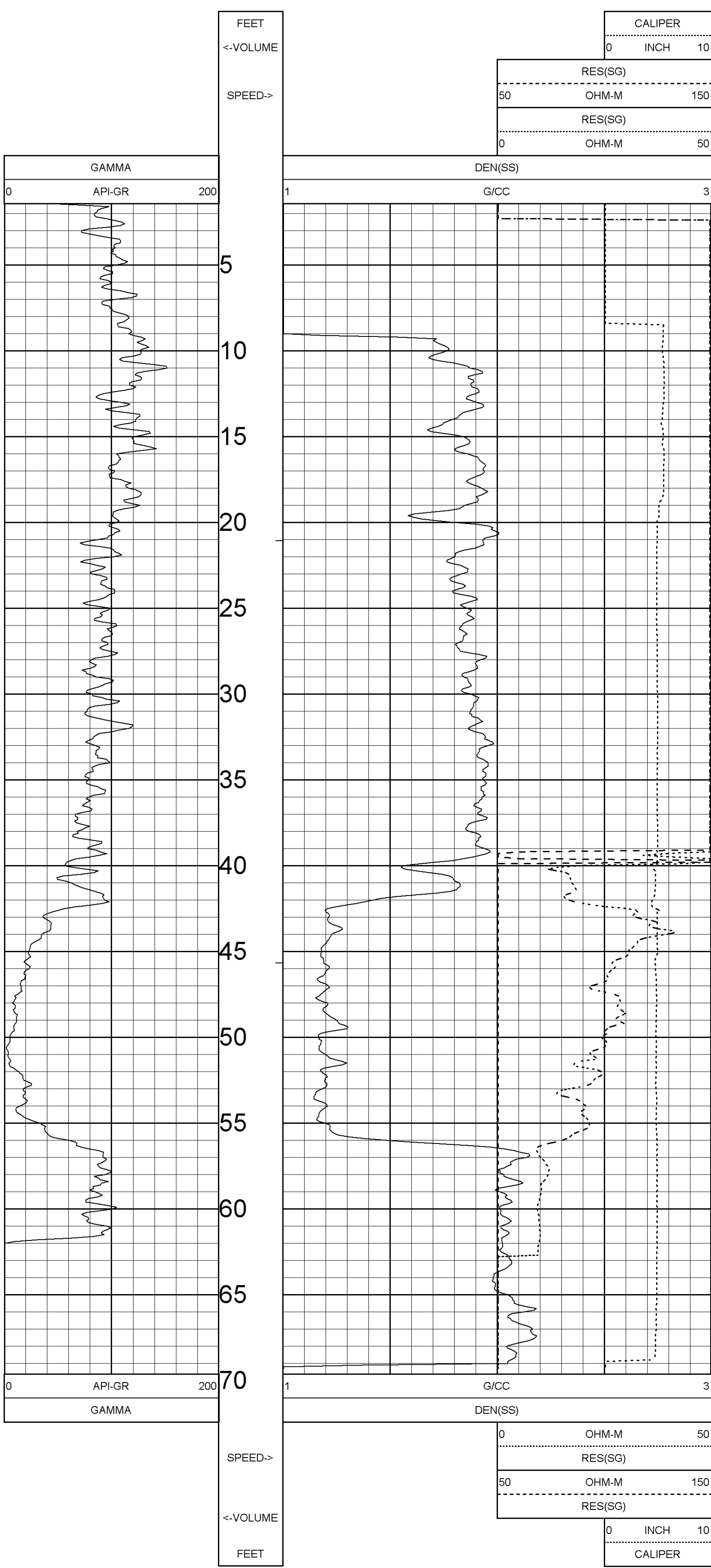
WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATIAS

REMARKS 1: SWNW QUARTER OF SECTION

REMARKS 2: E=649571 N=5187449

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-45R 10/26/06 08:08
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

	DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06	20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06	20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06	20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06	20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06	20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06	20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY: GOLDR ASSOCIATES

WELL: SHOB-46R

FIELD: SOUTH HEART

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: N/A

SECTION: 27

TOWNSHIP: 139N

RANGE: 98W

API NO.: N/A

UNIQUE WELL ID: N/A

PERMANENT DATUM: GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/25/06

DEPTH DRILLER: 100

BIT SIZE: 5.0

LOG TOP: 1.50

LOG BOTTOM: 100.50

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 0

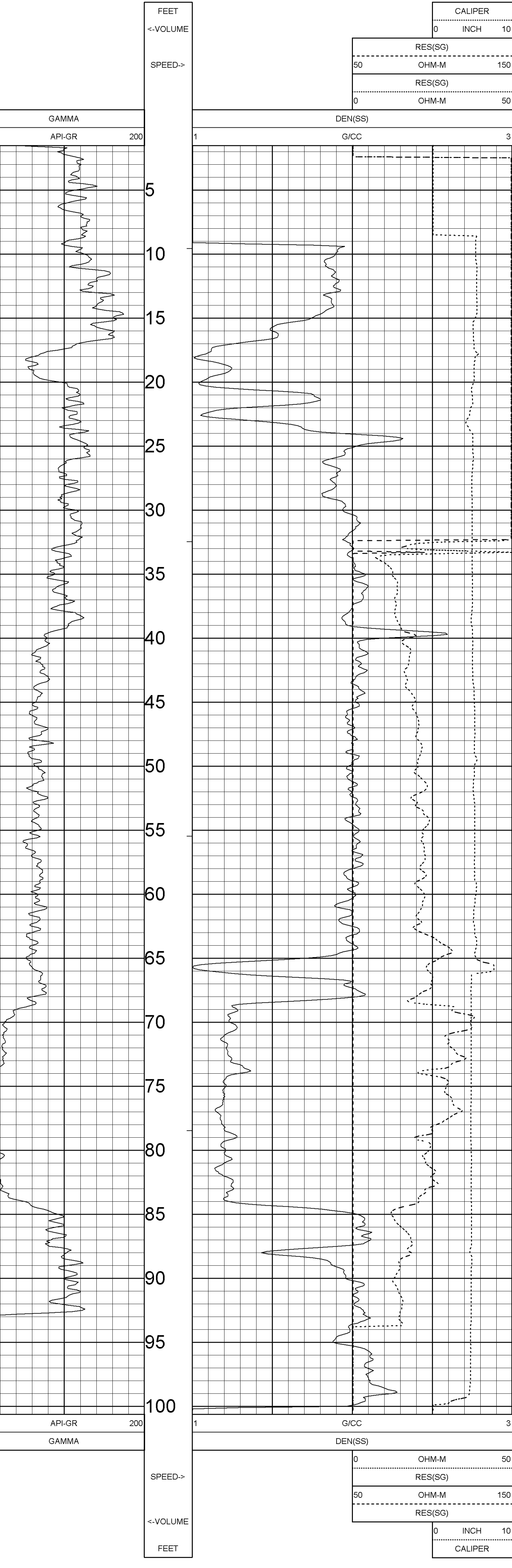
WITNESSED BY: J. ELLIOTT

RECORDED BY: B. MATAS

REMARKS 1: SENW QUARTER OF SECTION

REMARKS 2: E=650391 N=5187471

OTHER SERVICES:
N/A
N/A
N/A



TOOL CALIBRATION SHOB-46R 10/25/06 14:08
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

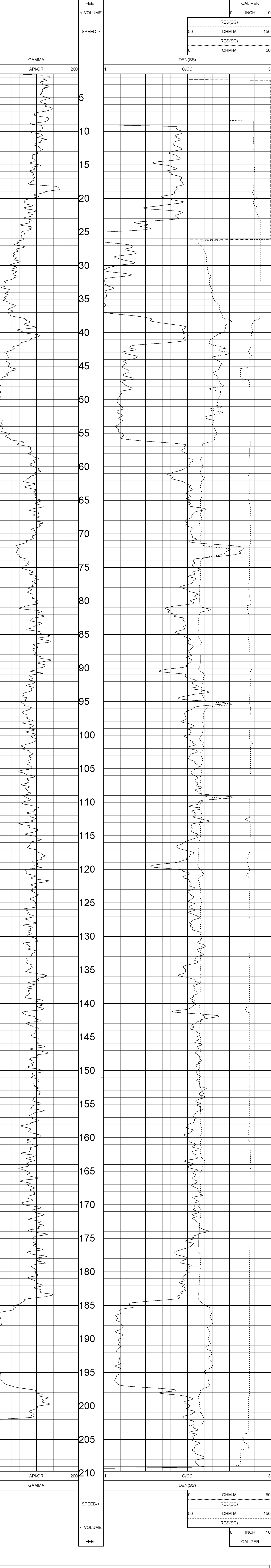
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06 20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
	Aug21,06 20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
3	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
	Aug28,06 18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06 20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06 20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06 20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06 20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06 20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	
WELL	SHOB-47R	OTHER SERVICES:
FIELD	SOUTH HEART	N/A
COUNTY	STARK	N/A
STATE	NORTH DAKOTA	N/A

LOCATION	N/A
SECTION	27
TOWNSHIP	139N
RANGE	98W
API NO.	N/A
UNIQUE WELL ID.	N/A

PERMANENT DATUM	GL	ELEVATION TO N/A
LOG MEASURED FROM	GL	ELEVATION OF N/A
DRL MEASURED FROM	GL	ELEVATION OF 2028

DATE	10/13/08
DEPTH DRILLER	210
BIT SIZE	5.0
LOG TOP	1.40
LOG BOTTOM	209.80
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	D. LEPPERT
RECORDED BY	B. MATIAS
REMARKS 1	N-5187085 E-649888
REMARKS 2	SWIPE QUARTER OF SECTION



TOOL CALIBRATION SHOB-47R 10/13/08 11:53
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

DATE	TIME	SENSOR	STANDARD	RESPONSE
Aug21,06	21:48:42	GAMMA	Default	Default [CPS]
Aug21,06	20:48:42	GAMMA	Default	Default [CPS]
Aug21,06	20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
Aug21,06	20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
Aug28,06	18:25:01	RES(SG)	Default	Default [CPS]
Aug28,06	18:25:01	RES(SG)	Default	Default [CPS]
Aug21,06	20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
Aug21,06	20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
Aug21,06	20:48:42	DENSITYH	Default	Default [CPS]
Aug21,06	20:48:42	DENSITYH	Default	Default [CPS]
Aug21,06	20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
Aug21,06	20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	N/A
WELL	SHOB-48R		N/A
FIELD	SOUTH HEART		N/A
COUNTY	STARK		N/A
STATE	NORTH DAKOTA		N/A

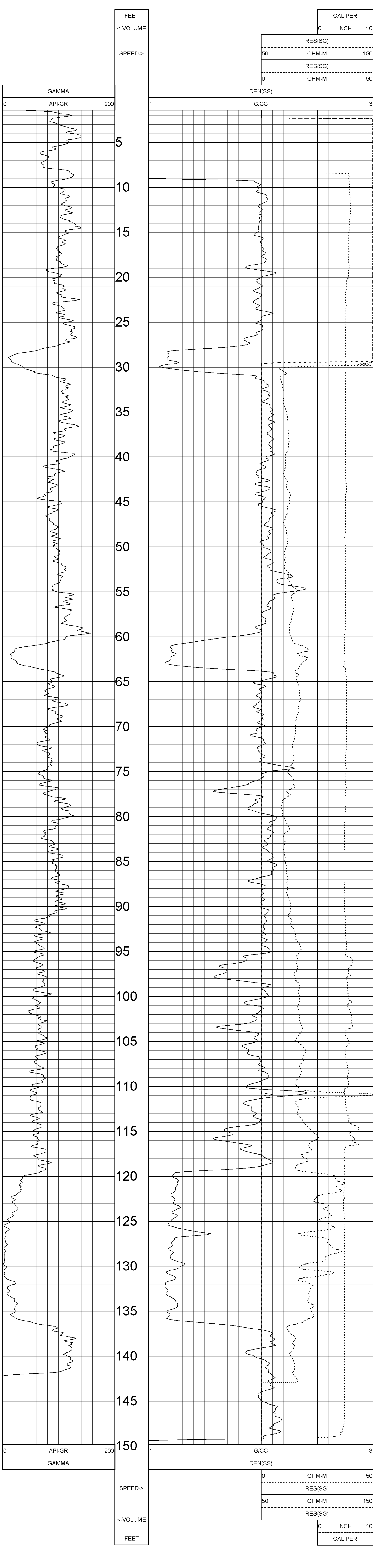
LOCATION	N/A
SECTION	27
TOWNSHIP	138N
RANGE	98W
API NO.	N/A
UNIQUE WELL ID.	N/A

PERMANENT DATUM	GL	ELEVATION KB	N/A
LOG MEASURED FROM	GL	ELEVATION DF	N/A
DRL MEASURED FROM	GL	ELEVATION GL	2546

DATE	10/25/06
DEPTH DRILLER	150
BIT SIZE	5.0

LOG TOP	1.40
LOG BOTTOM	149.70
CASING OD	N/A
CASING BOTTOM	N/A
CASING TYPE	N/A
BOREHOLE FLUID	WATER
RM TEMPERATURE	N/A
MUD RES	N/A
MUD WEIGHT	0
WITNESSED BY	J. ELLIOTT
RECORDED BY	B. MATIAS
REMARKS 1	SEISE QUARTER OF SECTION
REMARKS 2	E=650802 N=5187078

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB-48R 10/25/06 15:28
 TOOL 9033AA TM VERSION 3
 SERIAL NUMBER 958

	DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	GAMMA	Default [CPS]	Default [CPS]
2	Aug21,06	20:49:17	DEN(SS)	1.000 [G/CC]	5780.00 [CPS]
3	Aug21,06	20:49:17	DEN(SS)	2.410 [G/CC]	1589.00 [CPS]
	Aug28,06	18:25:01	RES(SG)	Default [CPS]	Default [CPS]
4	Aug21,06	20:50:24	CALIPER	4.000 [INCH]	693.00 [CPS]
	Aug21,06	20:50:24	CALIPER	6.040 [INCH]	1515.00 [CPS]
5	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
	Aug21,06	20:48:42	DENSITYH	Default [CPS]	Default [CPS]
6	Aug21,06	20:50:44	CALIPERL	4.000 [INCH]	380.00 [CPS]
	Aug21,06	20:50:44	CALIPERL	8.000 [INCH]	1125.00 [CPS]



GAMMA-RES-DENSITY
GOLDER
SHOB-101

COMPANY :GOLDER ASSOCIATES, INC. OTHER SERVICES:

WELL :SHOB-101

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API 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 :10/07/07

DEPTH DRILLER :105

BIT SIZE :5.0

LOG TOP :-4.50

LOG BOTTOM :104.10

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

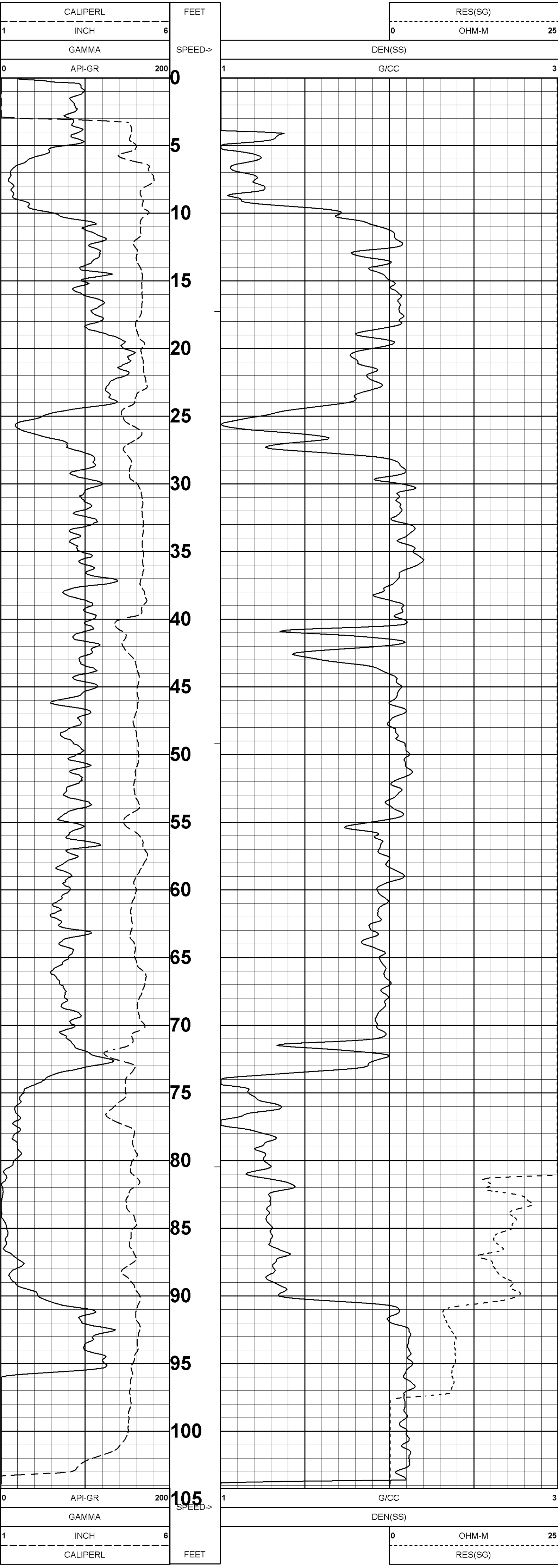
WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-102

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

OTHER SERVICES:

LOCATION : .

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/08/07

DEPTH DRILLER : .65

BIT SIZE : 5.0

LOG TOP : -4.10

LOG BOTTOM : .63.70

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 : .

REMARKS 2 : .

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-102 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

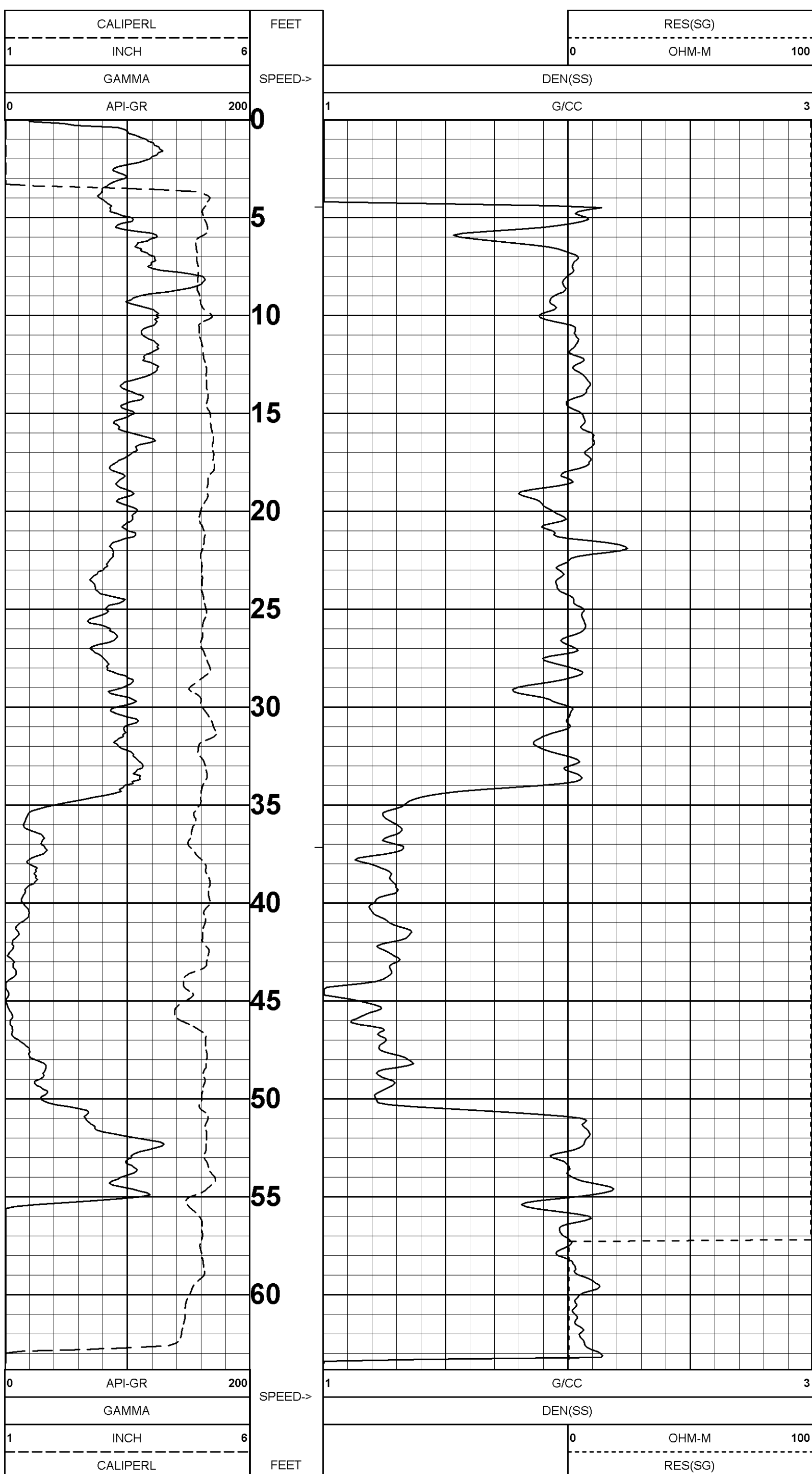
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER



GDR SHOB-102 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-102 10/08/07 09:34

TOOL 9239C1 TM VERSION 2016

SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-103

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API 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 :10/08/07

DEPTH DRILLER :105

BIT SIZE :5.0

LOG TOP :-4.10

LOG BOTTOM :103.90

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-103 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

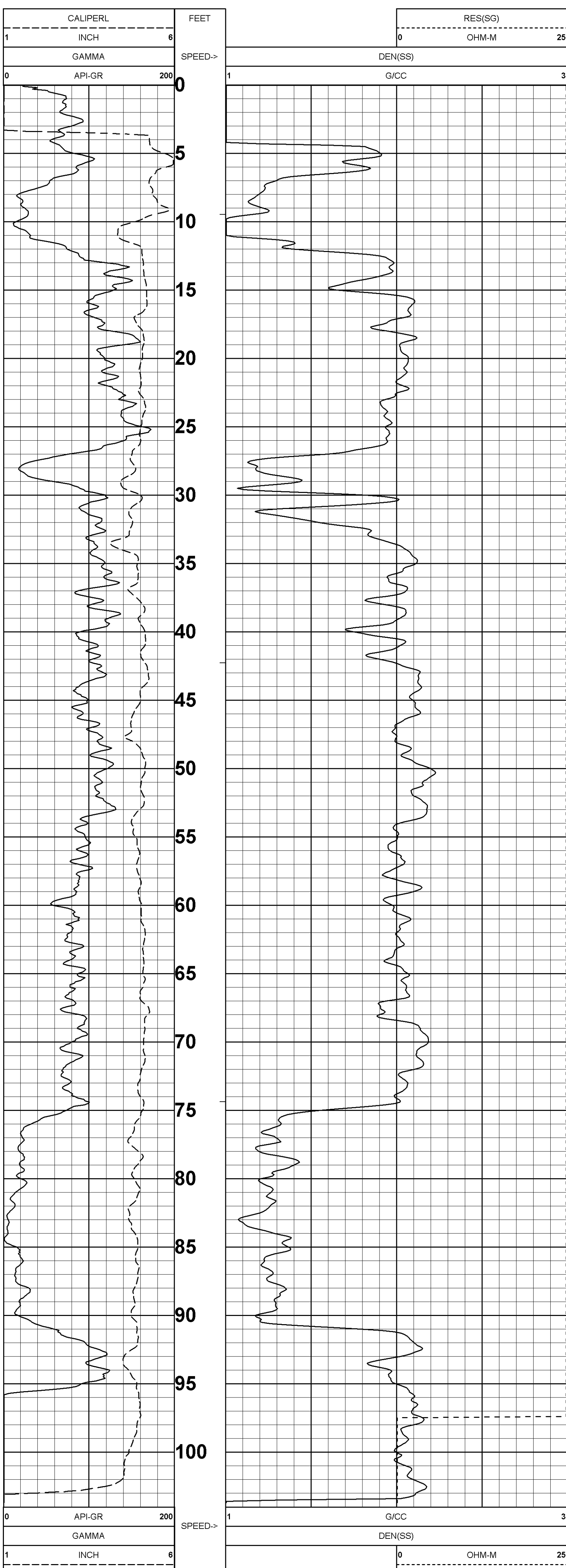
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER



GDR SHOB-103 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-103 10/08/07 10:06
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-104

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/08/07

DEPTH DRILLER : 110

BIT SIZE : 5.0

LOG TOP : -14.80

LOG BOTTOM : 109.30

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-104 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

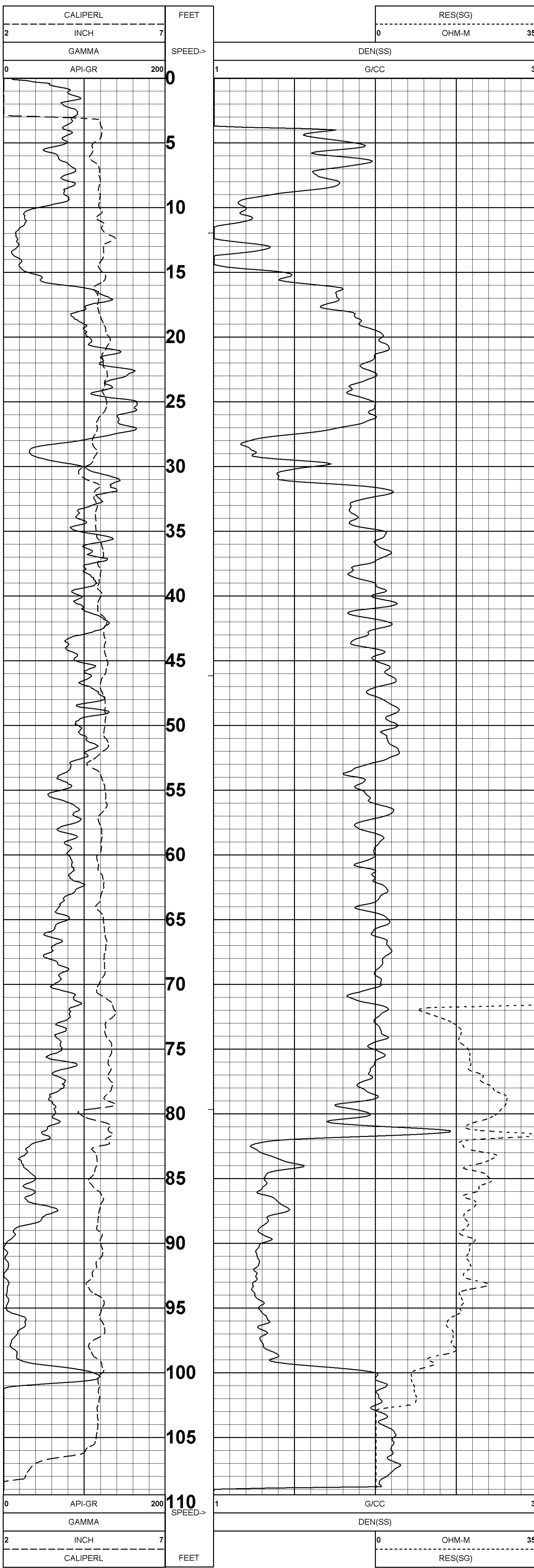
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/08/2007

VERSION = 3.64ER



GDR SHOB-104 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/08/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-104 10/08/07 10:50
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07	F	Default [CPS]	
9	Sep28,07	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-105

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/07/07

DEPTH DRILLER :110

BIT SIZE :5.0

LOG TOP :-4.20

LOG BOTTOM :108.60

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

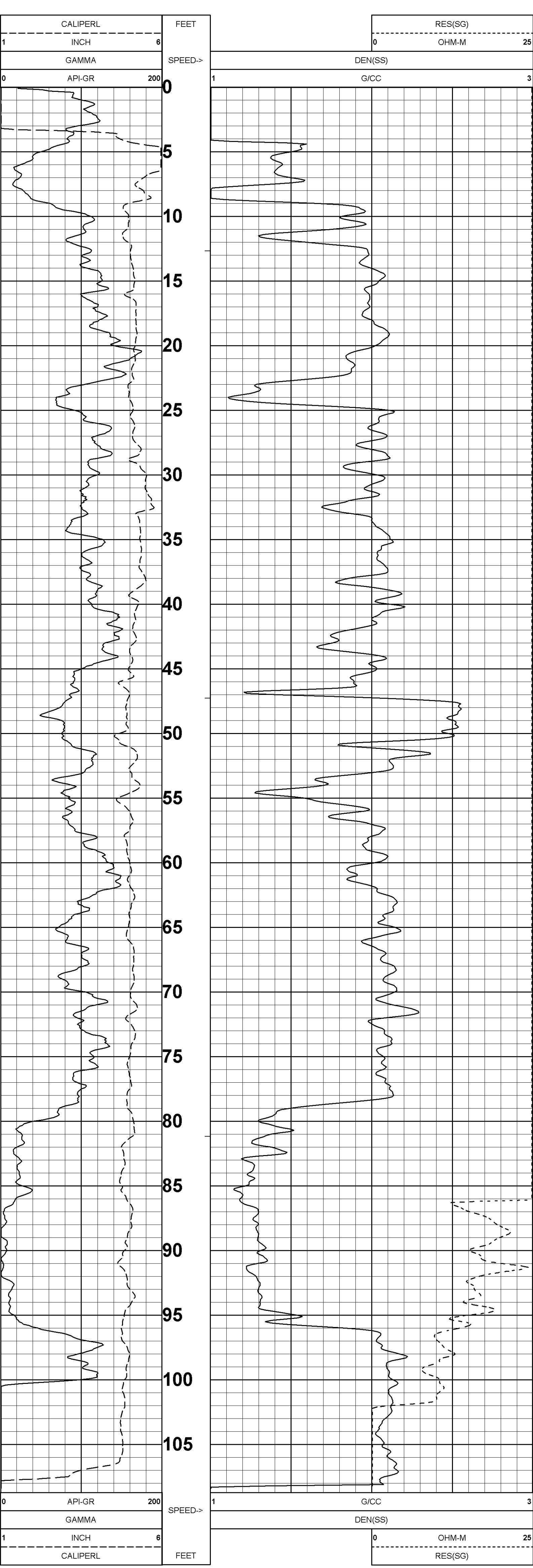
GDR SHOB-105 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER



