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## FOREWORD FROM THE CHAIRMAN OF THE BOARD

I am pleased to present the first Annual Report for the Petroleum Commission, Ghana as per section 3k of the Petroleum Commission Act, 2011 (ACT 821).

This report provides the summary of the activities carried out by the Commission in fulfilling the object and functions of the Commission for the period January – December 2012. As is usual with any young organization, the Commission was faced with a number of teething problems during the year under review, however, by dint of hard work by the team and able leadership, the functional areas for the Commission have clearly emerged thereby making it possible for Management and Staff to clearly understand and appreciate the tasks ahead.

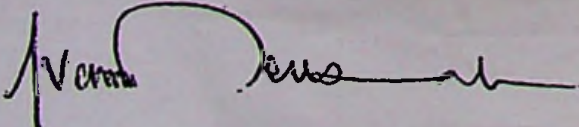
One of our major challenges during the year under review was the non availability of budget allocation for the Commission to fulfill its mandate. Another hurdle the Commission had to surmount was to ensure completion of a permanent accommodation facility. The end to this pursuit is in view and we are hopeful of moving into a permanent office building before the end of 2013.

In spite of the initial challenges the Commission made significant progress, notably substantial work was completed on the Tweneboa Enyenra Ntomme (TEN) Plan of Development. This marks a huge success for the Commission because the Plan of Development is estimated to cost over US\$ 5.958 Million which directly and indirectly will impact the local content drive of the nation in the upstream petroleum sector. In terms of regulations the draft Local Content regulations was laid before Parliament.

Our outlook for 2013 is to ensure a strong presence of the Commission in the upstream petroleum sector among all relevant stakeholders. We also hope to step up training to sharpen the skills of members of staff for the tasks ahead. This we are sure will enable the Commission to have on its radar, the activities of all the players in the sector and help it perform its regulatory function better. The overall effect we believe will promote collaboration, transparency, ease of communication flow among stakeholders and attract more International Oil Companies (IOCs) into the country and optimal exploitation of the resource for the benefit of all.

I acknowledge the active role played by the first Chief Executive Officer, Dr. Kwabena Donkor and the Board of Directors in setting up and guiding the Commission from inception to the time present time, notwithstanding the very onerous challenges the Commission faces. Within a short spate of time the Commission has made tremendous strides in assembling seasoned professionals from the scarce human capital in the industry. We are also extremely grateful to the Minister of Energy and Petroleum, the Norwegian Government, the World Bank, the National Petroleum Authority (NPA), the Ghana National Petroleum Corporation (GNPC) and all other national and international organizations which have assisted the Commission in various ways to grow to its current state

I wish to congratulate the entire Management and staff for their efforts. Together I see the Petroleum Commission even more strengthened, focused and effective in the year 2013.

Signature: 

Name of Chairman: PROFESSOR IVAN ADDAE-MENSAH

Date: 30<sup>th</sup> July, 2013



## 1. INTRODUCTION AND BACKGROUND

Ghana has produced small amounts of oil from Saltpond fields for many years. However it became a significant producer of oil when the Ghana National Petroleum Corporation (GNPC) in association with a consortium of International Oil Companies, led by Kosmos Energy discovered commercial quantities of oil and gas in the year 2007. This commercial discovery occurred in the offshore Tano/Cape Three Points Basin of the Ghanaian Continental Shelf. Based on appraisal work conducted, the field has an estimated oil in-place of 800 million barrels. The discovery was later named the Jubilee Field to commemorate the 50<sup>th</sup> Anniversary of the Independence of Ghana. Phase I of the Jubilee Field Development Plan was approved in July 2009 by the Minister for Energy. Under Phase I of the Jubilee Field project oil production commenced on 28<sup>th</sup> November 2010 and by December 2012 production reached over 100,000 barrels per day. Phase IA development was approved in January 2012 to enhance and sustain production.

There have been other significant discoveries which have led to the intensification of exploration activities offshore.

In accordance with Article 269 (1) of the 1992 Constitution of the Republic of Ghana the Petroleum Commission was established by the Petroleum Commission Act, 2011 (Act 821) "for the regulation and management of the utilization of petroleum resources and to provide for related purposes".

### 1.1. OBJECT OF THE COMMISSION

The object of the Commission is to regulate and manage the utilization of petroleum resources and coordinate the policies in relation to them.

