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Document Info

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Attachment Information

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TOF IMAGE LINK

Objective Coding

From D Charles

To

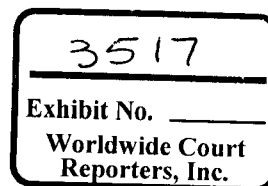
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 **TEXT**

Full Text

 **Depositions**

Depo Notebook Tab

Deponent

 **Attorney Notes**

Sticky Notes

Attorney Notes

Well Objective



- Evaluate the bright amplitude intervals for hydrocarbon bearing sands by drilling to the base of the M56 at 18,580' TVDSS :
- In the event of success:
 - Gather sufficient wireline, fluid sampling, sidewall core, cuttings and mud data from the well to facilitate efficient sanction
 - Save wellbore for development
- Criteria of success:
 - The well penetrates producible hydrocarbon bearing sand reservoir
 - Net pay thickness of at least (45 feet)
- In the event of failure:
 - Gather sufficient data to determine the reasons for the failure.

Secondary objective is to drill to the base of Miocene section to test for hydrocarbon bearing sands



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Attachment : Macondo Evaluation Program
"contingent intermediate logging run"
16" -13 5/8" - 11 3/4" csg @ 9900' - 17000'

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Case	Objectives	Program
THIN PAYOR NO PAY	Porosity, Permeability, Viscosity, Fluid Quality, Reservoir Pressure Connectivity, Net Sand Correlation, Structure, Seismic Properties, Oil Shows, Oil Charge	GP RES SONIC P 100

**All Hydrocarbon bearing Sands above
Primary objective will be evaluated to
determine the necessity for further analysis
via Wireline Logging**



Attachment : Macondo Evaluation Program 9 7/8" csg +/- 20,200ft TD logging run



Case Objectives Program

Case	Objectives	Program
<p><u>THICK PAY</u></p> <p>>45' Net HC</p>	<p>Porosity, Permeability, Viscosity Fluid Quality, Reservoir Pressure, Connectivity, Net Sand, Correlation, Structure, Seismic Properties</p>	<p>GR / RES / SONIC / FPWD MWD GR/RT Scanner/LDT/CNL GMR / EGS / HNGS Dual OBM / DSI / GR MDT for Fluids and Pressures Rotary Sidewall Cores, VSP/Checkshot Optional Full Hole core</p>
<p><u>THIN PAY OR NO PAY</u></p> <p><45' Net HC</p>	<p>Porosity, Permeability, Viscosity, Fluid Quality, Reservoir Pressure, Connectivity, Net Sand, Correlation, Structure, Seismic Properties</p>	<p>GR/RES/SONIC/FPWD MWD GR/RT Scanner/LDT/CNL Optional GMR / EGS / HNGS Optional Dual OBM / DSI / GR Optional MDT for Pressures & fluids Optional Sidewall Cores Checkshot</p>

	Prospect ML Values	3 Well Economic Threshold	Single Well Economic Threshold
Resource Volume (mmboe)	64	54	23
Prospect Average Thickness (ft)	44	38	20
Net Pay at Exploration Well (ft)	106	91	45

Economics based on \$75 /bbl oil

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MACONDO EVALUATION PROGRAM

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INTERVAL (ft)	CASING	MWD / MUDLOGGING	WIRELINE (mandatory)	JUSTIFICATION	CONDITIONS	WIRELINE (optional)	JUSTIFICATION	CONDITIONS
5081 - 5361	36" Csg	None	None	RISERLESS		None		
5360 - 6275	28" Csg	None	None	RISERLESS		None		
6275 - 8000	22" Csg	None	None	RISERLESS		None		
7700 - 9900	18" Csg	MWD directional GR/RES/SONIC/PWD / GEOTAP	None	MWD for drilling engineering, lithology determination / correlation, pressure and petroleum detection, hole angle and operational decisions.	Continuous	None		
		Isotube / Gas Comp Headspace Gas		Petroleum Systems Analysis Petroleum Systems Analysis, Charge evaluation	Sample every 90ft, 10ft in shows			
		Mudlogging service w/cuttings and geochem sampling		Lithology, Hydrocarbon detection. Biostrat	Continuous			