GDR SHOB-105 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-106

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API 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 :10/07/07

DEPTH DRILLER :105

BIT SIZE :5.0

LOG TOP :-4.00

LOG BOTTOM :103.90

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-106 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

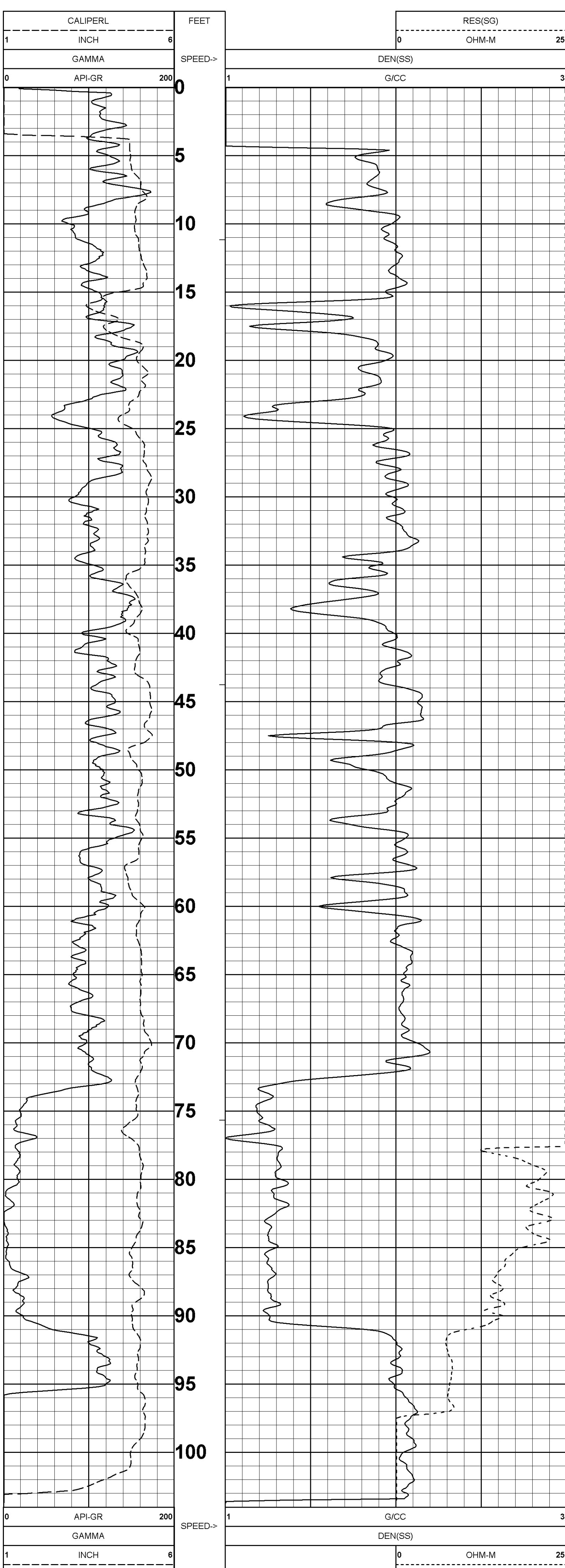
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER



GDR SHOB-106 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-106 10/07/07 10:35
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

OTHER SERVICES:

WELL : SHOB-107

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DATE : 10/07/07

DEPTH DRILLER : 120

BIT SIZE : 5.0

LOG TOP : -4.50

LOG BOTTOM : -117.80

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

BOREHOLE TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

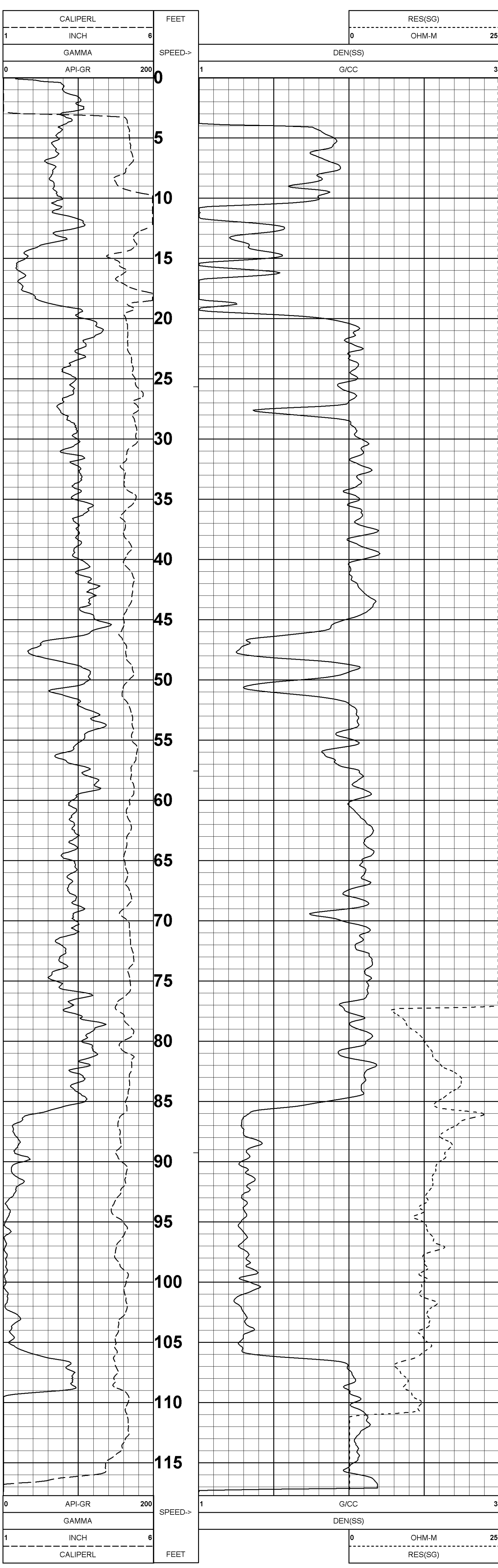
GDR SHOB-107 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER



GDR SHOB-107 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-108

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API 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 QL N/A

DATE :10/07/07

DEPTH DRILLER :100

BIT SIZE :5.0

LOG TOP :-4.10

LOG BOTTOM :38.20

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

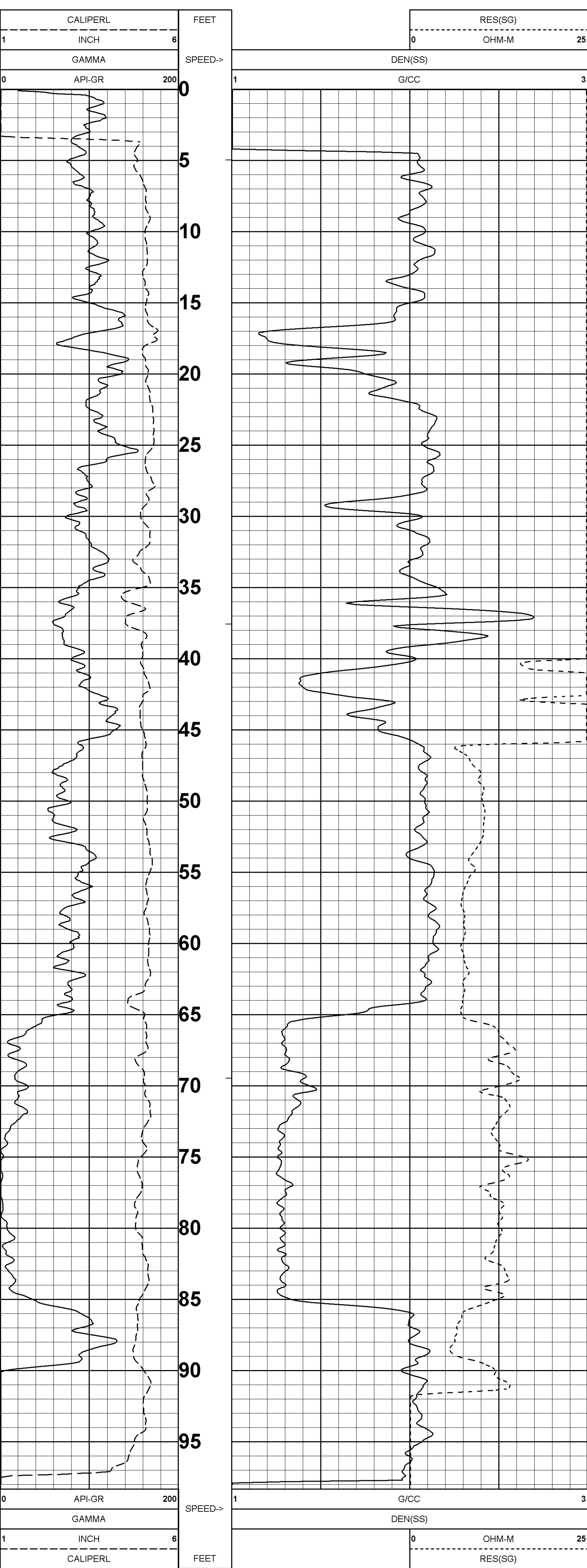
RECORDED BY :M. SUTTON

REMARKS 1 :
REMARKS 2 :
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-108 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER



GDR SHOB-108 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-108 10/07/07 15:23
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-109

FIELD : SHIP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : 5L

LOG MEASURED FROM : GL

DATE : 10/08/07

DEPTH DRILLER : 100

BIT SIZE : 5.0

LOG TOP : -4.00

LOG BOTTOM : 99.30

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT
RECORDED BY : M. SUTTON
REMARKS 1 :
REMARKS 2 :

OTHER SERVICES:

NONE

ELEVATION KB : N/A

ELEVATION DF : N/A

ELEVATION GL : N/A

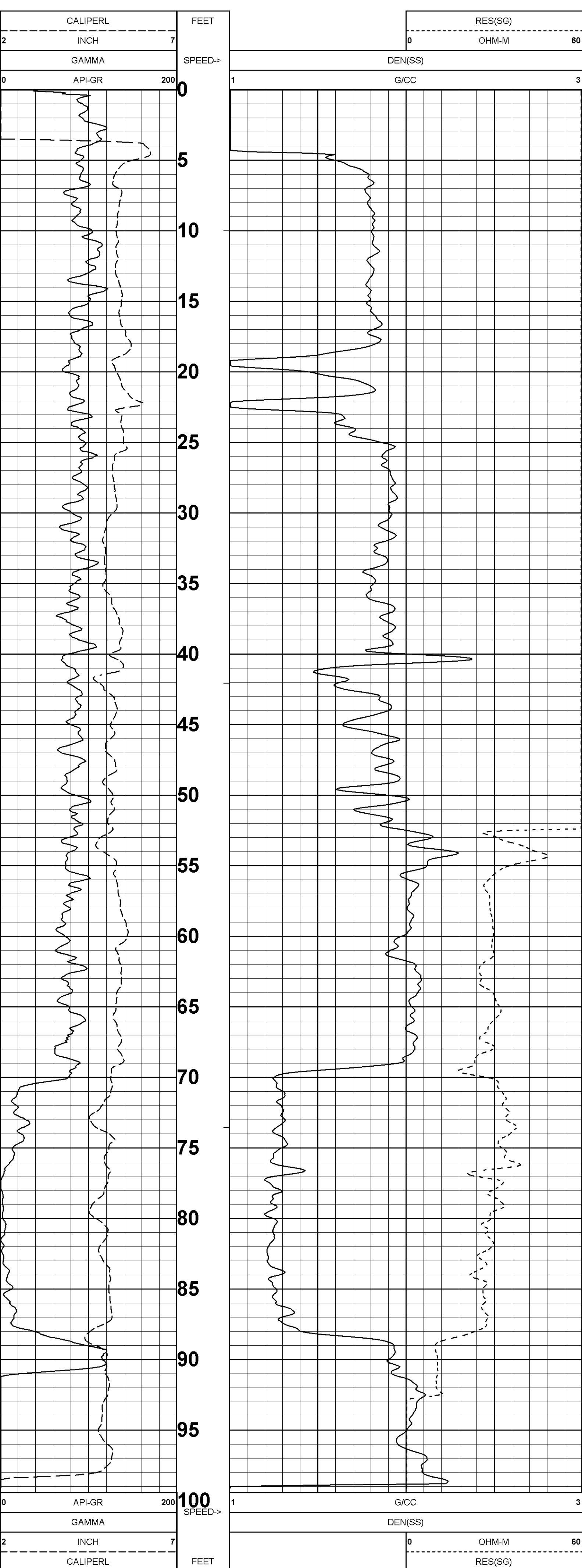
GDR SHOB-109 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/08/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER



GDR SHOB-109 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/08/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER

TOOL CALIBRATION SHOB-109 10/08/07 11:39
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-110

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/07/07

DEPTH DRILLER :105

BIT SIZE :5.0

LOG TOP :-4.40

LOG BOTTOM :103.80

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS.

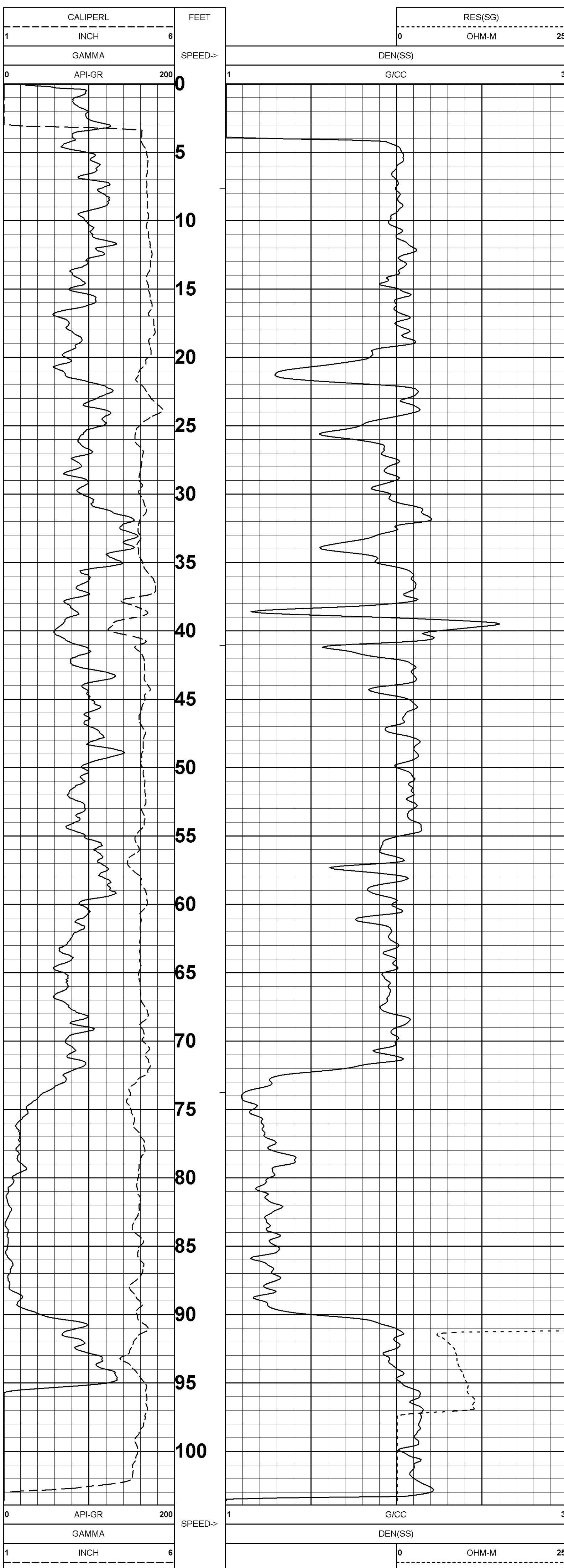
GDR SHOB-110 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER



GDR SHOB-110 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER

TOOL CALIBRATION SHOB-110 10/07/07 13:48
TOOL 9239C1 TM SHOB-110 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

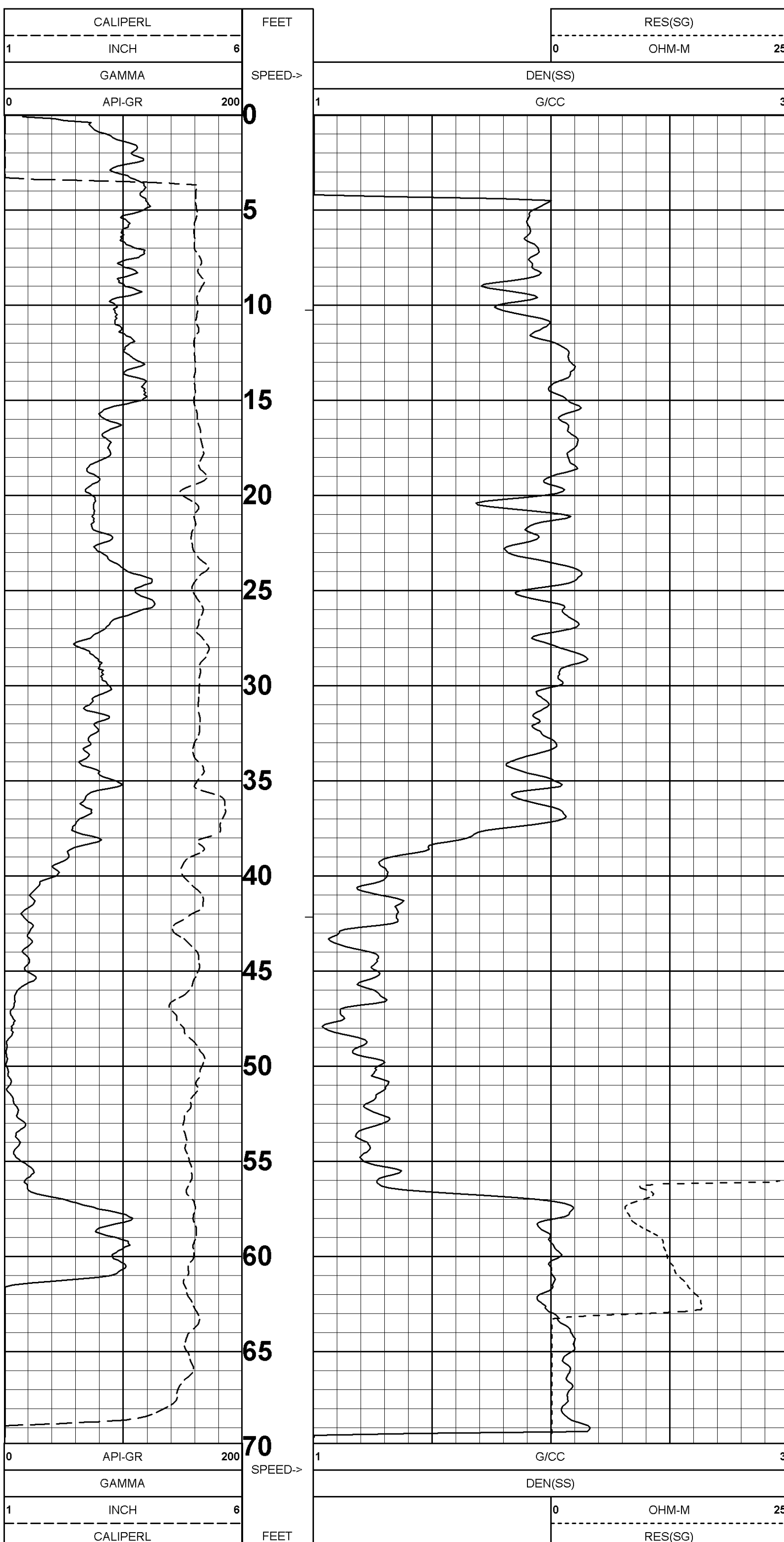
COMPANY	GOLDER ASSOCIATES, INC.	OTHER SERVICES:
WELL	SHOB-111	
FIELD	SHP	
COUNTY	STARK	NONE
STATE	NORTH DAKOTA	
LOCATION	:	
SECTION	N/A	
TOWNSHIP	N/A	
RANGE	N/A	
API NO.	N/A	
UNIQUE WELL ID.	N/A	
PERMANENT DATUM	GL	ELEVATION KB N/A
LOG MEASURED FROM	GL	ELEVATION DF N/A
DRL MEASURED FROM	GL	ELEVATION QL N/A
DATE	10/07/07	
DEPTH DRILLER	70	
BIT SIZE	5.0	
LOG TOP	-4.10	
LOG BOTTOM	89.70	
CASING OD	N/A	
CASING BOTTOM	N/A	
CASING TYPE	N/A	
BOREHOLE FLUID	WATER	
RM TEMPERATURE	N/A	
MUD RES	N/A	
MUD WEIGHT	8.5	
WITNESSED BY	J. ELLIOT	
RECORDED BY	M. SUTTON	
REMARKS 1	:	
REMARKS 2	:	

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-111 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
 PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER



GDR SHOB-111 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
 PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-111 10/07/07 14:31
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

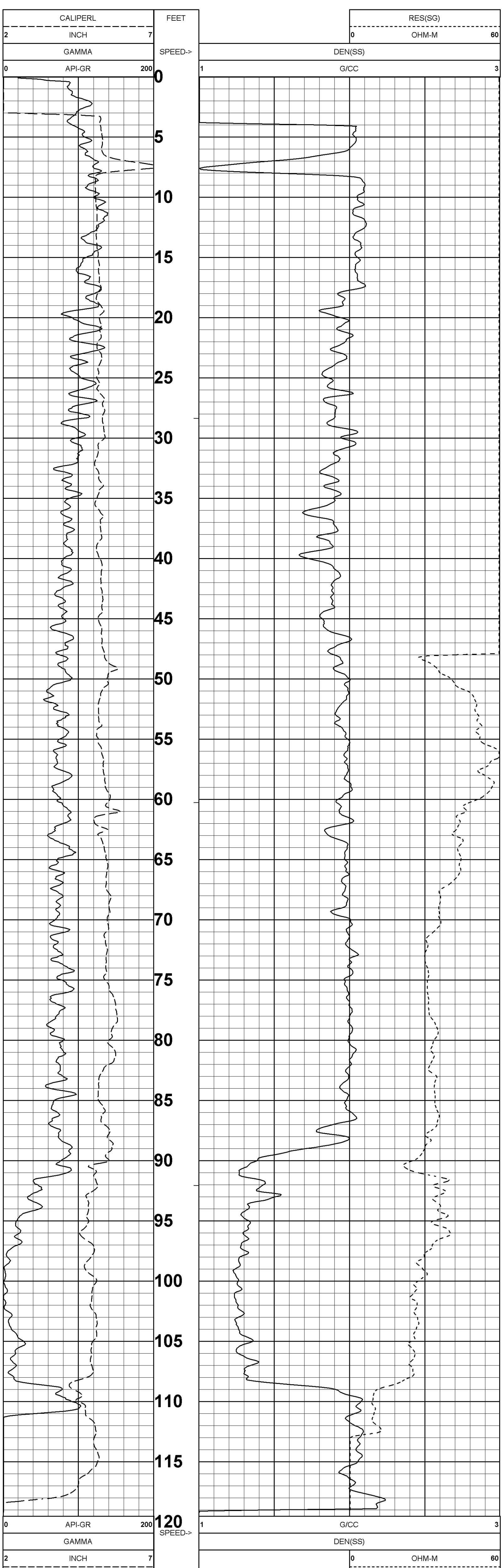
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY	GOLDER ASSOCIATES, INC.	OTHER SERVICES:	
WELL	SHOB-112		
FIELD	SHP		
COUNTY	STARK		NONE
STATE	NORTH DAKOTA		
LOCATION	:		
SECTION	N/A		
TOWNSHIP	N/A		
RANGE	N/A		
API 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 QL N/A	
DATE	10/08/07		
DEPTH DRILLER	:120		
BIT SIZE	5.0		
LOG TOP	:4.40		
LOG BOTTOM	:119.40		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	8.5		
WITNESSED BY	J. ELLIOT		
RECORDED BY	M. SUTTON		
REMARKS 1	:		
REMARKS 2	:		

GDR SHOB-112 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.0
PRESENTATION NAME/DATE = 9239C1.0 10/08/2007		VERSION = 3.64ER



GDR SHOB-112 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.0
PRESENTATION NAME/DATE = 9239C1.0 10/08/2007		VERSION = 3.64ER

TOOL CALIBRATION SHOB-112 10/08/07 12:34
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	3.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
3	Sep28,07 13:55:03	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
4	Sep28,07 13:55:08	CALIPER	4.000 [INCH]	155679.00 [CPS]
5	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
6	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
7	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
8	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
9	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
10	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
11	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
12	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
13	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
14	Sep28,07 13:14:43	F	Default [UA]	
15	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY: GOLDER ASSOCIATES, INC.

OTHER SERVICES:

WELL: SHOB-113

FIELD: SHP

COUNTY: STARK

STATE: NORTH DAKOTA

LOCATION: :

SECTION: N/A

TOWNSHIP: N/A

RANGE: N/A

API NO: N/A

PERMANENT DATUM: GL

LOG MEASURED FROM: GL

DRL MEASURED FROM: GL

DATE: 10/07/07

ELEVATION KB: N/A

DEPTH DRILLER: 120

ELEVATION DF: N/A

BIT SIZE: 5.0

ELEVATION GL: N/A

LOG TOP: -4.30

LOG BOTTOM: -119.80

CASING OD: N/A

CASING BOTTOM: N/A

CASING TYPE: N/A

BOREHOLE FLUID: WATER

RM TEMPERATURE: N/A

MUD RES: N/A

MUD WEIGHT: 8.5

WITNESSED BY: J. ELLIOT

RECORDED BY: M. SUTTON

REMARKS 1: :

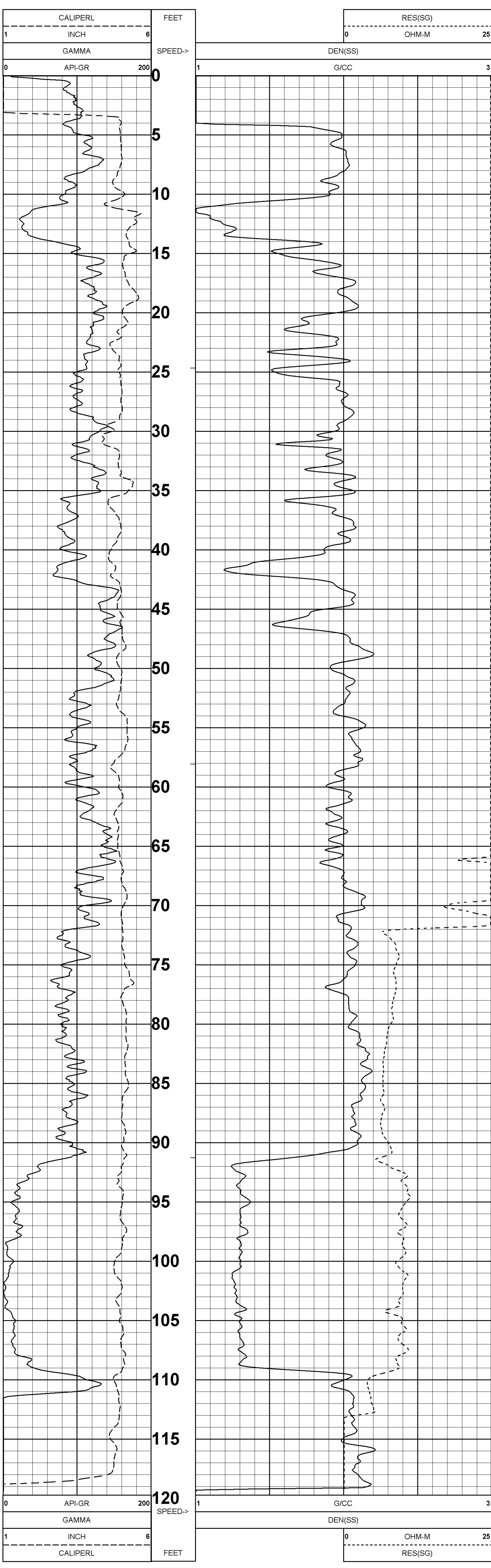
REMARKS 2: :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-113 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
 PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER



GDR SHOB-113 10/07/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
 PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-114

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/06/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -4.20

LOG BOTTOM : 74.90

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:

NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

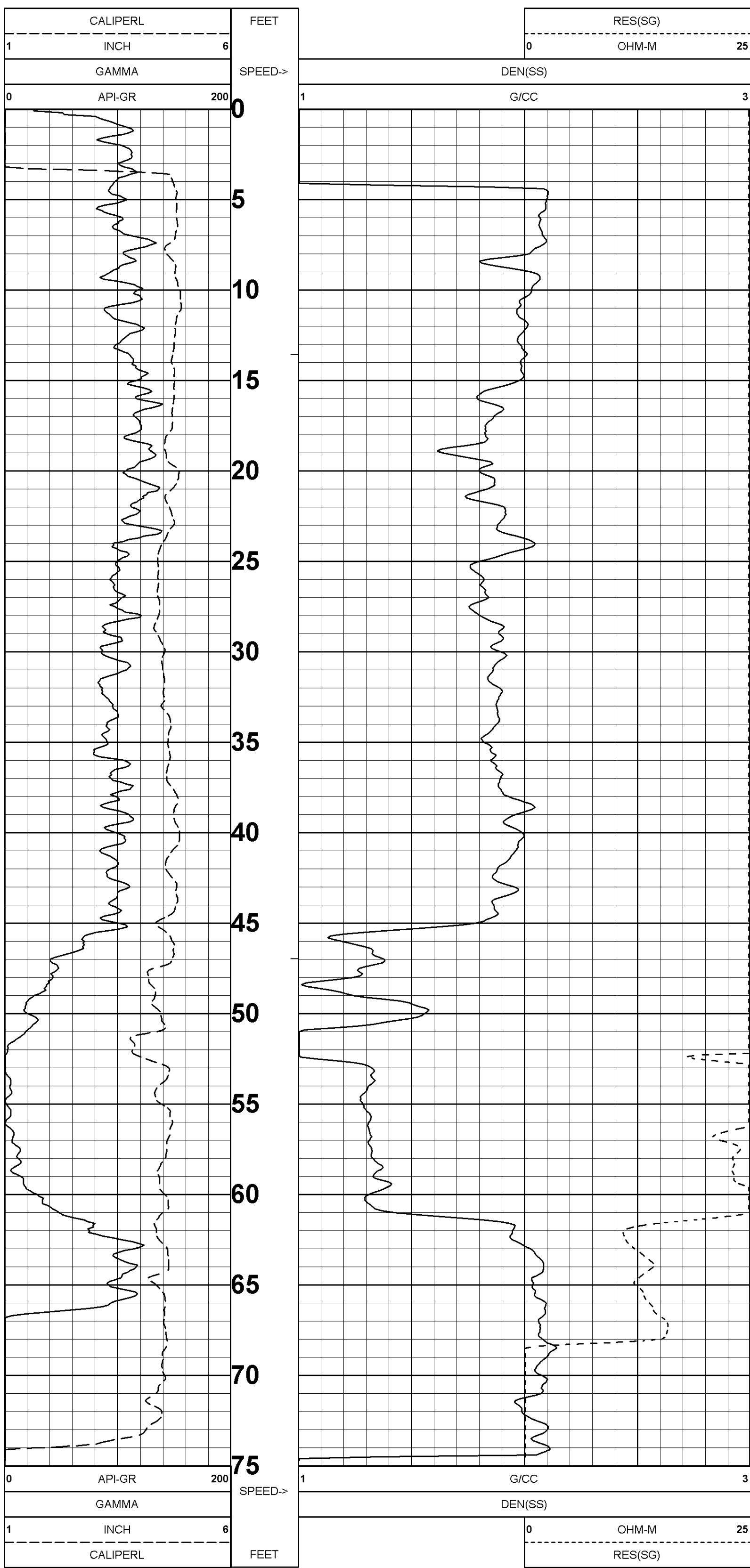
GDR SHOB-114 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER



GDR SHOB-114 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER

TOOL CALIBRATION SHOB-114 10/06/07 12:36
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
1	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-115

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/08/07

DEPTH DRILLER : 90

BIT SIZE : 5.0

LOG TOP : -4.10

LOG BOTTOM : 89.20

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:

NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-115 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

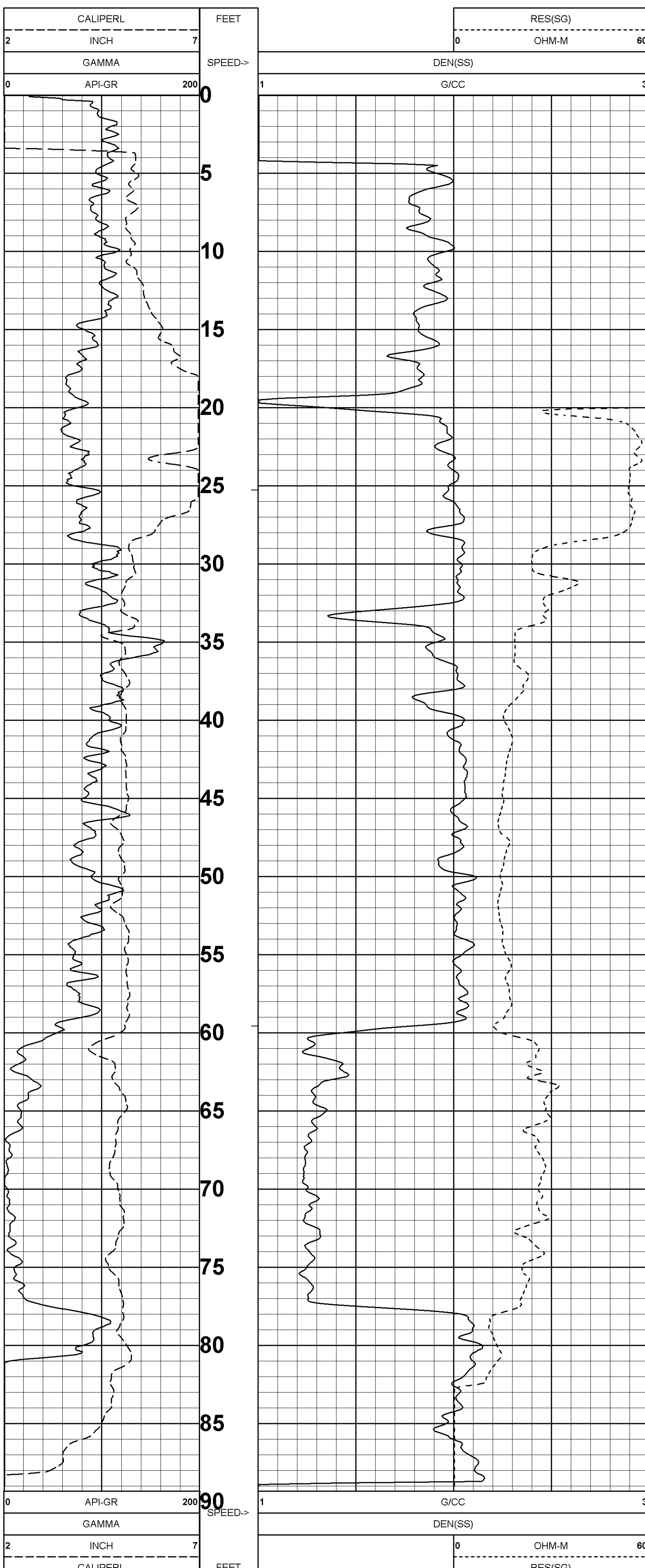
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/08/2007

VERSION = 3.64ER



GDR SHOB-115 10/08/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/08/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-115 10/08/07 13:18
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

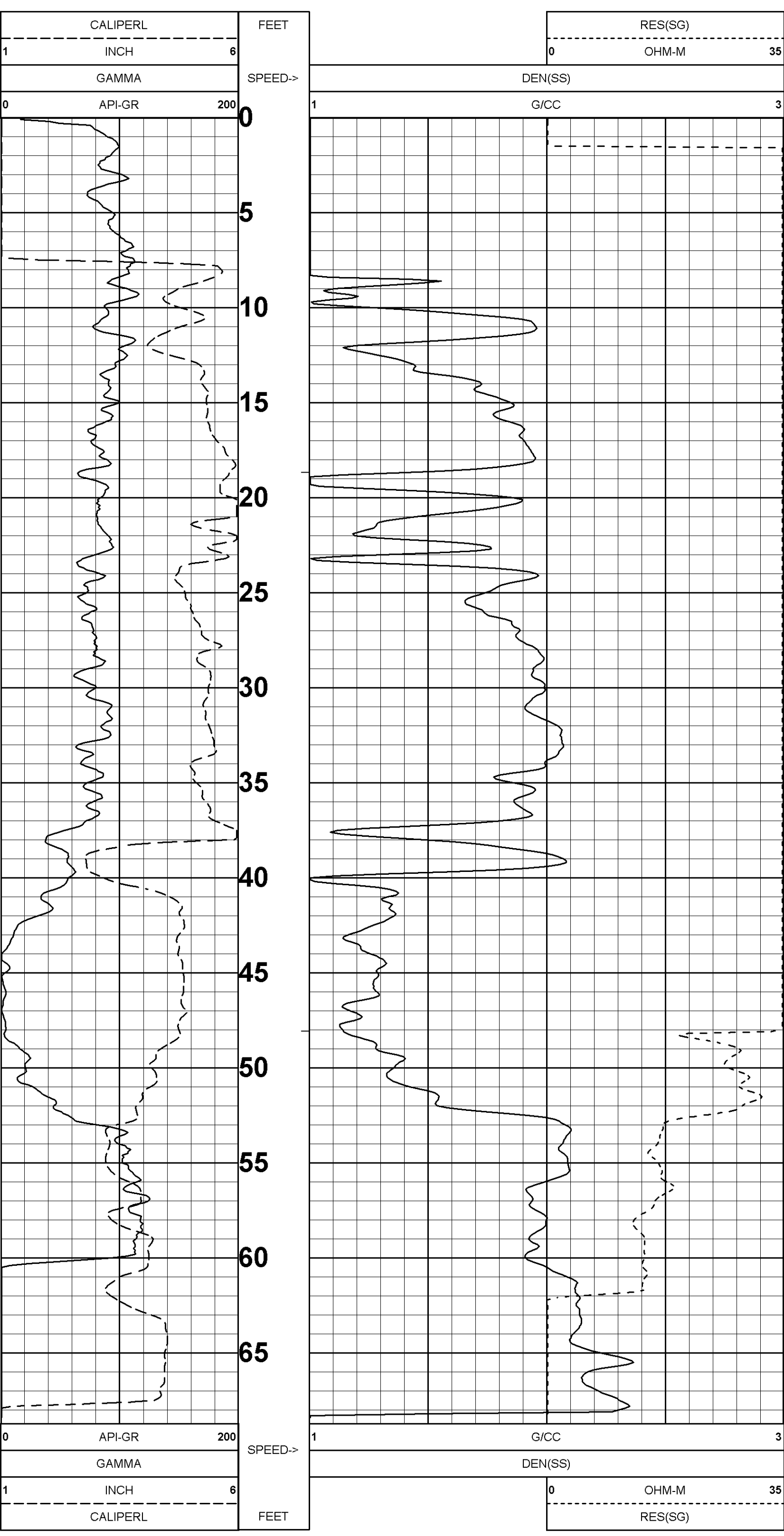
COMPANY	GOLDER ASSOCIATES, INC.	OTHER SERVICES:	
WELL	SHOB-116		
FIELD	SHP		
COUNTY	STARK		NONE
STATE	NORTH DAKOTA		
LOCATION	:		
SECTION	N/A		
TOWNSHIP	N/A		
RANGE	N/A		
API NO.	N/A		
UNIQUE WELL ID.	N/A		
PERMANENT DATUM	GL	ELEVATION KB	N/A
LOG MEASURED FROM	GL	ELEVATION DF	N/A
DRL MEASURED FROM	GL	ELEVATION GL	N/A
DATE	10/03/07		
DEPTH DRILLER	70		
BIT SIZE	5.625		
LOG TOP	0.00		
LOG BOTTOM	68.60		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RT TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	8.5		
WITNESSED BY	J. ELLIOT		
RECORDED BY	M. SUTTON		
REMARKS 1	:		
REMARKS 2	:		

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-116 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-116 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-116 10/03/07 16:07
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	CALIPER	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-117

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API 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 : 10/05/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -4.10

LOG BOTTOM : 78.50

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-117 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

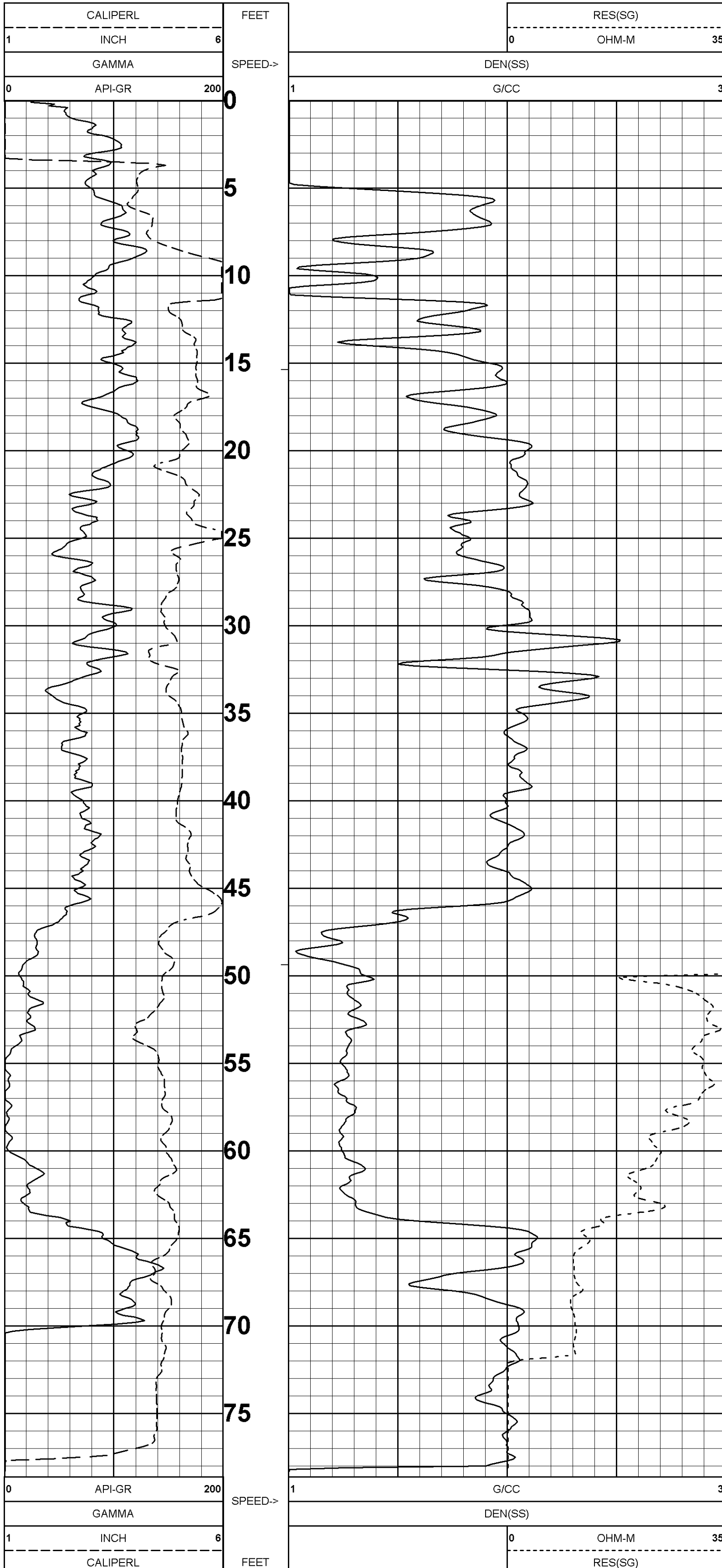
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-117 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-117 10/05/07 18:03
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

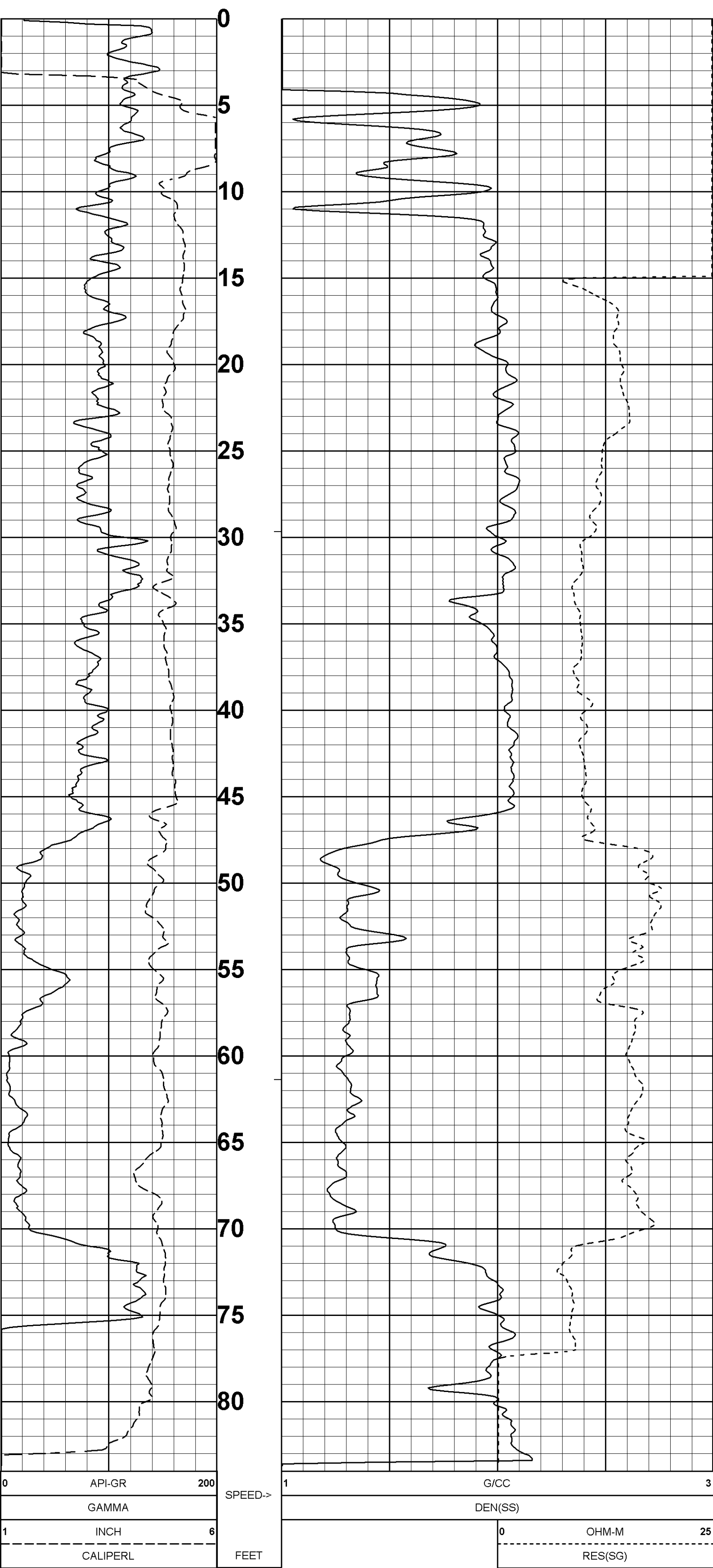
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	320.000 [MV]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	8.000 [G/CC]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
6	Sep28,07 13:55:20	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
7	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
8	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY	GOLDER ASSOCIATES, INC.	OTHER SERVICES:	
WELL	SHOB-118	FIELD	SHP
COUNTY	STARK	STATE	NORTH DAKOTA
LOCATION		SECTION	N/A
TOWNSHIP		RANGE	N/A
API NO.		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 QL	N/A
DATE	10/06/07		
DEPTH DRILLER	80		
BIT SIZE	5.625		
LOG TOP	-4.30		
LOG BOTTOM	83.90		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	8.5		
WITNESSED BY	J. ELLIOT		
RECORDED BY	M. SUTTON		
REMARKS 1			
REMARKS 2			

GDR SHOB-118 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007		VERSION = 3.64ER



GDR SHOB-118 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007		VERSION = 3.64ER

TOOL CALIBRATION SHOB-118 10/06/07 10:38
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	320.000 [MV]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
4	Sep28,07 13:55:03	CALIPER	1989.000 [INCH]	268540.00 [CPS]
5	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
6	Sep28,07 13:55:08	CALIPER	8.000 [INCH]	426280.00 [CPS]
7	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
8	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	2230.00 [CPS]
9	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
10	Sep28,07 13:55:20	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
11	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
12	Sep28,07 13:55:24	CALIPERL	12.000 [INCH]	357523.00 [CPS]
13	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
14	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
15	Sep28,07 13:14:43	F	Default [CPS]	
16	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-119

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID : N/A

PERMANENT DATUM : G1

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/06/07

DEPTH DRILLER : 135

BIT SIZE : 5.625

LOG TOP : -4.50

LOG BOTTOM : 134.60

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:
NONE

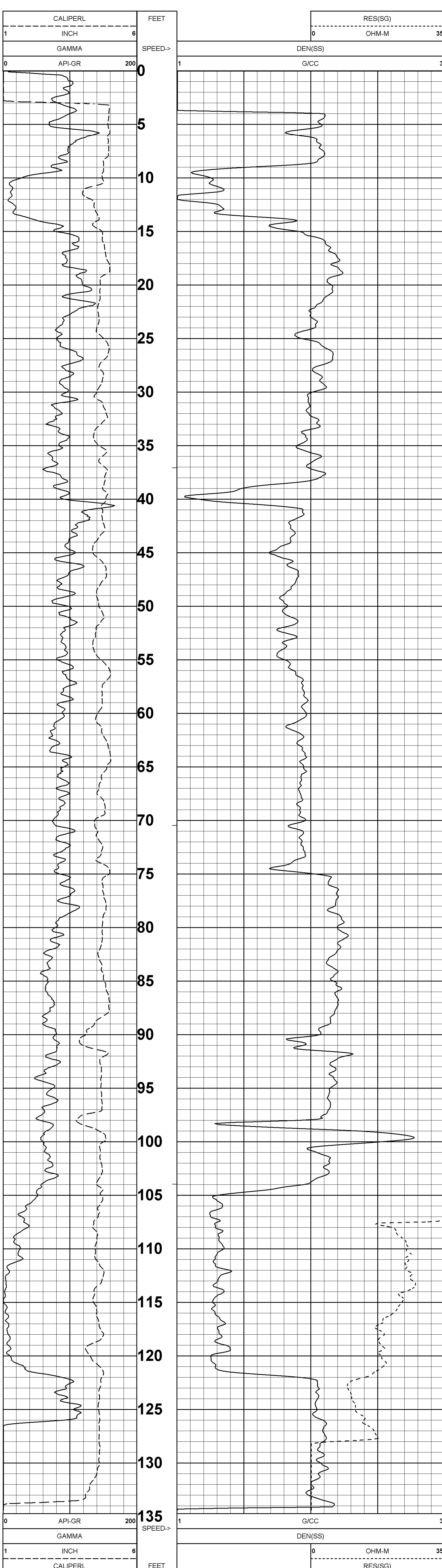
GDR SHOB-119 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER



GDR SHOB-119 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
4	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
5	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
6	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
7	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
8	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
9	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
10	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
11	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
12	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
13	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
14	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
15	Sep28,07 13:14:43	F	Default [CPS]	
16	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.
WELL : SHOB-120
FIELD : SHP
COUNTY : STARK
STATE : NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :
SECTION : N/A
TOWNSHIP : N/A
RANGE : N/A
API NO. : N/A
UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL
LOG MEASURED FROM : GL
DRL MEASURED FROM : GL
DATE : 10/03/07
DEPTH DRILLER : 80
BIT SIZE : 5.625
LOG TOP : -4.00
LOG BOTTOM : 99.80
CASING OD : N/A
CASING BOTTOM : N/A
CASING TYPE : N/A
BOREHOLE FLUID : WATER
RM TEMPERATURE : N/A
MUD RES : N/A
MUD WEIGHT : 8.5
WITNESSED BY : J. ELLIOT
RECORDED BY : M. SUTTON
REMARKS 1 :
REMARKS 2 :

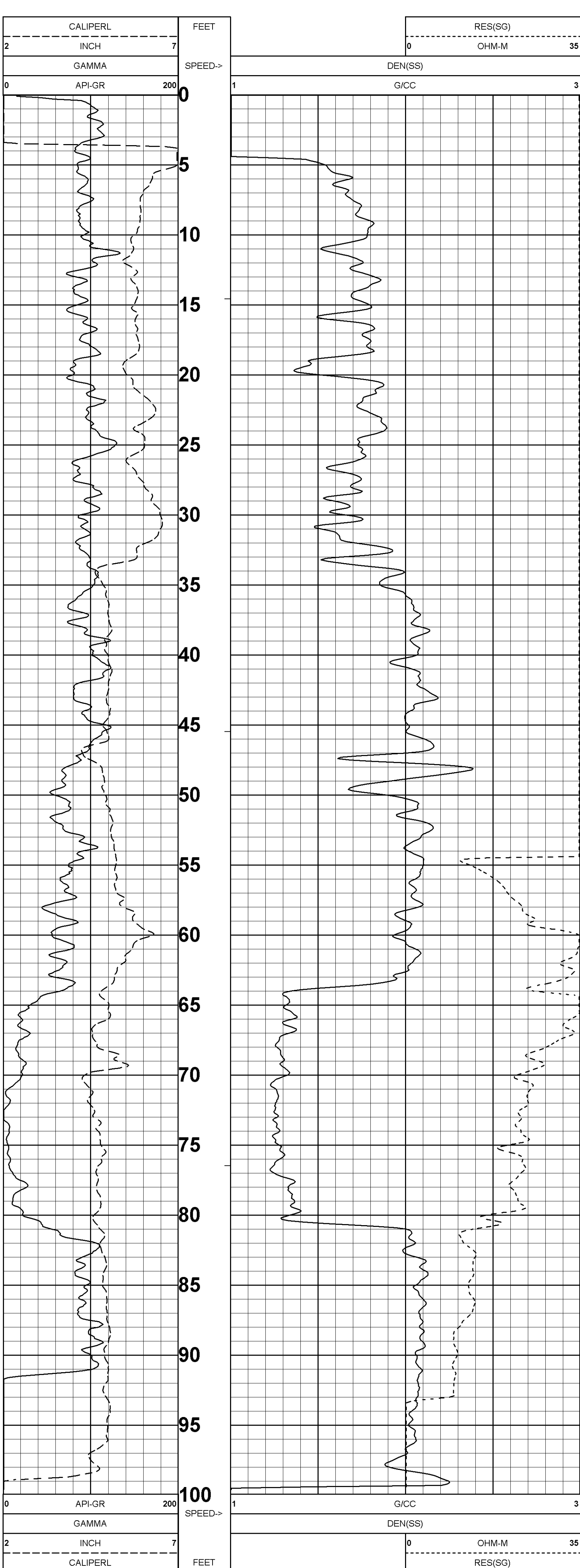
ELEVATION KB : N/A
ELEVATION DF : N/A
ELEVATION GL : N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-120 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-120 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-120 10/03/07 15:16
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

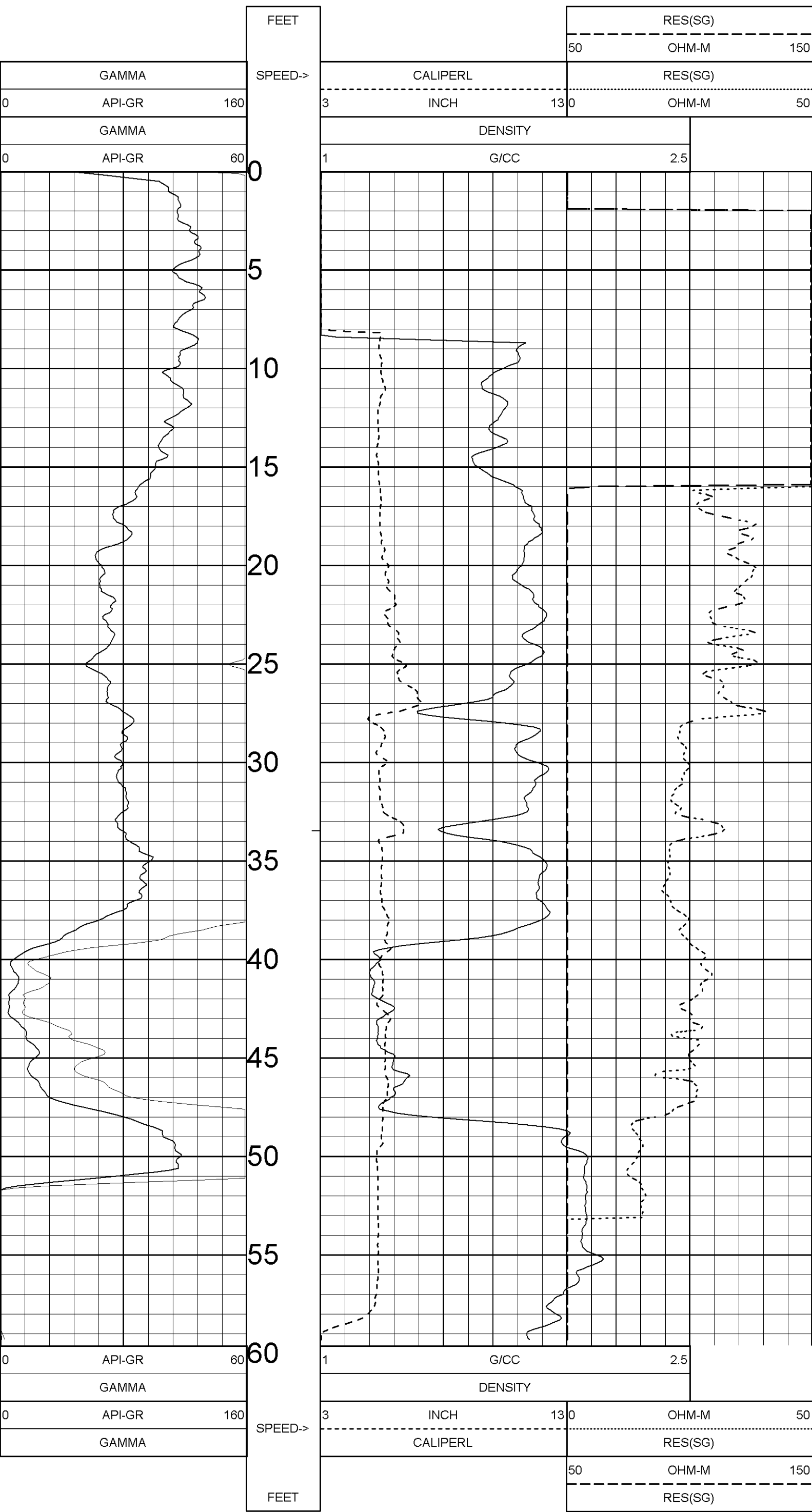
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	



