Mud Logging

Company	Petrobras
Well	1-BRSA-1-RJS
Field	Wildcat
Block	Santos Basin
Rig	Sonda Petrobras
Operator	Petrobras
Date	2009-01-01
Time	00:00:00
Depth	0.00 m
Hole Depth (MD)	0.00 m
Hole Depth (TVD)	0.00 m
Rate of Penetration	0.00 m/h
Hook Load	0.00 kDaN
Weight on Bottom	0.00 kDaN
Rotary Speed	0.00 rpm
Rotary Torque	0.00 kDaN.m
Standpipe Pressure	0.00 psi
Pump Stroke Rate	0.00 spm
Mud Flow In	0.00 HPM
Mud Density In	1.00 kg/m³
Mud Temperature In	0.00 °C
Mud Flow Out	0.00 HPM
Mud Density Out	1.00 kg/m³
Mud Temperature Out	0.00 °C
Chlorinity In	0.00 mg/l
Chlorinity Out	0.00 mg/l
Pump 1 Status	Off
Pump 2 Status	Off
Pump 3 Status	Off
Trip Tank	Off
Flow Check	Off
Pit Volume	0.00 m³
Total Gas	0.00 %
C1	0.00 ppm
C2	0.00 ppm
C3	0.00 ppm
IC4	0.00 ppm
NC4	0.00 ppm
IC5	0.00 ppm
NC5	0.00 ppm
C6	0.00 ppm
C7	0.00 ppm
C8	0.00 ppm
Lithology	
Cuttings Description	
Comments	

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Log Variables

Generated on 2009-01-01 00:00:00 (UTC+00:00) LogTrans 1.0.0

Variable	Unit	Source	Type	Min	Max	Precision	Description
Time	s	Clock	Time	0.000	86400.000	0	Time
Depth	m	Drilling Rig	Depth	0.000	10000.000	2	Depth
Rate of Penetration	m/h	Drilling Rig	Drilling	0.000	100.000	2	Rate of Penetration
Hook Load	kDaN	Drilling Rig	Drilling	0.000	1000.000	2	Hook Load
Weight on Bottom	kDaN	Drilling Rig	Drilling	0.000	100.000	2	Weight on Bottom
Rotary Speed	rpm	Drilling Rig	Drilling	0.000	300.000	2	Rotary Speed
Rotary Torque	kDaN.m	Drilling Rig	Drilling	0.000	100.000	2	Rotary Torque
Standpipe Pressure	psi	Drilling Rig	Drilling	0.000	5000.000	2	Standpipe Pressure
Pump Stroke Rate	spm	Drilling Rig	Drilling	0.000	200.000	2	Pump Stroke Rate
Mud Flow In	HPM	Drilling Rig	Drilling	0.000	1000.000	2	Mud Flow In
Mud Density In	kg/m³	Drilling Rig	Drilling	1.000	2000.000	2	Mud Density In
Mud Temperature In	°C	Drilling Rig	Drilling	0.000	100.000	2	Mud Temperature In
Mud Flow Out	HPM	Drilling Rig	Drilling	0.000	1000.000	2	Mud Flow Out
Mud Density Out	kg/m³	Drilling Rig	Drilling	1.000	2000.000	2	Mud Density Out
Mud Temperature Out	°C	Drilling Rig	Drilling	0.000	100.000	2	Mud Temperature Out
Chlorinity In	mg/l	Drilling Rig	Drilling	0.000	100.000	2	Chlorinity In
Chlorinity Out	mg/l	Drilling Rig	Drilling	0.000	100.000	2	Chlorinity Out
Pump 1 Status		Drilling Rig	Drilling				Pump 1 Status
Pump 2 Status		Drilling Rig	Drilling				Pump 2 Status
Pump 3 Status		Drilling Rig	Drilling				Pump 3 Status
Trip Tank		Drilling Rig	Drilling				Trip Tank
Flow Check		Drilling Rig	Drilling				Flow Check
Pit Volume	m³	Drilling Rig	Drilling	0.000	1000.000	2	Pit Volume
Total Gas	%	Mud Logging	Mud Logging	0.000	100.000	2	Total Gas
C1	ppm	Mud Logging	Mud Logging	0.000	100.000	2	C1
C2	ppm	Mud Logging	Mud Logging	0.000	100.000	2	C2
C3	ppm	Mud Logging	Mud Logging	0.000	100.000	2	C3
IC4	ppm	Mud Logging	Mud Logging	0.000	100.000	2	IC4
NC4	ppm	Mud Logging	Mud Logging	0.000	100.000	2	NC4
IC5	ppm	Mud Logging	Mud Logging	0.000	100.000	2	IC5
NC5	ppm	Mud Logging	Mud Logging	0.000	100.000	2	NC5
C6	ppm	Mud Logging	Mud Logging	0.000	100.000	2	C6
C7	ppm	Mud Logging	Mud Logging	0.000	100.000	2	C7
C8	ppm	Mud Logging	Mud Logging	0.000	100.000	2	C8