MACONDO EVALUATION PROGRAM



INTERVAL (ft)	CASING	MWD / MUDLOGGING	WIRELINE (mandatory)	JUSTIFICATION	CONDITIONS	WIRELINE (optional)	JUSTIFICATION	CONDITIONS
9900 - 12500	16" Csg	As above	None	As above	As above	AIT/GR/LDT/ CNL	As below	Hydrocarbon bearing sand, Net Pay > 20ft, possible thin bed pay, different fluid than predicted Will be reviewed when drilled, not Primary objective
12500 - 15300	13 5/8" Csg	As above + Mudlogging service w/cuttings and geochem sampling	None	MWD & Mud Logging for drilling engineering, gas monitoring, lithology determination / correlation, pressure and petroleum detection, hole angle and operational decisions.	Continuous	AIT/GR/LDT/ CNL	Reservoir and productivity evaluation, well tie, volume estimation, rock properties, P & S wave data (Rt, Sw, ϕ)	Sands present, AIT if Net Pay < 20ft; RT Scanner if Net Pay > 20ft
		Mudlog		Sample collection for lithology, biostrat, hydrocarbon detection	Continuous	MDT fluids	MDT fluids to evaluate seals, connectivity, fluid density, PVT.	Fluids only if HC present
		Headspace Gas	None	Petroleum Systems Analysis, Charge evaluation	Sample every 90ft, 10ft in shows	MDT pressures	MDT for pressure (gradients), seals/baffles, fluid contacts, Compartmentalisation	Contingency for pore pressure measurement if drilling conditions differ from prediction, ; pressures optional in case of wet sands
		Isotube / Gas Comp	None	Geochem analysis	Sample every 90ft, 10ft in shows	SWC	SWC (rotary/percussion) for rock quality and mineralogy - rotary (seals/baffles), percussion (sands).	HC present; if net pay < 20ft, SWC is optional.
		Geotap	None	Formation Pressure evaluation, Drilling optimisation	Sands present			

MACONDO EVALUATION PROGRAM

INTERVAL (ft)	CASING	MWD / MUDLOGGING	WIRELINE (mandatory)	JUSTIFICATION	CONDITIONS	WIRELINE (optional)	JUSTIFICATION	CONDITIONS
15300 - 17000	11 3/4" Csg	As above; Headspace Gas	None	As above;	Sample every 30ft, 10ft in shows	As above;	As above;	As above;
17,000 - 20,200 or TD	9 7/8" Csg	As above	AIT/GR/LDT /CNL	Reservoir and productivity evaluation, well tie, volume estimation, rock properties, P & S wave data (Rt, Sw, φ)	Sands present	Triaxial RT	RT Scanner to quantify presence of thin beds and contribution to net pay	M56 Sands >45ft Net Pay
			CMR/EC/S/H NGS	Rock quality reservoir facies and continuity determination; for dip, fault locations and frequency. Net to Gross, K, Mineralogy	M56 Sands present & >45ft Net Pay	Bypass whole core	Reservoir Characterisation, Sw, Rw, m, n, φ, K, Rel Perm, Mineralogy, Grain Density, Rock Mechanics, Compressibility, Sanding,	Optional if >77ft net pay in M56; Operations: Distance between Csg pt and Top sand appropriate for openhole sidetrack; Set plug in openhole & sidetrack (4deg/100ft) hold Top of Core interval (Shale 10ft above sand to shale below sand)
			Dual OBMI / DSI / GR	Reservoir facies and continuity determination, well tie, rock properties, P & S wave data (Rt); for dip, fault locations, Net to Gross, Thin bed pay analysis	M56 Sands present & >45ft Net Pay		• Santa Cruz M56 core • Analog data	Plugging must be done in a timely manner, wellsite plugging unnecessary
			MDT pressures	Pressure (gradients), fluid contacts, seals, baffles, compartmentalisation	Sands present			Availability of Core barrel equipment and personnel Financial approval
			MDT fluids	Hydrocarbon typing, evaluate seals, connectivity, fluid density, viscosity	M56 Sands present & >45ft Net Pay			
			SWC (MSCT)	SWC (rotary/percussion) for rock quality and mineralogy - rotary (seals/baffles), grainsize distribution, percussion (sands). Checkshot for seismic well tie.	M56 Sands present & >45ft Net Pay			
			Checkshot VSP 2D					

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CORING M56 ?