GAMMA-RES-DENSITY

SHOB-120-4

COMPANY	:GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	:SHOB-120-4	N/A	
FIELD	:SOUTH HEART	N/A	
COUNTY	:STARK	N/A	
STATE	:NORTH DAKOTA	N/A	
LOCATION	N/A		
SECTION	:		
TOWNSHIP	:		
RANGE	:		
API 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	:
DATE	:10/13/07		
DEPTH DRILLER	:60		
BIT SIZE	:5.0		
LOG TOP	:0.00		
LOG BOTTOM	:59.50		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	:AIR		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	:0		
WITNESSED BY	:S. HARKINS		
RECORDED BY	:B. MATAS		
REMARKS 1	:		
REMARKS 2	:		



TOOL CALIBRATION SHOB-120-4 10/13/07 11:09
 TOOL 9238AA1 TM VERSION 1006
 SERIAL NUMBER 838

	DATE	TIME	SENSOR	STANDARD	RESPONSE
1	May18,07	14:12:53	GAMMA	0.000 [API-GR]	5.00 [CPS]
	May18,07	14:12:53	GAMMA	330.000 [API-GR]	563.00 [CPS]
2	May18,07	14:20:10	VOLTAGE	0.000 [MV]	5235.00 [CPS]
	May18,07	14:20:10	VOLTAGE	2330.000 [MV]	109060.00 [CPS]
3	Dec13,06	07:42:30	CALIPER	Default [CPS]	Default [CPS]
	Dec13,06	07:42:30	CALIPER	Default [CPS]	Default [CPS]
4	May30,07	12:58:07	DEN(SS)	1.000 [G/CC]	45059.00 [CPS]
	May30,07	12:58:07	DEN(SS)	2.383 [G/CC]	17124.00 [CPS]
5	May18,07	14:10:50	CALIPERL	4.000 [INCH]	51020.00 [CPS]
	May18,07	14:10:50	CALIPERL	8.000 [INCH]	66952.00 [CPS]
6	May18,07	14:20:15	CURRENT	0.000 [UA]	5036.00 [CPS]
	May18,07	14:20:15	CURRENT	333.800 [UA]	38177.00 [CPS]
7	Dec13,06	07:42:30	X	Default [CPS]	
8	Dec13,06	07:42:30	Y	Default [CPS]	

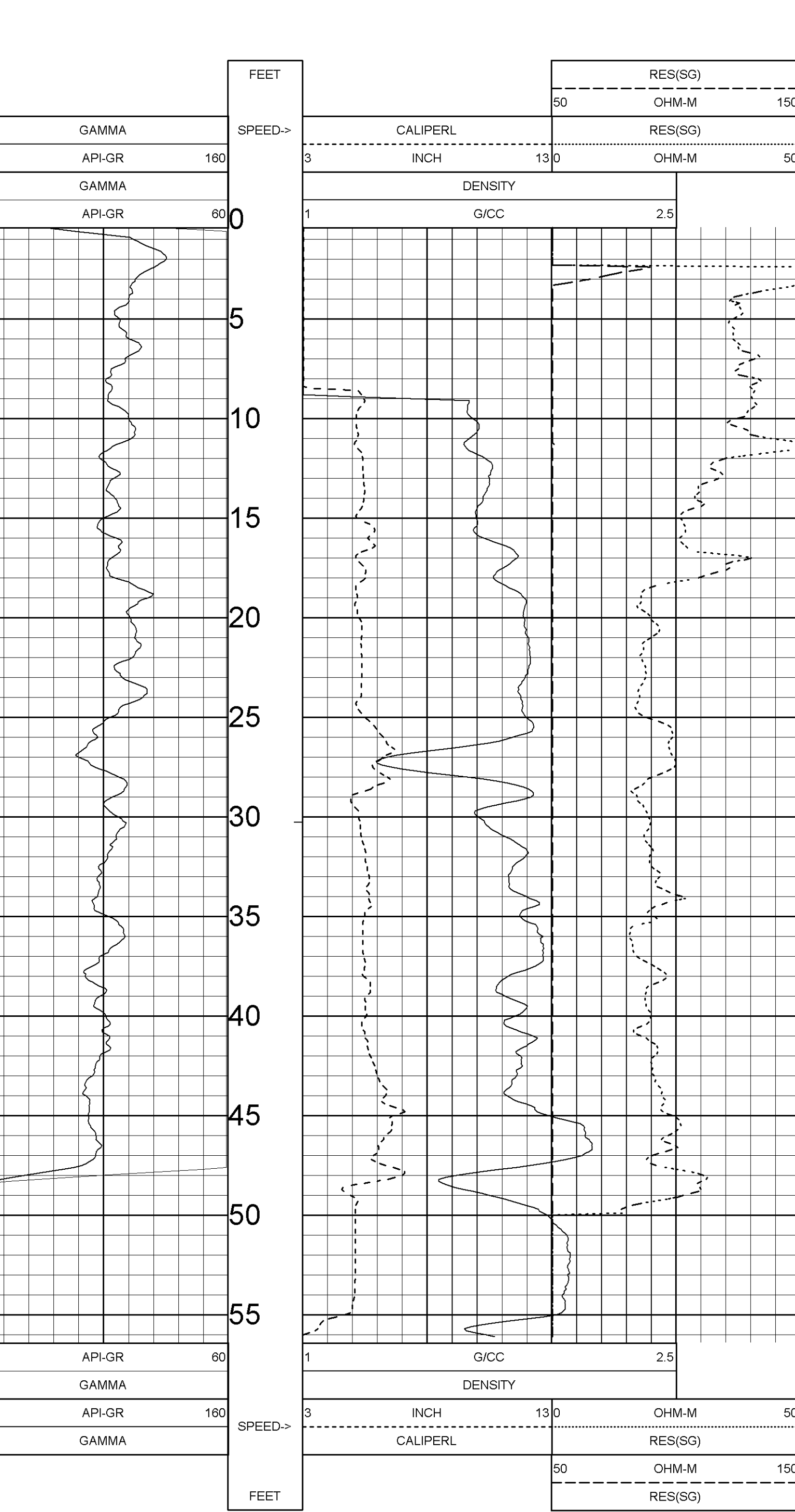
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



GAMMA-RES-DENSITY

SHOB-120-5

COMPANY	:GOLDER ASSOCIATES	OTHER SERVICES:
WELL	:SHOB-120-5	N/A
FIELD	:SOUTH HEART	N/A
COUNTY	:STARK	N/A
STATE	:NORTH DAKOTA	N/A
LOCATION	N/A	
SECTION	:	
TOWNSHIP	:	
RANGE	:	
API 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 :
DATE	:10/13/07	
DEPTH DRILLER	:60	
BIT SIZE	:5.0	
LOG TOP	:0.40	
LOG BOTTOM	:56.30	
CASING OD	N/A	
CASING BOTTOM	N/A	
CASING TYPE	N/A	
BOREHOLE FLUID	:AIR	
RM TEMPERATURE	N/A	
MUD RES	N/A	
MUD WEIGHT	:0	
WITNESSED BY	:S. HARKINS	
RECORDED BY	:B. MATAS	
REMARKS 1	:	
REMARKS 2	:	



TOOL CALIBRATION SHOB-120-5 10/13/07 11:50
 TOOL 9238AA1 TM VERSION 1006
 SERIAL NUMBER 838

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	May18,07 14:12:53	GAMMA	0.000 [API-GR]	5.00 [CPS]
	May18,07 14:12:53	GAMMA	330.000 [API-GR]	563.00 [CPS]
2	May18,07 14:20:10	VOLTAGE	0.000 [MV]	5235.00 [CPS]
	May18,07 14:20:10	VOLTAGE	2330.000 [MV]	109060.00 [CPS]
3	Dec13,06 07:42:30	CALIPER	Default [CPS]	Default [CPS]
	Dec13,06 07:42:30	CALIPER	Default [CPS]	Default [CPS]
4	May30,07 12:58:07	DEN(SS)	1.000 [G/CC]	45059.00 [CPS]
	May30,07 12:58:07	DEN(SSL)	2.383 [G/CC]	17124.00 [CPS]
5	May18,07 14:10:50	CALIPERL	4.000 [INCH]	51020.00 [CPS]
	May18,07 14:10:50	CALIPERL	8.000 [INCH]	66952.00 [CPS]
6	May18,07 14:20:15	CURRENT	0.000 [UA]	5036.00 [CPS]
	May18,07 14:20:15	CURRENT	333.800 [UA]	38177.00 [CPS]
7	Dec13,06 07:42:30	X	Default [CPS]	
8	Dec13,06 07:42:30	Y	Default [CPS]	

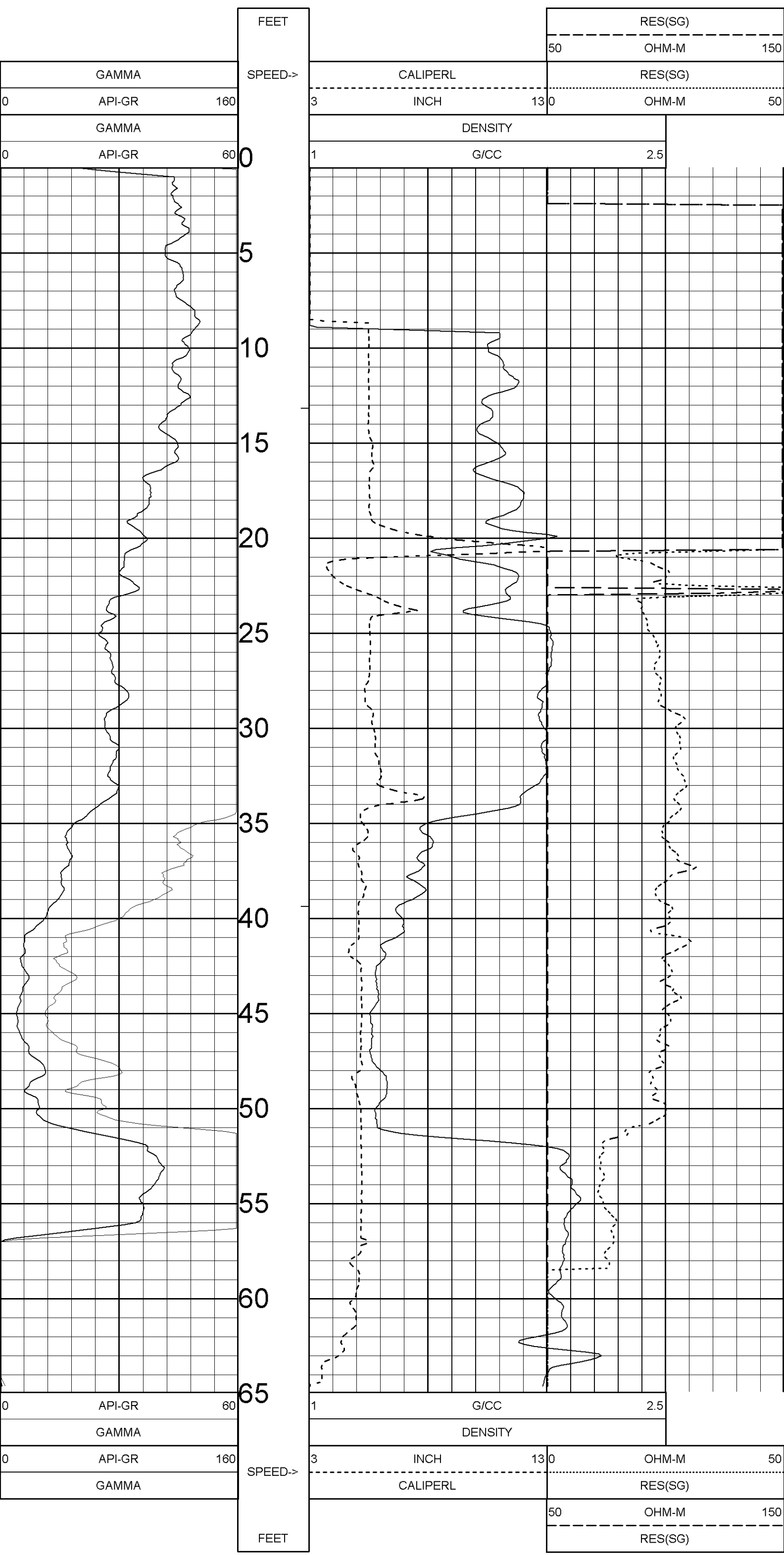
ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



GAMMA-RES-DENSITY

SHOB-120-6

COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	SHOB-120-6		N/A
FIELD	SOUTH HEART		N/A
COUNTY	STARK		N/A
STATE	NORTH DAKOTA		N/A
LOCATION	N/A		
SECTION	:		
TOWNSHIP	:		
RANGE	:		
API 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	:
DATE	10/13/07		
DEPTH DRILLER	70		
BIT SIZE	5.0		
LOG TOP	0.50		
LOG BOTTOM	64.80		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	AIR		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	0		
WITNESSED BY	S. HARKINS		
RECORDED BY	B. MATAS		
REMARKS 1	:		
REMARKS 2	:		



TOOL CALIBRATION SHOB-120-6 10/13/07 12:36
 TOOL 9238AA1 TM VERSION 1006
 SERIAL NUMBER 838

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	May18,07 14:12:53	GAMMA	0.000 [API-GR]	5.00 [CPS]
	May18,07 14:12:53	GAMMA	330.000 [API-GR]	563.00 [CPS]
2	May18,07 14:20:10	VOLTAGE	0.000 [MV]	5235.00 [CPS]
	May18,07 14:20:10	VOLTAGE	2330.000 [MV]	109060.00 [CPS]
3	Dec13,06 07:42:30	CALIPER	Default [CPS]	Default [CPS]
	Dec13,06 07:42:30	CALIPER	Default [CPS]	Default [CPS]
4	May30,07 12:58:07	DEN(SS)	1.000 [G/CC]	45059.00 [CPS]
	May30,07 12:58:07	DEN(SS)	2.383 [G/CC]	17124.00 [CPS]
5	May18,07 14:10:50	CALIPERL	4.000 [INCH]	51020.00 [CPS]
	May18,07 14:10:50	CALIPERL	8.000 [INCH]	66952.00 [CPS]
6	May18,07 14:20:15	CURRENT	0.000 [UA]	5036.00 [CPS]
	May18,07 14:20:15	CURRENT	333.800 [UA]	38177.00 [CPS]
7	Dec13,06 07:42:30	X	Default [CPS]	
8	Dec13,06 07:42:30	Y	Default [CPS]	

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

COMPANY : GOLDER ASSOCIATES, INC.
WELL : SHOB-121
FIELD : SHP
COUNTY : STARK
STATE : NORTH DAKOTA

LOCATION :
SECTION : N/A
TOWNSHIP : N/A
RANGE : N/A
API NO. : N/A
UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL
LOG MEASURED FROM : GL
DRL MEASURED FROM : GL

DATE : 10/03/07
DEPTH DRILLER : 80
BIT SIZE : 5.625
LOG TOP : -4.10
LOG BOTTOM : 77.80
CASING OD : N/A
CASING BOTTOM : N/A
CASING TYPE : N/A
BOREHOLE FLUID : WATER
RM TEMPERATURE : N/A
MUD RES : N/A
MUD WEIGHT : 8.5
WITNESSED BY : J. ELLIOT
RECORDED BY : M. SUTTON
REMARKS 1 :
REMARKS 2 :

ELEVATION KB : N/A
ELEVATION DF : N/A
ELEVATION GL : N/A

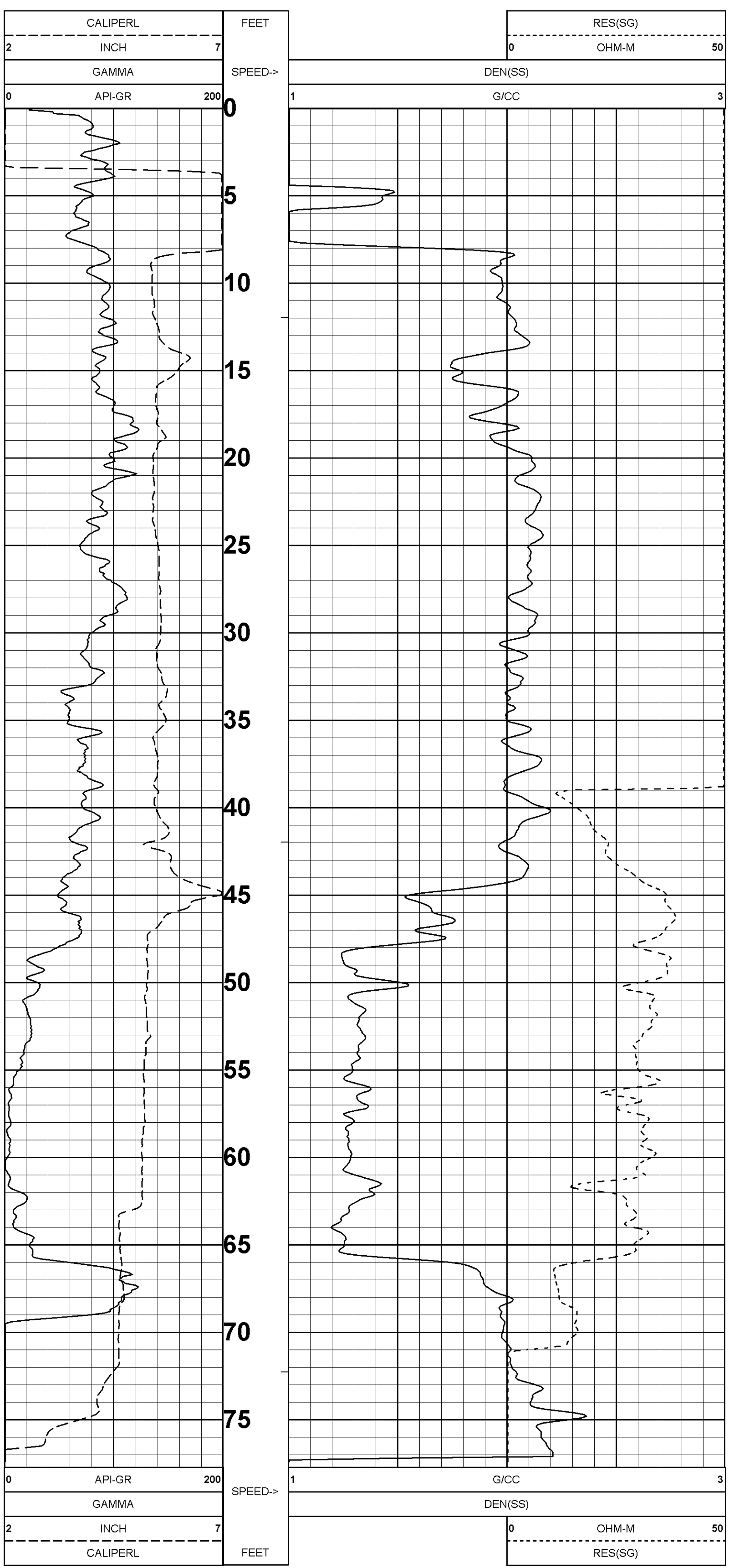
OTHER SERVICES:
NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-121 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-121 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-121 10/03/07 14:31
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(SS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-122

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:

NONE

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

ELEVATION KB :N/A

ELEVATION DF :N/A

ELEVATION GL :N/A

DATE :10/03/07

DEPTH DRILLER :60

BIT SIZE :5.625

LOG TOP :-3.70

LOG BOTTOM :-58.50

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-122 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

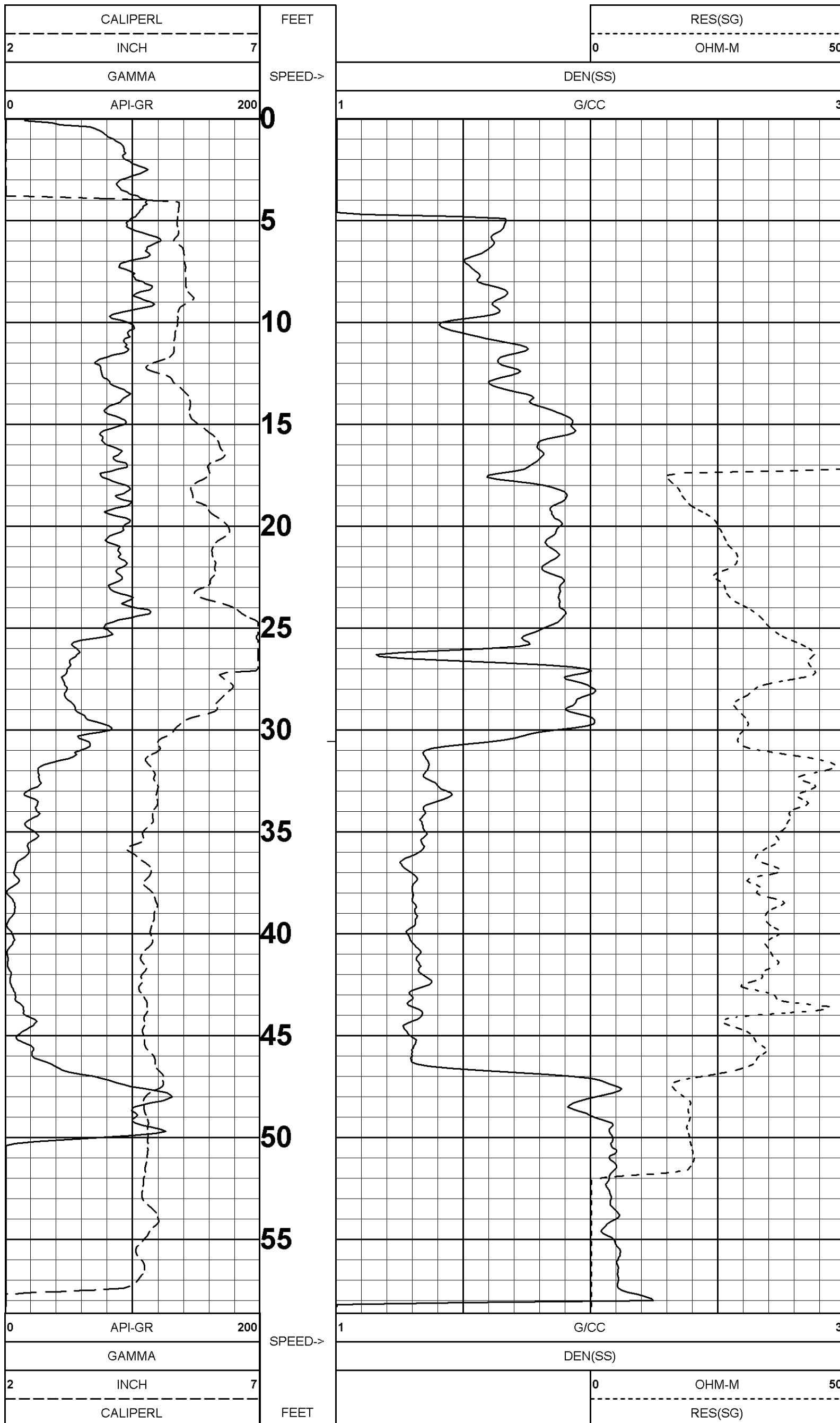
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-122 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-122 10/03/07 17:08
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
1	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-123

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/05/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -4.10

LOG BOTTOM : 79.70

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:

NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-123 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

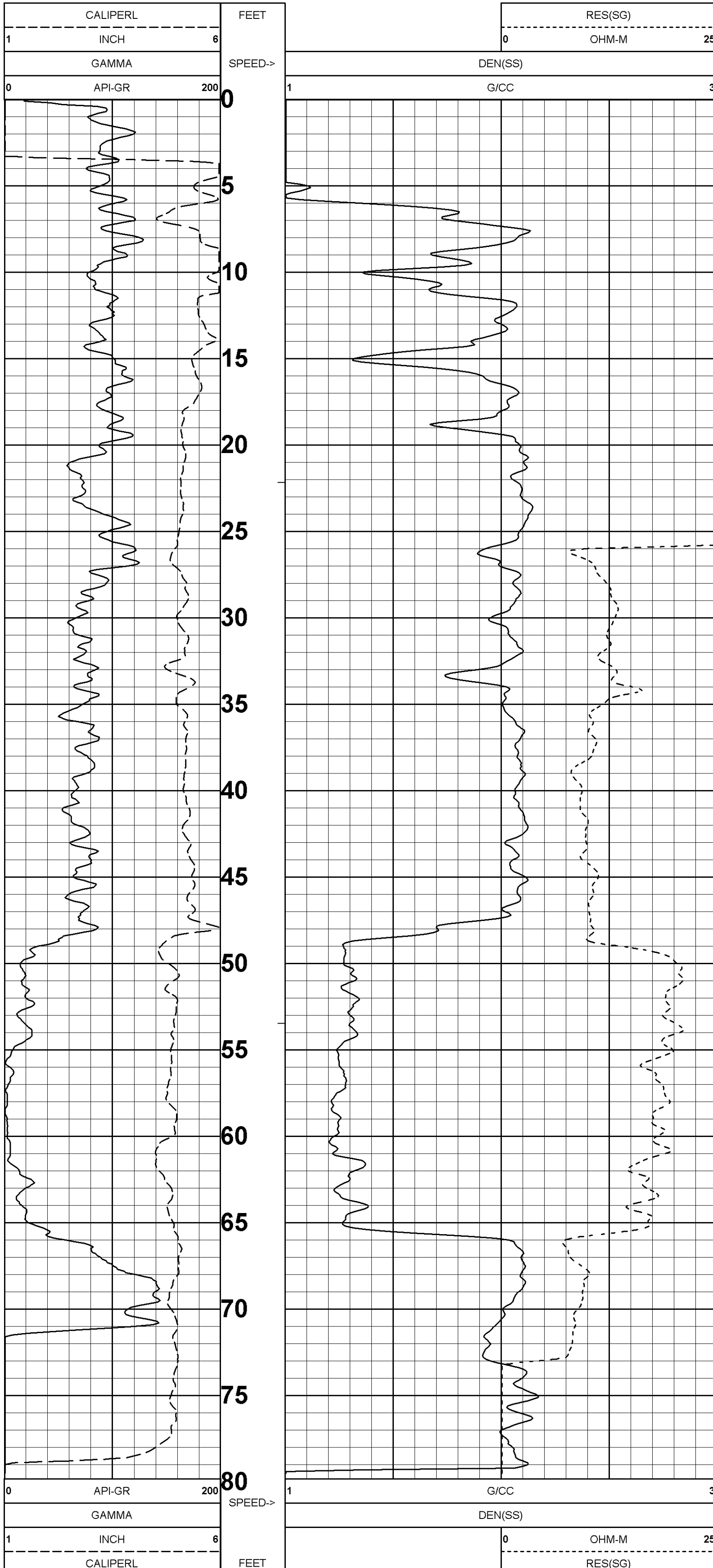
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-123 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-123 10/05/07 16:39
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	426280.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	155679.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC. OTHER SERVICES:

WELL : SHOB-124

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API 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 : 10/05/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -4.20

LOG BOTTOM : 79.80

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

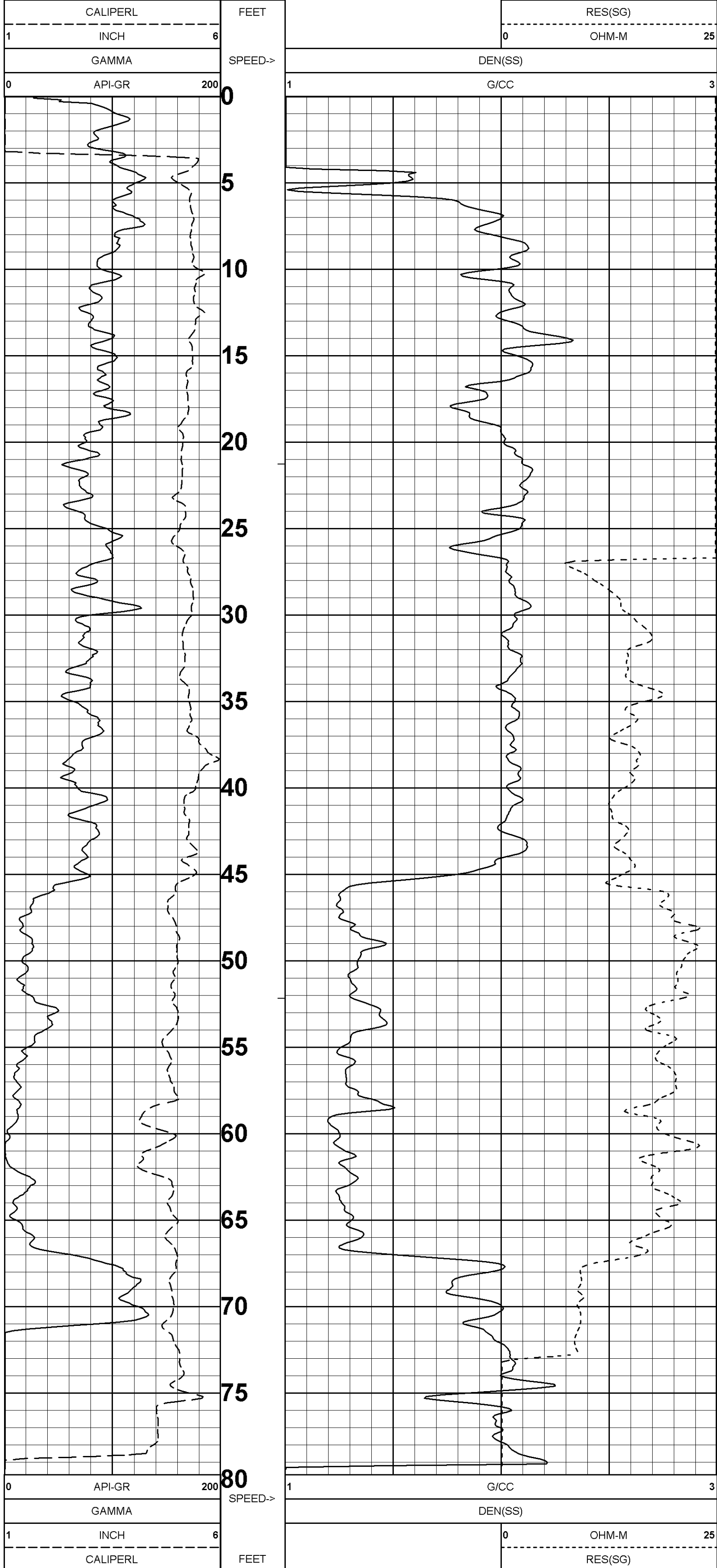
GDR SHOB-124 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER



GDR SHOB-124 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER

TOOL CALIBRATION SHOB-124 10/05/07 17:17
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
1	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-125

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DATE : 10/06/07

DEPTH DRILLER : 140

BIT SIZE : 5.625

LOG TOP : -4.40

LOG BOTTOM : 133.30

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

OTHER SERVICES:

NONE

ELEVATION RB : N/A

ELEVATION DF : N/A

ELEVATION GL : N/A

REMARKS 1 :
REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS.