### 1.2. FUNCTIONS OF THE COMMISSION

In furtherance of the above object the Commission is mandated under Section 3 of Act 821 to perform the following functions:

- (a) Promote planned, well executed, sustainable and cost efficient petroleum activities to achieve optimal levels of resource exploitation for the overall benefit and welfare of citizens;
- (b) Recommend to the Minister national policies related to petroleum activities;
- (c) Monitor and ensure compliance with national policies, laws, regulations and agreements related to petroleum activities;
- (d) Ensure
  - i. Compliance with health, safety and environmental standard in petroleum activities in accordance with applicable laws, regulations and agreements;



- ii. Optimum exploitation of petroleum resources;
  - iii. Optimal utilization of existing and planned petroleum infrastructure;
  - iv. That contractors, sub-contractors and other persons involved in petroleum activities comply with applicable laws and regulations; and
  - v. Compliance with fiscal metering requirements in petroleum production activities in accordance with applicable laws and regulations;
- (e) Monitor petroleum activities and carry out the necessary inspection and audit related to the activities;
  - (f) Promote local content and local participation in petroleum activities as prescribed in the Petroleum Exploration and Production Act 1984 (PNDCL 84) and other applicable laws and regulations to strengthen national development;
  - (g) Receive and store petroleum data, manage a national petroleum repository and at the request of the Minister, undertake reconnaissance exploration including data acquisition;
  - (h) Receive applications and issue permits for specific petroleum activities as required under petroleum laws and regulations;
  - (i) Assess and approve appraisal programmes;
  - (j) Advise the Minister on matters related to petroleum activities including
    - i. Field development plans;
    - ii. Plans for the development of petroleum transportation, processing and treatment facilities; and
    - iii. Decommissioning plans for petroleum fields and petroleum infrastructure;
  - (k) Issue annually a public report on Petroleum resources and activities in Ghana in accordance with the schedule to this Act and publish the report in the gazette;
  - (l) Receive information from Contractors as provided for under applicable laws and regulations;
  - (m) Analyse petroleum economic information and submit economic forecast on petroleum to the Minister; and
  - (n) Perform any other function related to the object of the Commission or assigned to it under any enactment.

## 2. OPEN AREAS FOR PETROLEUM EXPLORATION AND PRODUCTION

The sedimentary basins for oil and gas exploration are as follows:

- The Western Basin (Tano/Cape Three Points Basin)
- The Central Basin (Saltpond Basin)
- The Eastern Basin (Accra-Keta Basin)
- The Onshore Basin (Voltaian Basin)



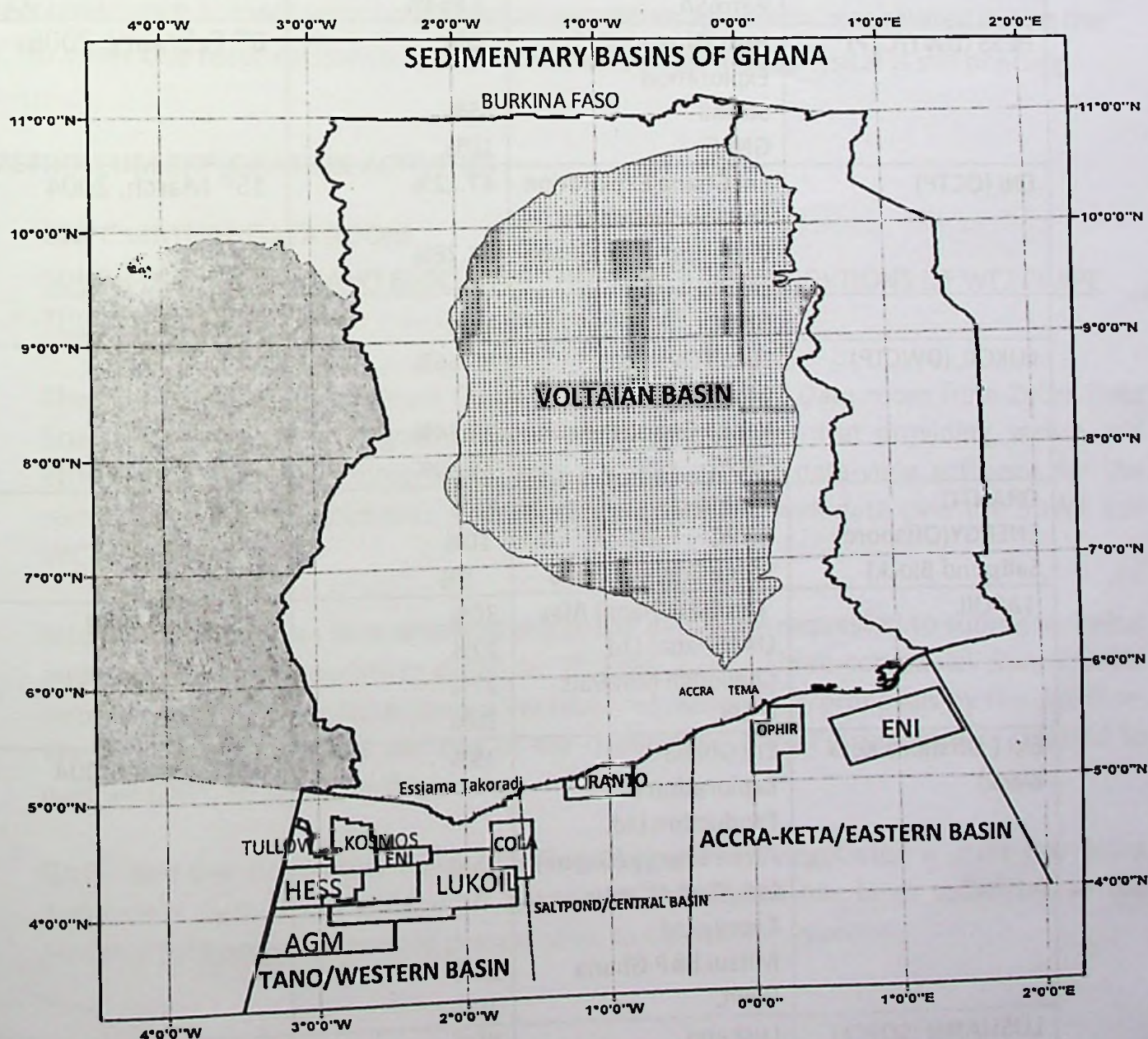
Apart from the licensed areas as shown in fig (2.1a) the rest of the offshore Sedimentary Basins and the large onshore Voltaian basin are open.

