

Wireline Work Order 3/29/2010
Run 1 - Open Hole Wireline Logging

COMPANY	BP Exploration and Production	OCS-G	OCS-G 32306 001 ST00BP01
FIELD	Mississippi Canyon 252	PROSPECT	Macondo
RIG NAME	Transocean Horizon	DOCK	C-Port, Fourchon
RIG PHONE	281-366-7741	DOCK PHONE	337-735-5701 (5551 FAX)
RIG email	deepwaf@bp.com deepwad@bp.com	API NUMBER	60-817-41169-01
WILL CALL:	~4/4	Heliport	PHI Houma (Hammons Aviation)
WBS#	X2-000X8-C:DRILL	Ace Transp.	800-221-1992
Paykey:	ZMACONDODE	VSAT Offshore Unit direct #	303-268-xxxx
Eq.: Mob. Time to Fourchon Dock	12 hours minimum notification if equipment is checked and ready to load	Crew Mob. Time to Boothville Dock	12 hours minimum notification

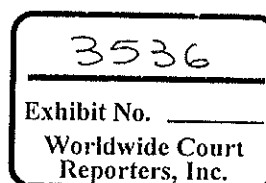
SCHLUMBERGER DISTRICT CONTACT INFORMATION

District Location/Type	Phone (24/7)	Contacts
Larose (LA) Open Hole Office Staff	985-693-3161	Andrew Massie-Service Manager amassie@slb.com
Larose (LA) Open Hole Field Personnel	985-693-3161	Victor Emanuel-Deepwater Coordinator vemanuel@slb.com
Larose (LA) Special Services Office Staff	985-693-3161	Steve Scharf-Seismic Service Manager sscharf@slb.com Theo Ferreira-MDT/MSCT Service Manager tferreira2@slb.com
Larose (LA) Special Svcs Field Personnel	985-693-3161	
Houma (LA) Cased Hole Office Staff	985-876-3066	Higor Gil- Service Manager hgil@slb.com

OFFICE PERSONNEL CONTACT INFORMATION

TITLE	NAME	OFFICE	CELL/PAGER	HOME
SLB Coordinator	Carl Leweke	281-366-4837	281-415-9185	
Alt SLB Coord	Alfredo Arevalo	281-366-4536	713-871-0917	
Operations Coord.	Robert Bodek	281-366-3862		
Alt. Ops. Coord	Jonathan Bellow	281-366-7492	713-494-5258	
Petrophysicist	Galina Skripnikova	281-366-6237		
Geophysicist	Binh Nguyen	281-366-4141		
Geologist	Charles Bondurant	281-366-7848		
Reservoir Engr.	Kelly McAughan	281-366-6853		
Drilling Engr.	Brian Morel	281-366-1706		
Drilling Engr.	Mark Hafic	281-366-4237		
Drilling Engr.	Brett Cocales	281-366-8899		

CONFIDENTIAL



BP-HZN-2179MDL01937708

WELL INFORMATION

Total Depth	~20,200'	Bit Size	8-1/2" X 9-7/8"
Casing Depth	~17,150'	Casing Size	9-7/8" 62.8#
Mud type	Synthetic OBM	Mud Weight	14.6 ppg
Bottom Hole Temp	262 degf	Bottom Hole Press.	15.3 k psi
Top string Conn:	Check with rig	Bottom String Conn:	Check with rig
Max Deviation	~10 deg (casing)	Drill Pipe Size:	Check with rig

LOGGING SERVICES

Descent #1	ZAII-GPIT-LDS-CNT-GR-LEHQT
Descent #2	CMR-ECS-HNGS-LEHQT
Descent #3	Dual OBM-GPIT-DSI-GR-Swivel-LEHQT
Descent #4	MDT-GR-LEHQT (Pressures with XLD, Samples with PQ, 3x2.75-gallon and 3xMultisample. Bring 4th MRMS as backup; 3rd 2.75 gal chamber will be a downhole backup. Planning to run 14 MPSR and 4 SPMC)
Descent #5	MSCT-GR-LEHQT
Descent #6	VSI4-GR-LEHQT (50' spacing with hard bridles. Plan is to shoot 50' spacing up to the M75 sand at ~12500', and 200' spacing the rest of the way.)