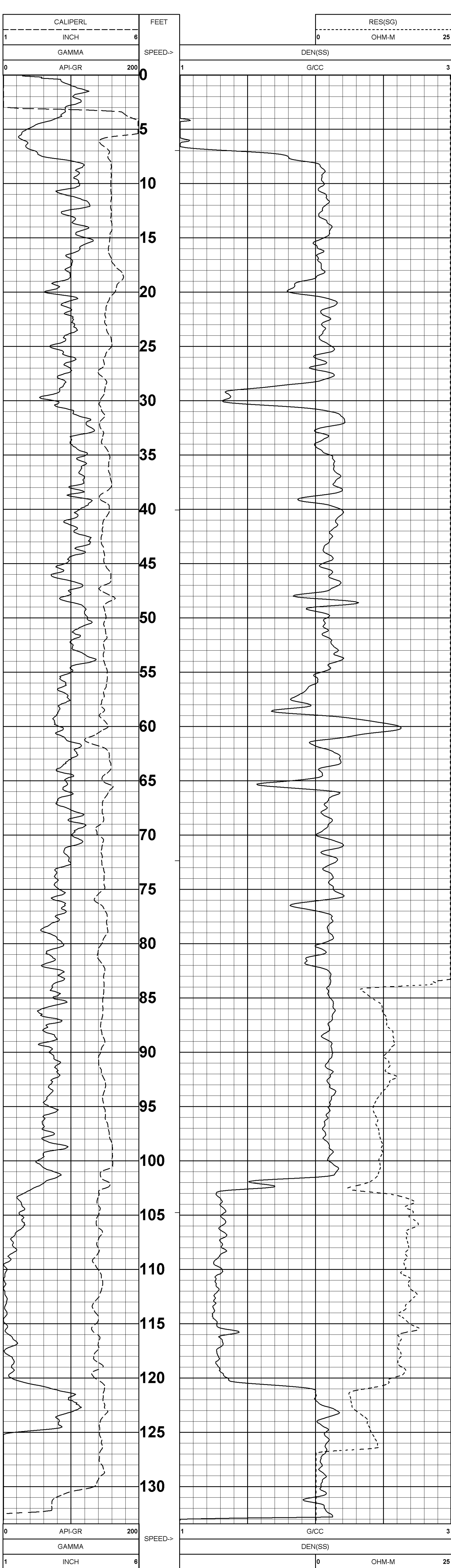
GDR SHOB-125 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER



GDR SHOB-125 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
4	Sep28,07 13:54:59	CALIPER	1989.000 [INCH]	155679.00 [CPS]
5	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	26203.00 [CPS]
6	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
7	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
8	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
9	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
10	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
11	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
12	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
13	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
14	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
15	Sep28,07 13:14:43	F	Default [CPS]	
16	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-126

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

OTHER SERVICES : NONE

LOCATION : :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DATE : 10/06/07

DEPTH DRILLER : 145

BIT SIZE : 5.0

LOG TOP : -4.20

LOG BOTTOM : -143.90

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

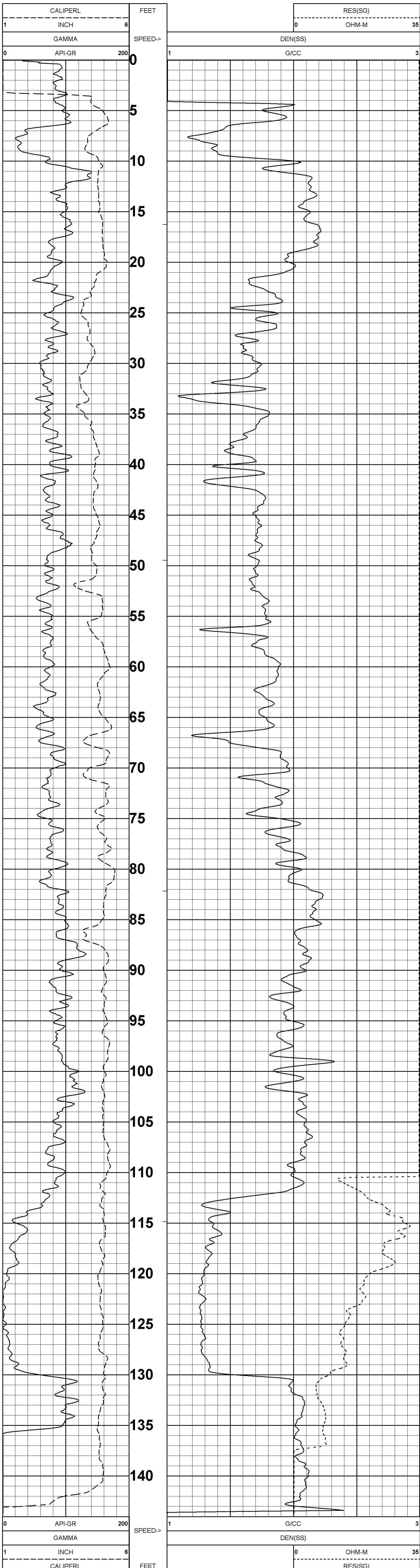
REMARKS 1 :
REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-126 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
 PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER



GDR SHOB-126 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.0
 PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-126 10/06/07 18:00
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
1	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-127

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/03/07

DEPTH DRILLER :80

BIT SIZE :5.625

LOG TOP :-0.70

LOG BOTTOM :78.80

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:
NONE

ELEVATION KB :N/A

ELEVATION DF :N/A

ELEVATION GL :N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-127 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

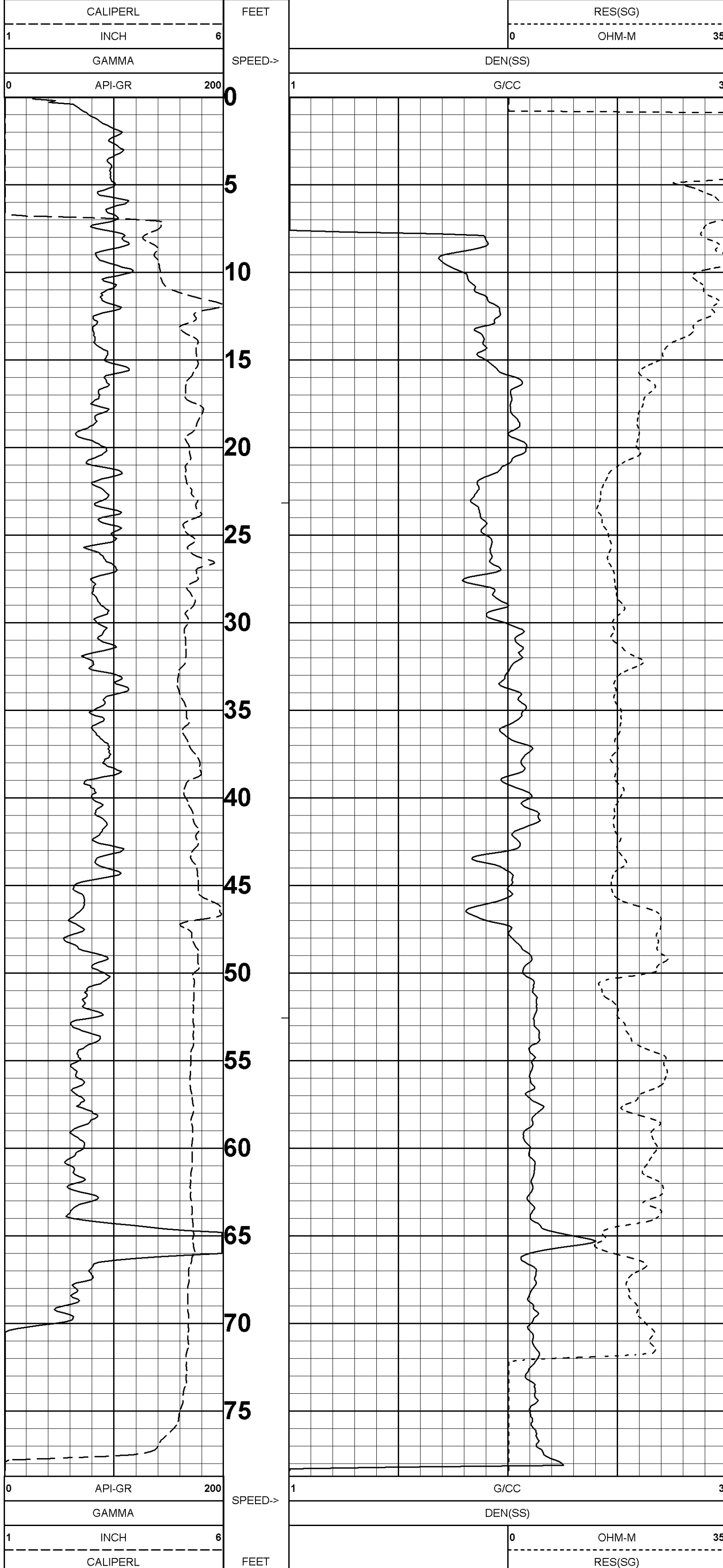
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-127 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-127 10/03/07 12:00
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-128

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:

NONE

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

ELEVATION KB :N/A

ELEVATION DF :N/A

ELEVATION GL :N/A

DATE :10/03/07

DEPTH DRILLER :60

BIT SIZE :5.625

LOG TOP :-2.70

LOG BOTTOM :58.10

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :J. ELLIOT

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-128 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

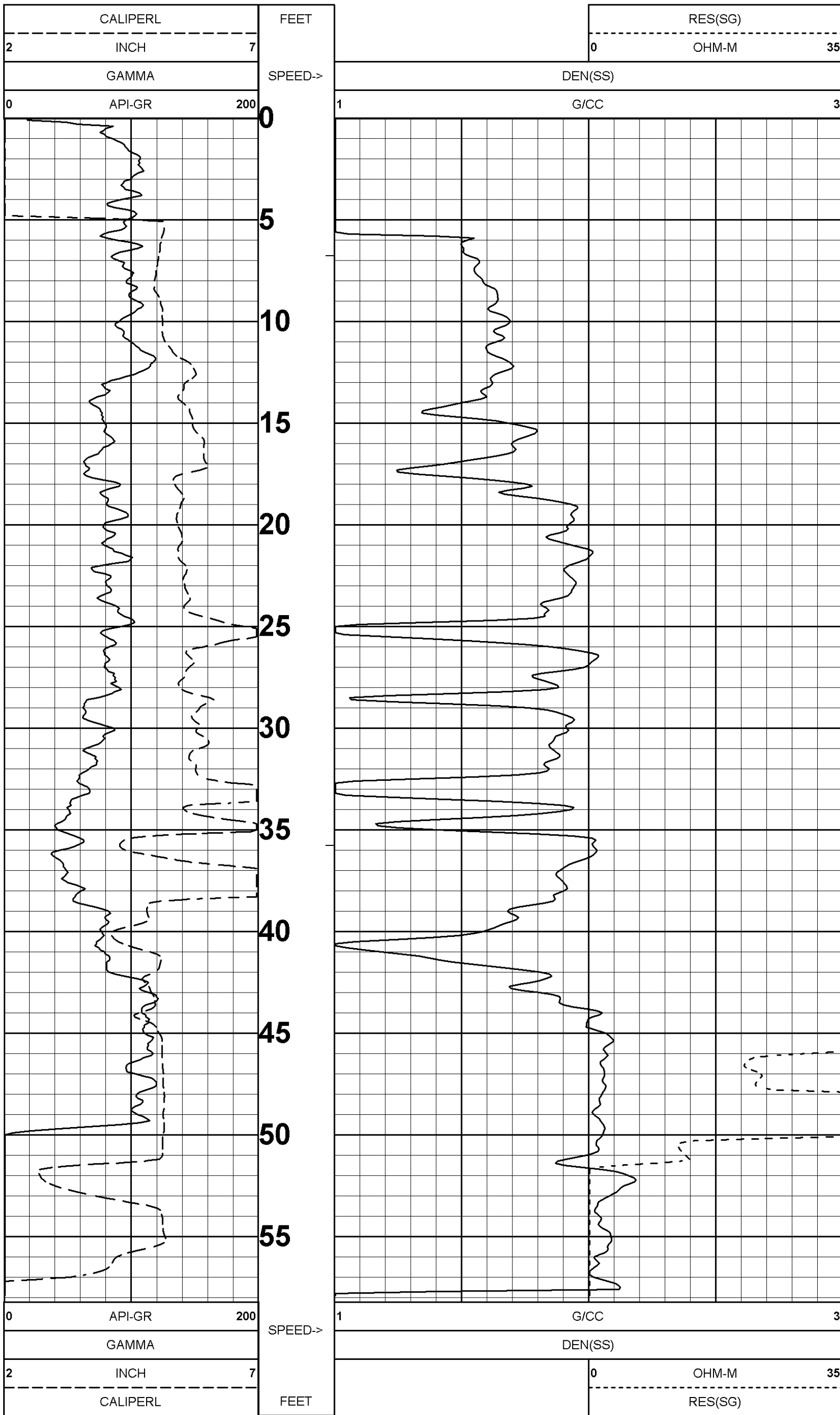
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-128 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-128 10/03/07 13:17

TOOL 9239C1 TM VERSION 2016

SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
4	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
5	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
6	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
7	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
8	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

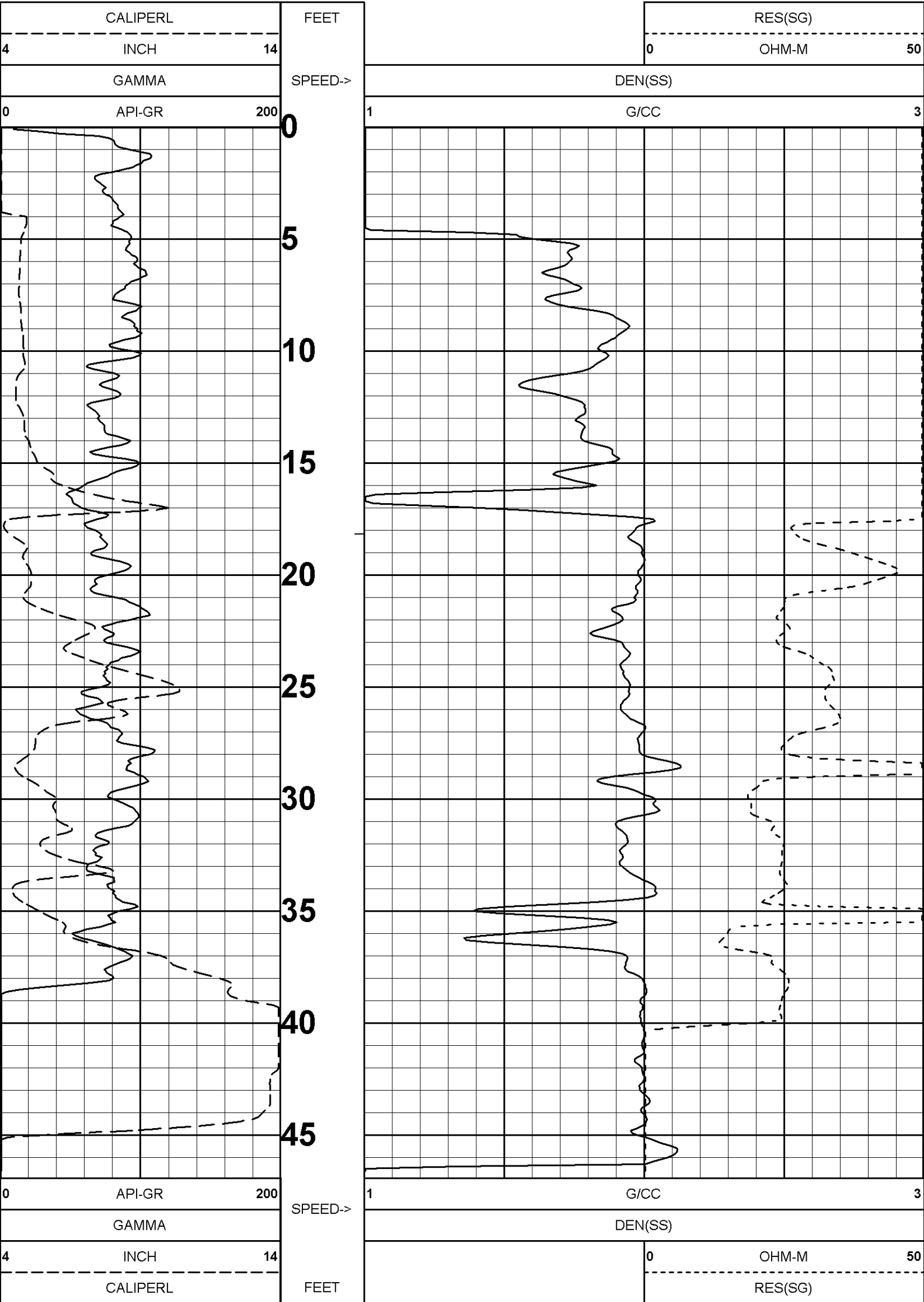
COMPANY	:GOLDER ASSOCIATES, INC.	OTHER SERVICES:	
WELL	:SHOB-129		
FIELD	:SHP		
COUNTY	:STARK		NONE
STATE	:NORTH DAKOTA		
LOCATION	:		
SECTION	:N/A		
TOWNSHIP	:N/A		
RANGE	:N/A		
API NO.	:N/A		
UNIQUE WELL ID.	:N/A		
PERMANENT DATUM	:GL	ELEVATION KB	:N/A
LOG MEASURED FROM	:GL	ELEVATION DF	:N/A
DRL MEASURED FROM	:GL	ELEVATION GL	:N/A
DATE	:10/04/07		
DEPTH DRILLER	:80		
BIT SIZE	:5.625		
LOG TOP	:3.70		
LOG BOTTOM	:46.80		
CASING OD	:N/A		
CASING BOTTOM	:N/A		
CASING TYPE	:N/A		
BOREHOLE FLUID	:WATER		
RM TEMPERATURE	:N/A		
MUD RES	:N/A		
MUD WEIGHT	:8.5		
WITNESSED BY	:J. ELLIOT		
RECORDED BY	:M. SUTTON		
REMARKS 1	:		
REMARKS 2	:		

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-129 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-129 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-129 10/04/07 09:54
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-130

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

ELEVATION KB : N/A

ELEVATION DF : N/A

ELEVATION GL : N/A

DATE : 10/05/07

DEPTH DRILLER : 60

BIT SIZE : 5.625

LOG TOP : -1.80

LOG BOTTOM : -59.20

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-130 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

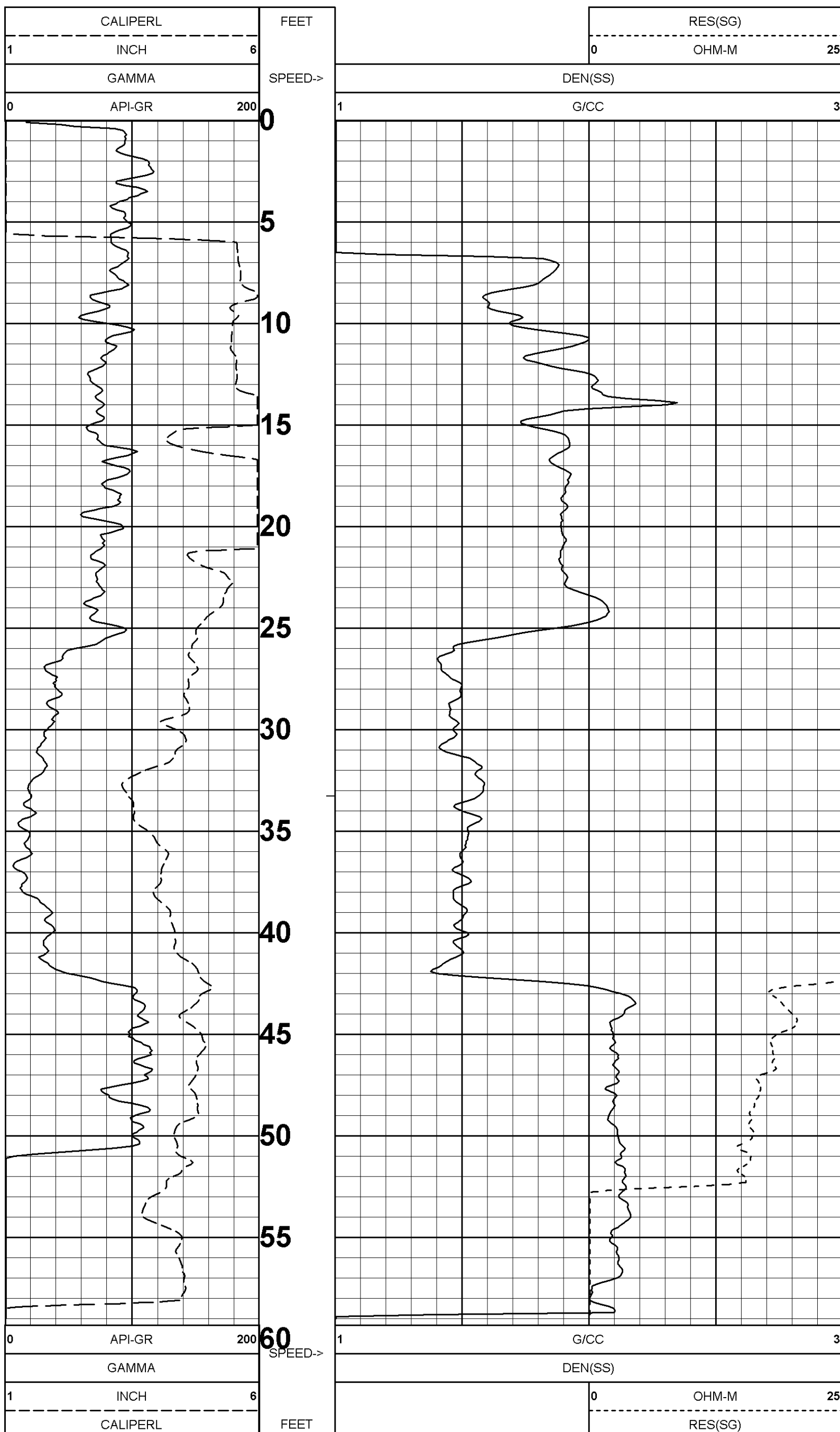
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER



GDR SHOB-130 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-130 10/05/07 15:31

TOOL 9239C1 TM VERSION 2016

SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.
WELL : SHOB-131
FIELD : SHP
COUNTY : STARK
STATE : NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :
SECTION : N/A
TOWNSHIP : N/A
RANGE : N/A
API NO. : N/A
UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL
LOG MEASURED FROM : GL
DRL MEASURED FROM : GL
DATE : 10/06/07

ELEVATION KB : N/A
ELEVATION DF : N/A
ELEVATION GL : N/A

DEPTH DRILLER : 120
BIT SIZE : 5.625

LOG TOP : -4.50
LOG BOTTOM : -114.70

CASING OD : N/A
CASING BOTTOM : N/A
CASING TYPE : N/A

BOREHOLE FLUID : WATER
RM TEMPERATURE : N/A
MUD RES : N/A
MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT
RECORDED BY : M. SUTTON

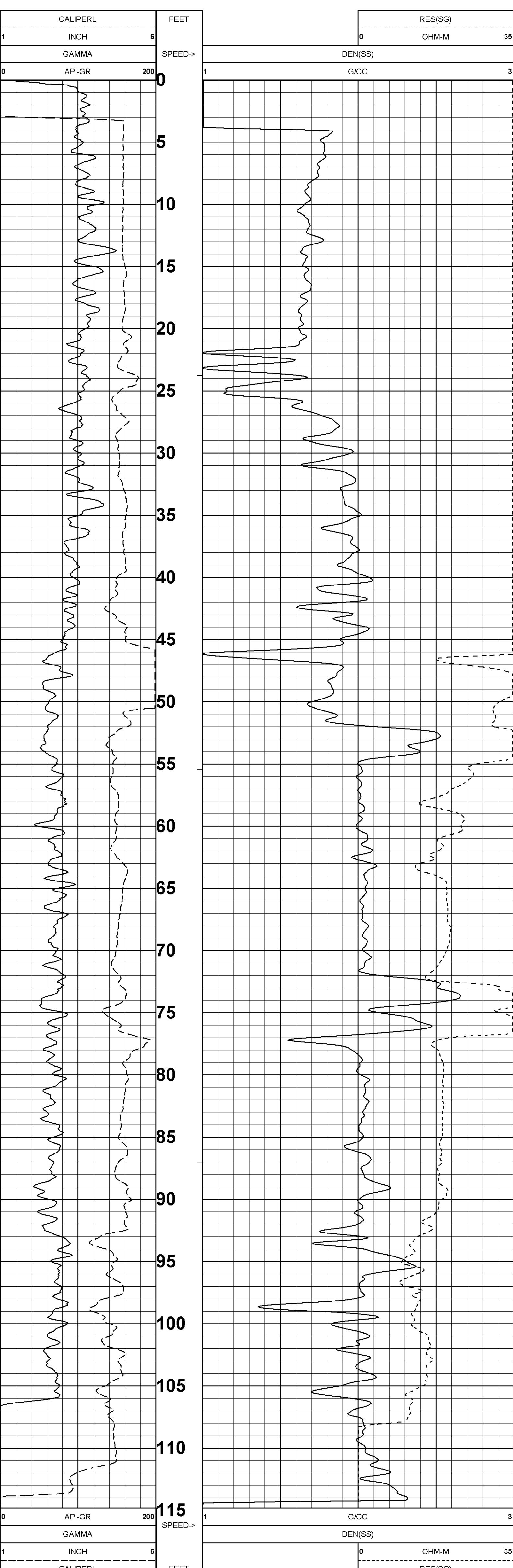
REMARKS 1 :
REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-131 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER



GDR SHOB-131 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/07/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-131 10/06/07 15:25
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC. OTHER SERVICES:

WELL : SHOB-132

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API 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 QL N/A

DATE : 10/06/07

DEPTH DRILLER : 85

BIT SIZE : 5.625

LOG TOP : -4.40

LOG BOTTOM : 84.80

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 : .

REMARKS 2 : .

