

Document number:	SPDC-2012-05- 00000220	Author:	Nwankwo, Cosmas SPDC-UIG/T/DET
Document Owner:	SPDC-UIG/T/DET	Version	1.0
Issue Date :	May 2012	Review Date:	May 2012
Record Type Name:	Reservoir data	Record Series Code:	FOP.05.02
Security	Confidential	ECCN	Not Subject to EAR - No US Content
Classification:		Classification: Retention:	EVT+ 15

This document is the property of Shell Petroleum Development Company (Nigeria) Ltd., and the copyright therein is vested in Shell Petroleum Development Company (Nigeria) Ltd. All rights reserved. Neither the whole nor part of this document may be disclosed to others or reproduced, stored in a retrieval system, or transmitted in any form by any means (electronic, mechanical, reprographic recording or otherwise) without prior written consent of the copyright owner

Table of Authorisation

	Signature/Date						
Reviewed By:							
Regional PT Discipline Lead	_						
SPDC- UIG/T/DET							
Kooijman, Arjen							
Head, Well Interventions - East							
SPDC- UIG/T/ WCIE							
Ayanruoh, C.O							
Approv	ved By:						
General Manager, Development							
SPDC- ŬIĠ/T/D							
Ojulari, Bayo							
General Manager, Wells							
SPDC- UIG/T/W							
lyamu, Isaac							
VP Finance, Africa							
SPDC- FUI/F							
Bos, Bernardus							

Distribution:
DET, ADM, Wells

The Shell Petroleum Development Company of Nigeria Limited

Summary Information

The Shell Petroleum Development Company of Nigeria Limited (SPDC)							
			(JV) operator o	f an			
		1 1	6), Total: 10%, N	Nigeria Agip Oil			
Explor	ation & Production (EP)					
US\$ 6.3	3 mln Shell share (i.e. US	S\$ 21.1 mln 100% JV	7), 50/50, MOD).			
Apara d	& Akpor Wells Decomn	nissioning and Locati	on Restoration	Project			
	Description		JVUS \$mln (100%)	US \$mln (Shell Share)			
1	EIA Studies		133.000.00	39,900.00			
2		oning studies	·	101,100.00			
3		_	2,658,009.90	797,402.97			
4	Apara 2 Decommissioni	ng and Restoration	2,852,259.90	855,677.97			
5	Apara 4 Decommissioni	ng and Restoration	2,852,259.90	855,677.97			
6	Apara 7 Decommissioni	ng and Restoration	2,658,009.90	797,402.97			
7	Akpor 2 Decommissioni	ng and Restoration	3,195,043.95	1,069,877.97			
8	Akpor 1 Decommissioni	ng and Restoration	3,114,958.35	934,487.51			
9	Akpor 3 Decommissioni	ng and Restoration	1,087,962	215,023.94			
10	GMOU		569,000.00	170,700.00			
11	VAT & NCD		1,649,378.14	494,813.44			
			21,106,882.44	6,332,064.73			
Source and form of This investment will be financed from JV funding. Shell share Opex expenditure will be met by SPDC's own cash flow and/or the existing shareholder facility. Summary cash flow							
		•		RTEP NA			
	100% is unincon Nigeria Compa Explore US\$ 6.3 Apara 6 6 7 8 9 10 11 This imbe met	100% in SPDC, whereas SPDC unincorporated JV with a 30% Nigeria National Petroleum Co Company (NAOC: 5%) in SPE Exploration & Production (EP US\$ 6.3 mln Shell share (i.e. US Apara & Akpor Wells Decommand Description 1 EIA Studies 2 Borrow Pit Decommissioni 4 Apara 2 Decommissioni 5 Apara 4 Decommissioni 6 Apara 7 Decommissioni 7 Akpor 2 Decommissioni 8 Akpor 1 Decommissioni 9 Akpor 3 Decommissioni 10 GMOU 11 VAT & NCD	100% in SPDC, whereas SPDC is the Joint Venture unincorporated JV with a 30% interest. Nigeria National Petroleum Company (NNPC: 55% Company (NAOC: 5%) in SPDC-JV. Exploration & Production (EP) US\$ 6.3 mln Shell share (i.e. US\$ 21.1 mln 100% JV Apara & Akpor Wells Decommissioning and Locate Description 1 EIA Studies 2 Borrow Pit Decommissioning and Restoration 4 Apara 2 Decommissioning and Restoration 5 Apara 4 Decommissioning and Restoration 6 Apara 7 Decommissioning and Restoration 7 Akpor 2 Decommissioning and Restoration 8 Akpor 1 Decommissioning and Restoration 9 Akpor 3 Decommissioning and Restoration 10 GMOU 11 VAT & NCD This investment will be financed from JV funding. Shell Share, RT-11 NPV7% (USD mln Shell Share, RT-11 NPV7% (USD	100% in SPDC, whereas SPDC is the Joint Venture (JV) operator of unincorporated JV with a 30% interest. Nigeria National Petroleum Company (NNPC: 55%), Total: 10%, Note Company (NAOC: 5%) in SPDC-JV. Exploration & Production (EP) US\$ 6.3 mln Shell share (i.e. US\$ 21.1 mln 100% JV), 50/50, MODE Apara & Akpor Wells Decommissioning and Location Restoration Description JYUS \$mln (100%) 1 EIA Studies 2 Borrow Pit Decommissioning studies 3 Apara 1 Decommissioning and Restoration 4 Apara 2 Decommissioning and Restoration 5 Apara 4 Decommissioning and Restoration 6 Apara 7 Decommissioning and Restoration 7 Akpor 2 Decommissioning and Restoration 8 Akpor 1 Decommissioning and Restoration 9 Akpor 3 Decommissioning and Restoration 10 GMOU 11 VAT & NCD 11,649,378.14 21,106,882.44 This investment will be financed from JV funding. Shell share Opes be met by SPDC's own cash flow and/or the existing shareholder for Shell Share, RT-11 NPV7% (USD mln) VIR7%			

