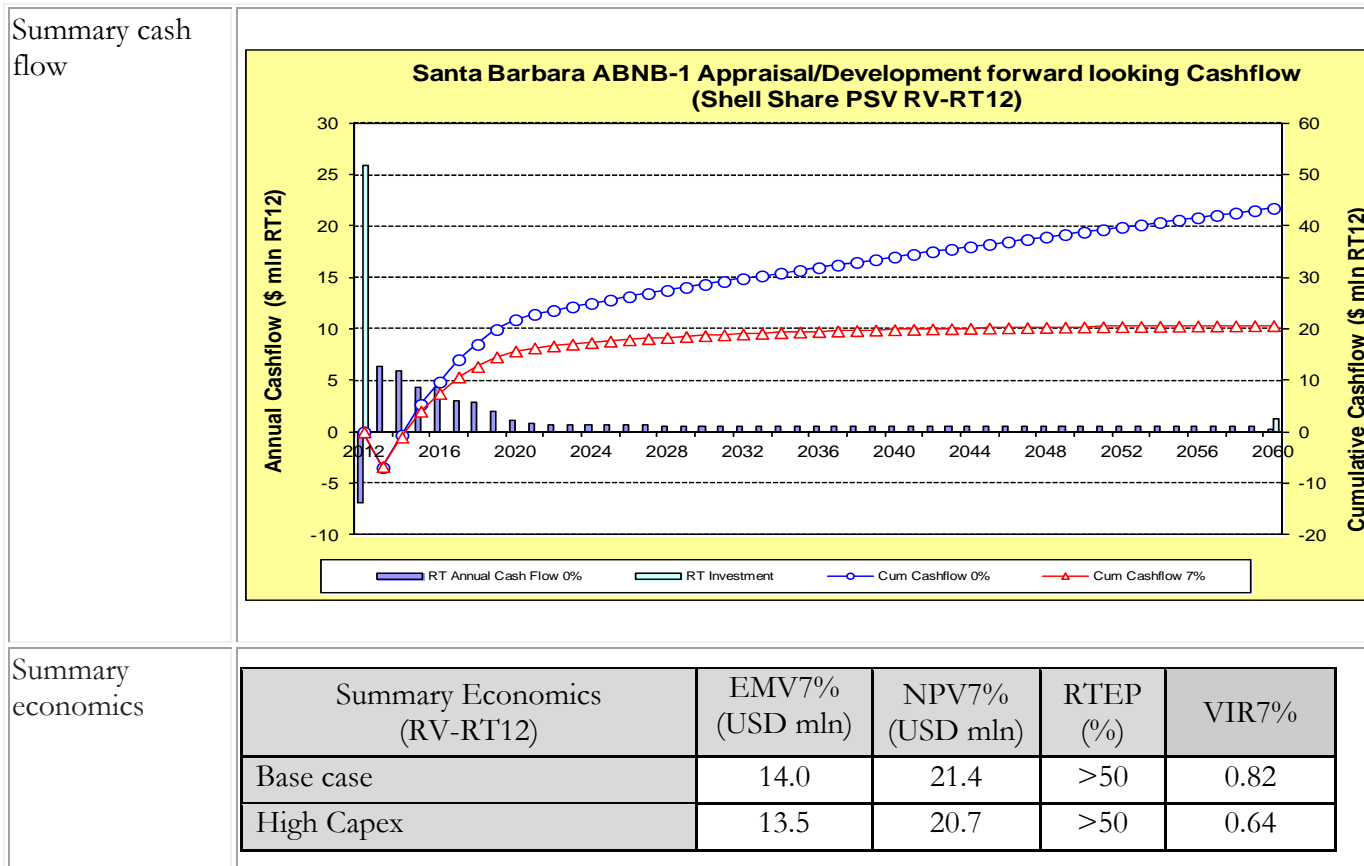


## Group Investment Proposal

### Summary Information

Business Unit and Company	Shell Petroleum Development Company of Nigeria Limited (SPDC)																																																																			
Group equity interest	100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of an unincorporated JV with a 30% interest.																																																																			
Other shareholders / partners	Nigeria National Petroleum Corporation (NNPC: 55%), Total E & P Nigeria Limited (TOTAL: 10%), Nigeria Agip Oil Company (NAOC: 5%) in SPDC-JV																																																																			
Business or Function	E & P																																																																			
Amount	<p>The headline size of US\$26.5mln Shell Share MCA MOD 50/50, being requested for approval is made up of US\$8.8 mln approved in the previous proposal of year 2007 and US\$17.7 mln in this incremental proposal. CAPEX is US\$26.2 mln Shell Share MOD and OPEX is US\$0.3mln Shell Share MOD.</p> <p>The Santa Barbara ABNB-1 Appraisal/Development project is funded under the Modified Carry Arrangement (MCA), approved by RDS board per GFP 22.07.2008 and entered into on 12.12.2008. As per the MCA agreement, Shell, jointly with the other JV partners, is committed to carry NNPC's share of the estimated investment cost from 01.01.2008 to date. The Shell Equity contribution is US\$12.1mln and MCA of US\$14.4 mln bringing the total to US\$26.5 mln.</p>																																																																			
Project	Santa Barbara ABNB-1 appraisal/development Project																																																																			
Main commitments	<table border="1"> <thead> <tr> <th rowspan="2">Description</th><th colspan="3">100% JV (US\$ mln) MOD</th><th colspan="3">Shell Share (US\$ mln) MOD</th></tr> <tr> <th>Project headline @ 2007 GFP</th><th>Project headline @ 2008 MCA</th><th>This revised GFP</th><th>Project headline @ 2007 GFP</th><th>Project headline Shell Share MCA @ 2008</th><th>This revised GFP</th></tr> </thead> <tbody> <tr> <td>Dredging/Location Preparation</td><td>1.2</td><td>2.0</td><td>2.5</td><td>0.4</td><td>1.3</td><td>1.7</td></tr> <tr> <td>Rig Mobilisation, Drilling &amp; Completion</td><td>24.9</td><td>28.2</td><td>33.5</td><td>7.5</td><td>18.8</td><td>22.3</td></tr> <tr> <td>Hook-up &amp; Flowline</td><td>2.5</td><td>2.1</td><td>2.9</td><td>0.7</td><td>1.4</td><td>1.9</td></tr> <tr> <td>PMT</td><td></td><td></td><td>0.4</td><td></td><td></td><td>0.3</td></tr> <tr> <td><b>Subtotal Capex (US\$ mln 50/50 MOD)</b></td><td><b>28.6</b></td><td><b>32.3</b></td><td><b>39.3</b></td><td><b>8.6</b></td><td><b>21.5</b></td><td><b>26.2</b></td></tr> <tr> <td>SCD</td><td>0.7</td><td>0.0</td><td>1.0</td><td>0.2</td><td>0.0</td><td>0.3</td></tr> <tr> <td><b>Total Cost</b></td><td><b>29.3</b></td><td><b>32.3</b></td><td><b>40.3</b></td><td><b>8.8</b></td><td><b>21.5</b></td><td><b>26.5</b></td></tr> </tbody> </table>						Description	100% JV (US\$ mln) MOD			Shell Share (US\$ mln) MOD			Project headline @ 2007 GFP	Project headline @ 2008 MCA	This revised GFP	Project headline @ 2007 GFP	Project headline Shell Share MCA @ 2008	This revised GFP	Dredging/Location Preparation	1.2	2.0	2.5	0.4	1.3	1.7	Rig Mobilisation, Drilling & Completion	24.9	28.2	33.5	7.5	18.8	22.3	Hook-up & Flowline	2.5	2.1	2.9	0.7	1.4	1.9	PMT			0.4			0.3	<b>Subtotal Capex (US\$ mln 50/50 MOD)</b>	<b>28.6</b>	<b>32.3</b>	<b>39.3</b>	<b>8.6</b>	<b>21.5</b>	<b>26.2</b>	SCD	0.7	0.0	1.0	0.2	0.0	0.3	<b>Total Cost</b>	<b>29.3</b>	<b>32.3</b>	<b>40.3</b>	<b>8.8</b>	<b>21.5</b>	<b>26.5</b>
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Reserves/ Resources	This project will mature 2C volume of 5.90 MMboe SS (19.67 MMboe, 100%, Ref, ARPR 31.12.2011). This volume (5.90 MMboe) will be matured to 2P in 2012.																																																																			
Production	Santa Barbara ABNB-1 appraisal/development well base case forecast (BP11 JV) has a start up date of November 2012 with an initial incremental oil rate of 0.34 Mbopd SS (1.14Mbopd 100%) and peaks in 2013 at oil production rate of 1.42 Mbopd SS (4.72 Mbopd 100%) with associated gas production of 1.0MMscf/d SS (3.3 MMscf/d 100%) thus increasing the effective utilization of the new NCTL pipeline and contributing to SPDC's gas supply to NLNG.																																																																			
Source and form of financing	This investment will be financed through the agreed MCA funding (ref GFP approved by the RDS Board on 22.07.2008). Total Shell commitments including NNPC carry under the MCA will be financed with Shell's share of the capital expenditure funded by SPDC's own resources. The MCA terms do not include PMT CAPEX and all OPEX related expenditures.																																																																			