CORING COST

- ~100ft of core (90-120ft) core barrel.
- On Marinas rig. Assume trip rate slower than Horizon rig (1500ft/hr instead of 2000ft/hr).
- BHI costs to cut core = \$0.200MM
- OMNI costs wellsite handling & processing = \$0.125MM
- Rig time to TIH, cut core, CBU, & TOOH = 48 hours (so plug in rig rate here)

DRILLING

- Plan on a all-in-spread rate of ~\$1MM/day during coring operations... best guess from me would be a minimum of 7 days for a bypass core.

CORING DECISION

- Analog Data

- M56 Core in MC519 Santa Cruz

- Sidewall Core – MC562 Isabella

- Wells :

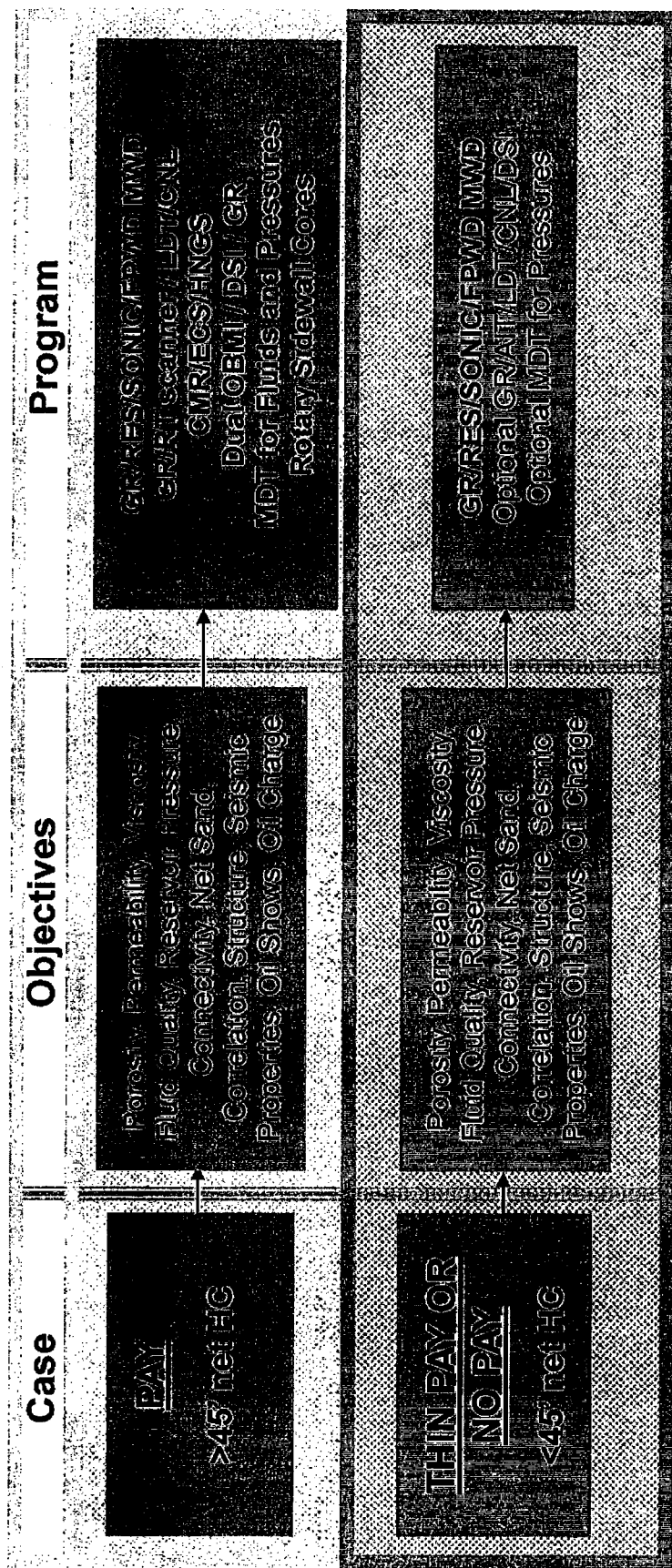
20ft



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Attachment ? : Macondo Evaluation Program "contingent intermediate logging run" 11 7/8" csg @17,000'



	Prospect ML Values	3 Well Economic Threshold	Single Well Economic Threshold
Resource Volume (mmboe)	64	54	23
Prospect Average Thickness (ft)	44	38	20
Net Pay at Exploration Well (ft)	106	91	45

Attachment : Macondo Well Evaluation Plan