SPDC PILOT DECOMMISSIONING AND LOCATION RESTORATION PROJECT

Section 1: The proposal (management summary)

This Investment Proposal approval for funding of US\$ 6.3 mln Shell share (i.e. US\$ 21.1 mln 100% JV) is required for the decommissioning and restoration of Apara 1, Apara 2, Apara 4, Apara 7, Akpor 1, and Akpor 2 wells (6 wells).

In July 2011, a Front End Project team was set up to study and mature Wells Decommissioning and Restoration efforts in SPDC as part of sustainable development efforts for management of disused wellsites.

The Decommissioning and Restoration (D&R) of eleven wells in Apara and Akpor fields is being undertaken as a pilot and this pilot experience will be used to design long term strategy for Decommissioning and Restoration of some 400 disused wellsites in SPDC. These disused sites continue to create Health, safety, security, and environmental (HSSE) exposure and hence the need to properly Decommission and restore them.

The Akpor field came on stream in August 1974 and produced until December 1987 when the last well quit production. The Apara field on the other hand produced from December 1961 to February 1997 when production ceased. Akpor expectation oil and non associated gas reserves are 3.6MMstb and 5.2Bscf while Apara expectation oil and non associated gas reserves are 23.5MMstb and 97Bscf respectively as at 1/1/2011. The proposed Wellsite Decommissioning and Restoration pilot will be used to acquire data prior to decommissioning. These data will be used for further study of these fields and depending on the economics of such future study, strategic decisions will be made on these fields. These decisions could include the use of technology for development of the remaining hydrocarbon, where economic, from locations other than the existing wellsites which are now being decommissioned for HSSE reasons.

An Environmental Evaluation Report will be executed as part of the D&R activities with the objective of determining the condition of the environment, ascertaining likely impacts these facilities have had on the environment, assessing the severity of such impacts, mitigating measures for the identified adverse impacts, and developing a management plan for monitoring the effectiveness of designed mitigation measures.

The estimated D&R pilot project will cost \$47. 6mln over the 2012 – 2013 business planning period.

SPDC PILOT DECOMMISSIONING AND LOCATION RESTORATION PROJECT

Table 1: SPDC PILOT DECOMMISSIONING AND LOCATION RESTORATION PROJECT Phasing (US \$ MOD JV 100%)

		2012	2013	TOTAL
s/no	Activity	F\$	F\$	F\$
1	EIA Studies	133,000.00	0	133,000.00
2	Borrow Pit Decommissioning studies	337,000.00	0	337,000.00
3	Apara 1 Decommissioning and Restoration	2,658,009.90	0	2,658,009.90
4	Apara 2 Decommissioning and Restoration	2,852,259.90	0	2,852,259.90
5	Apara 4 Decommissioning and Restoration	2,852,259.90	0	2,852,259.90
6	Apara 7 Decommissioning and Restoration	2,658,009.90	0	2,658,009.90
7	Apara 3 Decommissioning and Restoration	0	3,566,259.90	3,566,259.90
8	Apara 8 Decommissioning and Restoration	0	8,403,347.40	8,403,347.40
9	Apara 9 Decommissioning and Restoration	0	4,986,778.65	4,986,778.65
10	Apara 10 Decommissioning and Restoration	0	5,952,909.90	5,952,909.90
11	Akpor 1 Decommissioning and Restoration	3,114,958.35	0	3,114,958.35
12	Akpor 2 Decommissioning and Restoration	3,195,043.95	0	3,195,043.95
13	Akpor 3 Decommissioning and Restoration	1,087,962	2,028,326.46	3,116,288.91
14	GMOU	569,000.00	487,284.31	1,056,284.31
15	VAT & NCD	1,649,378.14	1,043,566.51	2,692,944.65
		21,106,882.44	26,468,473.18	47,575,355.62

Section 2: Value proposition and strategic and financial context

About 41% (\$19.34mln) of the total project cost of \$47.6mln will be spent in Decommissioning and Restoration of Apara 8, Apara 9 and Apara10. These wells have large borrow pits that need to be properly decommissioned to forestall future liabilities to SPDC JV. It is therefore proposed to conduct further detailed studies on acceptable options for decommissioning of these wells. \$337,000 is budgeted for this study in 2012 and it is hoped that the outcome of proposed Borrow Pit remediation studies will reduce volume, content, and cost uncertainties for decommissioning and Restoration of associated Wellsite borrow pits. Also learning's from this pilot will aid in negotiating future long term contracts for management of huge portfolio of disused wells in SPDC.

Summary Economics

The initial Apara and Akpor wells were drilled 1958 – 1962 and since then company ownership and structure has changed many times. Project team was unable to sight the initial Project Investment Proposals for Akpor and Apara fields. However, wells Decommissioning and Location Restoration costs have become a mandatory part of the required Investment proposals documentation since the formation of NAPPIMS. The operating philosophy being that the D&R costs are already part of the project economics during the field Operating Phase and SPDC JV make provisions for the final D&R of wells when they are no longer in use.