### Section 1: The proposal (Management Summary)

This revised proposal seeks support/approval for US\$26.5 mln (SS) consisting of Shell equity share of US\$12.1 mln MOD and US\$14.4 mln MCA to drill and complete Santa Barbara ABNB-1 appraisal/development well in 2012 on the Passion rig sequence.

The GIP update is necessitated by the increase in headline size from resulting from: delay in project execution and project cost increase resulting from higher than anticipated rig and materials cost and change in funding mechanism from SPDC JV funding to MCA funding.

The Santa Barbara Appraisal/Development project aims to test the un-drained D9000W and E2000W western culmination of the major reservoirs and provide structural control at the western flank of K3C and K4C reservoirs which have been mapped from the 3D seismic and gather data as input to Santa Barbara Phase 2 (LOD) optimisation, reserves booking and field delineation.

Santa Barbara field has AG gathering infrastructure in-place. There is export/pipeline ullage to deliver the produced gas to the Soku Gas Plant. The total liquid installed processing capacity of the existing Mobile Production Facility in Santa Barbara is 30 Mbpd. Crude is evacuated from the field via the new Nembe Creek Trunk Line (NCTL).

Drilling operations is planned to start in August 2012 with Passion rig. First oil from the project is expected in December 2012.

Santa Barbara field is located in OML 25 and 29, about 60 km South-West of Port Harcourt. The field has medium (P1+P2) STOIP of 910.66 MMstb, medium (P1 +P2) Ultimate Recovery of 383.47 MMstb (100%, Ref: ARPR 31/12/2011). The cumulative production as at 31/12/2011 was 29.74 MMstb from 6 wells.

The previously approved JV 100% funding of US\$29.3mln (shown in Table under main commitments) was to drill 1 appraisal/oil development producer in Santa Barbara field in 2007. The 2007 GIP

economics returned an NPV (7%) of US\$11.8 mln at a Project Ranking Value (PRV) of US\$40 /bbl, compared to the evaluation of this revised GIP at US\$21.4 mln NPV (7%) at a higher PRV of US\$70/bbl (ref. Summary Economics section, Table 2) against the background of a different cost profile and price.