Ghana's offshore sedimentary basin covering up to a water depth of 3,500 meters total approximately 60,000 sq. km. Out of this about 24,000 sq. km or 40% is covered by Petroleum Agreements, implying that over 36,000 sq. km is technically available for Exploration and Production (E&P) operations.

## 2.1. AREAS APPROVED FOR EXPLORATION AND PRODUCTION

There are currently nine (9) Petroleum Exploration and Production Agreements covering the various parts of the Sedimentary Basins as shown in the Activity Map fig 2.1a below.

**Fig 2.1a: Sedimentary basins of Ghana (including licensed areas)**





**Table 2.1b: Operators and percentage of interest**

Operator	Partners	Percentage Interest	Effective Date
TULLOW (DWT)	Tullow Ghana Ltd Kosmos Energy Anadarko Petroleum Corp GNPC Sabre (PetroSA)	49.95% 18.00% 18.00% 10.00% 4.05%	19 <sup>th</sup> July, 2006
KOSMOS (WCTP)	Kosmos Energy Anadarko Petroleum Corp. Tullow GNPC PetroSA	30.875% 30.875% 26.396% 10.000% 1.854%	22 <sup>nd</sup> July, 2004
HESS (DWT/CTP)	Hess Ghana Exploration Statoil GNPC	55% 35% 10%	8 <sup>th</sup> February, 2006
ENI (OCTP)	Eni Ghana Exploration and Production Ltd. Vitol Upstream Ghana Ltd. GNPC	47.22% 37.78% 15%	15 <sup>th</sup> March, 2004
LUKOIL (DWCTP)	Lukoil Overseas Ghana Ltd Vanco Ghana Ltd GNPC	56.66% 28.34% 15.00%	1 <sup>st</sup> April, 2006
ORANTO ENERGY(Offshore Saltpond Block)	Oranto GNPC Stone Energy Ghana	85% 10% 5%	3rd July, 2008
TAPOIL	Tap Oil (Ghana) Afex Oil (Ghana) Ltd Challenge Minerals GNPC	36% 27% 27% 10%	October, 2009
ENI ( Offshore Keta Block)	Eni Ghana Exploration & Production Ltd. Afren Energy (Ghana) Ltd./Gulf Atlantic Energy Ltd Mitsui E&P Ghana GNPC	35% 35% 20% 10%	November, 2004
LUSHANN (SOPCL)	Lushann GNPC  Lushann GNPC	85% 15%  55% 45%	PA – 30 <sup>th</sup> July, 2004 New Joint Venture (MOU) - 11 <sup>th</sup> November, 2004.



## 2.2 PETROLEUM AGREEMENTS PENDING

As at the close of the year, there were five (5) negotiated Petroleum Agreements pending.