SPDC PILOT DECOMMISSIONING AND LOCATION RESTORATION PROJECT

Section 3a: Wells Decommissioning and Restoration Risks, opportunities and alternatives

Risks / Mitigation	The possibility of fire outbreak in these well locations is high. Most of the well heads have been tampered with and hence one cannot eliminate the presence of free hydrocarbon in the environment. With houses built around the area and occupants bringing all sorts of sources of ignition close to the well heads one would worry that there could be fire and explosion one day. This situation call for urgent action, hence the need to properly Decommission and restore these wellsites.
Risks / Mitigation	With high demand for land in Portharcourt, squatters started to use these disused sites for habitation. These unorganized settlement could lead to potential community problems especially if the occupants are not the original owners of the land. This situation call for urgent action, hence the need to properly Decommission wellsite location, receive D&R certificate from regulators, and dispose or return land to original owners.
Risks / Mitigation	Most of the borrow pits that were dug several years ago by SPDC have been turned to dumpsites for all sorts of waste materials (hazardous and nonhazardous) by the villagers. Looking at the depth of these pits it is possible that the ground water level has been reached. This situation call for urgent action, hence the need to urgently conduct studies to ascertain environmental impact and design acceptable means of borrow pit decommissioning and location remediation.
Risks / Mitigation	The situation around the well heads is that the entire perimeter fences are all broken down and people have built houses within and around the well head area. The well head cellars are filled with rain water and are potential drowning hazards especially for those that have houses around the well head area. This situation call for urgent action, hence the need to properly Decommission wellsite location or repair broken down perimeter fences.
Opportunity	This pilot project provides SPDC with a learning opportunity on Decommissioning and Location restoration. With over 500 disused wells in SPDC, this learning opportunity will help in long term D&R management in SPDC.

Section 3b: Pilot Wells Decommissioning and Restoration Risks, opportunities and alternatives

Risks / Mitigation	The possibility of FTO related community problems is considered high.
	Oil producing communities derive some community assistance during oil
	generation opportunities. Well decommission is a non oil generation
	activity and hence some of the sustainable development support from
	SPDC JV may not be available and this could create some FTO related
	issues. Community town hall sessions would be used to clarify project
	objective and expectations, and reduce the risk.
Risks / Mitigation	The possibility of budget overrun also exists as this is the first SPDC JV
	attempt at fully integrated Wells Decommissioning and Location
	Restoration project. Supervision and project management guidelines will
	be implemented to reduce this risk. Any overspend will be approved
	through the DRB and the respective budgeting team.

SPDC PILOT DECOMMISSIONING AND LOCATION RESTORATION PROJECT

Section 4: Corporate structure, and governance

The existing corporate structure and arrangements of SPDC-JV (with SPDC as operator) will be used as the vehicle for the investment and operations. An SPDC Decision Review Board (DRB) will continue to advice.

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

This proposal complies with the Group Business Principles, policies and standards. This project has benefited from full functional support covering ESHIA, Well Engineering, Civil Engineering, HSE, Remediation and SCD. Besides contributing to SPDC's Goal Zero commitment, the project is part of SPDC JV Exploration and Production program which requires that Wells and Facilities are properly decommissioned after use. Additionally, there will be a focus on Nigerian Content Development (NCD). The Finance, Supply Chain Management, Legal, and Treasury/Tax functions will provide functional support for this proposal.

Section 6: Project management, monitoring and review

The Pilot Wells Decommissioning and Restoration project was constituted as an integrated team of ten (10) staff. The FEPM is the single point accountable for driving execution, managing the budget, monitoring performance and achieving the promises associated with this Decision.

Key decisions have been reviewed and are supported by the Decision Review Board (DRB) at the Decision Gate 4 (DG4) of February 2010.

Section 7: Budget provision

In BP11, the D&R project is in the base programme as SPDC incremental. Project feasibility, detailed Project Execution Plan and JV approval was also secured in 2011 and whilst awaiting final approval, a provision of F\$29.13mln was made in the 2011 JV Budget to cover the decommissioning and restoration of Apara 1, Apara 2, Apara 4, Apara 7, Apara 3, Apara 8, and Akpor 1 (7 wells) wells.

During the SPDC DRB FID engagement in February 2012, the decommissioning of Apara 8 well was phased to 2013 in other to benefit from the anticipated cost reduction based on 2012 borrow pit study.

An estimated cost of \$26.47mln will be provided as part of BP12 for project completion.

Section 8: Group financial reporting impact

The post-tax expenditure related to this decision will have limited impact on group financial results.

Section 9: Disclosure

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

Section 10: Financing

The project will be funded with JV funding and Shell share capital expenditure will be met by SPDC's own cash call.

Section 11: Taxation

SPDC PILOT DECOMMISSIONING AND LOCATION RESTORATION PROJECT

The income tax from the project will be in accordance with Petroleum Profit Tax Rate and relevant income tax applicable.

Section 12: Key Parameters

Section 13: Signatures

Supported by:

This Note for Decision seeks approval for US\$ 6.3 mln Shell share (i.e. US\$ 21.1 mln 100% JV) for the decommissioning and restoration of Apara 1, Apara 2, Apara 4, Apara 7, Akpor 1, and Akpor 2 wells (6 wells).