Metric Ruler

Generated on 2009-01-01 00:00:00 (UTC+00:00)

Ruler Type	Metric
Ruler Unit	m
Ruler Scale	1:200
Ruler Length	1000 mm
Ruler Resolution	0.5 mm
Ruler Accuracy	±0.1 mm
Ruler Material	Paper
Ruler Color	Black
Ruler Width	20 mm
Ruler Height	1000 mm

Wellsite Logging Station

Logging Unit	Petrobras Logging Unit 1				
Logging Engineer	Carlos Alberto Silva				
Assistant Engineer	Rodrigo Almeida Lima				
Logging Unit Location	Sonda Petrobras, Rio de Janeiro, Brazil				
Logging Unit Phone	+55 21 2537 1234				
Logging Unit Fax	+55 21 2537 1235				
Logging Unit Email	logging@petrobras.com.br				
Logging Unit Radio	VHF Channel 16				
Logging Unit Satellite	Inmarsat-C 123456789				
Logging Unit Backup	Yes				
Logging Unit Backup Location	Sonda Petrobras, Rio de Janeiro, Brazil				
Logging Unit Backup Phone	+55 21 2537 1236				
Logging Unit Backup Fax	+55 21 2537 1237				
Logging Unit Backup Email	logging@petrobras.com.br				
Logging Unit Backup Radio	VHF Channel 17				
Logging Unit Backup Satellite	Inmarsat-C 123456790				
Logging Unit Backup Power	Yes				
Logging Unit Backup Power Location	Sonda Petrobras, Rio de Janeiro, Brazil				
Logging Unit Backup Power Phone	+55 21 2537 1238				
Logging Unit Backup Power Fax	+55 21 2537 1239				
Logging Unit Backup Power Email	logging@petrobras.com.br				
Logging Unit Backup Power Radio	VHF Channel 18				
Logging Unit Backup Power Satellite	Inmarsat-C 123456791				
Logging Unit Backup Power Backup	Yes				
Logging Unit Backup Power Backup Location	Sonda Petrobras, Rio de Janeiro, Brazil				
Logging Unit Backup Power Backup Phone	+55 21 2537 1240				
Logging Unit Backup Power Backup Fax	+55 21 2537 1241				
Logging Unit Backup Power Backup Email	logging@petrobras.com.br				
Logging Unit Backup Power Backup Radio	VHF Channel 19				
Logging Unit Backup Power Backup Satellite	Inmarsat-C 123456792				