CONTRACT AREA	APPLICANT PARTIES
Offshore West Keta Block	Hess and Rockfield
Ultra Deepwater Keta Block	Shell and Tullow
Shallow Cape Three Points	Sahara Energy
East Cape Three Points Block	Cola Natural Resources & Medea Development
South-West Saltpond	Brittania-U Ghana

**Table 2.2: Contract areas and applicant parties**

## 3 RECONNAISSANCE LICENSES ISSUED AND PETROLEUM AGREEMENTS RATIFIED

No reconnaissance licenses were issued and no petroleum agreement was ratified during the year. However one reconnaissance application made by Acorn Geophysical is still pending.

## 4 PETROLEUM EXPLORATION ACTIVITIES

### 4.1 GNPC VIRTUAL DATA ROOM

#### SOUTH DEEPWATER TANO BLOCK AND THE RELINQUISHED PORTIONS OF WEST CAPE THREE POINTS BLOCK

The Ghana National Petroleum Corporation contracted EZ Data room from Zebra Data Sciences of the UK to organize a web-portal service aimed at providing secure and efficient online data rooms using their proprietary web-data-view software for the remote viewing of documents, real 3D seismic data and well data over the SDWT and WCTP Blocks.

Interested companies that reviewed the online data were requested to submit technical and commercial proposals to GNPC by 1<sup>st</sup> June, 2012. Three companies Statoil, AGM Petroleum, and White Rose Energy Ventures submitted bids/proposals by the deadline. The bids were evaluated and one of the companies, AGM Petroleum was selected to partner GNPC to apply for the block.

GNPC and the Government Standing Negotiating Team negotiated a draft Petroleum Agreement with AGM. The draft Petroleum Agreement has been submitted to the Minister for Energy for onward presentation to Cabinet for approval.



## **4.2 EXPLORATION AND DRILLING**

### **4.2.1 KOSMOS – WEST CAPE THREE POINTS BLOCK (WCTP)**

#### **Teak Activity**

Reprocessing of the WCTP Veritas data was completed in the first quarter 2012. The results of the initial reprocessing project were very good and the project was expanded to include adjacent data to the south and the Teak Field.

The Teak-4A well was drilled to total depth and wireline evaluations were performed and the wellbore abandoned. The Teak-2 well was perforated in the Upper Mahogany sand package in order to determine if pressures indicated communication to the Jubilee field. The formation pressure measured was elevated as compared to the original MDT pressure data indicating the well is in communication with Jubilee Field although the pressure conduit is somewhat baffled.

#### **Banda**

An inversion project was initiated in December over the Banda field. The project was conducted simultaneously by CGG Veritas and Rock Solid and completed in 3Q 2012. The results of the seismic inversion study on Banda indicated that there was insufficient porosity and sand development away from the well to pursue any further activity.

#### **Akasa Activity**

Akasa-1 DST Operations commenced 29 July 2012 with the Atwood Hunter. The DST operations concluded on 7 Sept, 2012. The geologic interpretation of Mahogany was updated with the latest seismic data and also some additional well data from Unit wells. The process of building reservoir models with this latest description was ongoing at the end of 2012. A holistic evaluation of the Mahogany, Teak, Akasa, and Banda fields was done. All available well data were evaluated and integrated to monitor and update geological and geophysical models.

### **4.2.2 HESS EXPLORATION – DEEPWATER TANO-CAPE THREE POINTS BLOCK**

At the beginning of 2012, interpretation of the Contract area 3D merged volume continued with the maturation of the leads and prospects for the exploration inventory. Play types, reservoir analysis, analogue data, scoping economics and development concepts were evaluated for the drilling campaign.

The five exploration wells drilled during the 2012 drilling campaign encountered hydrocarbon pools in one or more stratigraphic levels. Discovery notices were issued to the Ministry for each of the wells with discovered hydrocarbons.



The table below provides a summary of the net pay calculations for each of the discoveries.

Well Name	Net Feet of Pay	Hydrocarbon Type	Water Depth
Paradise-1	415	Oil and gas condensate	6,040 feet
Hickory North-1	98	Gas Condensate	6,455 feet
Beech-1	146	Oil	5,623 feet
Almond-1	53	Oil	7,251 feet
Pecan-1	245	Oil	8,245 feet

**Table 4.2.2: Summary of net pay calculations for each of the discoveries**

Plans are being made to carry out an integrated appraisal of these discoveries.

#### **4.3.3 LUKOIL/VANCO (CAPE THREE POINTS DEEP WATER BLOCK-CTPDW)**

LUKOIL has completed evaluation of the electromagnetic data it acquired in October 2011 in the Cape Three Point Deep Water Block (CTPDW). The operator has also completed detailed technical review of the existing prospects and lead inventory, and has selected three prospects namely Panther, Tiger and Jaguar prospects for Front End Engineering and Design (FEED) studies.