SPECIAL EQUIPMENT

Fishing Kit CONFIRM WITH CO-MAN	Rig will probably call Smith Fishing per new SOP.	Capstan System	YES WDDC-B
Pressure Control	No	TLC	No
Special Cable	7-48US, 4-51 as needed	LWF	No
ECRD	YES, Safe pull = 8k lbs	Long Cable Telemetry?	As needed
Oilphase	Rinsing and SPMCs	HP/HT	No

GENERAL INSTRUCTIONS

Maximum safe tension with planned 4-sheave rigup is 19,000 lbs.
Use "First" depth control procedures. Include the depth control summary listing and include in remarks: cable type, tie-in depth and range, stretch correction, amount of depth adjustment for tie-in. Comment on any unusual problems with depth control.
Bring seasoned cables per BP Exploration standard request.
Bring backup for all tools mobilized to rig. If backup is not available, notify SLB sales representative and Jonathan Bellow and keep them apprised of efforts to locate a backup tool.
BP is requesting Impact Selector for combination with MDT.
Spare OTIC and Spare cable to be on location.
Record temperatures on header and in Remarks for each descent in hole.
Lognet/Interact in real-time raw graphics first, LAS data afterwards, prints and DLIS last. LAS files to be generated offshore and placed in Interact folder with PDS files.
Provide detailed tool diagrams to BP company rep before putting any tools in the hole
Please work with BP representatives on rig to minimize accumulation of equipment time for tools already run. Try to have unneeded tools ready for transport
Send filled-out MMS data form to heather.powell@bp.com , chmruado@bp.com , and dougs3@bp.com before leaving the rig.

SPECIAL INSTRUCTIONS FOR STANDARD SERVICES

No standoffs run within 10' below logging head. This allows fishing overshot to swallow a minimum of 10' of top of tool.
Ensure all SLB and subcontracted personnel are SafeGulf and BP 6-in-1 Trained.

SPECIAL INSTRUCTIONS FOR SPECIAL SERVICES

Ensure all SLB and subcontracted personnel are SafeGulf and BP 6-in-1 Trained.
Impact Selector jars requested to be run in combination with MDT.

STEPS FOR SUCCESS

Crew onboard rig with equipment 24 hrs prior to rigging up.
Minimize program changes will maximize logging crew's concentration and minimize fatigue. Long logging jobs expected for this logging trip, therefore crew rest management is important.

Table 1: Operational Risks

Category	Risk Category			Comments
	High	Med	Low	
Conveyance			X	Capstan being run with US cable.
Tension analysis			X	Relatively straight and shallow hole should present few tension issues
Tool Combo			X	Tools being run in common configurations
Tool redundancy			X	Plan to have backups for all tools
Availability			X	Low pressure tools – availability should be manageable
Reliability			X	Normal reliability expected.
High Pressure			X	Tools within specified pressure capability
High Temp.			X	Temperature likely to be between 250 and 280 at 26000’.
Hole Size			X	OBMI max hole size is 17”, making large washouts an issue for that tool’s data coverage.
Dogleg			X	Dogleg present at bypass point, but should not cause any issues.
Surface equipt.			X	Spare OTIC, spare cable on location
Covyance			X	No conveyance issues expected
ECRD			X	ECRD reliability has been good in last several years. Unintentional releases or failure to release when needed are always possible risks to consider.