For shareholder approval:

This note	for decision	is submitted to	UIG Directors f	for approval.

Isaac, Iyamu (UIG/T/W)	Ojulari, Bayo (UIG/T/D)
Date/	Date/

.....

Bos, Bernard (FUI/F)

Date/......

Initiator:

Nwankwo, Cosmas

Front End Project Manager (UIG/T/DET)

APPENDIX: PROJECT PROPOSAL SHEETS

		COST ESTIMATES FOR D&R O	F APARA	1	
	S.N.	Activity / Equipment / Consumables	Unit Rate	Qty	Total Cost
	1	Mobilisation to site			92,263.00
Z	2	Earthworks			9,932.00
ă E	3	Install/Recover Durabase mats at Location			35,143.00
AR/		Demobilisation			11,599.00
LOCATION PREPARATION		Total Location Prep cost			148,937.00
	1	HWU	25000	25	625000
	2	Brine services	120000	1	120000
	3	E-Line unit & PC and tools rental	7000	10	7000
		E-Line service charges - cutting services	21500	5	107500
		Cementing Unit rentals	7800	20	156000
		Cement Chemicals	300	200	60000
9		Bridge Plug	40000	1	40000
WELL ENGINEERING		Production Casing Cutter	40000	1	40000
Ä		Intermediate Casing Cutter	40000	1	40000
وَا		Surface Casing Cutter	40000	1	40000
Ē				25	10000
/ELI		Logistic support - vaccum truck, trucks, crane etc	4000		
>		Ancilliary equipments - tanks, office caravan, lightening etc	5000	25	125000
		WHM services	2000	10	20000
		Accomodation and catering	150	1350	202500
		Diesel (5000ltrs/d at \$1.1)	5500	25	137500
		Security cost for camp and site	8000	25	200000
	17	FTO	20000	1	20000
		Total Well Abandonment Cost			2103500
9	1	Mobilisation to site			92,262.00
ONIN	2	Earthworks			54,099.00
NC	3	Demobilisation			11,599.00
LOCATION DECOMIMISSIONING		Total Location Decommissioning cost			157,960.00
	1	Mobilisation to site			92,262.00
Z O	2	Earthworks			17,180.00
-OCATION RESTORATION	3	Demobilisation			11,599.00
LOC/ REST		Total Location Restoration cost			121,041.00
NING					
BORROW PIT					
BORROW PIT DECOMISSIONING					
		Total Decommisioning Cost			(
· · · · · · · · · · · · · · · · · · ·		Total D&R Cost			2531438
F		Overheads (5%)			126572
TOTAL		Total Well Abandonment Cost (excl. VAT)			265801
•		Total Well Abandonment Cost (incl. VAT & NCD)			2,817,490.49

		COST ESTIMATES FOR D&R O	F APARA	1 2	
	S.N.	Activity / Equipment / Consumables	Unit Rate	Qty	Total Cost
	1	Mobilisation to site			92,263.00
Z	2	Earthworks			9,932.00
z E	3	Install/Recover Durabase mats at Location			35,143.00
AR/	4	Demobilisation			11,599.00
LOCATION PREPARATION		Total Location Prep cost			148,937.00
	1	HWU	25000	27	675000
	2	Brine services	120000	1	120000
	3	E-Line unit & PC and tools rental	7000	10	7000
	4	E-Line service charges - cutting	21500	5	107500
		E-Line service charges - CBL	60000		60000
		Cementing Unit	7800	20	156000
(D	7	Cement Chemicals	300	200	60000
N	8	Bridge Plug	40000	1	40000
WELL ENGINEERING		Production Casing Cutter	40000	1	40000
<u>Z</u>		Intermediate Casing Cutter	40000	1	40000
EN		Surface Casing Cutter	40000	1	40000
긢		Logistic support - vaccum truck, trucks,crane etc	4000	27	108000
⋚		Ancilliary equipments - tanks, office caravan, lightening etc	5000		
		WHM/WL services	5000		
		Accomodation and catering	150		
		Diesel (5000ltrs/d at \$1.1)	5500	27	148500
		Security cost for camp and site	8000	27	
		FTO	20000	1	
		Total Well Abandonment Cost			2288500
NG	1	Mobilisation to site			92,262.00
SSIONI	2	Earthworks			54,099.00
LOCATION DECOMMISSIONING	3	Demobilisation			11,599.00
LOC/ DECC		Total Location Decommissioning cost			157,960.00
	1	Mobilisation to site			92,262.00
N O	2	Earthworks			17,180.00
LOCATION RESTORATION	3	Demobilisation			11,599.00
LOCA REST		Total Location Restoration cost			121,041.00
g					
BORROW PIT DECOMISSIONING					
BOF					
ā		Total Decommisioning Cost			
	+	Total D&R Cost		1	271643
7		Overheads (5%)		1	13582
TOTAL		Total Well Abandonment Cost (excl. VAT)			285226
ŕ		Total Well Abandonment Cost (excl. VAT) Total Well Abandonment Cost (incl. VAT & NCD)		1	3,023,395.49