## ***Section 2: Value proposition and strategic and financial context***

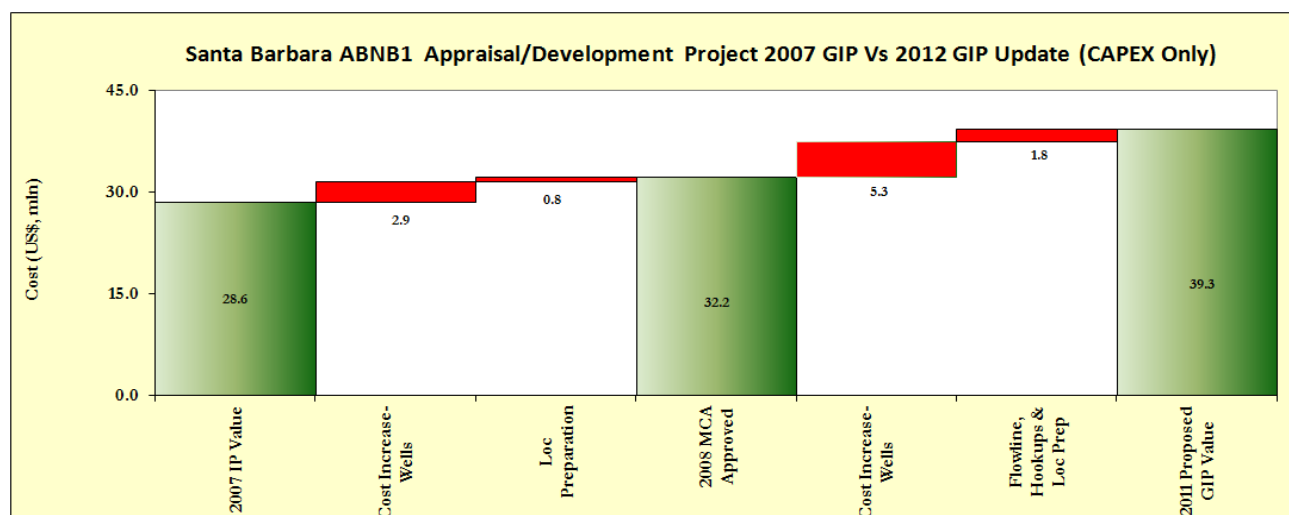
- The Santa Barbara appraisal/development well (together with Santa Barbara Phase-1 and Nembe Creek phase1 wells) will provide the oil revenue part payback of NNPC Carry (MCA) for Nembe Creek Trunkline (NCTL) replacement project expenditure.
- This project will mature 2C Oil reserves of 5.90 MMboe (SS) to production in 2012.
- Add incremental oil production, peaking at 1.42 Mbopd (SS) by 2013, thus increasing the effective utilization of the new NCTL pipeline and contributing 1.0 MMscf/d (SS) to SPDC's gas supply to NLNG through Soku gas plant.
- Appraisal of the Western culminations targeting D9000W and E2000W and testing of K3000C reservoirs lateral extent will allow for early analysis of the data gathered for optimization of Santa Barbara Phase-2 (LOD) wells.
- The well will be completed on the D9000W and K3000C with the E2000W behind sleeves for a success case. In the event of appraisal failure, the well would be completed on only the K3000C reservoir.

This well ABNB-1 has significant appraisal scope that impacts further development of the Santa Barbara field. Value of information analysis has been carried out to assess the benefits of the appraisal section of this well and it shows positive result. Cores are planned from D9000, E2000, E7000 & K3000 sands in this well to assist in closing out some of the subsurface uncertainties and better characterize the reservoirs.

## **Cost Increase/Market Situation**

The CAPEX headline size for this project increased from US\$28.6 mln (JV 100%) in the last GIP approved in 2007 to US\$32.2 mln approved in the 2008 MCA and now further escalated to US\$39.3 mln in this GIP update. The cost increase is due mainly to well design change, new rig contract and facility cost increase. The chart below reflects details of the key changes.

Figure 1: Santa Barbara ABNB-1 Waterfall: Cost movement from Old GIP Headline to approved 2008 MCA and New GIP (CAPEX only)



## Summary Economics

The Santa Barbara ABNB-1 was evaluated on a forward-looking basis by assessing the Value of Information (VOI) for the appraisal drilling using the 50/50 level III cost estimates, the incremental production forecast and the Probability of Appraisal Success (POAS). The determination of the EMV was done using the decision tree software of the Palisade suite, which captured the range of outcomes for the key decision. The base case EMV of the appraisal decision is US\$14.0 mln (see Table 1).

Economics was evaluated under the 2008 MCA terms, and the base case assumes the total cost of the project is fully captured in the MCA basket and therefore qualifies for both cost and profit oil recovery.

Sensitivities were carried out on the following:

- High and Low Capex.
- High and Low Reserves.
- MCA cost overrun approved: Cost Oil only recovered for cost overrun (no profit oil)
- MCA cost overrun not approved: Penalty borne by Shell
- MCA cost overrun not approved: Penalty borne by Partners
- 1 Year Schedule delay.
- Project with ring fencing.
- 1.5% cost mark up for NNPC cost disputes on benchmarked verified approved (BVA) issues.

The Economic result is presented in Table 1.