0	LSPD (ft/min)	100
0	LTEN (lb)	3000
0	DEVI (deg)	90

0	NOMTHK (in)	0.5
0	Minimum Rem Wall (in)	0.5

8.181	NOM ID (in)	9.181
8.181	IDMNC (in)	9.181
8.181	IDMXC (in)	9.181
8.181	IDAVC (in)	9.181

Western Wireline

Repeat Logging Section

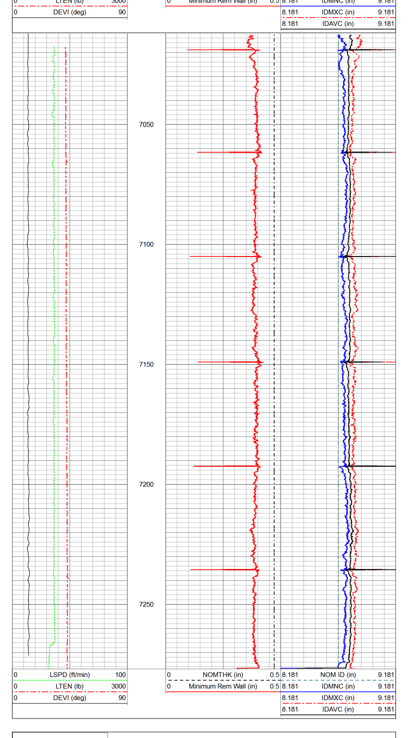
5" = 100'

Database File	gasco_porter69b_4-april-2016.db
Dataset Pathname	Repeat
Presentation Format	1b_mac_60_min max minrc
Dataset Creation	Mon Apr 04 20:16:43 2016
Charted by	Depth in Feet scaled 1:240

0	LSPD (ft/min)	100
0	LTEN (lb)	3000
0	DEVI (deg)	90

0	NOMTHK (in)	0.5
0	Minimum Rem Wall (in)	0.5

8.181	NOM ID (in)	9.181
8.181	IDMNC (in)	9.181
8.181	IDMXC (in)	9.181
8.181	IDAVC (in)	9.181



0	LSPD (ft/min)	100
0	LTEN (lb)	3000
0	DEVI (deg)	90

0	NOMTHK (in)	0.5
0	Minimum Rem Wall (in)	0.5

8.181	NOM ID (in)	9.181
8.181	IDMNC (in)	9.181
8.181	IDMXC (in)	9.181
8.181	IDAVC (in)	9.181

Western Wireline

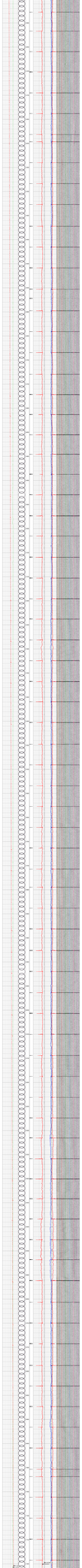
Multiarm Logging Section

5" = 100'

Database File	gasco_porter69b_4-april-2016.db
Dataset Pathname	multi
Presentation Format	1b_mac_60_multi arm
Dataset Creation	Mon Apr 04 20:20:04 2016
Charted by	Depth in Feet scaled 1:240

-100 LSPD (ft/min) 100	XSECTION	CCL	0 MINRC (in) 0.5	IDMNC 8.181 (in) 9.181
0 LTEN (lb) 2000			NOMTHK 0 (in) 0.5	CASEID 8.181 (in) 9.181
				IDAVC 8.181 (in) 9.181
				IDMXC 8.181 (in) 9.181

1	RC10 (in)	7
2	RC20 (in)	8
3	RC30 (in)	9
4	RC40 (in)	10
5	RC50 (in)	11
6	RC60 (in)	12


Antyum Logging Section
0 = 100
Mobile Kinder
Antyum Logging Section
Mobile Kinder
Antyum Logging Section
0 = 100

Company
Well
Field
Date
Time
Master Worker
Log Time
Sheet 1 of 1
Company
Well
Field
Date
Time
Master Worker
Log Time
Sheet 2 of 1
Company
Well
Field
Date
Time
Master Worker
Log Time
Sheet 3 of 1
Company
Well
Field
Date
Time
Master Worker
Log Time
Sheet 4 of 1
Master Worker
3D Hi-Res Logging Section
Master Worker
Company
Well
Field
Date
Time
Master Worker
Log Time
Sheet 1 of 1