		COST ESTIMATES FOR D&R C	F APAF	RA 3	
	S.N.	Activity / Equipment / Consumables	Unit Rate	Qty	Total Cost
		Mobilisation to site	Omeriace	Qty	92,263.00
z		Earthworks			9,932.00
2 E		Install/Recover Durabase mats at Location			35,143.00
IIOI \RA		Demobilisation			11,599.00
LOCATION PREPARATION					
	1	Total Location Prep cost HWU	25000	35	148,937.00
					875000 120000
		Brine services E-Line unit & PC and tools rental	120000 7000	10	70000
				10	
		E-Line service charges - cutting	21500	5	107500
		Cementing Unit	7800	20	156000
_O		Cement Chemicals	300	200	60000
WELL ENGINEERING		Bridge Plug and fishing equipment	340000	1	340000
Ę		Production Casing Cutter	40000	1	40000
101		Intermediate Casing Cutter	40000	1	40000
EN .		Surface Casing Cutter	40000	1	40000
ĒĽ		Logistic support - vaccum truck, trucks, crane etc	4000	35	140000
>		Ancilliary equipments - tanks, office caravan, lightening etc	5000	35	175000
		WHM/WL services	5000	10	50000
		Accomodation and catering	150	1750	262500
		Diesel (5000ltrs/d at \$1.1)	5500	35	192500
		Security cost for camp and site	8000	35	280000
		FTO	20000	1	20000
		Total Well Abandonment Cost			2968500
BNII	1	Mobilisation to site			92,262.00
LOCATION DECOMMISSIONING	2	Earthworks			54,099.00
OCATION	3	Demobilisation			11,599.00
LOCA		Total Location Decommissioning cost			157,960.00
	1	Mobilisation to site			92,262.00
_	2	Earthworks			17,180.00
ATION ORATION	3	Demobilisation			11,599.00
LOCATION RESTORATI		Total Location Restoration cost			121,041.00
BORROW PIT DECOMISSIONING					
BORROW PIT					
30\ SS			1		
ORF			1		
B.		Tabel Decement denting Cost			
		Total Decommisioning Cost	-		0
		Total D&R Cost	ļ		3396438
TOTAL		Overheads (5%)	1		169822
2		Total Well Abandonment Cost (excl. VAT)			3566260
		Total Well Abandonment Cost (incl. VAT & NCD)			3,780,235.49

		COST ESTIMATES FOR D&R OF	APARA	4	
	S.N.	Activity / Equipment / Consumables	Unit Rate	Qty	Total Cost
	1	Mobilisation to site			92,263.00
z	2	Earthworks			9,932.00
Z E	3	Install/Recover Durabase mats at Location			35,143.00
AR/		Demobilisation			11,599.00
LOCATION PREPARATION		Total Location Prep cost			148,937.00
	1	HWU	25000	27	675000
	2	Brine services	120000	1	120000
	3	E-Line unit & PC and tools rental	7000	10	70000
	4	E-Line service charges - cutting	21500	5	107500
	5	E-Line service charges - CBL	60000	1	60000
	6	Cementing Unit	7800	20	156000
G		Cement Chemicals	300	200	60000
WELL ENGINEERING	8	Bridge Plug	40000	1	40000
		Production Casing Cutter	40000	1	40000
GIN		Intermediate Casing Cutter	40000	1	40000
EN		Surface Casing Cutter	40000	1	40000
ELL		Logistic support - vaccum truck, trucks,crane etc	4000	27	108000
≯		Ancilliary equipments - tanks, office caravan, lightening etc	5000	27	135000
		WHM/WL services	5000	10	50000
		Accomodation and catering	150	1350	202500
		Diesel (5000ltrs/d at \$1.1)	5500	27	148500
		Security cost for camp and site	8000	27	216000
		FTO	20000	1	20000
	10	Total Well Abandonment Cost	20000		2288500
	1				
N		Mobilisation to site			92,262.00
LOCATION DECOMMISSIONI NG		Earthworks			54,099.00
OCATION SECOMMI	3	Demobilisation			11,599.00
LOC DEC NG		Total Location Decommissioning cost			157,960.00
		Mobilisation to site			92,262.00
Z	2	Earthworks			17,180.00
ATION FORATION	3	Demobilisation			11,599.00
LOCA		Total Location Restoration cost			121,041.00
BORROW PIT DECOMISSIONING					
≥ N N					
₹ ISSI	-				
BORROW PIT COMISSIONIN	-		1		
B.)EC	<u> </u>	Total Decommissioning Cost			
	 	Total Decommisioning Cost			0
	<u> </u>	Total D&R Cost			2716438
TOTAL	<u> </u>	Overheads (5%)			135822
7		Total Well Abandonment Cost (excl. VAT)			2852260
		Total Well Abandonment Cost (incl. VAT & NCD)			3,023,395.49