**Table 1: Economic Grid (Shell Share)**

PV Reference Date: 1/7/2012	EMV (S/S \$ mln)	NPV (S/S \$ mln)		VIR	RTEP	UTC (RT \$/boe)		Payout-Time (RT)	Maximum Exposure
Cash flow forward from: 1/1/2012	7%	0%	7%	7%	%	0%	7%	(yyyy)	\$mln (yyyy)
Base Case									
SV (\$50/bbl & \$1.30/mmbtu RT12)	9.0	30.3	14.2	0.55	>50				
RV (\$70/bbl & \$1.73/mmbtu RT12)	14.0	43.8	21.4	0.82	>50	5.2	9.3	2013	7.1 (2012)
HV (\$90/bbl & \$2.27/mmbtu RT12)	18.8	56.8	28.4	1.09	>50				
Oil BEP (RT \$/bbl)						6.0	10.3		
NPV Sensitivities (using RV)									
High Capex (+30%)			20.7	0.64				2013	13.6 (2012)
Low Capex (-17%)			21.9	1.10				2012	6.0 (2013)
High Reserves			25.3	1.02				2013	9.8 (2012)
Low Reserves			16.6	0.67				2014	10.9 (2012)
MCA cost overrun approved: Cost Oil only recovered			21.3	0.82					
MCA cost overrun not approved: Penalty borne by Shell			14.8	0.57					
MCA cost overrun not approved: Penalty borne by Partners			17.0	0.65					
1 Year Schedule Delay			20.1	0.80					
Project with ring fencing			21.2	0.82					
1.5% Cost mark-up due to BVA issues			20.8	0.78					

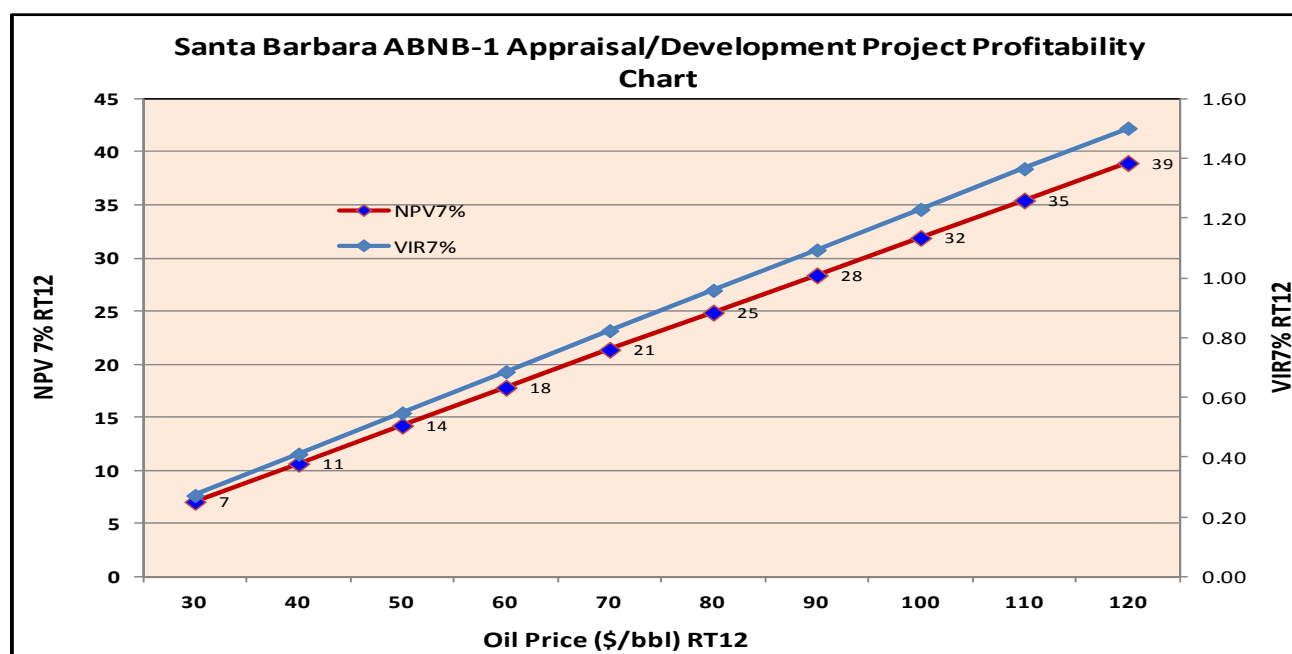
**Key Project Parameter Data Ranges (Shell Share)**

Parameter	Unit	BP11 Provision	Low	Mid	High	Comments
Capex (MOD)	US\$ mln	N/A	21.93	26.24	34.07	Not available in BP11 as a stand-alone
Opex (MOD)_Project	US\$ mln	N/A	0.20	0.30	0.40	Not available in BP11 as a stand-alone
Production Volume	mln boe	N/A	5.31	6.73	7.98	
Start Up Date	mm/yy	N/A	N/A	12/2012	N/A	
Production in first 12 months	mln boe	N/A	0	0.5	1.3	