#### **4.3.4 TAP OIL LIMITED/AFEX/CMI (OFFSHORE ACCRA BLOCK)**

TAP Oil, AFEX and CMI opened up a data room process that led to farming out part of their interest to (OPHIR). . OPHIR is now the operator of the block. The first exploration well on the block has been scheduled to be drilled in the second quarter of 2013.

#### **4.3.5 ENI, AFREN PLC (OFFSHORE KETA BLOCK)**

ENI drilled the Nunya-1X exploratory well in a water depth of about 1,687 meters and the well was dry. Two (2) good reservoir quality sands were however encountered in the objective zone but they were not charged. The consortium believes it may find better source material in deeper water to charge the numerous deepwater leads seen on the eastern portion of the block. ENI also acquired approximately 1,500 sq.km of 3D seismic data over the eastern portion of the block. The data would be processed and interpreted in 2013.

#### **4.3.6 TULLOW & CO (DEEPWATER TANO BLOCK)**

##### OKURE-1WELL

The Contractor group for the Deepwater Tano block (DWT) met all its exploration obligations. The Contractor in agreement with GNPC elected to conduct additional work by drilling the Okure exploratory well. The primary objective of the well did not contain the reservoir rocks expected. However a secondary objective, encountered 17m of laminated Hydrocarbon section with 4.4m of net oil pay. The discovery is about 100 psi over pressured with respect to the Ntomme oil accumulation.



### Wawa-1

The Wawa -1 vertical exploratory well was drilled to a TD of 3326.3m MD. The well discovered 10.3m of oil pay and 23.4m of gas pay within the Turonian fan and Turonian Deep intervals. This pay is stacked in at least seven separate accumulations that are not in communication with each other.

### **4.3.7 ORANTO – OFFSHORE SALTPOND BLOCK**

The operator requested an extension of the Initial Exploration Period to enable it mature the leads into prospects.

### **4.3.8 SALTPOND FIELD**

#### SALTPOND OFFSHORE PRODUCING COMPANY LTD (SOPCL)

SOPCL, a Joint Venture between GNPC and Lushann Eternit Energy Ghana Ltd has operated the Saltpond Field since 2001. Currently production is ongoing from 2 wells, well 10-A2 and 10-A4 with average oil production of about 300 barrels of oil per day. An average daily gas production of 3.7 MMSCFD is flared. To make the field economical, SOPCL is seeking partners to commercialize the gas. As at December 31, 2012 the total oil production by SOPCL for the year was 105,464.05, barrels with royalty payments of US\$104,193.00 to the Ghana Government.

## **4.4 RESERVOIR CHARACTERIZATION AND RESERVES ESTIMATION PROJECT**

### **4.4.1 WEST CAPE THREE POINTS AND DEEPWATER TANO (resource studies)**

The Geological and Geophysical Study of the WCTP and DWT blocks, which forms the first phase of the Reservoir Characterization and Reserves Estimation Project started in March 2012. As at December 31, the Geophysical and Petrophysical interpretations as well as static models of Jubilee, Enyenra, Mahogany East, Akasa, Teak and Tweneboa-Ntomme fields had been completed and reviewed by GNPC. The Stock Tank Oil Initially-In-Place (STOIIP) estimates are comparable with estimates from the operators. The Engineering Company (Tracks) would make final presentation on the results of the study to GNPC in March 2013.

Preparation for Phase II of the project, which is, Dynamic Modeling and Reserves Estimation would be undertaken in 2013. It is expected that GNPC would finalize the award of that contract after the presentation.

### **4.4.2 Voltaian Basin Project**

Activities undertaken include the following:

1. The Environmental Protection Agency permit for onshore drilling was issued in December 2012
2. The geological prognoses for the wells are almost complete. The drilling team is working on the drilling program as well as the basis of design.
3. The Procurement Department of GNPC is in the process of preparing the Request for Proposals (RFP) on land rigs.



## 4.5 PRODUCTION (VOLUME OF OIL AND GAS PRODUCED)

### 4.5.1 JUBILEE FIELD (as at DECEMBER, 2012)

Crude oil production from the Jubilee Field improved significantly as a result of remedial work (acidization) conducted on the production wells. The average daily production of crude oil over the period under review was 72,000 barrels.

The cumulative production for the year 2012 was 26,351,278 barrels. The table below is the statistics of crude oil production, crude oil export and injection fluid (water and gas) since production commenced on 28<sup>th</sup> November 2010.