8.181	IDMXC (in)	9.181	Cross Section	IMGMAPC		IMGMAPC	
8.181	IDMNC (in)	9.181		7.737	9.625	7.737	9.625
8.181	IDAVC (in)	9.181					
0	LSPD (ft/min)	100					
8.181	CASEID (in)	9.181					

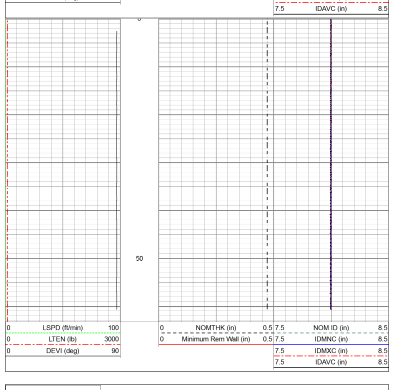
Western Wireline

Prejob Verification

Time Driven

Database File	gasco_porter69b_4-april-2016.db
Dataset Pathname	pre
Presentation Format	1b_mac_60_min max minrc
Dataset Creation	Mon Apr 04 20:15:39 2016
Charted by	Time scaled 360/hour

0	LSPD (ft/min)	100	0	NOMTHK (in)	0.5	7.5	NOM ID (in)	8.5
0	LTEN (lb)	3000	0	Minimum Rem Wall (in)	0.5	7.5	IDMNC (in)	8.5
0	DEVI (deg)	90				7.5	IDMXC (in)	8.5
						7.5	IDAVC (in)	8.5



0	LSPD (ft/min)	100	0	NOMTHK (in)	0.5	7.5	NOM ID (in)	8.5
0	LTEN (lb)	3000	0	Minimum Rem Wall (in)	0.5	7.5	IDMNC (in)	8.5
0	DEVI (deg)	90				7.5	IDMXC (in)	8.5
						7.5	IDAVC (in)	8.5

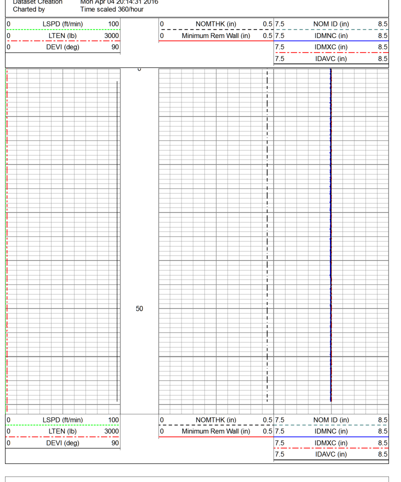
Western Wireline

Post Job Verification

Time Driven

Database File	gasco_porter69b_4-april-2016.db
Dataset Pathname	post
Presentation Format	1b_mac_60_min max minrc
Dataset Creation	Mon Apr 04 20:14:31 2016
Charted by	Time scaled 360/hour

0	LSPD (ft/min)	100	0	NOMTHK (in)	0.5	7.5	NOM ID (in)	8.5
0	LTEN (lb)	3000	0	Minimum Rem Wall (in)	0.5	7.5	IDMNC (in)	8.5
0	DEVI (deg)	90				7.5	IDMXC (in)	8.5
						7.5	IDAVC (in)	8.5



0	LSPD (ft/min)	100	0	NOMTHK (in)	0.5	7.5	NOM ID (in)	8.5
0	LTEN (lb)	3000	0	Minimum Rem Wall (in)	0.5	7.5	IDMNC (in)	8.5
0	DEVI (deg)	90				7.5	IDMXC (in)	8.5
						7.5	IDAVC (in)	8.5