*Probability (H/M/L):

Average: Probability is estimated to be 0-10%

Medium: Probability is estimated to be 10-25%

High: Probability is estimated to be greater than 25%

Table 2: Tension Analysis: 7-48SUS cable (Safe pull = 19,000 lbs)

Required Tools	Length (ft)	Weight in air(lbs)	Estimated Tension (lbs) at 30000’
ZAIT-GPIT-LDS-CNL-GR-LEHQT	72.0’	1318 lbs in air 798 lbs in 13.5# mud	8349 +/- 493 lbs
CMR-ECS-HNGS-LEHQT	59.6’	1223 lbs in air 847 lbs in 13.5# mud	8421 +/- 557 lbs
Dual OBMI-GPIT-DSI-GR-LEHQT	102.9’	1777 lbs in air 1020 lbs in 13.5# mud	8819 +/- 589 lbs
MDT-GR-LEHQT (3xMultisample, 3x2.75 gal)	157.4’	4915 lbs in air 3083 lbs in 13.5# mud	11539 +/- 789 lbs
MSCT-GR-LEHQT	42.2’	1022 lbs in air 656 lbs in 13.5# mud	9510 +/- 657 lbs (Assume 4-51 cable)
Quad VSI-GR-LEHQT	188.2’	1462 lbs in air 764 lbs in 13.5# mud	9668 +/- 576 lbs (Assume 4-51 cable)

BP - field: Mississippi Canyon 252 - well: Macondo - run: Triple Combo

	Component	Tool Length feet	OD inch	Temp degF	Press kpsi
LEH-GT	LEH-GT	72	3.375	350	20
SAH-F	SAH-F	68.6	3.875	350	20
DTC-H	DTC-H	64	3.375	300	25
DTA-A	DTA-A	61	3.375	350	25
CNC-H	CNC-H w/B	57	4.75	400	25
LDSC-A	LDSC-A	49.7	3.625	350	25
LDS-B	DRS-C	46.2	3.875	350	20
AH-184	AH-184	35.4	3.375	350	20
GPIT-A/B	GPIC-A	33.4	4	350	25
GPIT-C	GPIC-C	29.4	3.625	350	25
AH-184	AH-184	25.4	3.375	350	20
AH-184	AH-184	23.4	3.375	350	20
ZAIT-CA	AXIS-A	21.4	6.875	300	20
	AHIF-A				

Key parameters for toolstring:

-Total length: 72 feet, maximum OD: 6.875 inches, maximum tension: 20 kips, maximum compression: 2.5 kips,
 Minimum hole size: 6 inches, maximum hole size: 20 inches (dependent on p/off selection) , maximum pressure: 20 kpsi, maximum temperature: 300 degF.
 Power requirement: 0 mAmp, 250 VAC, weight: 1317.5 lbs.

Figure 1: Descent 1 – Rt Scanner – Density - Neutron (Triple Combo)

BP - field: Mississippi Canyon; 252 - well: Macondo - run: CMR-ECS-HNGS

	Components	Tool Length feet	OD inch	Temp. degF	Press. kpsi
LEH-QT	LEH-QT	59.6	3.375	350	20
EDTC-B30	EDTC-B30	58.4	3.693	300	30
HNGS-BA	HNGS-BA	49.9	3.75	500	25
HNGCA	LDSCA	41.7	3.625	350	25
ILE-F	ILE-D	38.7	3.625	350	20
ECC-A	LDSCA	30.2	3.625	350	25
ECS-A	ECS-A	26.7	5	350	25
AH-184	AH-184	20.1	3.375	350	20
AH-184	AH-184	18.1	3.375	350	20
CMRT-B	CMRC w/B	16.1	5.3	350	25
	CMRS				
BNS-CCS	BNS-CCS	9.5	3.375	500	25

Key parameters for toolstring:















Total length: 59.6 feet; maximum OD: 5.3 inches; maximum tension: 50 klbs; maximum compression: 10 klbs.

Minimum hole size: 6 inches; maximum hole size: 12 inches (dependent on soil selection); maximum pressure: 20 kpsi; maximum temperature: 350 degF.

Power requirement: 0 mAmp; 250 VAC; weight: 1223 lbs.