No.	Description	Quantity	Unit
1	Average Daily Oil Production (from First Oil to 31 <sup>st</sup> December, 2012)	65,645	BBLS
2	Cumulative Oil Produced (from First Oil to 31 <sup>st</sup> December 2012)	51,728,261	BBLS
3	Cumulative Associated Gas Produced	65,780	MMSCF
4	Cumulative Fuel Gas	5,524	MMSCF
5	Cumulative Injected Gas	43,750	MMSCF
6	Cumulative Crude Oil Lifted	50,883,386	BBLS
7	Cumulative Water Injected	115,487,913	BBLS
8	Crude Oil on board the FPSO (as at 31st December, 2012)	847,172	BBLS

**Table 4.5.1: Production Statistics as at 31<sup>st</sup> December, 2012**

### 4.5.2 LIFTINGS

Fifty-two (52) cargoes of crude oil have been lifted by the Jubilee partners including the Ghana Group (GNPC and Government of Ghana) since the commencement of production from the Jubilee field as at December 2012.

Year	Production, bbls	Crude oil Liftings, bbls
2010	1,181,088	-
2011	24,195,895	24,451,452
2012	26,351,278	26,431,934
<b>TOTALS</b>	<b>51,728,261</b>	<b>50,883,386</b>

**Table 4.5.2: Liftings**

Out of 52 crude oil liftings, Ghana Group has lifted nine (9) times totaling 8,861,223 barrels representing 17.41% of the total crude oil lifted.



The table below shows the summary of crude oil liftings by the Jubilee Partners as at 31<sup>st</sup> December, 2012.

COMPANY	NO. OF LIFTING	VOLUME, BBLS	PERCENTAGE
TULLOW GHANA LTD	18	17,376,668	34.15
ANADARKO AND SABRE	13	12,770,170	25.10
KOSMOS ENERGY	12	11,875,375	23.34
GHANA GROUP	9	8,861,223	17.41
TOTAL	52	50,883,386	100.00

**Table 4.5.2b: Crude oil liftings by Jubilee partners as at 31<sup>st</sup> December, 2012**

### 4.5.3 GAS INJECTION SYSTEM

The performance of the gas injection system (GIS) improved over the period under consideration. Out of 32,970MMScf of associated gas produced from 1<sup>st</sup> January to 31<sup>st</sup> December, 28,962MMScf (87.54%) was re-injected. 3151MMScf (9.56%) was utilized as fuel and 942MMScf (2.86%) was flared, giving an average daily gas flared of 2.57MMScf/d.

### 4.5.4 JUBILEE PRODUCTION CHALLENGES

Two major challenges were experienced in the Jubilee Field.

- Six (6) of the nine production wells could not achieve production levels as prognosed or planned due to small sand thicknesses encountered.
- There was productivity decline in some of the Phase 1 wells.

The decline was believed to be due to fines migration (tiny sand particles dislodged from the surrounded rocks as a result of oil flowing into the well), plugging the frac pack and screens used to line the wellbore thereby preventing oil from flowing into the borehole.

The sum effect of these two (2) challenges was that the 120,000 barrels per day target could not be achieved. In fact, the highest and lowest daily production achieved since the beginning of oil production has been 112,468 barrels per day and 20,089 barrels per day which occurred on 26<sup>th</sup> December 2012 and 15<sup>th</sup> December, 2010 respectively.

### 4.5.5 PRODUCTIVITY RECOVERY PLANS

GNPC and the Jubilee partners began the implementation of four (4) selected strategies aimed at arresting the premature decline and also increasing production rate to the planned level of 120,000 barrels per day by the end of first quarter 2013. The strategies are as follows:



## 1. MANAGE EXISTING WELL STOCK

These strategies consist of:

### (a). Bull heading

Carrying out the bull heading jobs – Thus pumping dead oil into the wells to dislodge and flush the tiny rock particles that have blocked the wellbores. The productivity improvement achieved was short-lived since impairment started again.

### (b). Side Tracking

With minimal success obtained with the bull heading techniques, sidetracking of the wells was initiated with J0-7ST-1P as the first well sidetracked and recompleted using the new completion package that has been designed. Even though there was improvement in production rate, it started to decline after a short time. This was also an expensive method to use.

### (c) Acidization

Perform acid stimulation on the existing wells with the aim of dissolving some of these particles and cleaning up the wells to improve production. One such well J-05 which was treated with acid has seen significant improvement in the production rates back to the start-up rates. The method is cost effective and has proved successful with other wells.

### (d) Addition of New Wells

In January 2012, the Minister approved the Jubilee Phase 1A (addendum) Plan of Development which consist of the drilling of five (5) additional oil producing wells, three (3) water injection wells, and installation of additional subsea facilities. One of the oil producing wells has been designed as horizontal well which may greatly enhance production rates.