Calibration Report

Database File	gasco_porter69b_4-april-2016.db
Dataset Pathname	pass4
Dataset Creation	Mon Apr 04 14:20:47 2016

60 Arm Multi Sensor Caliper Calibration Report

Serial Number:	111249
Tool Model:	60_INCL
Performed:	Mon Apr 04 13:07:40 2016

Ref ID:	5.00	6.00	7.00	8.00	9.00	in
Arm1	2.46	2.97	3.48	3.97	4.49	
Arm2	2.64	3.14	3.65	4.14	4.67	
Arm3	2.57	3.10	3.62	4.12	4.65	
Arm4	2.88	3.36	3.84	4.30	4.78	
Arm5	2.39	2.89	3.40	3.90	4.42	
Arm6	2.59	3.09	3.61	4.10	4.60	
Arm7	2.23	2.74	3.25	3.76	4.31	
Arm8	2.64	3.12	3.60	4.06	4.55	
Arm9	2.24	2.74	3.25	3.74	4.25	
Arm10	2.66	3.16	3.66	4.15	4.66	
Arm11	2.53	3.04	3.56	4.06	4.57	
Arm12	2.38	2.89	3.42	3.94	4.45	
Arm13	2.58	3.09	3.60	4.11	4.61	
Arm14	2.20	2.68	3.19	3.72	4.23	
Arm15	2.49	2.96	3.45	3.94	4.42	
Arm16	2.20	2.69	3.19	3.71	4.21	
Arm17	2.42	2.90	3.40	3.90	4.39	
Arm18	1.99	2.50	3.04	3.60	4.13	
Arm19	2.16	2.64	3.14	3.66	4.16	
Arm20	2.42	2.92	3.42	3.94	4.42	
Arm21	2.39	2.87	3.36	3.85	4.33	
Arm22	2.39	2.89	3.38	3.88	4.36	
Arm23	2.87	3.34	3.83	4.32	4.76	
Arm24	2.60	3.10	3.62	4.14	4.62	
Arm25	2.65	3.15	3.66	4.17	4.64	
Arm26	2.20	2.70	3.21	3.73	4.23	
Arm27	2.38	2.87	3.38	3.90	4.39	
Arm28	2.78	3.28	3.80	4.33	4.80	
Arm29	2.23	2.73	3.23	3.75	4.24	
Arm30	2.62	3.11	3.60	4.11	4.59	

* Bad

Ref ID:	5.00	6.00	7.00	8.00	9.00	in	
Arm31	2.69	3.16	3.65	4.15	4.61		
Arm32	2.79	3.28	3.77	4.26	4.73		
Arm33	2.67	3.13	3.61	4.11	4.56		
Arm34	2.69	3.16	3.64	4.13	4.58		
Arm35	2.72	3.20	3.70	4.21	4.69		
Arm36	2.92	3.38	3.84	4.31	4.74		
Arm37	2.75	3.22	3.69	4.19	4.67		
Arm38	2.09	1.58	1.10	0.63	-0.05		*
Arm39	2.69	3.16	3.64	4.12	4.57		
Arm40	2.44	2.91	3.40	3.91	4.40		
Arm41	2.74	3.22	3.70	4.20	4.69		
Arm42	2.77	3.27	3.79	4.31	4.79		
Arm43	2.72	3.19	3.69	4.18	4.63		
Arm44	2.52	3.01	3.52	4.04	4.54		
Arm45	2.63	3.10	3.59	4.08	4.56		
Arm46	2.62	3.13	3.66	4.19	4.71		
Arm47	2.66	3.15	3.65	4.14	4.64		
Arm48	2.85	3.31	3.79	4.26	4.75		
Arm49	2.58	3.09	3.61	4.12	4.65		
Arm50	2.69	3.16	3.64	4.12	4.61		
Arm51	2.51	3.00	3.50	3.99	4.51		
Arm52	2.57	3.06	3.56	4.05	4.56		
Arm53	2.60	3.10	3.61	4.10	4.61		
Arm54	2.71	3.18	3.66	4.14	4.65		
Arm55	2.50	3.01	3.54	4.05	4.59		
Arm56	2.52	3.00	3.50	3.99	4.51		
Arm57	2.61	3.11	3.62	4.10	4.62		
Arm58	2.32	2.81	3.31	3.80	4.34		
Arm59	2.22	2.71	3.22	3.73	4.27		
Arm60	2.66	3.16	3.66	4.15	4.68		