## Economic assumptions

- 2012 PSV used for Oil: \$70/bbl @ RV-RT with appropriate Bonny offset applied
- 2012 NLNG PSV was used for gas sold to NLNG
- Oil taxed under PPT (85%)
- Gas taxed under CITA with AGFA (Associated Gas Framework Agreement) incentive
- ABC and SCD Opex was provided by the project team
- Abandonment cost is estimated at 10% of total project RT CAPEX.
- Gas flare penalty of \$3.5 /Mscf (disputed sum) was applied and is not tax deductible
- GHV of 1150btu/scf for export
- NDDC levy of 3% total expenditure.
- Education tax of 2% assessable profit.
- All costs on the MCA would be recovered through cost oil.
- Profit oil ceiling of 8% IRR on carried costs
- Current agreement for recovery of carry costs is maintained
- OPEX and PMT Capex are not carried under current MCA arrangement.

## Profitability Chart



## Section 3: Risks, opportunities and alternatives

### Key risks, mitigation & opportunities include

The principal risks associated with this proposal, key mitigation measures and opportunities are as follows:

### 3.1 Risks

- **Cost Overrun:**

There is the risk that project value to Shell may be eroded if the MCA-approved cost estimate is exceeded due to increase in the rig cost as a result of non-productive time while drilling, escalated materials costs and Security.

*Mitigation:*

The well and facility costs have been updated to reflect current reality. Partners would be engaged early if potential variation is foreseen.

- **Social Performance/ Community Issues:** (which could threaten project execution)?

*Mitigation*

Global Memorandum of Understanding (GMoU) is the corporate platform for managing community interface as well as delivering benefits to communities. Currently, SPDC has a functional steady-state GMoU covering the project area, Nembe-Basambri. FTO for the project activities will be secured through the GMoU CDB, with provisions for community employment and subcontracts. The social/non technical risks associated with the project will be mitigated in line with the HSSE&SP Control Framework by delivering a robust impact mitigation and stakeholder engagement plan. Contractors being proposed for the project execution will be required to submit an approved Community Affairs Plan that will guide their interface with the impacted communities in project area. In addition, adequate resources, including the active support of the host-Asset Community Relations Team and pro-active management of community issues will be deployed throughout the project duration.

- **Enabling Environment (Security, Sabotage, Political and Environment):** Hostage taking, existence of militant groups and threat of insurgence are realities in the Niger Delta especially in the swamp which could threaten project execution.

*Mitigation:*

With improvements in the Niger Delta security following Amnesty programme, it is envisaged that there will be a reduction in Community related NPT. Specific threats will be managed through the Security & Surveillance Centre (SIS) and communicated in good time to those that need to “Know” and “act”.

- **HSSE:**

HSSE Hazards associated with this project will be identified and documented as part of the HSSE plan for the project. The effects on people, Assets, environment and reputation will be assessed.

*Mitigation:*

There will be an assessment of the risks of identified Hazards for Worst-Case Credible Scenarios using the RAM, and documented in the Hazards and Effects Register which will form part of the project specific HSSE Plan. Where Reasonably Practicable, hazards will be totally eliminated or adequately controlled where elimination is not possible.

- **Facility Uptime Improvement:**

Facility uptime improvement from 55% to 85%

*Mitigation:* Facility has just been opened up this May 2012 since after closure of the old NCTL. (Activities are currently ongoing to improve the uptime to expected minimum of 85%). These activities include Station power generator and control system change out and are expected to be delivered before hook-up of this well.

- **Risk around unapproved incremental MCA Costs:**

There is a risk that un-approved MCA costs would be disallowed for tax deductions by the FIRS.

*Mitigation:* Technical Planning Team would re-negotiate and ensure that incremental costs are approved by NNPC.

- **Appraisal failure**

This appraisal/development well would appraise the scope for recovery of D9000W and E2000W with a combined expectation POS of 0.51. In the event that these reservoirs are water bearing, the K3000C reservoir will be developed as the K3000C ODT at 12582 ftss has been observed by SBAR-8. The incremental oil reserve to be developed by K3000C is 10.2 MMstb at an initial offtake rate of 3500 bopd.