		COST ESTIMATES FOR D&R C	OF APAI	RA 7	
	S.N.	Activity / Equipment / Consumables	Unit Rate	No of Days	Total Cost
	1	Mobilisation to site			92,263.00
Z Z	2	Earthworks			9,932.00
NG PA	3	Install/Recover Durabase mats at Location			35,143.00
AR,	4	Demobilisation			11,599.00
LOCATION PREPARATION		Total Location Prep cost			148,937.00
	1	нwu	25000	25	625000
	2	Brine services	120000	1	120000
		E-Line unit & PC and tools rental	7000	10	70000
	4	E-Line service charges - cutting	21500	5	107500
	5	Cementing Unit rentals	7800	20	156000
	6	Cement Chemicals Per Barrel	300	200	60000
WELL ENGINEERING	7	Bridge Plug	40000	1	40000
ER	8	Production Casing Cutter	40000	1	40000
N N	9	Intermediate Casing Cutter	40000	1	40000
ENG	10	Surface Casing Cutter	40000	1	40000
	11	Logistic support - vaccum truck, trucks,crane etc	4000	25	100000
WE	12	Ancilliary equipments - tanks, office caravan, lightening etc	5000	25	125000
	13	WHM services	2000	10	20000
	14	Accomodation and catering	150	1350	202500
	15	Diesel (5000ltrs/d at \$1.1)	5500	25	137500
	16	Security cost for camp and site	8000	25	200000
	17	FTO	20000	1	20000
		Total Well Abandonment Cost			2103500
SIG	1	Mobilisation to site			92,262.00
Ī	2	Earthworks			54,099.00
LOCATION DECOMMISSIONING	3	Demobilisation			11,599.00
LOCATION					
27 38		Total Location Decommissioning cost			157,960.00
	1	Mobilisation to site			92,262.00
Z	2	Earthworks			17,180.00
ATION FORATION	3	Demobilisation			11,599.00
LOCA'		Total Location Restoration cost			121,041.00
76					
PIT					
BORROW PIT DECOMISSIONING					
R. MI\$					
BC					
DI		Total Decommisioning Cost			0
		Total D&R Cost			2531438
TOTAL		Overheads (5%)			126572
.0		Total Well Abandonment Cost (excl. VAT)			2658010
		Total Well Abandonment Cost (incl. VAT & NCD)			2,817,490.49

		COST ESTIMATES FOR D&R C	F APAF	RA 8	
	S.N.	Activity / Equipment / Consumables	Unit Rate	No of Days	Total Cost
		Mobilisation to site	Jt.idite		92,263.00
z		Earthworks			9,932.00
> E		Install/Recover Durabase mats at Location			35,143.00
LOCATION PREPARATION		Demobilisation			11,599.00
LOC/ PREF		Total Location Prep cost			148,937.00
	1	HWU	25000	28	700000
	2	Brine services	120000	1	120000
		E-Line unit & PC and tools rental	7000		70000
		E-Line service charges - cutting	21500		107500
		Cementing Unit	7800		156000
		Cement Chemicals	300		60000
g		Bridge Plug	40000		40000
WELL ENGINEERING		Production Casing Cutter	40000		40000
ij		Intermediate Casing Cutter	40000		40000
<u> </u>		Surface Casing Cutter	40000		40000
Ä			4000		112000
=======================================		Logistic support - vaccum truck, trucks, crane etc			
>		Ancilliary equipments - tanks, office caravan, lightening etc	5000		140000
		WHM services	2000		20000
		Accomodation and catering	150		210000
		Diesel (5000ltrs/d at \$1.1)	5500		154000
		Security cost for camp and site	8000		224000
	18	FTO	20000	1	20000
	_	Total Well Abandonment Cost			2253500
NO		Mobilisation to site			92,262.00
ISSII	2	Earthworks			54,099.00
OMIN	3	Demobilisation			11,599.00
LOCATION DECOMMISSIONI NG		Total Location Decommissioning cost			157,960.00
	1	Mobilisation to site			92,262.00
		Earthworks			17,180.00
CATION		Demobilisation			11,599.00
LOCAT		Total Location Restoration cost			121,041.00
					,
BORROW PIT DECOMISSIONING	1	Estimated Borrow Pit Remediation costs			5,321,750.00
B. DEC		Total Decommisioning Cost			5,321,750
	i	Total D&R Cost			8003188
∀		Overheads (5%)			400159
TOTAL		Total Well Abandonment Cost (excl. VAT)	1		8403347
		Total Well Abandonment Cost (incl. VAT & NCD)			8,907,548.24

	COST ESTIMATES FOR D&R OF APARA 9						
	S.N.	Activity / Equipment / Consumables	Unit Ra	Qty	Total Cost		
	1	Mobilisation to site			92,263.00		
z	2	Earthworks			9,932.00		
N F	3	Install/Recover Durabase mats at Location			35,143.00		
AR/		Demobilisation			11,599.00		
LOCATION PREPARATION		Total Location Prep cost			148,937.00		
	1	HWU	25000	25	625000		
	2	Brine services	120000	1	120000		
	3	E-Line unit & PC and tools rental	7000	10	70000		
	4	E-Line service charges - cutting	21500	5	107500		
	5	Cementing Unit	7800	20	156000		
	6	Cement Chemicals	300	200	60000		
WELL ENGINEERING	7	Bridge Plug	40000	1	40000		
ERI		Production Casing Cutter	40000	1	40000		
Z Z		Intermediate Casing Cutter	40000	1	40000		
N.S	10	Surface Casing Cutter	40000	1	40000		
<u> </u>		Logistic support - vaccum truck, trucks,crane etc	4000	25	100000		
νEI		Ancilliary equipments - tanks, office caravan, lightening etc	5000	25	125000		
		WHM services	2000	10	20000		
	14	Accomodation and catering	150	1350	202500		
		Diesel (5000ltrs/d at \$1.1)	5500	25	137500		
		Security cost for camp and site	8000	25	200000		
		FTO	20000	1	20000		
		Total Well Abandonment Cost			2103500		
_	1	Mobilisation to site			92,262.00		
NO NO		Earthworks			54,099.00		
ON		Demobilisation			11,599.00		
LOCATION DECOMMISSIONI NG	3	Total Location Decommissioning cost			157,960.00		
	1	Mobilisation to site			92,262.00		
		Earthworks			17,180.00		
LOCATION RESTORATION		Demobilisation			11,599.00		
LOCA'		Total Location Restoration cost			121,041.00		
L BN			_				
INC	1	Estimated Borrow Pit Remediation costs	1		2,217,875.00		
BORROW PIT DECOMISSIONING			1	ļ			
JRR JMI			1				
BC			1				
Δ		Total Decommisioning Cost			2,217,875		
		Total D&R Cost	ļ		4749313		
TOTAL		Overheads (5%)			237466		
2		Total Well Abandonment Cost (excl. VAT)			4986779		
		Total Well Abandonment Cost (incl. VAT & NCD)			5,285,985.37		