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-132 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

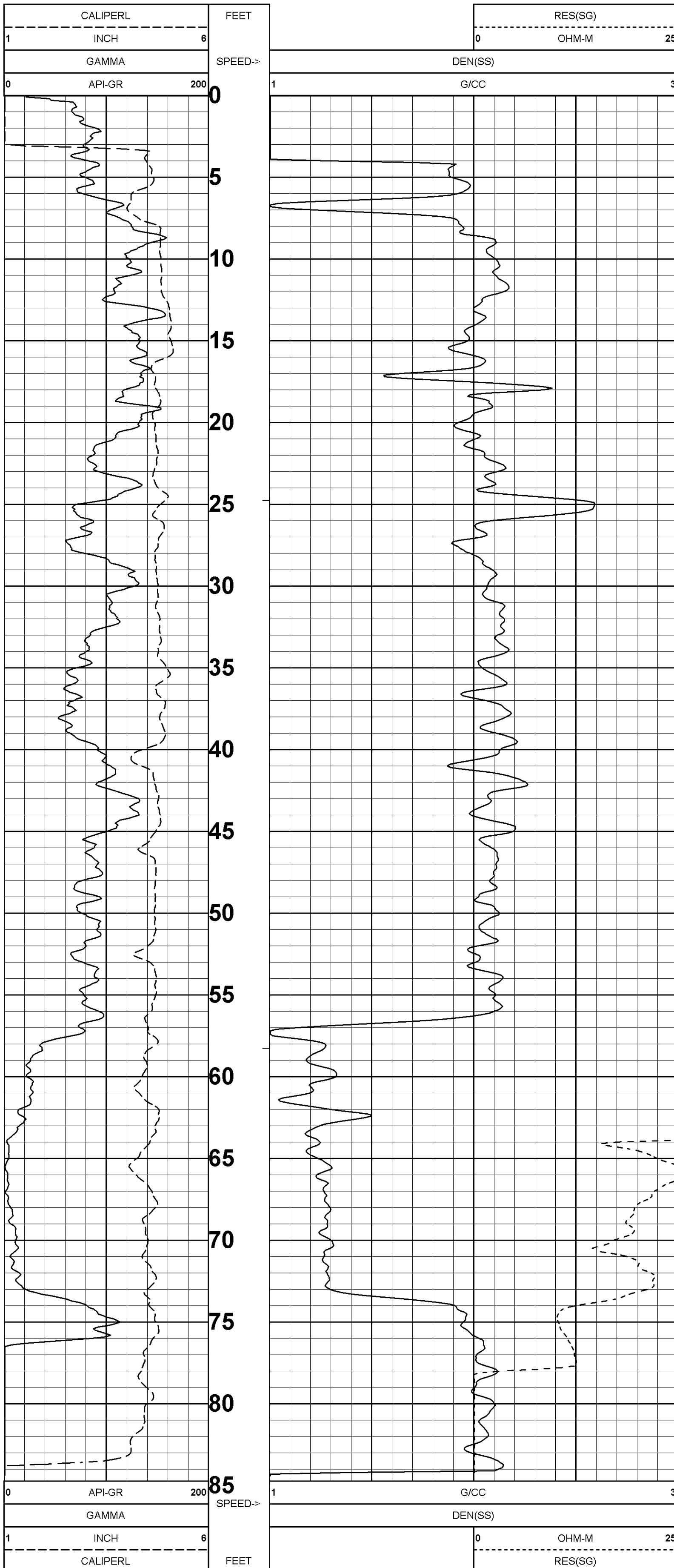
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER



GDR SHOB-132 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-132 10/06/07 14:29
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
1	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	426280.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC. OTHER SERVICES:

WELL : SHOB-133

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API 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 : 10/03/07

DEPTH DRILLER : 75

BIT SIZE : 5.625

LOG TOP : -3.60

LOG BOTTOM : 71.40

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

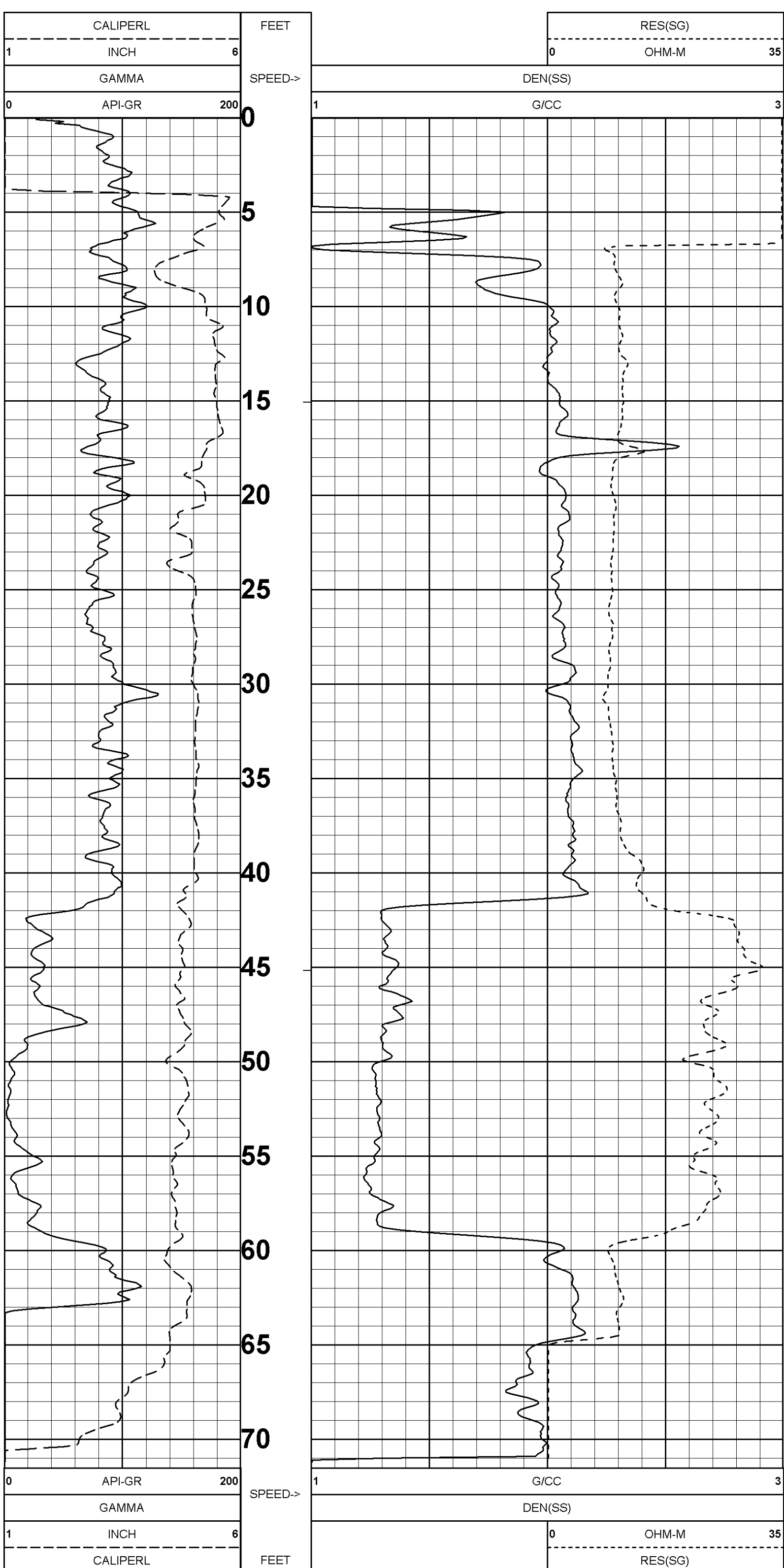
GDR SHOB-133 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER



GDR SHOB-133 10/03/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER

TOOL CALIBRATION SHOB-133 10/03/07 09:42
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

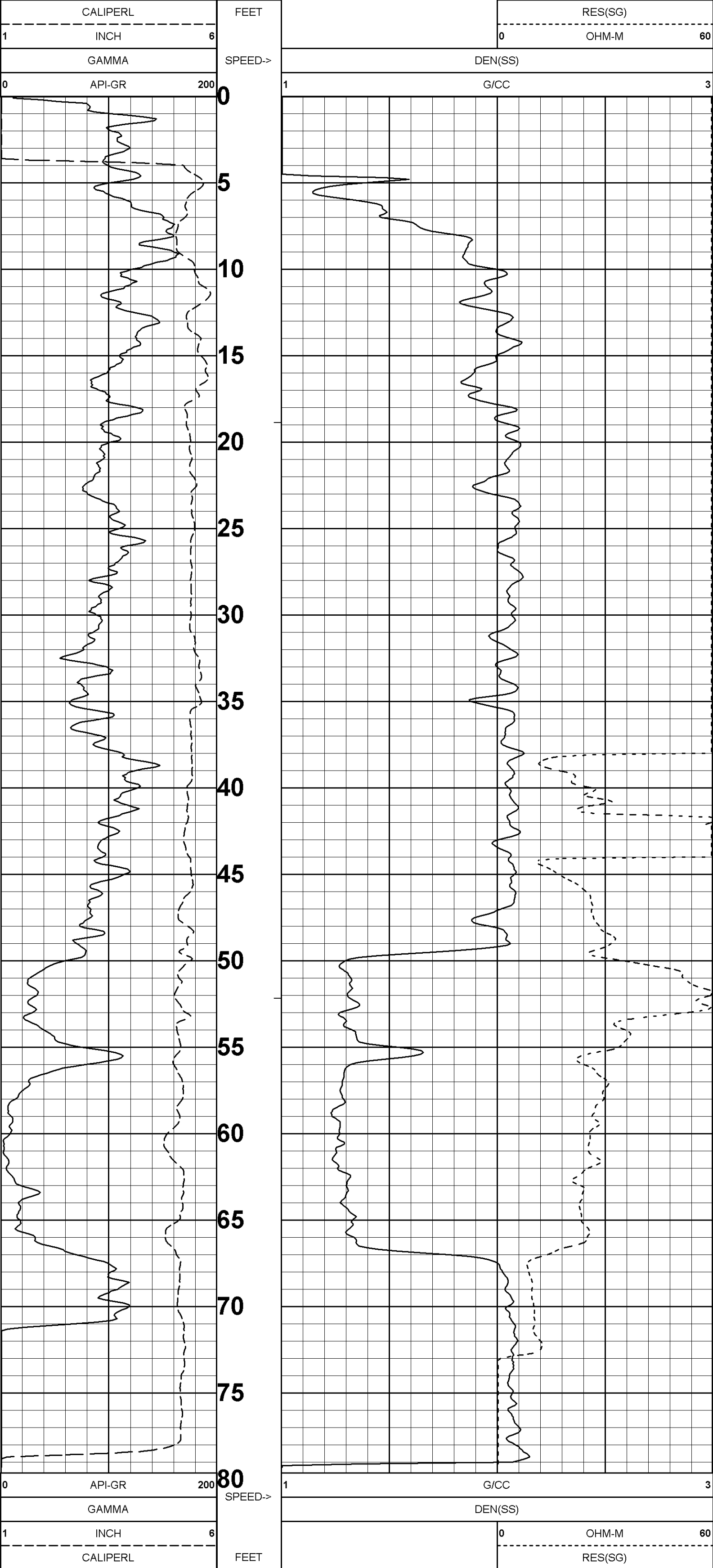
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
1	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY	GOLDER ASSOCIATES, INC.	OTHER SERVICES:	
WELL	SHOB-133-1	FIELD	SHP
COUNTY	STARK	STATE	NORTH DAKOTA
LOCATION		SECTION	N/A
TOWNSHIP		RANGE	N/A
API NO.		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	10/11/07		
DEPTH DRILLER	80		
BIT SIZE	5.0		
LOG TOP	-3.80		
LOG BOTTOM	79.50		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	8.5		
WITNESSED BY	S. HARKINS		
RECORDED BY	M. SUTTON		
REMARKS 1			
REMARKS 2			

GDR SHOB-133-1 10/11/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.0
PRESENTATION NAME/DATE = 9239C1.0 10/12/2007		VERSION = 3.64ER



GDR SHOB-133-1 10/11/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.0
PRESENTATION NAME/DATE = 9239C1.0 10/12/2007		VERSION = 3.64ER

TOOL CALIBRATION SHOB-133-1 10/11/07 10:50
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Oct10,07 18:40:27	GAMMA	Default [CPS]	Default [CPS]
1	Oct10,07 18:40:27	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-133-2

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/11/07

DEPTH DRILLER :85

BIT SIZE :5.0

LOG TOP :-4.90

LOG BOTTOM :83.90

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :S. HARKINS

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:

NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-133-2 10/11/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

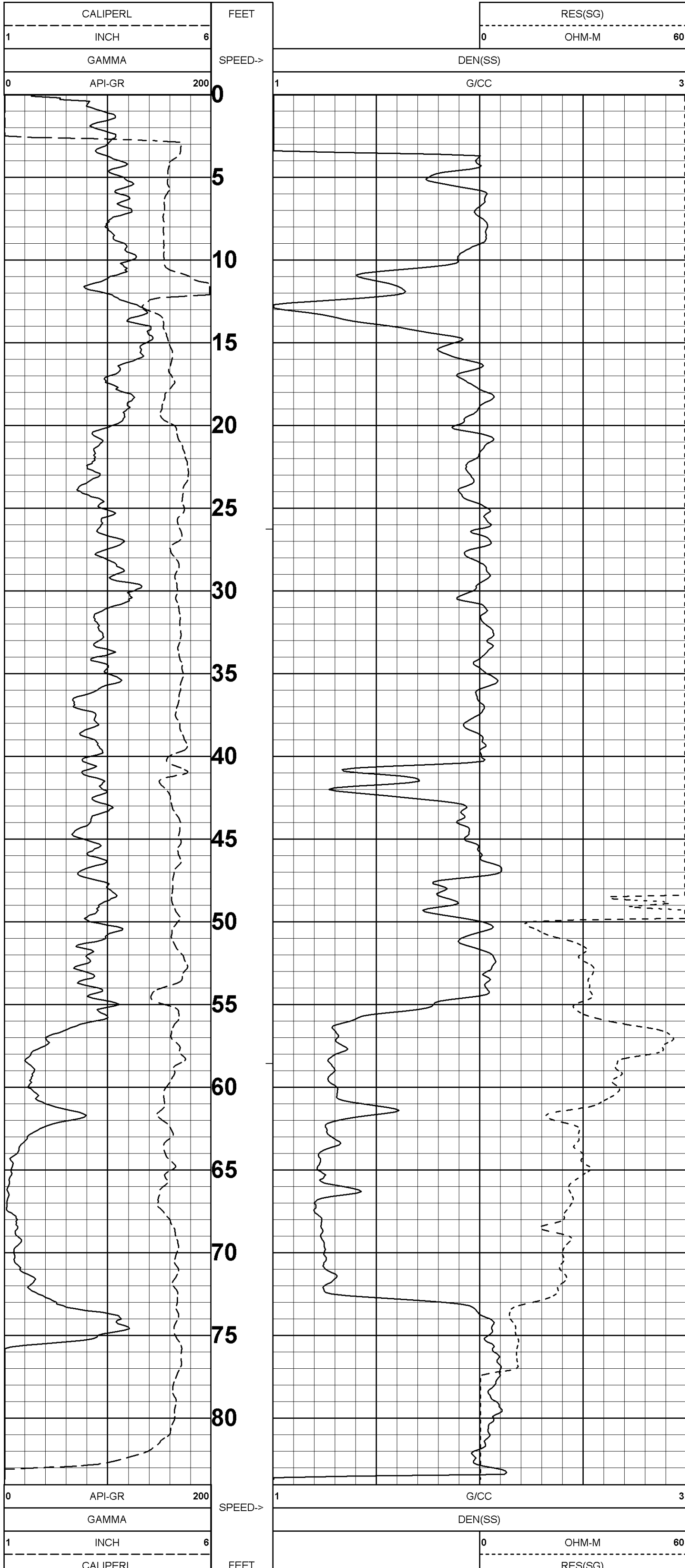
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

VERSION = 3.64ER



GDR SHOB-133-2 10/11/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-133-2 10/11/07 11:22
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Oct10,07 18:40:27	GAMMA	Default [CPS]	Default [CPS]
2	Oct10,07 18:40:27	GAMMA	320.000 [API-GR]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
4	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
5	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
7	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
8	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
9	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
10	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
11	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
12	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
13	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
14	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
15	Sep28,07 13:14:43	F	Default [CPS]	
16	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-133-3

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/12/07

DEPTH DRILLER :75

BIT SIZE :5.0

LOG TOP :-4.70

LOG BOTTOM :74.40

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :S. HARKINS

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-133-3 10/12/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

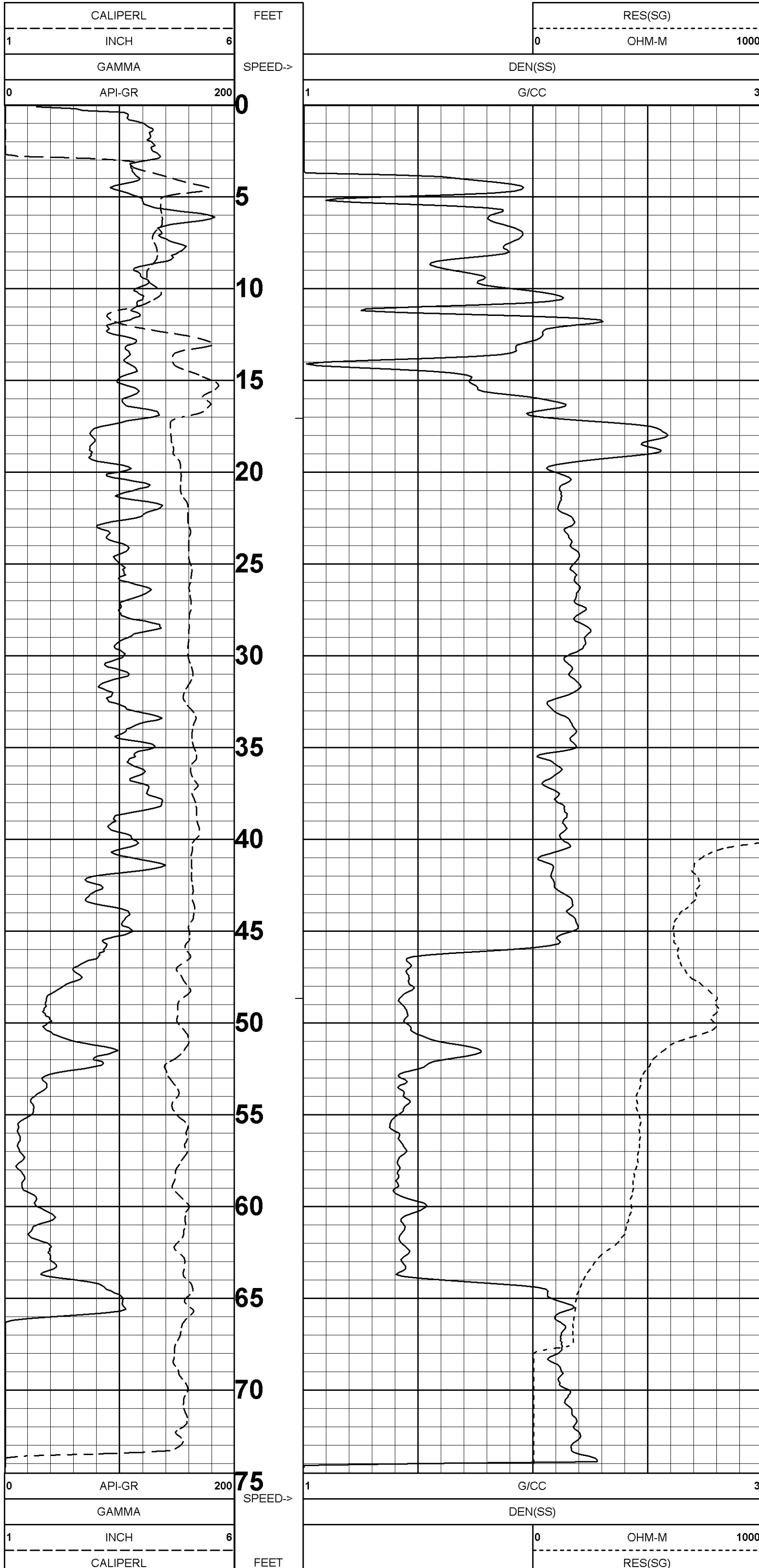
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

VERSION = 3.64ER



GDR SHOB-133-3 10/12/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-133-3 10/12/07 09:30
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 1199

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Oct11,07 18:49:40	GAMMA	5.000 [API-GR]	1.00 [CPS]
	Oct11,07 18:49:40	GAMMA	325.000 [API-GR]	304.00 [CPS]
2	Oct11,07 18:50:29	VOLTAGE	0.000 [MV]	4460.00 [CPS]
	Oct11,07 18:50:29	VOLTAGE	1972.000 [MV]	271075.00 [CPS]
3	Oct11,07 18:50:39	CALIPER	Default [CPS]	Default [CPS]
	Oct11,07 18:50:39	CALIPER	Default [CPS]	Default [CPS]
4	Oct11,07 19:33:14	DEN(LS)	1.000 [G/CC]	26867.00 [CPS]
	Oct11,07 19:33:14	DEN(LS)	2.410 [G/CC]	2220.00 [CPS]
5	Oct11,07 19:33:33	DEN(SS)	1.000 [G/CC]	44518.00 [CPS]
	Oct11,07 19:33:33	DEN(SS)	2.410 [G/CC]	16572.00 [CPS]
6	Oct11,07 18:52:41	CALIPERL	5.800 [INCH]	170520.00 [CPS]
	Oct11,07 18:52:41	CALIPERL	10.000 [INCH]	299225.00 [CPS]
7	Oct11,07 18:53:47	CURRENT	0.000 [UA]	3120.00 [CPS]
	Oct11,07 18:53:47	CURRENT	283.000 [UA]	26400.00 [CPS]
8	Oct11,07 18:48:16	F	Default [CPS]	
	Oct11,07 18:48:16	X	Default [CPS]	

COMPANY :GOLDER ASSOCIATES, INC.

WELL :SHOB-133-4

FIELD :SHP

COUNTY :STARK

STATE :NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :

SECTION :N/A

TOWNSHIP :N/A

RANGE :N/A

API NO. :N/A

UNIQUE WELL ID. :N/A

PERMANENT DATUM :GL

LOG MEASURED FROM :GL

DRL MEASURED FROM :GL

DATE :10/12/07

DEPTH DRILLER :70

BIT SIZE :5.0

LOG TOP :-4.30

LOG BOTTOM :74.20

CASING OD :N/A

CASING BOTTOM :N/A

CASING TYPE :N/A

BOREHOLE FLUID :WATER

RM TEMPERATURE :N/A

MUD RES :N/A

MUD WEIGHT :8.5

WITNESSED BY :S. HARKINS

RECORDED BY :M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-133-4 10/12/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

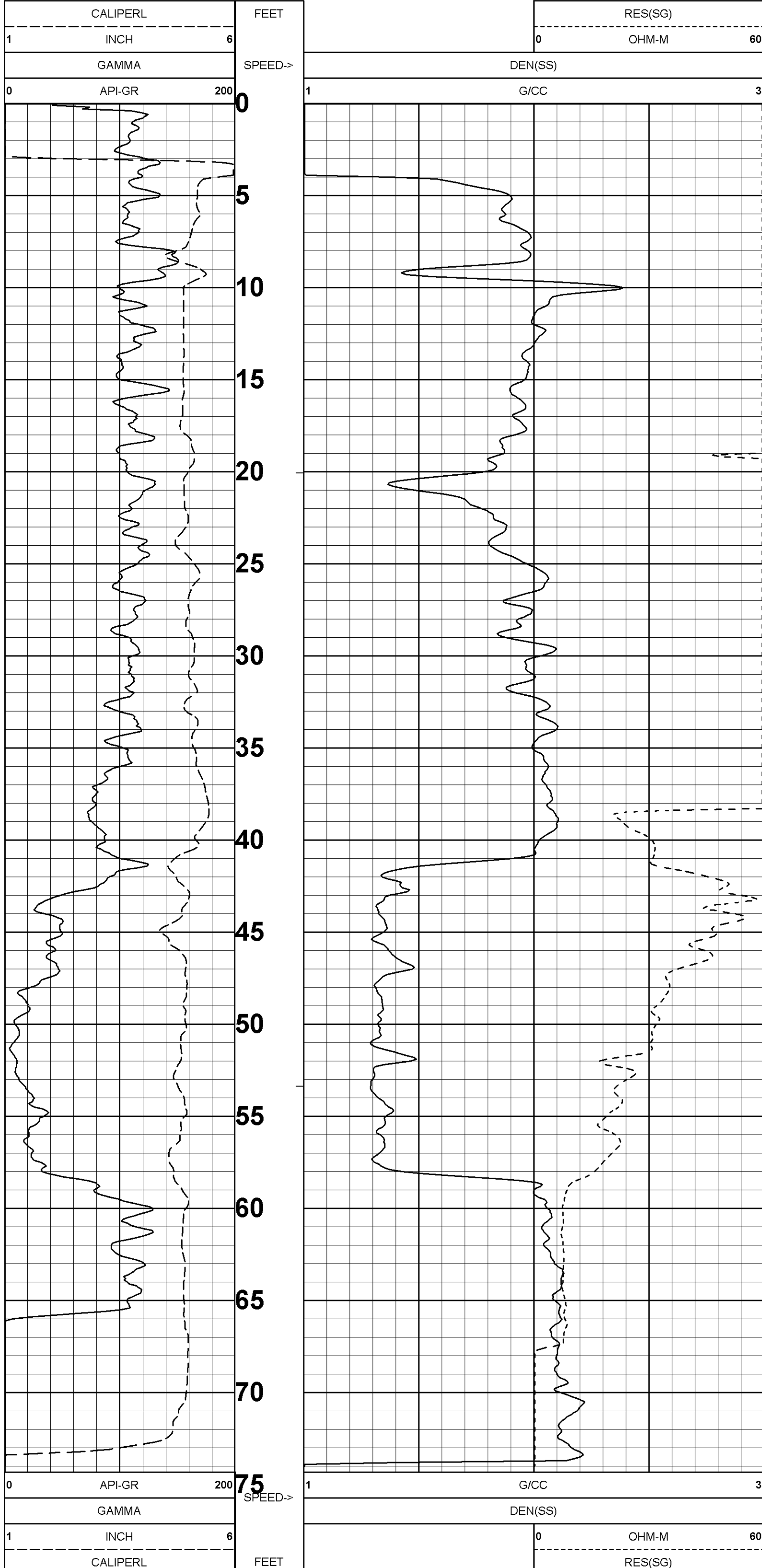
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

VERSION = 3.64ER



GDR SHOB-133-4 10/12/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.0

PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-133-4 10/12/07 10:04
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 1199

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Oct11,07	18:49:40	GAMMA	5.000 [API-GR] 1.00 [CPS]
	Oct11,07	18:49:40	GAMMA	325.000 [API-GR] 304.00 [CPS]
2	Oct11,07	18:50:29	VOLTAGE	0.000 [MV] 4460.00 [CPS]
	Oct11,07	18:50:29	VOLTAGE	1972.000 [MV] 271075.00 [CPS]
3	Oct11,07	18:50:39	CALIPER	Default [CPS] Default [CPS]
4	Oct11,07	19:33:14	DEN(LS)	1.000 [G/CC] 26867.00 [CPS]
	Oct11,07	19:33:14	DEN(LS)	2.410 [G/CC] 2220.00 [CPS]
5	Oct11,07	19:33:33	DEN(SS)	1.000 [G/CC] 44518.00 [CPS]
	Oct11,07	19:33:33	DEN(SS)	2.410 [G/CC] 16572.00 [CPS]
6	Oct11,07	18:52:41	CALIPERL	5.800 [INCH] 170520.00 [CPS]
	Oct11,07	18:52:41	CALIPERL	10.000 [INCH] 299225.00 [CPS]
7	Oct11,07	18:53:47	CURRENT	0.000 [UA] 3120.00 [CPS]
	Oct11,07	18:53:47	CURRENT	283.000 [UA] 26400.00 [CPS]
8	Oct11,07	18:48:16	F	Default [CPS]
9	Oct11,07	18:48:16	X	Default [CPS]

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-133-5

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

OTHER SERVICES:

NONE

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/12/07

DEPTH DRILLER : .65

BIT SIZE : 5.0

LOG TOP : -4.10

LOG BOTTOM : .63.50

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : S. HARKINS

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

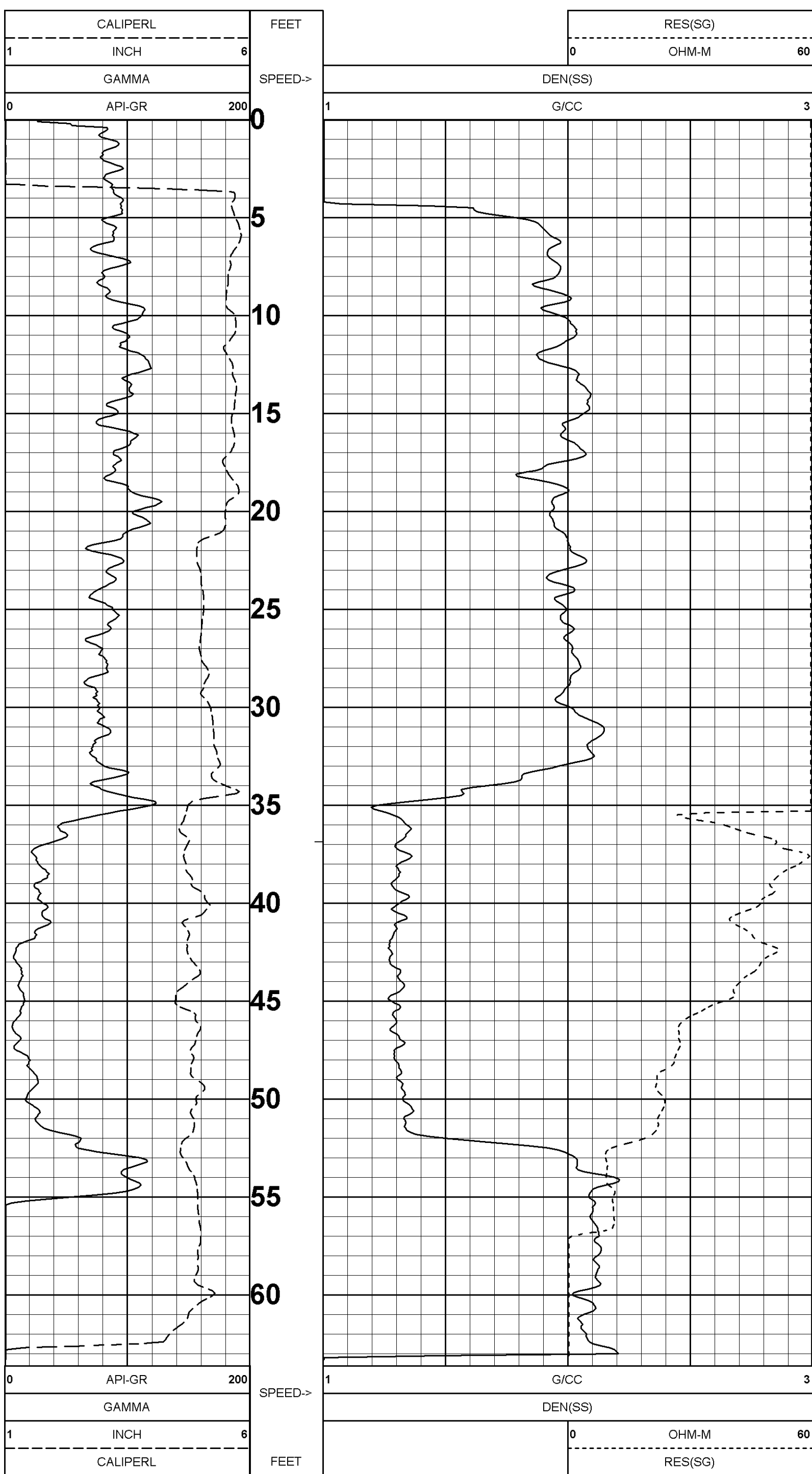
GDR SHOB-133-5 10/12/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER



GDR SHOB-133-5 10/12/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/12/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.0
VERSION = 3.64ER

TOOL CALIBRATION SHOB-133-5 10/12/07 11:35
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 1199

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Oct11,07 18:49:40	GAMMA	5.000 [API-GR]	1.00 [CPS]
1	Oct11,07 18:49:40	GAMMA	325.000 [API-GR]	304.00 [CPS]
2	Oct11,07 18:50:29	VOLTAGE	0.000 [MV]	4460.00 [CPS]
2	Oct11,07 18:50:29	VOLTAGE	1972.000 [MV]	271075.00 [CPS]
3	Oct11,07 18:50:39	CALIPER	Default [CPS]	Default [CPS]
3	Oct11,07 18:50:39	CALIPER	Default [CPS]	Default [CPS]
4	Oct11,07 19:33:14	DEN(LS)	1.000 [G/CC]	26867.00 [CPS]
4	Oct11,07 19:33:14	DEN(LS)	2.410 [G/CC]	2220.00 [CPS]
5	Oct11,07 19:33:33	DEN(SS)	1.000 [G/CC]	44518.00 [CPS]
5	Oct11,07 19:33:33	DEN(SS)	2.410 [G/CC]	16572.00 [CPS]
6	Oct11,07 18:52:41	CALIPERL	5.800 [INCH]	170520.00 [CPS]
6	Oct11,07 18:52:41	CALIPERL	10.000 [INCH]	299225.00 [CPS]
7	Oct11,07 18:53:47	CURRENT	0.000 [UA]	3120.00 [CPS]
7	Oct11,07 18:53:47	CURRENT	283.000 [UA]	26400.00 [CPS]
8	Oct11,07 18:48:16	F	Default [CPS]	
9	Oct11,07 18:48:16	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-134

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION :

TOWNSHIP :

RANGE :

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/02/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -1.70

LOG BOTTOM : -79.40

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-134 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

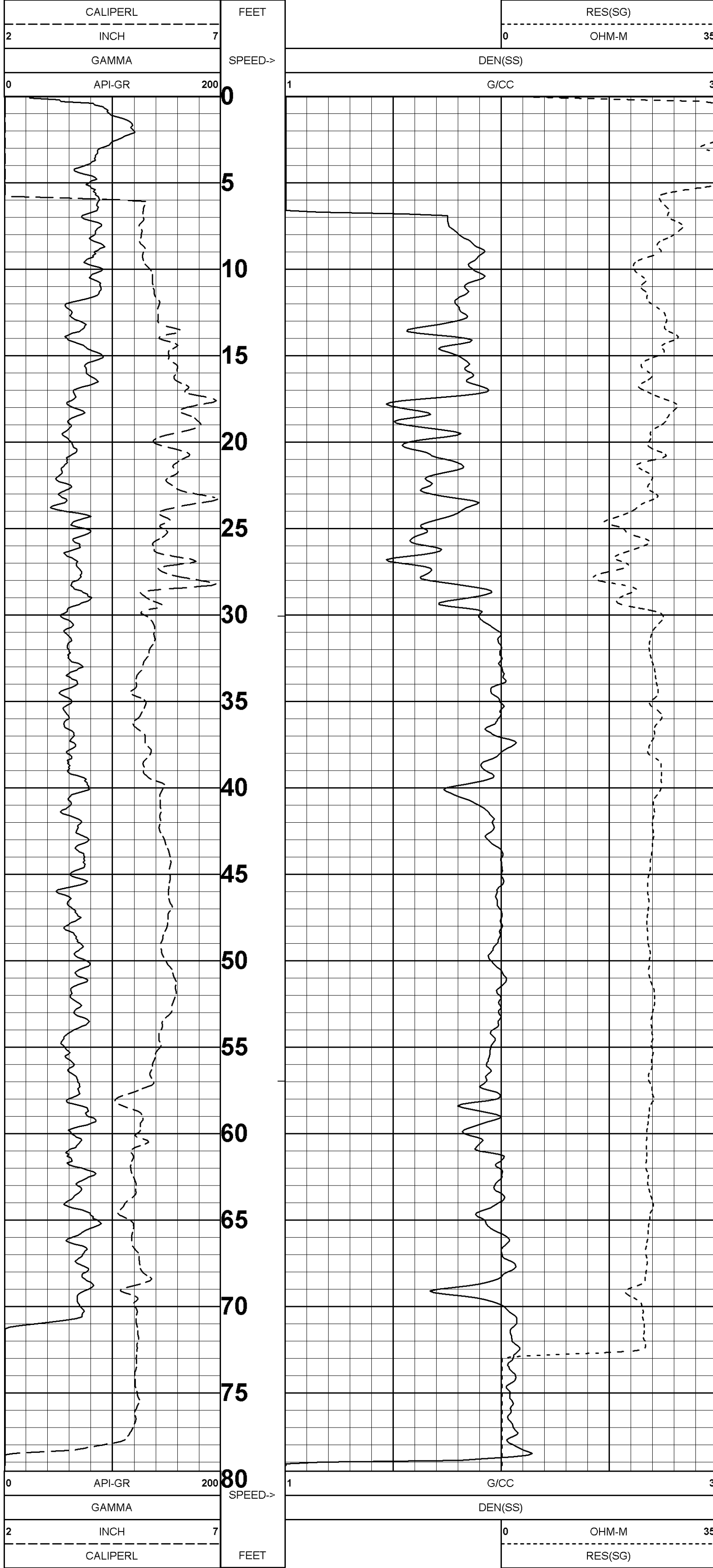
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-134 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-134 10/02/07 17:46
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

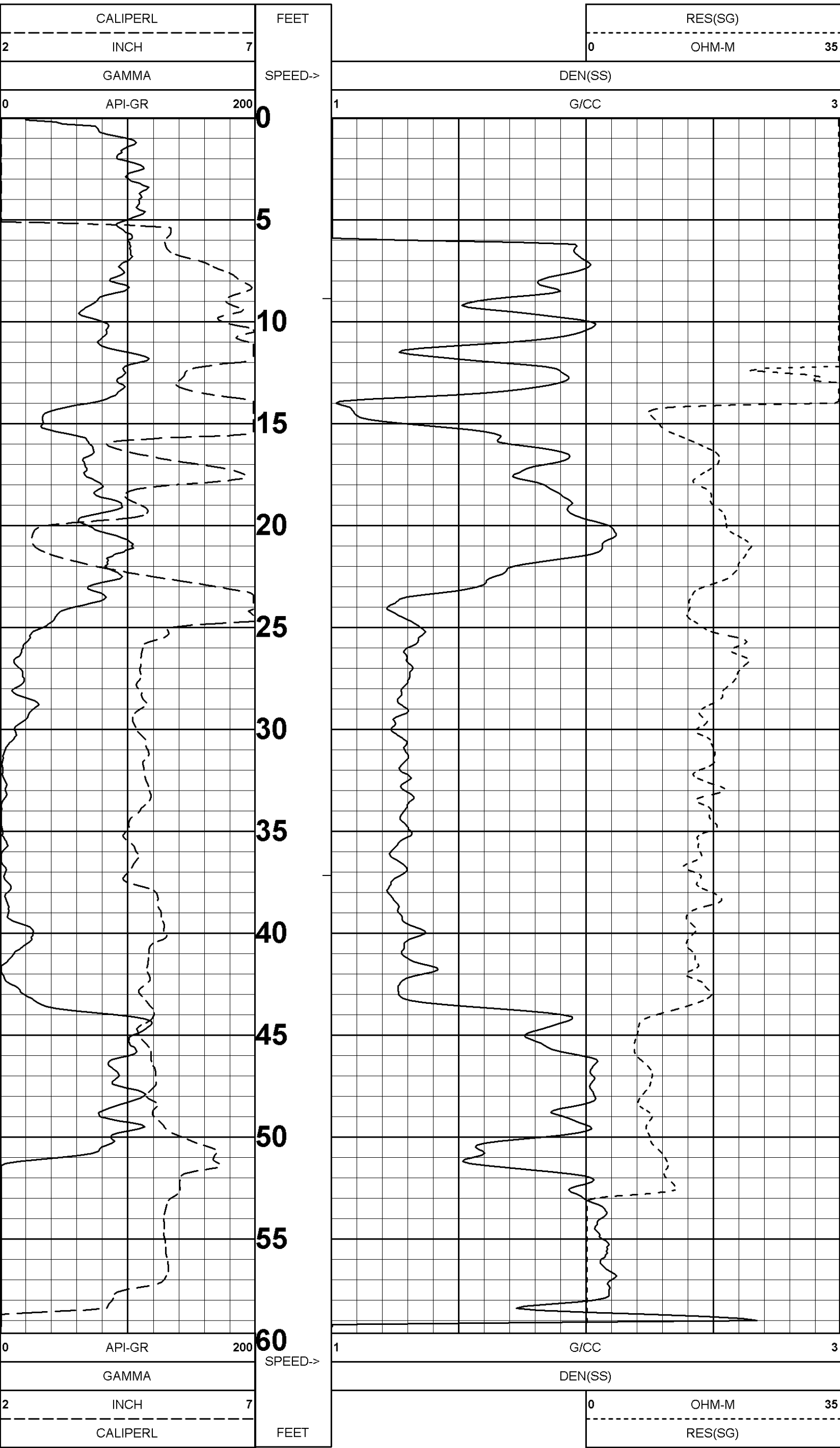
DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07	F	Default [CPS]	
9	Sep28,07	X	Default [CPS]	

COMPANY	GOLDER ASSOCIATES, INC.	OTHER SERVICES:
WELL	SHOB-135	
FIELD	SHP	NONE
COUNTY	STARK	
STATE	NORTH DAKOTA	
LOCATION	:	
SECTION	N/A	
TOWNSHIP	N/A	
RANGE	N/A	
API 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	10/04/07	
DEPTH DRILLER	70	
BIT SIZE	5.625	
LOG TOP	-2.40	
LOG BOTTOM	-59.50	
CASING OD	N/A	
CASING BOTTOM	N/A	
CASING TYPE	N/A	
BOREHOLE FLUID	WATER	
RM TEMPERATURE	N/A	
MUD RES	N/A	
MUD WEIGHT	8.5	
WITNESSED BY	J. ELLIOT	
RECORDED BY	M. SUTTON	
REMARKS 1	:	
REMARKS 2	:	

10-4-07 SHOB-135 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007		VERSION = 3.64ER



10-4-07 SHOB-135 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65	NEUTRON MATRIX : SANDSTONE	MATRIX DELTA T : 54
MAGNETIC DECL : 0	ELECT. CUTOFF : 20000	BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007		VERSION = 3.64ER

TOOL CALIBRATION SHOB-135 10/04/07 10:55
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
4	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
5	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
6	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
7	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
8	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-136

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/04/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -4.00

LOG BOTTOM : 73.90

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:

NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

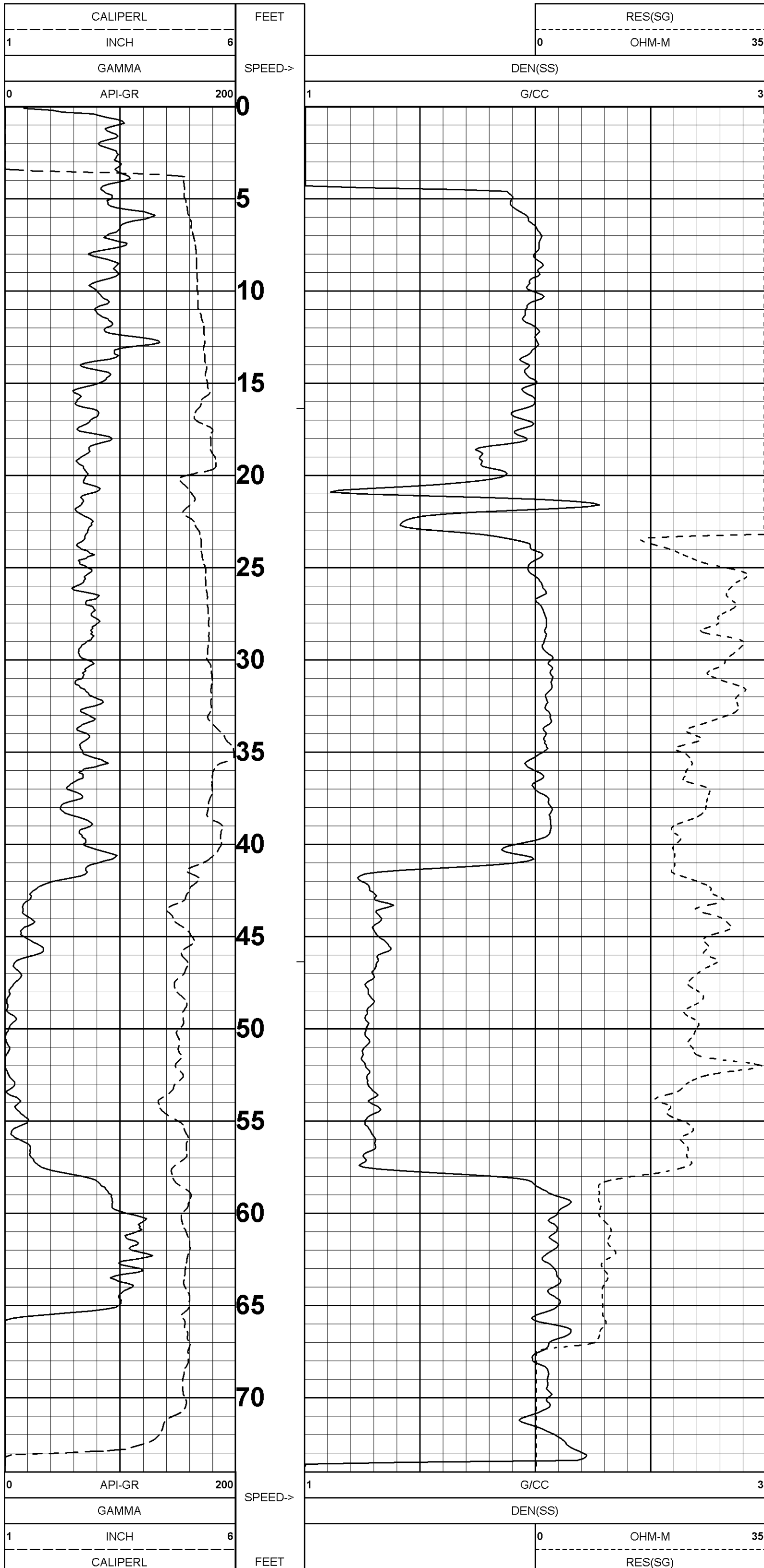
GDR SHOB-136 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER



GDR SHOB-136 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER

TOOL CALIBRATION SHOB-136 10/04/07 10:32
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

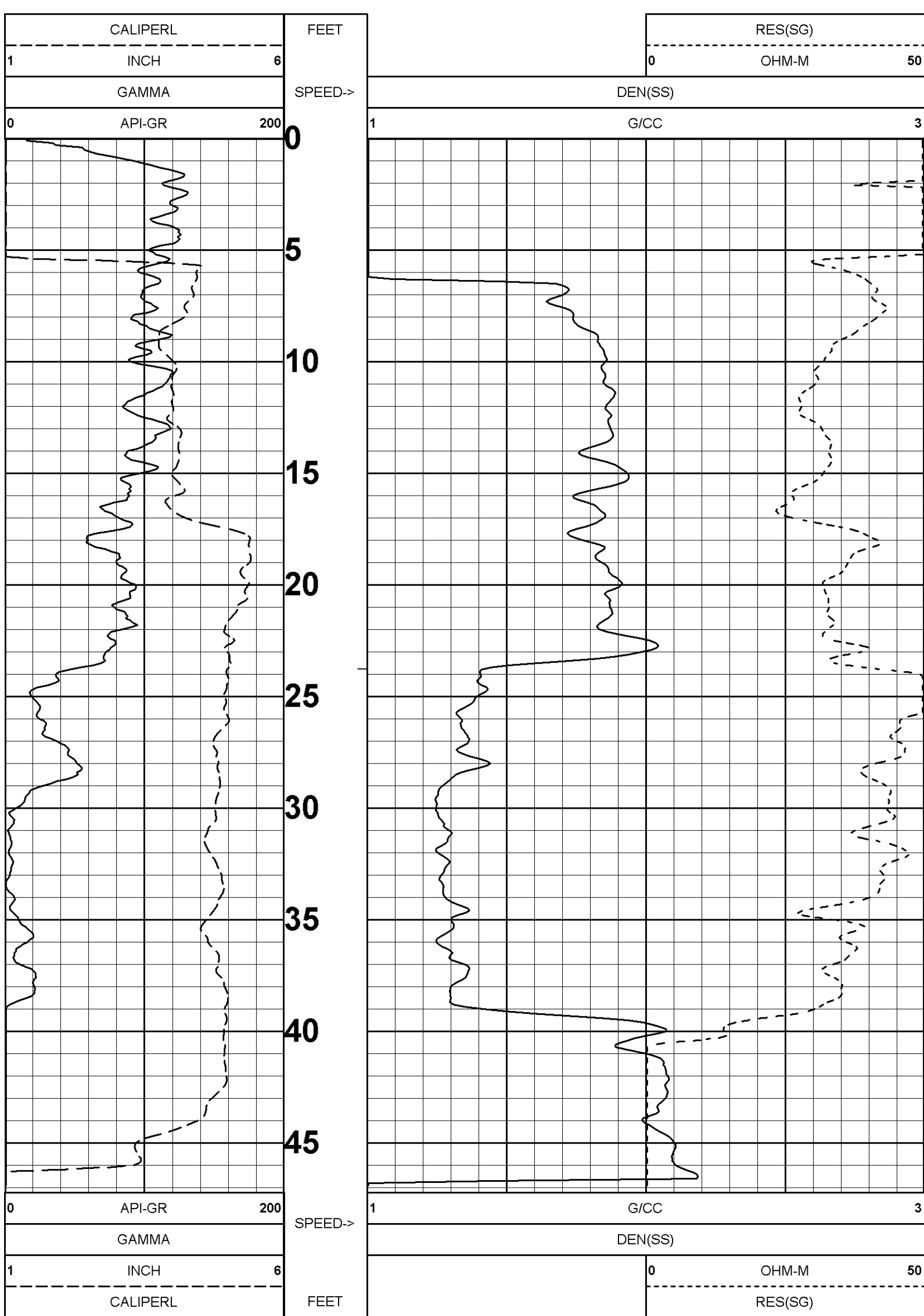
COMPANY	GOLDER ASSOCIATES	OTHER SERVICES:	
WELL	SHOB-137		
FIELD	SHP		
COUNTY	STARK		
STATE	NORTH DAKOTA		
LOCATION	:		
SECTION	:		
TOWNSHIP	:		
RANGE	:		
API NO.	N/A		
UNIQUE WELL ID.	N/A		
PERMANENT DATUM	GL	ELEVATION KB	N/A
LOG MEASURED FROM	GL	ELEVATION DF	N/A
DRL MEASURED FROM	GL	ELEVATION GL	:
DATE	10/02/07		
DEPTH DRILLER	50		
BIT SIZE	5.625		
LOG TOP	-2.10		
LOG BOTTOM	47.10		
CASING OD	N/A		
CASING BOTTOM	N/A		
CASING TYPE	N/A		
BOREHOLE FLUID	WATER		
RM TEMPERATURE	N/A		
MUD RES	N/A		
MUD WEIGHT	8.5		
WITNESSED BY	J. ELLIOT		
RECORDED BY	M. SUTTON		
REMARKS 1	:		
REMARKS 2	:		

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-137 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-137 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-137 10/02/07 15:23
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE	
1	Sep28,07	13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07	13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07	13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07	13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07	13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07	13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07	13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07	13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07	13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07	13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07	13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07	13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07	13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07	13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07	13:14:43	F	Default [CPS]	
9	Sep28,07	13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-138

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

OTHER SERVICES:

NONE

LOCATION :

SECTION :

TOWNSHIP :

RANGE :

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/02/07

DEPTH DRILLER :

BIT SIZE : 5.625

LOG TOP : -1.40

LOG BOTTOM : -117.40

CASING OD : N/A

CASING BOTTOM : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

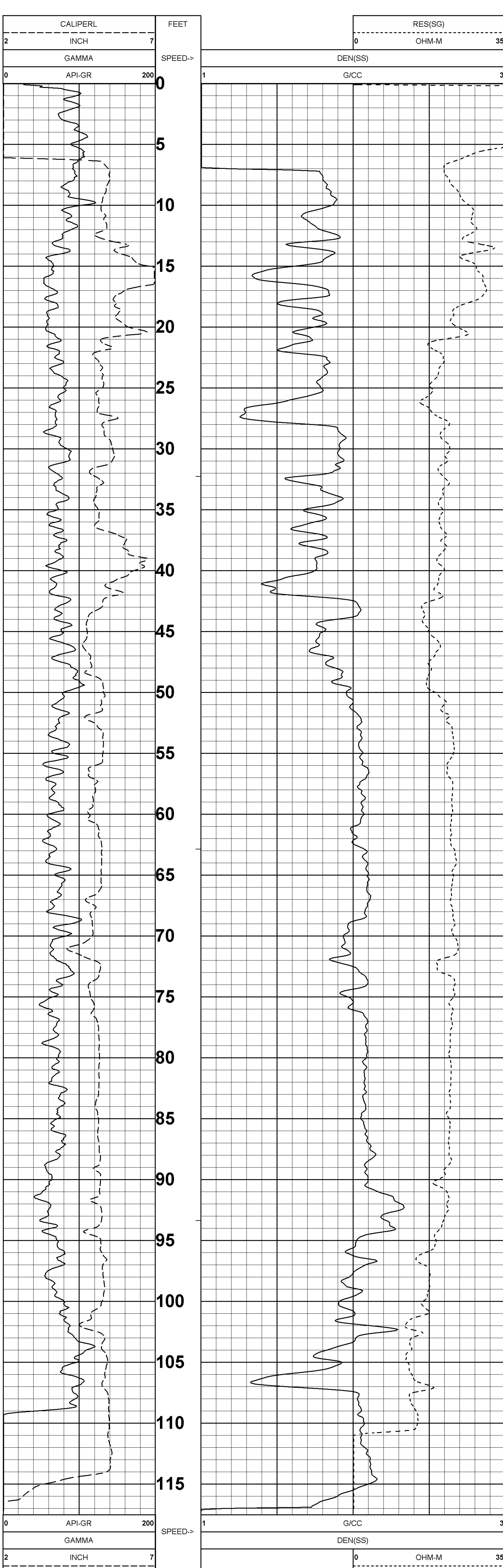
GDR SHOB-138 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER



GDR SHOB-138 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65
MAGNETIC DECL : 0
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

NEUTRON MATRIX : SANDSTONE
ELECT. CUTOFF : 20000

MATRIX DELTA T : 54
BIT SIZE : 5.625
VERSION = 3.64ER

TOOL CALIBRATION SHOB-138 10/02/07 13:11
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
4	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
5	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
6	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
7	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
8	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
9	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
10	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
11	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
12	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
13	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
14	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
15	Sep28,07 13:14:43	F	Default [CPS]	
16	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES

WELL : SHOB-139

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

OTHER SERVICES:
NONE

LOCATION :

SECTION :

TOWNSHIP :

RANGE :

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/02/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -3.80

LOG BOTTOM : 78.10

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-139 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

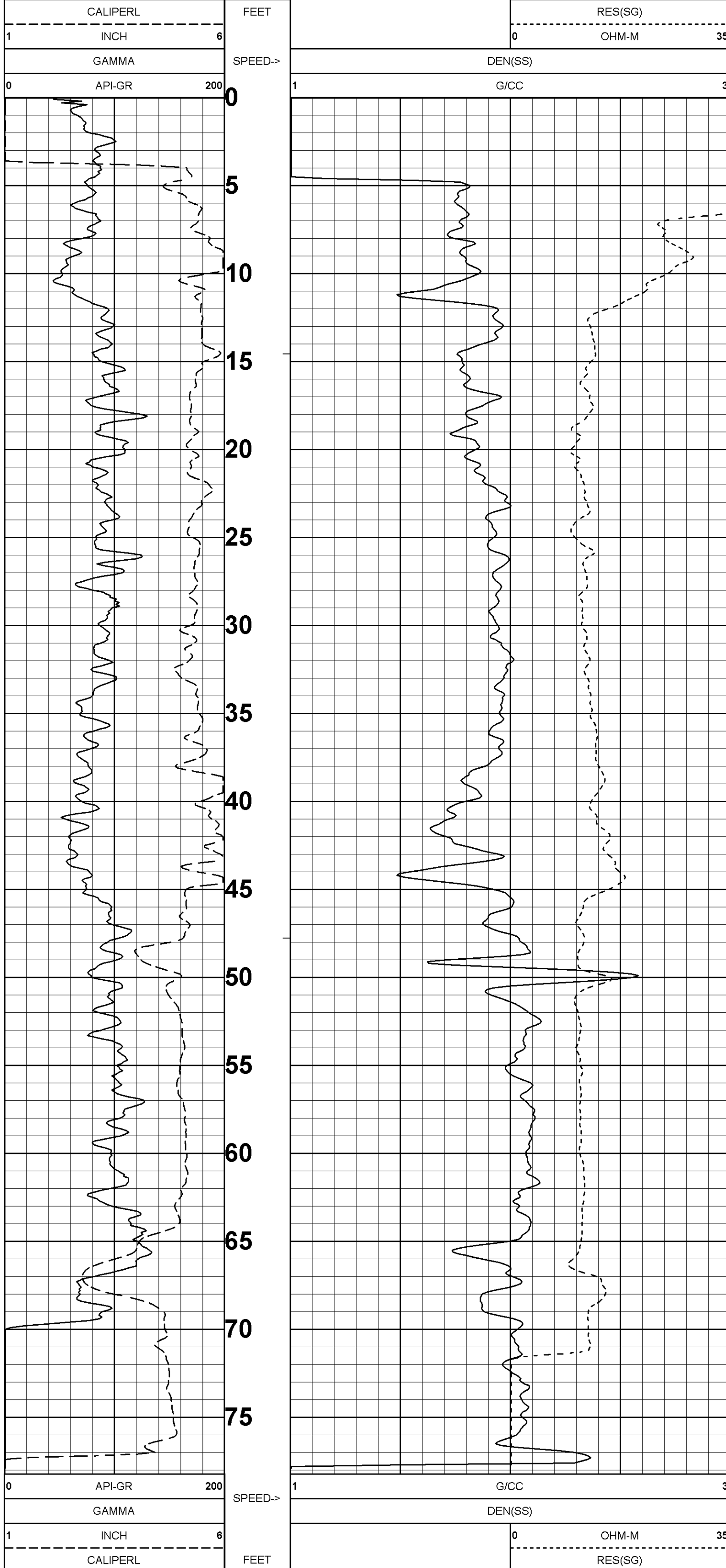
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-139 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-139 10/02/07 14:20
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(SS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

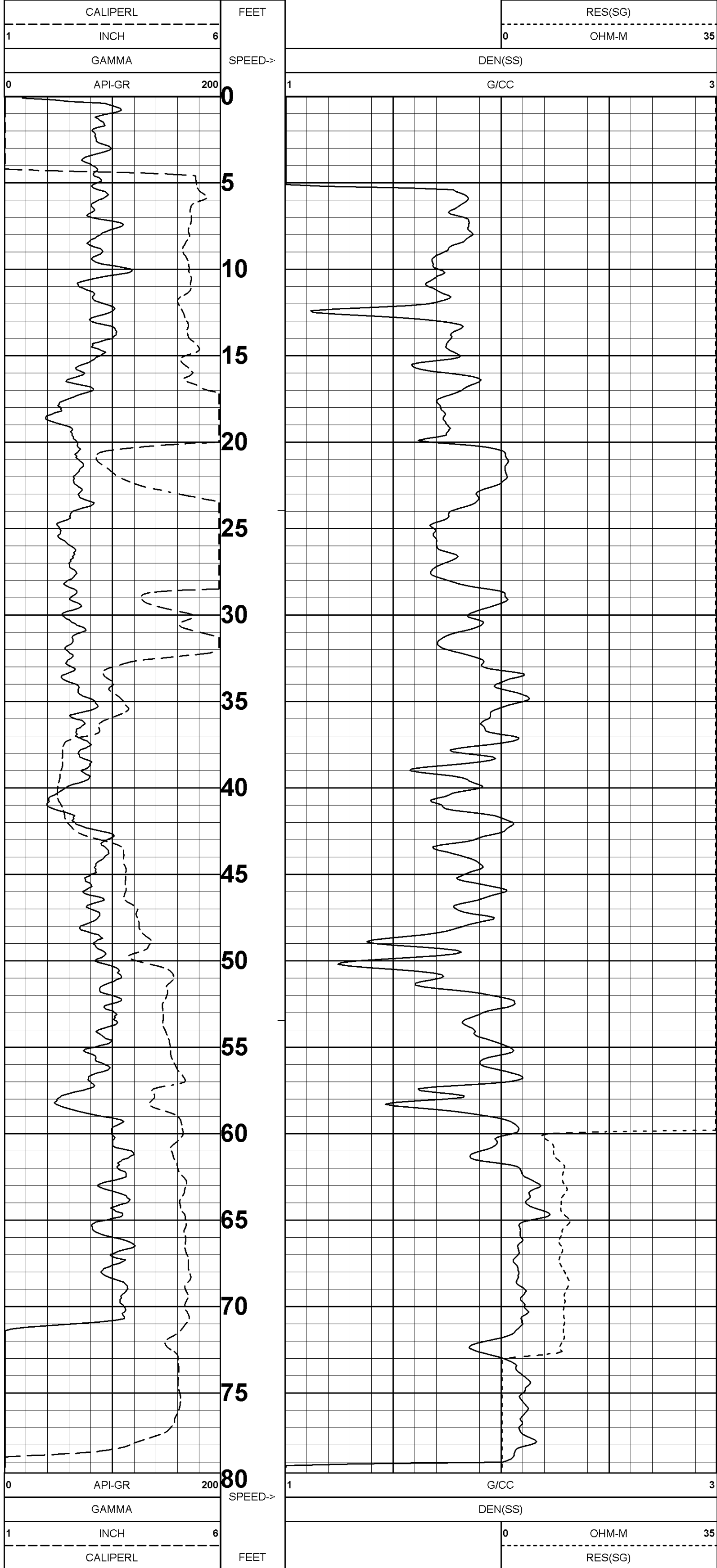
COMPANY	GOLDER ASSOCIATES, INC.	OTHER SERVICES:	
WELL	SHOB-140	FIELD	SHP
COUNTY	STARK	STATE	NORTH DAKOTA
LOCATION		SECTION	
TOWNSHIP		RANGE	
API NO.	N/A	UNIQUE WELL ID.	N/A
PERMANENT DATUM	GL	ELEVATION KB	N/A
LOG MEASURED FROM	GL	ELEVATION DF	N/A
DRL MEASURED FROM	GL	ELEVATION GL	
DATE	10/02/07	DEPTH DRILLER	80
BIT SIZE	5.625	LOG TOP	-3.20
LOG BOTTOM	79.50	CASING OD	N/A
CASING BOTTOM	N/A	CASING TYPE	N/A
BOREHOLE FLUID	WATER	RM TEMPERATURE	N/A
MUD RES	N/A	MUD WEIGHT	8.5
WITNESSED BY	J. ELLIOT	RECORDED BY	M. SUTTON
REMARKS 1		REMARKS 2	