### 3.2 Opportunities

- **Resources:**  
Critical positions required to deliver the project have been resourced. Swamp East Asset Development (DSSE), Field Development and Execution Team, will support the execution. Engineering support will be provided by both Major project Corporate Matrix and Asset Engineering Teams.
- **Project support:**  
This project will provide data for the optimization of Santa Barbara Phase 2 FDP wells.
- **Knowledge Sharing:**  
This project will provide a very good opportunity for the new well-site PEs to have requisite operations experience under the close supervision of their senior PEs and SDEs.

### 3.3 Alternatives Considered

Drop ABNB-1 Appraisal/Development Well: Not recommended, as this would not provide the required additional data for a timely optimization of the Santa Barbara Phase-2 Later Oil Development (LOD) project.

### *Section 4: Corporate structure, and governance*

This proposal is within the SPDC corporate structure and governance framework.

### *Section 5: Functional Support and consistency with Group and Business Standards*

This proposal complies with Group Business Principles, policies and standards. Functional support for this proposal is provided by Finance, Wells, Sustainable Development, Contracting and Procurement, HSE, Operations, Legal, and Tax functions.

### *Section 6: Project management, monitoring and review*

The execution of the project is managed through the Swamp East Field Development & Execution Team, Wells and Engineering Hub Teams in line with the SPDC organizational model. The Sustainable Development and Community Relations directorate is instrumental in creating the community relations that allow the team to operate. There will be regular progress report of the well delivery activities to Asset Development Manager, the Development General Manager and to the JV Partners. All significant reviews and follow up actions had been done in the Development and Engineering Teams. Following successful completion, the wells will be handed back to the Swamp East Production Operations Team.

VAR2 (Nov. 2004) and DG2 (May. 2005)

VAR3/DG3 were completed in Oct. 2005/ Dec. 2005, respectively

VAR4 /DG4 were held in Aug. 2006/Nov 2006 respectively and comments have been closed out.

### *Section 7: Budget provision*

This project has budget cover in 2011 and is included in 2011/12 JV Programme. Though the revised GIP is in line with capital expenditure allocated to the Santa Barbara ABNB-1 Appraisal/Development well project in the business plan, there is an increase in cost when compared to the costs in the 2008 MCA agreement (See Figure 1). In line with MCA agreement, NAPIMS will be engaged in order to reach an agreement on how to fund the additional costs if they materialize.

### ***Section 8: Group financial reporting impact***

The financial impact of this proposal on Shell Group financial is as outlined in the Table below:

US\$ MM	2012	2013	2014	2015	2016	Post 2016
Total Commitment	12.1	0.0	0.0	0.0	0.0	0.0
<b>Cash Flow</b>						
SCD Expenditure	0.3					
Pre-FID Expenditure						
Capital Expenditure	11.8					
Operating Expenditure	0.6	0.5	0.3	0.1	0.1	2.0
Cash flow From Operations	4.8	6.4	5.2	4.4	3.8	48.0
Cash Surplus/(Deficit)	-7.0	6.4	5.2	4.4	3.8	48.0
<b>Profit and Loss</b>						
NIBIAT +/-	1.1	4.4	4.5	3.2	3.3	47.0
<b>Balance Sheet</b>						
Avg Capital Employed	4.1	7.1	5.8	4.8	3.9	2.6

### ***Section 9: Disclosure***

Material disclosures, if any, will be done in line with the Group and SPDC disclosure policies and guidelines.

### ***Section 10: Financing***

Shell's share of the capital expenditure will be funded by SPDC's own resources. If this does not prove sufficient in the future, any further financing requirements will be included in the annual SPDC GFP.

### ***Section 11: Taxation***

Carry expenditure not approved by NNPC is at risk of being non-deductible for tax purposes. The FIRS ruling for MCA's is restricted to MCA's concluded before the end of 2009 and future MCA's requiring prior engagement with FIRS.

### ***Section 12: Key Parameters***

The following is the main aspect of this proposal:

Approval for the amount of US\$ 26.5 million MCA Shell share, 50/50 MOD for the execution of Santa Barbara ABNB-1 appraisal/development well.

### ***Section 13: Signatures***

This Proposal is submitted to UIG for approval.

Supported by:

.....

**Bernard Bos**

SEPA-FUI/F

Date .... / .... / ....

For Business approval:

.....

**Ian Craig**

SEPA-UIG

Date .... / .... / ....

*Initiator:*

*Roya Simon (UIG-T-DSSE)*

*Date 19/06/2012*



## Appendix 1 : Appraisal Tree