		COST ESTIMATES FOR D&R O	F APARA	10	
	S.N.	Activity / Equipment / Consumables	Unit Rate	No of Days	Total Cost
	1	Mobilisation to site			92,263.00
_	2	Earthworks			9,932.00
N NOIF:	3	Install/Recover Durabase mats at Location			35,143.00
ATIOI ARA					11,599.00
LOCATION PREPARATION		Total Location Prep cost			148,937.00
	1	HWU	25000	27	675000
ĺ	2	Brine services	120000	1	120000
	3	E-Line unit & PC and tools rental	7000	10	70000
		E-Line service charges - cutting	21500	5	107500
		E-Line service charges - CBL	60000	1	60000
		Cementing Unit Cement Chemicals	7800	20	156000
WELL ENGINEERING		Bridge Plug	300 40000	200	60000 40000
IEER		Production Casing Cutter	40000	1	40000
NIĐI		Intermediate Casing Cutter	40000	1	40000
L EN		Surface Casing Cutter	40000	1	40000
VELI	12	Logistic support - vaccum truck, trucks, crane etc	4000	27	108000
>		Ancilliary equipments - tanks, office caravan, lightening etc	5000	27	135000
		WHM/WL services	5000	10	50000
		Accomodation and catering Diesel (5000ltrs/d at \$1.1)	150 5500	1350 27	202500 148500
		Security cost for camp and site	8000	27	216000
		FTO	20000	1	20000
		Total Well Abandonment Cost			2288500
ING	1	Mobilisation to site			92,262.00
LOCATION DECOMMISSIONING	2	Earthworks			54,099.00
N AISS		Laitiiworks			34,033.00
LOCATION DECOMMI	3	Demobilisation			11,599.00
DEC		Total Location Decommissioning cost			157,960.00
7	1	Mobilisation to site			92,262.00
N NOITA	2	Earthworks			17,180.00
LOCATION	3	Demobilisation			11,599.00
LOC RES		Total Location Restoration cost			121,041.00
Í					
PIT	1	Estimated Borrow Pit Remediation costs			2,953,000.00
ROW					
BORI					
ASSOCIATED BORROW PIT DECOMISSIONING					
		Total Decommisioning Cost			2,953,000
		Total D&R Cost			5669438
TOTAL		Overheads (5%)			283472
9		Total Well Abandonment Cost (excl. VAT)			5952910
		Total Well Abandonment Cost (incl. VAT & NCD)			6,310,084.49

		COST ESTIMATES FOR D&R O	F AKPOR 1		
	S.N.	Activity / Equipment / Consumables	Unit Rate	No of Day	Total Cost
	1	Mobilisation to site			92,263.00
N C	2	Earthworks			9,932.00
NG FA	3	Install/Recover Durabase mats at Location			35,143.00
AR,	4	Demobilisation			11,599.00
LOCATION PREPARATION		Total Location Prep cost			148,937.00
	1	HWU	25000	27	675000
	2	Brine services	120000	1	120000
	3	E-Line unit & PC and tools rental	7000	10	70000
	4	E-Line service charges - cutting	21500	5	107500
	5	E-Line service charges - CBL	60000	1	60000
	6	Cementing Unit	7800	20	156000
G	7	Cement Chemicals	300	200	60000
N N	8	Bridge Plug	40000	1	40000
当	9	Production Casing Cutter	40000	1	40000
WELL ENGINEERING	10	Intermediate Casing Cutter	40000	1	40000
<u> </u>	11	Surface Casing Cutter	40000	1	40000
<u> </u>	12	Logistic support - vaccum truck, trucks,crane etc	4000	27	108000
>	13	Ancilliary equipments - tanks, office caravan, lightening etc	5000	27	135000
	14	WHM / WL services	5000	10	50000
	15	Accomodation and catering	150	1350	202500
	16	Diesel (5000ltrs/d at \$1.1)	5500	27	148500
	17	Security cost for camp and site	8000	27	216000
		FTO .	20000	1	20000
[Total Well Abandonment Cost			2288500
=	1	Mobilisation to site			89,848.00
APD UCI	2	Earthworks			52,082.00
RC		Base Preparation			96,660.00
ESS	3	Demobilisation			11,599.00
ACCESS ROAD RECONSTRUCT ON		Total Access Road Prep cost			250,189.00
\ <u>\</u>	1	Mobilisation to site			92,262.00
Z		Earthworks			,
MC J					54,099.00
LOCATION DECOM.	3	Demobilisation			11,599.00
		Total Location Decommissioning cost			157,960.00
z F		Mobilisation to site			92,262.00
lor FA		Earthworks			17,180.00
LOCATION RESTORATION	3	Demobilisation			11,599.00
		Total Location Restoration cost			121,041.00
⊢RG					
I NO					
BORROW PIT					
ORF OMI					
BORROW PIT DECOMISSIONING		Total Decommisioning Cost			C
		Total D&R Cost			2966627
₹		Overheads (5%)			148331
TOTAL		Total Well Abandonment Cost (excl. VAT)			3114958
-		Total Well Abandonment Cost (incl. VAT & NCD)			3,301,855.85