* Bad

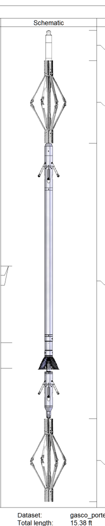
PROBE verifications Calibration Report

	Pre Verification	Post Verification	Casing Check	
Performed:	Mon Apr 04 13:09:42 2016	Sat Apr 02 15:27:15 2016		
Ref ID:	8.00	8.00	0.00	in
Min.	7.99	8.00	0.00	in
Max.	8.00	8.00	0.00	in
Avg.	8.00	8.00	0.00	in
Dia1	8.00	8.00	0.00	in
Dia2	8.00	8.00	0.00	in
Dia3	8.00	8.00	0.00	in
Dia4	8.00	8.00	0.00	in
Dia5	8.00	8.00	0.00	in
Dia6	8.00	8.00	0.00	in
Dia7	8.00	8.00	0.00	in
Dia8	8.00	8.00	0.00	in
Dia9	8.00	8.00	0.00	in
Dia10	8.00	8.00	0.00	in
Dia11	8.00	8.00	0.00	in
Dia12	8.00	8.00	0.00	in
Dia13	8.00	8.00	0.00	in
Dia14	8.00	8.00	0.00	in
Dia15	8.00	8.00	0.00	in
Dia16	8.00	8.00	0.00	in
Dia17	8.00	8.00	0.00	in
Dia18	8.00	8.00	0.00	in
Dia19	8.00	8.00	0.00	in
Dia20	8.00	8.00	0.00	in
Dia21	8.00	8.00	0.00	in
Dia22	8.00	8.00	0.00	in
Dia23	8.00	8.00	0.00	in
Dia24	8.00	8.00	0.00	in
Dia25	8.00	8.00	0.00	in
Dia26	8.00	8.00	0.00	in
Dia27	8.00	8.00	0.00	in
Dia28	8.00	8.00	0.00	in
Dia29	8.00	8.00	0.00	in
Dia30	8.00	8.00	0.00	in

Inclinometer Calibration Report

Performed: (Not Performed)

	Low Read.	High Read.	Low Ref.	High Ref.	
X Accelerometer	0.00	1.00	0.00	1.00	gee
Y Accelerometer	0.00	1.00	0.00	1.00	gee
Z Accelerometer	0.00	1.00	0.00	1.00	gee



Sensor	Offset (ft)	Description	Length (ft)	O.D. (in)	Weight (lb)
		CHD-STNDRD Standard Cable Head	1.00	1.44	5.00
		CENT-2_75GSB GS Bottom Centralizer	2.69	2.75	20.00
ACCZ	7.69				
ACCY	7.69				
ACCX	7.69	Probe_MFCAL-60_INCL (111249) Probe 60 Arm Caliper	9.00	3.62	
ETEMP	5.19				
Meas	4.35				
		CENT-2_75GSB GS Bottom Centralizer	2.69	2.75	20.00

Dataset:	gasco_porter69b_4-april-2016.db: field/well/run1/pass4
Total length:	15.38 ft
Total weight:	45.00 lb
O.D.:	3.62 in

Western Wireline

Company	So Cal Gas		
Well	Porter 69 B		
Field	Aliso Canyon		
County	Los Angeles		
State	Ca	Country	U.S.A.