The Jubilee Partners have redesigned the completion packages for the new production wells to mitigate the clogging of the wellbore.

## 4.5.6 EXECUTION OF PLAN OF DEVELOPMENT FOR PHASE 1A

Five (5) out of the planned eight (8) Phase 1A development wells have been drilled by the end of 2012. These are J-18 WI, J-19 P, J-20 P, J-21WI and J-22 P. Two of the production wells J-22 and J-20 P have been hooked up to the FPSO Kwame Nkrumah for production by the end of 2012. J-19 P, J-21 WI AND J-18 WI are awaiting completion. The remaining three wells would be drilled and completed by August 2013.

## 4.5.7 FPSO OPTIMIZATION

Though the FPSO has performed well till now, there remain few issues to be resolved to enable us achieve the level of uptimes to deliver and sustain the 120,000 barrels per day rates. These include:

- a) Acquisition of critical spares
- b) Subsea integrity management
- c) Topside integrity management
- d) Debottlenecking of gas injection systems



e) Debottlenecking of water injection systems

Work scope of each of the above have been drawn up and budgeted for. Relevant subcontractors have been selected to execute the work scopes.

The Unit Operating Committee (UOC) is coordinating and driving the four (4) pronged interdependent strategies to enable it achieve and sustain the production rate of 120,000 barrels of oil per day by second quarter 2013.

## **APPRAISAL AND PRE-DEVELOPMENT ACTIVITIES**

The appraisal activities continued on some of the previously announced discoveries. These include the Tweneboa – Enyenra – Ntomme (T.E.N.) complex, Teak, Akasa, Sankofa and Gye Nyame discoveries. Most advanced of these appraisal programmes have been the T.E.N. and Sankofa – Gye Nyame projects for which reason parties have initiated various studies, and also begun the preparation of the Plan of Development.

### **TEN APPRAISAL**

Appraisal of the Ntomme accumulation commenced in January 2012 with the drilling of the Ntomme – 2A well, located over 4km south of Tweneboa – 3A well. This appraisal well successfully discovered 39metres of high quality oil bearing reservoir below the Ntomme gas condensate accumulation. This reinforced the overall T.E.N. resource base potential.

### **Enyenra-4A**

The top hole section of Enyenra-4a was drilled to a TD of 2075m MD in 2011.

The well was re-entered on 25 February 2012 by the Ocean Rig Olympia and drilled to its final TD of 4,174m. The well encountered 28.4mTVT of net oil pay within EO-1 reservoir. The EO-2 and EO-3 reservoirs were water bearing at these locations.

### **TEN PRE-DEVELOPMENT ACTIVITIES**

In preparation for the submission of the Plan of Development (POD) for the Tweneboa – Enyenra – Ntomme (TEN) discoveries, the partners embarked on developing the three (3) discoveries (Tweneboa, Enyenra and Ntomme) together and hence the acronym T.E.N.

As part of the TEN predevelopment activities, the operator, Tullow initiated a FPSO design competition among three selected FPSO builders. The plan was that there would be an initial submission of both the technical and commercial packages scheduled for 4<sup>th</sup> May, 2012. After evaluation of these proposals, two (2) of the companies would be shortlisted to go into the detailed design phase of the competition. The ultimate winner would be selected to build the FPSO. In response to GNPC's request for certain aspects of the T.E.N. infrastructure to be fabricated in Ghana to enhance the local content of the T.E.N. development, Tullow has agreed that the calm buoy, anchor suction piles and probably mud mats will be fabricated in Ghana. For this reason, GNPC and Tullow have



engaged the relevant authorities in Ghana for the shipyard and dry dock to be upgraded and used for the T.E.N. project.

The TEN Appraisal Programme was almost completed except Enyenra 6A which is yet to be drilled. The DWT partners have declared commerciality for the TEN integrated fields. A Plan of Development (POD) for the TEN project was submitted to the Minister for Energy on 6<sup>th</sup> November 2012.

Initial discussions have been held between the DWT partners and Ghana National Gas Company (GNGC) regarding Gas Sales Agreement (GSA). There was no agreement reached before the end of the year.

## **5.1 OFFSHORE CAPE THREE POINTS**

### **5.1.1 SANKOFA AND GYE NYAME PROJECT**

ENI and Vitol have so far relinquished a total 75% of the original contract area (2,087 km<sup>2</sup>) maintaining only 694 km<sup>2</sup> as per the terms of the Petroleum Agreement.