		COST ESTIMATES FOR D&R O	F AKPC	<u>R 2</u>	
	S.N.	Activity / Equipment / Consumables	Unit Rate	No of Day	Total Cost
LOCATION PREPARATION	1	Mobilisation to site			92,263.00
	2	Earthworks			9,932.00
	3	Install/Recover Durabase mats at Location			35,143.00
TIO ARA	4	Demobilisation			11,599.00
LOCATION		Total Location Prep cost			148,937.00
	1	HWU	25000	27	675000
	2	Brine services	120000	1	120000
	3	E-Line unit & PC and tools rental	7000	10	70000
	4	E-Line service charges - cutting	21500	5	107500
	5	E-Line service charges - CBL	60000	1	60000
	6	Cementing Unit	7800	20	156000
(D	7	Cement Chemicals	300	200	60000
NING	8	Bridge Plug	40000	1	40000
WELL ENGINEERING	9	Production Casing Cutter	40000	1	40000
IGIN	10	Intermediate Casing Cutter	40000	1	40000
L EN	11	Surface Casing Cutter	40000	1	40000
VEL	12	Logistic support - vaccum truck, trucks, crane etc	4000	27	108000
>		Ancilliary equipments - tanks, office caravan, lightening etc	5000	27	135000
	14	WHM/WL services	5000	10	50000
		Accomodation and catering	150	1350	202500
		Diesel (5000ltrs/d at \$1.1)	5500	27	148500
	17	Security cost for camp and site	8000	27	216000
	18	FTO	20000	1	20000
		Total Well Abandonment Cost			2288500
ą E		Mobilisation to site			89,848.00
ACCESS ROAD RECONSTRUCT ON	2	Earthworks			65,525.00
SS I	_	Base Preparation			159,489.00
ACCE RECC ON	3	Demobilisation Total Access Road Prep cost			11,599.00 326,461.00
SSIONING	1	Mobilisation to site			92,262.00
SION	2	Earthworks			54,099.00
	3	Demobilisation			11,599.00
LOCATION DECOMM		Total Location Decommissioning cost			157,960.00
	1	Mobilisation to site			92,262.00
NO	2	Earthworks			17,180.00
ION	3	Demobilisation			11,599.00
LOCATION RESTORATION		Total Location Restoration cost			121,041.00
M.					
BORRC PIT DECO		Total Decommisioning Cost			0
		Total D&R Cost			3042899
TOTAL		Overheads (5%)			152145
		Total Well Abandonment Cost (excl. VAT)			3195044
		Total Well Abandonment Cost (incl. VAT & NCD)			3,386,746.59

		COST ESTIMATES FOR D&R (OF AKPO	OR 3	
	S.N.	Activity / Equipment / Consumables	Unit Rate	No of Days / 0	Total Cost
	1	Mobilisation to site			92,263.00
	2	Earthworks			9,932.00
NO.	3	Install/Recover Durabase mats at Location			35,143.00
ION		Demobilisation			
LOCATION PREPARATION	4	Total Location Prep cost			11,599.00 148,937.00
	1	HWU	25000	27	675000
	2	Brine services	120000		120000
	3	E-Line unit & PC and tools rental	7000	10	70000
	4	E-Line service charges - cutting	21500	5	107500
		E-Line service charges - CBL	60000		60000
		Cementing Unit	7800		156000
9 N		Cement Chemicals	300		60000
ERII		Bridge Plug	40000	1	40000
N N		Production Casing Cutter Intermediate Casing Cutter	40000 40000	1	40000 40000
ENG		Surface Casing Cutter	40000	1	40000
WELL ENGINEERING		Logistic support - vaccum truck, trucks, crane etc	4000		108000
₹		Ancilliary equipments - tanks, office caravan, lightening etc	5000		135000
		WHM / WL services	5000	10	50000
	15	Accomodation and catering	150	1350	202500
	16	Diesel (5000ltrs/d at \$1.1)	5500	27	148500
		Security cost for camp and site	8000	27	216000
	18	FTO	20000	1	20000
		Total Well Abandonment Cost			2288500
NO		Mobilisation to site			89,848.00
AD JCT	2	Earthworks			43,683.20
ACCESS ROAD RECONSTRUCTION		Base Preparation			106,326.00
ESS	3	Demobilisation			11,599.00
ACC		Total Access Road Prep cost			251,456.20
	1	Mobilisation to site			92,262.00
N AISS	2	Earthworks			54,099.00
OIT (Demobilisation			11,599.00
LOCATION DECOMMISSIO NING		Total Location Decommissioning cost			157,960.00
	1	Mobilisation to site			92,262.00
Z E		Earthworks			17,180.00
VTIO OR4		Demobilisation			11,599.00
LOCATION RESTORATION		Total Location Restoration cost			121,041.00
30RROW PIT DECOM.					
ORRC					
ш		Total Decommisioning Cost			0
		Total D&R Cost			2967894
TOTAL		Overheads (5%)			148395
-		Total Well Abandonment Cost (excl. VAT)			3116289
		Total Well Abandonment Cost (incl. VAT & NCD)			3,303,266.24