Figure 2: Descent 2 – Magnetic Resonance – Elemental Capture Spectroscopy – Spectral Gamma

BP - field: Macondo - well: Mississippi Canyon 252 - run: Dual OBMI-DSI

		Components	Tool Length feet	OD inch	Temp degF	Press kpsi
LEH-QT		LEH-QT	102.9	3.375	350	20
SAH-F		SAH-F	99.8	3.875	350	20
DTC-H		DTC-H	94.9	3.375	300	25
DSST-B		SPAC-6	91.9	6.625	350	25
		SMDR-AA				
		SSU-BA				
		SMDX-AA				
GPIT-A/B		GPIC-A	40.9	4	350	25
GPIT-C		GPIC-C	36.9	3.625	350	25
OBMT-B-2		OBMC	32.9	6.375	350	25
		OBMS-2				
OBMT-B-1		AH-224 OBMC	17.7	6.375	350	25
		OBMS-1				
BNS-CCS		BNS-CCS	0.5	3.375	500	25

Key parameters for toolstring:

Total length: 102.9 feet, maximum OD: 6.625 inches, maximum tension: 5 kips, maximum compression: 1.5 kips.

Minimum hole size: 7 inches, maximum hole size: 16 inches (dependent on s/c/l selection), maximum pressure: 20 kpsi, maximum temperature: 300 degF.

Power requirement: 0 mAmp, 250 VAC, weight: 1777 lbs.

Figure 3: Descent 3 – Dual OBMI – Dipole Sonic Imager

BP - field: Mississippi Canyon-252 - well: Macondo - run: MDT

		Components	Tool Length feet	OD inch	Temp degF	Press kpsi
LEH-QT		LEH-QT	157.4	3.375	350	20
EDTCA		EDTCA	154.3	3.375	300	25
DTA-A		DTA-A	148.8	3.375	350	25
MDPC		MDPC	144.8	4.25	400	20
MRMS_3		MRMS-BA	138.8	4.75	400	25
MRMS_2		MRMS-BA	123.8	4.75	400	25
MRMS_1		MRMS-BA	110.4	4.75	400	25
MRSC_03		MRSC (2.75 Gln)	97.3	4.75	400	20
MRSC_02		MRSC (2.75 Gln)	87.8	4.75	400	20
MRSC_01		MRSC (2.75 Gln)	78.3	4.75	400	20
MRPO_1		MRPO-AA/BA/CA	68.9	4.75	400	25
MRFA_1		MRFA-BA	58.3	4.75	350	25
MRBA-AA		MRBA	53.2	5	350	25
MRHY_2		MRHY-AB	50	4.75	400	25
MRPO_1		MRPO	41.5	5	350	25
MRHY_1		MRHY-AB	32.5	4.75	400	25
MRPS_1		MRPS	24.1	5	350	25
MRFA_2		MRFA-CA	18.1	4.75	350	25
MRPO_2		MRPO-AA/BA/CA	11	4.75	400	25
MDT-BNS		MDT-BNS	0.4	4.75	350	30