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-140 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-140 10/02/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-140 10/02/07 16:38
 TOOL 9239C1 TM VERSION 2016
 SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	320.000 [MV]	4297.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
4	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
5	Sep28,07 13:55:08	CALIPER	8.000 [INCH]	426280.00 [CPS]
6	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
7	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	2230.00 [CPS]
8	Sep28,07 13:55:20	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
9	Sep28,07 13:55:24	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
10	Sep28,07 13:55:24	CALIPERL	4.000 [INCH]	102730.00 [CPS]
11	Sep28,07 13:55:24	CALIPERL	12.000 [INCH]	357523.00 [CPS]
12	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
13	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
14	Sep28,07 13:14:43	F	Default [CPS]	
15	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.
WELL : SHOB-141

FIELD : SHP
COUNTY : STARK
STATE : NORTH DAKOTA

LOCATION :
SECTION : N/A
TOWNSHIP : N/A
RANGE : N/A
API NO. : N/A
UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL
LOG MEASURED FROM : GL
DRL MEASURED FROM : GL

DATE : 10/04/07
DEPTH DRILLER : 110
BIT SIZE : 5.625

LOG TOP : -3.80
LOG BOTTOM : 109.30

CASING OD : N/A
CASING BOTTOM : N/A
CASING TYPE : N/A
BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A
MUD RES : N/A
MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT
RECORDED BY : M. SUTTON

REMARKS 1 :
REMARKS 2 :

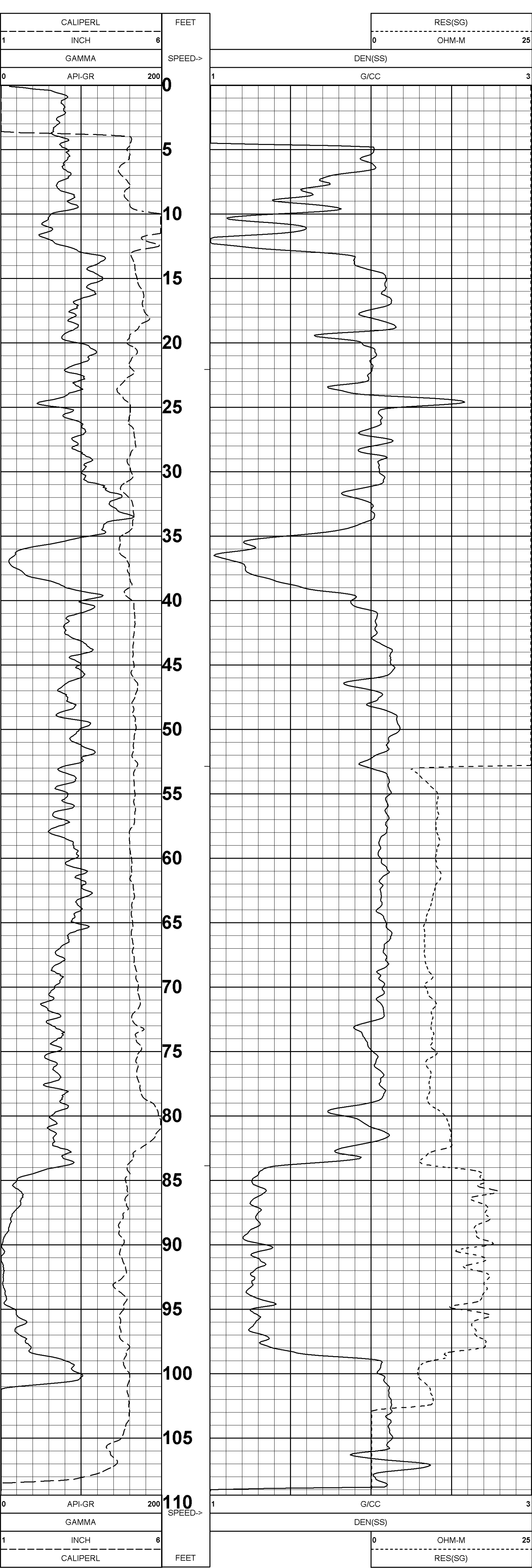
OTHER SERVICES:

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-141 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-141 10/04/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

TOOL CALIBRATION SHOB-141 10/04/07 12:21
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-142

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/05/07

DEPTH DRILLER : 80

BIT SIZE : 5.625

LOG TOP : -2.40

LOG BOTTOM : 77.80

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

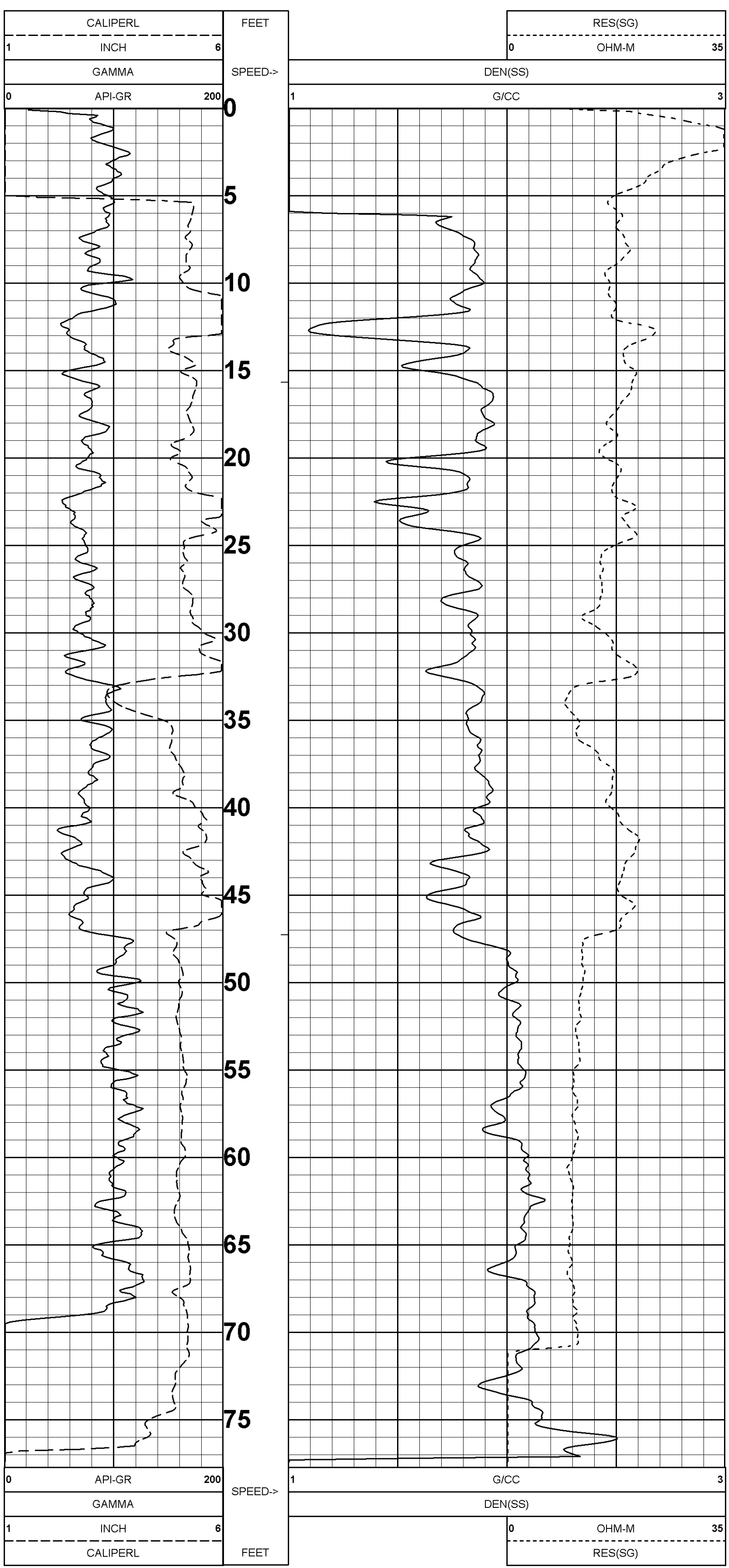
OTHER SERVICES:
NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-142 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER



GDR SHOB-142 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65 NEUTRON MATRIX : SANDSTONE MATRIX DELTA T : 54
 MAGNETIC DECL : 0 ELECT. CUTOFF : 20000 BIT SIZE : 5.625
 PRESENTATION NAME/DATE = 9239C1.0 10/05/2007 VERSION = 3.64ER

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	320.000 [MV]	307.00 [CPS]
3	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	4297.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
4	Sep28,07 13:55:08	DEN(SS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-143

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/06/07

DEPTH DRILLER : 100

BIT SIZE : 5.625

LOG TOP : -4.60

LOG BOTTOM : 93.50

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES: NONE

ELEVATION KB : N/A

ELEVATION DF : N/A

ELEVATION GL : N/A

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-143 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

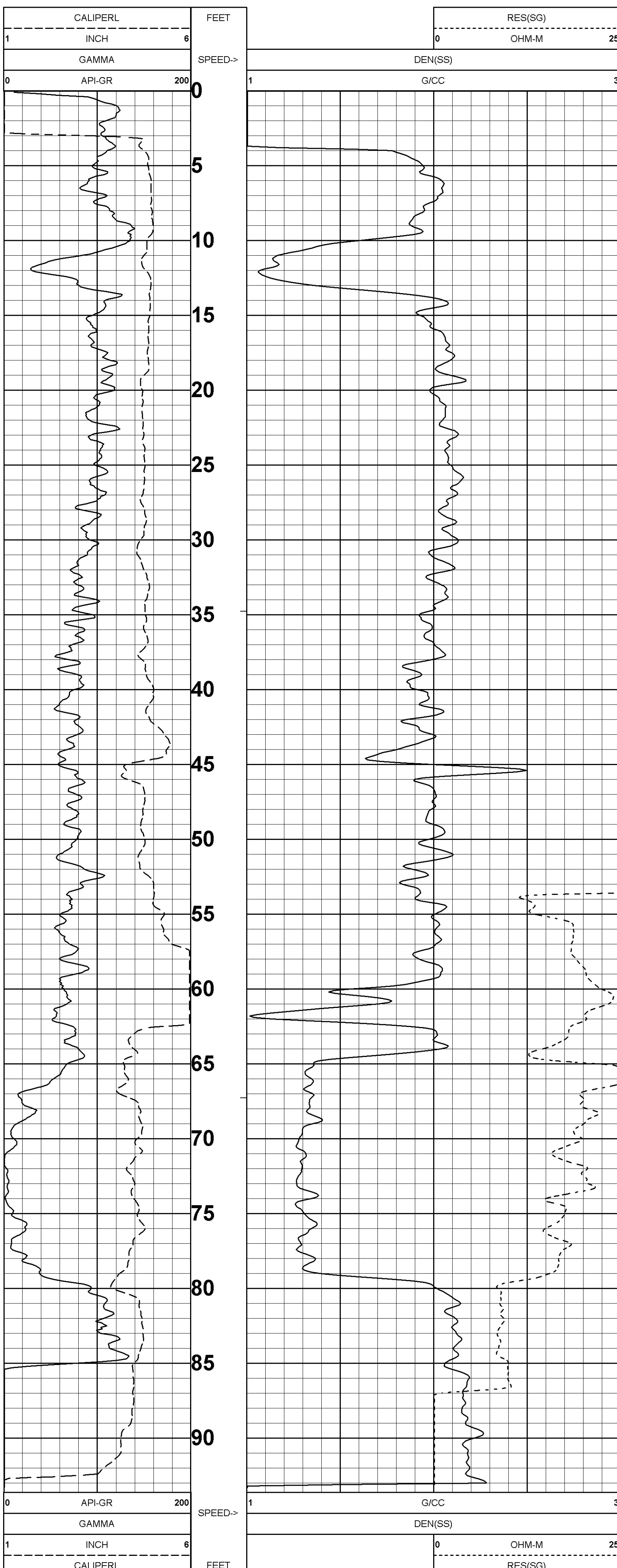
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER



GDR SHOB-143 10/06/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/07/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-143 10/06/07 11:33
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

COMPANY : GOLDER ASSOCIATES, INC.

WELL : SHOB-144

FIELD : SHP

COUNTY : STARK

STATE : NORTH DAKOTA

LOCATION :

SECTION : N/A

TOWNSHIP : N/A

RANGE : N/A

API NO. : N/A

UNIQUE WELL ID. : N/A

PERMANENT DATUM : GL

LOG MEASURED FROM : GL

DRL MEASURED FROM : GL

DATE : 10/05/07

DEPTH DRILLER : 100

BIT SIZE : 5.625

LOG TOP : -2.70

LOG BOTTOM : 87.90

CASING OD : N/A

CASING BOTTOM : N/A

CASING TYPE : N/A

BOREHOLE FLUID : WATER

RM TEMPERATURE : N/A

MUD RES : N/A

MUD WEIGHT : 8.5

WITNESSED BY : J. ELLIOT

RECORDED BY : M. SUTTON

REMARKS 1 :

REMARKS 2 :

OTHER SERVICES:

NONE

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS

GDR SHOB-144 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

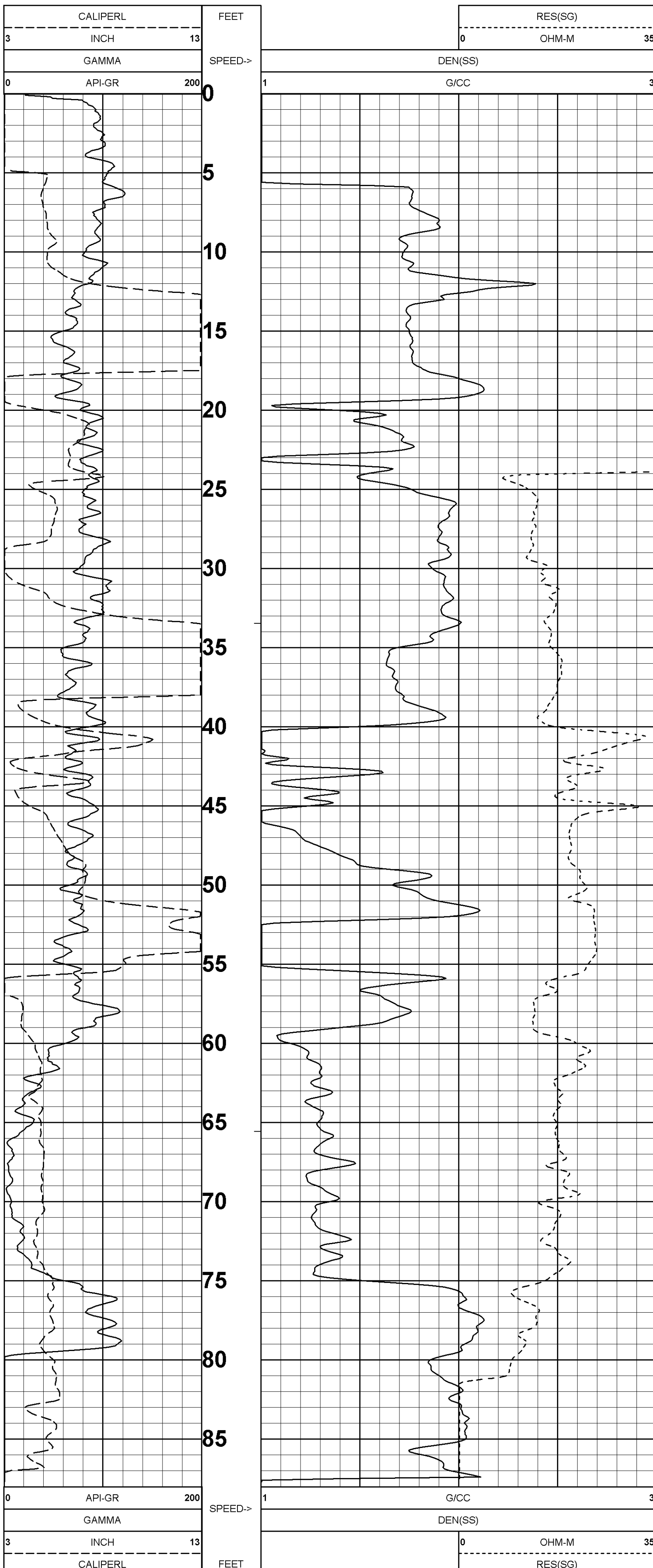
MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER



GDR SHOB-144 10/05/07

LOG PARAMETERS

MATRIX DENSITY : 2.65

NEUTRON MATRIX : SANDSTONE

MATRIX DELTA T : 54

MAGNETIC DECL : 0

ELECT. CUTOFF : 20000

BIT SIZE : 5.625

PRESENTATION NAME/DATE = 9239C1.0 10/05/2007

VERSION = 3.64ER

TOOL CALIBRATION SHOB-144 10/05/07 12:49
TOOL 9239C1 TM VERSION 2016
SERIAL NUMBER 4464

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Sep28,07 13:54:44	GAMMA	0.000 [API-GR]	2.00 [CPS]
	Sep28,07 13:54:44	GAMMA	320.000 [API-GR]	307.00 [CPS]
2	Sep28,07 13:54:59	VOLTAGE	0.000 [MV]	4297.00 [CPS]
	Sep28,07 13:54:59	VOLTAGE	1989.000 [MV]	268540.00 [CPS]
3	Sep28,07 13:55:03	CALIPER	4.000 [INCH]	155679.00 [CPS]
	Sep28,07 13:55:03	CALIPER	8.000 [INCH]	426280.00 [CPS]
4	Sep28,07 13:55:08	DEN(LS)	1.000 [G/CC]	26203.00 [CPS]
	Sep28,07 13:55:08	DEN(LS)	2.383 [G/CC]	2230.00 [CPS]
5	Sep28,07 13:55:14	DEN(SS)	1.000 [G/CC]	46913.00 [CPS]
	Sep28,07 13:55:14	DEN(SS)	2.383 [G/CC]	15843.00 [CPS]
6	Sep28,07 13:55:20	CALIPERL	4.000 [INCH]	102730.00 [CPS]
	Sep28,07 13:55:20	CALIPERL	12.000 [INCH]	357523.00 [CPS]
7	Sep28,07 13:55:24	CURRENT	0.000 [UA]	3639.00 [CPS]
	Sep28,07 13:55:24	CURRENT	284.960 [UA]	27413.00 [CPS]
8	Sep28,07 13:14:43	F	Default [CPS]	
9	Sep28,07 13:14:43	X	Default [CPS]	

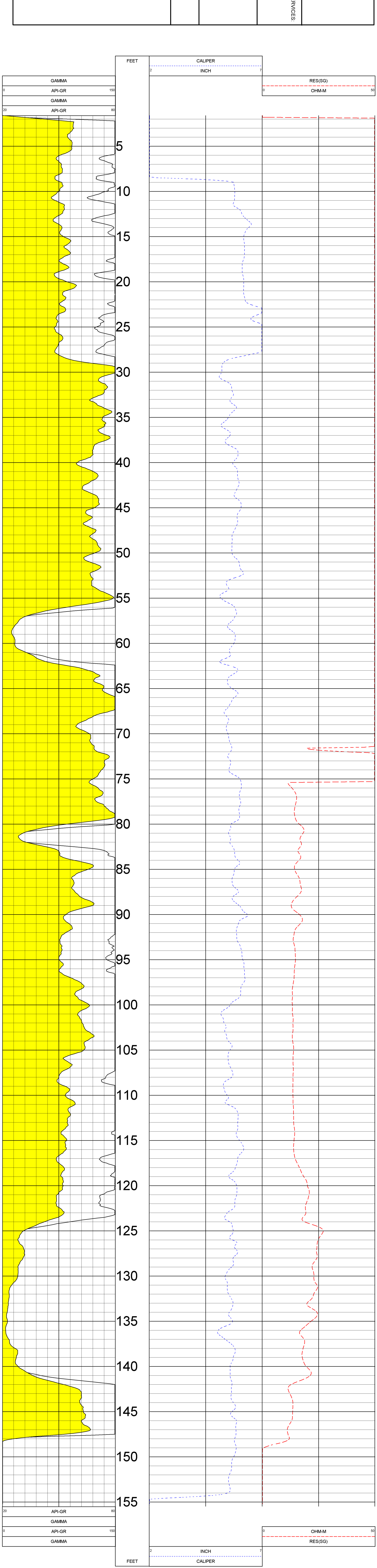
COMPANY : South Heart
WELL : SHOB201-1-GAMMA-RES-DENSITY
FIELD : GAMMA-RES-DENSITY
COUNTY :
OTHER SERVICES:

STATE : ND
LOCATION : NW 1/4
SECTION : 16
TOWNSHIP : 139N
RANGE : 98W
API NO. : 12345678199999999
UNIQUE WELL ID. :

PERMANENT DATUM : GL
LOG MEASURED FROM: GL
DRL MEASURED FROM: GL
DATE : 06/16/10
DEPTH DRILLER : 160
BIT SIZE : 4.5

LOG TOP : 1.60
LOG BOTTOM : 155.40
CASING OD :
CASING BOTTOM :
CASING TYPE :
BOREHOLE FLUID : WATER
RM TEMPERATURE :
MUD RES : 179
MUD WEIGHT :
WITNESSED BY :
RECORDED BY : SANFORD TAN
REMARKS 1 :
REMARKS 2 :

ARRIVAL TIME :
DEPARTURE TIME : 0830
CIRC STOPPED : 0830



TOOL CALIBRATION SHOB201-1 06/16/10 15:53
TOOL 9030AA TM VERSION 3
SERIAL NUMBER 445

DATE	TIME	SENSOR	STANDARD	RESPONSE
Jul13.00	09:50:26	GAMMA	Default [CPS]	Default [CPS]
Jul13.00	09:50:26	DENSITY	1.106 [G/CC]	5500.000 [CPS]
Jul13.00	10:22:01	DENSITY	2.612 [G/CC]	1210.000 [CPS]
Jul13.00	09:50:26	RES(MG)	Default [CPS]	Default [CPS]
Jul13.00	09:50:26	CALIPER	Default [CPS]	Default [CPS]
Jul13.00	09:50:26	DENSITYH	Default [CPS]	Default [CPS]
Jul13.00	09:50:26	DENSITYH	Default [CPS]	Default [CPS]
Jul13.00	09:50:26	CALIPERL	Default [CPS]	Default [CPS]
Jul13.00	09:50:26	CALIPERL	Default [CPS]	Default [CPS]

SOUTH HEART COAL LLC.
SOUTH HEART
SHOB202-1
GAMMA-RES-DENSITY

COMPANY : South Heart
WELL : SHOB202-1GAMMA-RES-DENSITY
FIELD : GAMMA-RES-DENSITY
COUNTY :
STATE : ND

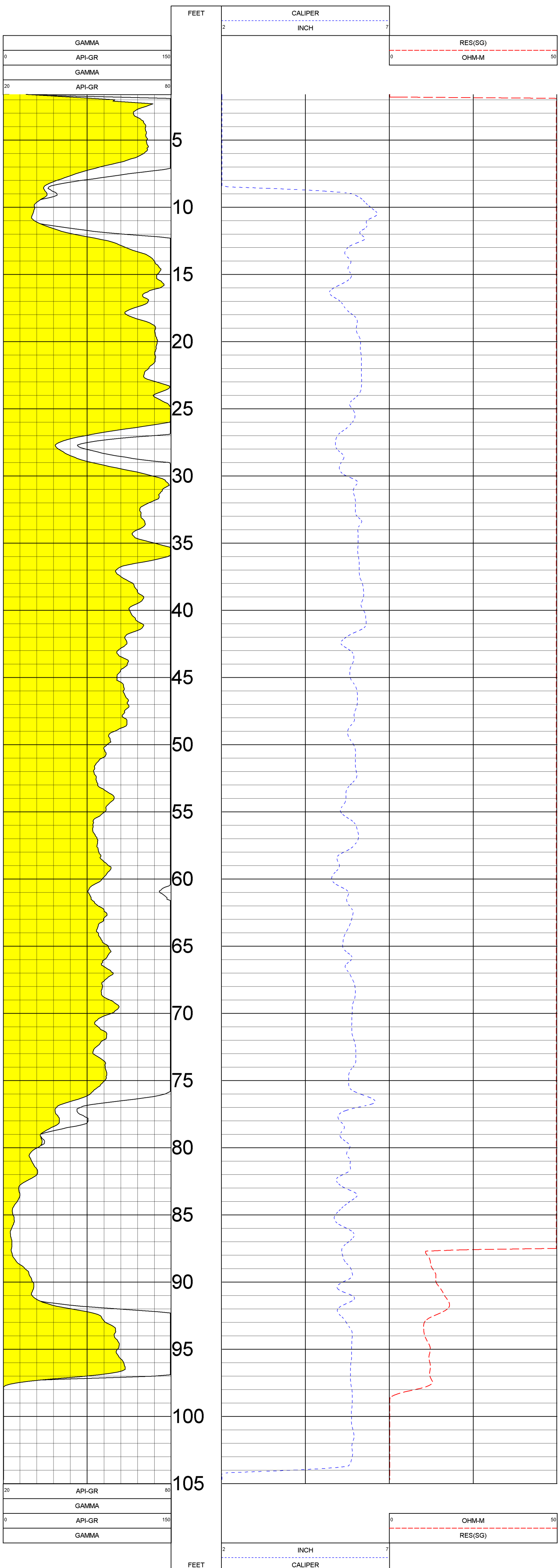
OTHER SERVICES:

LOCATION : NE 1/4
SECTION : 16
TOWNSHIP : 139N
RANGE : 98W
API NO. : 12345678199999999
UNIQUE WELL ID. :

PERMANENT DATUM : GL
LOG MEASURED FROM: GL
DRL MEASURED FROM: GL
ELEVATION KB :
ELEVATION DF :
ELEVATION GL :

DATE : 06/16/10
DEPT# DRILLER : 110
BIT SIZE : 4.5
LOG TOP : 1.60
LOG BOTTOM : 104.90
CASING OD :
CASING BOTTOM :
CASING TYPE :
BOREHOLE FLUID : WATER
RM TEMPERATURE :
MUD RES : 1.79
MUD WEIGHT :
WITNESSED BY :
RECORDED BY : SANFORD TAN
REMARKS 1 :
REMARKS 2 :

ALL SERVICES PROVIDED SUBJECT TO STANDARD TERMS AND CONDITIONS



TOOL CALIBRATION SHOB202-1 06/16/10 16:22
TOOL 9030AA TM VERSION 3
SERIAL NUMBER 445

DATE	TIME	SENSOR	STANDARD	RESPONSE
1	Jul13.00 09:50:26	GAMMA	Default [CPS]	Default [CPS]
2	Jul13.00 09:50:26	GAMMA	Default [CPS]	Default [CPS]
3	Jul13.00 10:22:01	DENSITY	1.106 [G/CC]	5500.000 [CPS]
3	Jul13.00 10:22:01	DENSITY	2.612 [G/CC]	1210.000 [CPS]
4	Jul13.00 09:50:26	RES(MG)	Default [CPS]	Default [CPS]
4	Jul13.00 09:50:26	RES(MG)	Default [CPS]	Default [CPS]
5	Jul13.00 09:50:26	CALIPER	Default [CPS]	Default [CPS]
5	Jul13.00 09:50:26	CALIPER	Default [CPS]	Default [CPS]
6	Jul13.00 09:50:26	DENSITYH	Default [CPS]	Default [CPS]
6	Jul13.00 09:50:26	DENSITYH	Default [CPS]	Default [CPS]
6	Jul13.00 09:50:26	CALIPERL	Default [CPS]	Default [CPS]
6	Jul13.00 09:50:26	CALIPERL	Default [CPS]	Default [CPS]