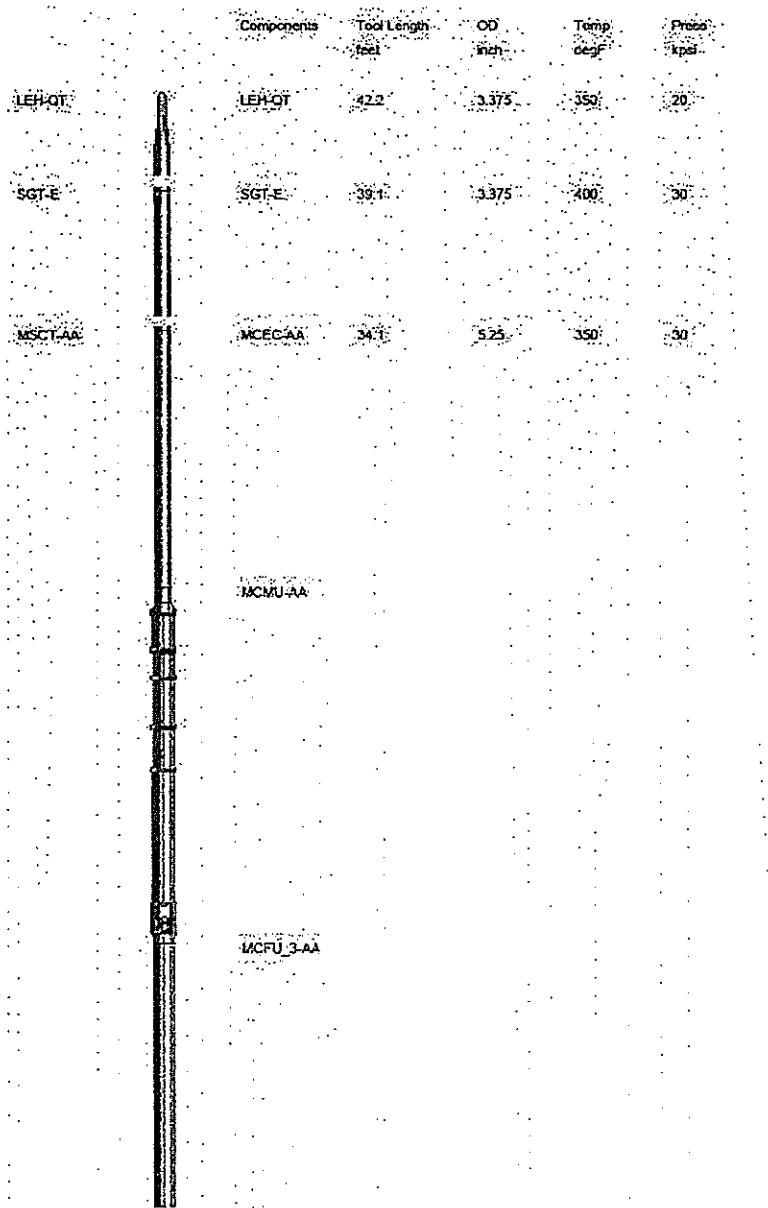
Key parameters for toolstring:

Total length: 157.4 feet, maximum OD: 5 inches, maximum tension: 50 kips, maximum compression: 16.7 kips.

Minimum hole size: 6 inches, maximum hole size: 18 inches (dependent on BGR selection), maximum pressure: 30 kpsi, maximum temperature: 300 degF.

Power requirement: 0 mAmp, 250 VAC, weight: 4914.5 lbs.

Figure 4: Descent 4 – MDT with Quicksilver for Pressures and Samples
 BP - field: Mississippi Canyon 252 - well: Macondo - run: MSCT



Key parameters for toolstring:

Total length: 42.2 feet, maximum OD: 5.25 inches, maximum tension: 22.9 kips, maximum compression: 12.5 kips.

Minimum hole size: 6.125 inches, maximum hole size: 20 inches (dependent on s/off selection), maximum pressure: 20 kpsi, maximum temperature: 350 degF.

Power requirement: 0 mAmp, 250 VAC, weight: 1022 lbs.

Figure 5: Descent 5 – MSCT for Rotary Cores
 BP - field: Mississippi Canyon 252 - well: Macondo - run: Triple Combo

		Components	Tool Length feet	OD inch	Temp degF	Press kpsi
LEH-QT		LEH-QT	188.2	3.375	350	20
EDTC-A		EDTC-A	165	3.375	300	25
VSI-TOP		AH-199	179.5	3.375	350	25
		VSCC				
		AH-244				
VSI-HB50-3		VSI-HB50	150.7	2.5	500	25
VSI-3		VSI-S	107.1	2.5	350	25
VSI-HB50-2		VSI-HB50	100.7	2.5	500	25
VSI-2		VSI-S	57.1	2.5	350	25
VSI-HB50-1		VSI-HB50	50.7	2.5	500	25
VSI-1		VSI-S	7.1	2.5	350	25
		VSI-AINS				

Key parameters for toolstring:

Total length: 188.2 feet, maximum OD: 3.375 inches, maximum tension: 10000000 klbs, maximum compression: 100000000 klbs.

Minimum hole size: 4.75 inches, maximum hole size: 20 inches (dependent on stiff selection), maximum pressure: 20 kpsi, maximum temperature: 300 degF.

Power requirement: 0 mAmp, 250 VAC, weight: 1462 lbs.

Figure 6: Descent 6 – Quad VSI for Checkshot Survey