The operator submitted the Gye Nyame appraisal program in January 2012. The contractor has declared both the Sankofa and Gye Nyame as non-associated gas discoveries. Given the peculiarity of Non-associated gas development, the contractor is still in the commercial assessment phase of the petroleum agreement and it was the contractors' intention to hold on any further discussion on the Sankofa until the appraisal of Gye Nyame was completed. The contractor drilled the Gye Nyame appraisal well (Gye Nyame-2A) during the second quarter of 2012. The appraisal well Gye Nyame 2A was dry. As a result of a Gye Nyame -2A, the resource base of the non-associated gas was revised from 3.69 TCF to 2.3 TCF.

The contractor also drilled its obligatory exploratory (Sankofa East-1X) well in the third quarter of 2012. The Sankofa East-1X well made discoveries of gas and oil in the Campanian and Cenomanian sands respectively. These drilling activities for the year put the contractor in a good stand to declare commerciality of the gas discoveries.

The contractor submitted Appraisal Programme for the Cenomanian oil discovery in October 2012. The Sankofa East 2-A well to appraise the Cenomanian oil find was spudded on 15<sup>th</sup> November 2012.

### **5.1.2 TULLOW (DEEP WATER TANO)**

#### **TWENEBOA-ENYENRA-NTOMME (TEN) DEVELOPMENT PROJECT**

A plan of development (POD) was submitted by Tullow Ghana Limited to the Minister for Energy. The Minister for Energy forwarded the POD to the Petroleum Commission for review and advice in late December 2012. The Commission submitted preliminary comments on the POD to the Minister.



### 5.1.3 KOSMOS (WEST CAPE THREE POINTS BLOCK)

#### MAHOGANY EXTENSION, TEAK AND AKASA APPRAISAL

In January 2012, officials of GNPC and the Ministry of Energy held discussions with officials of Kosmos on outstanding issues relating to the WCTP Block. Kosmos agreed to withdraw the disputes regarding Cedrella and 'Mahogany East'. In return, the Minister agreed to grant an extension of the Exploration Period to enable Kosmos conduct additional appraisal work on Mahogany Extension and to synchronize the appraisal of the cluster of discoveries it had made in the block: Mahogany, Teak, Akasa and Banda (MTAB).

It was agreed at the January meeting that an MOU would be signed between the parties (Kosmos, GNPC and MoEn). Kosmos would then discuss with GNPC the specific appraisal activities to be undertaken on each field. However, at the end of the period, Kosmos, have not been able to execute the MOU, thus the process stalled.

### 5.2 REGISTRATION PERMITS ISSUED BY THE COMMISSION

The Commission received One Hundred and Eleven (111) applications in the year under review. The Commission issued thirty-three (33) registration permits for both local and international companies involved in upstream petroleum activities. The breakdown is indicated in the table below.

	Registered Applicants (2012)	Outstanding Invoiced Applicants	Additional Information required to complete Review	Applications Received & Invoiced in 2012 (permit yet to be issued)	Applications Returned to Applicant	TOTAL
LOCAL	28	14	9	4	2	57
FOREIGN	6	32	6	5	4	53
<b>TOTAL</b>	<b>34</b>	<b>46</b>	<b>15</b>	<b>9</b>	<b>6</b>	<b>110</b>

**Table 5.2: 2012 REGISTRATION PERMIT APPLICATIONS**

#### 5.2.1 PRODUCTION PERMITS ISSUED BY THE COMMISSION

The Petroleum Commission did not issue any production permit.



**6 SALE OR TRANSFER OF INTEREST**

Sabre Oil sold their interest in the Deep Water Tano and West Cape Three Points Blocks to PetroSA of South Africa.

DISCOVERIES UNDER APPRAISAL	DISCOVERIES YET TO BE APPRAISED	DISCOVERIES PENDING PLAN OF DEVELOPMENT APPROVAL	DISCOVERIES NOT MERITING APPRAISAL/NON COMMERCIAL
ENI Cenomanian Oil and the Campanian non-associated gas discoveries	HESS discoveries, VANCO/LUKOIL	TEN and Jubilee Full Field Development.	Banda and Odum

**Table 6: Information on discoveries**

**6.1 TRANSPORTATION SYSTEM INCLUDING NEW PIPELINES**

The Western Corridor Gas Infrastructure Development Project (WCGIDP) has seen marked progress over the past year with the onshore and offshore pipeline aspects of the project activities being implemented in Ghana. Construction of the onshore aspect of the project is ongoing, and the offshore pipeline installation aspect of the project started on 15<sup>th</sup> November 2012. However, the project suffered some challenges in Advance Payments due Sinopec, and this resulted in Sinopec suspending all Front End Engineering Designs, other Detail Design works as well as all Procurement activities associated with the project. This has obviously affected the general progress of work.

The overall progress of the project includes:

**Onshore Pipeline**

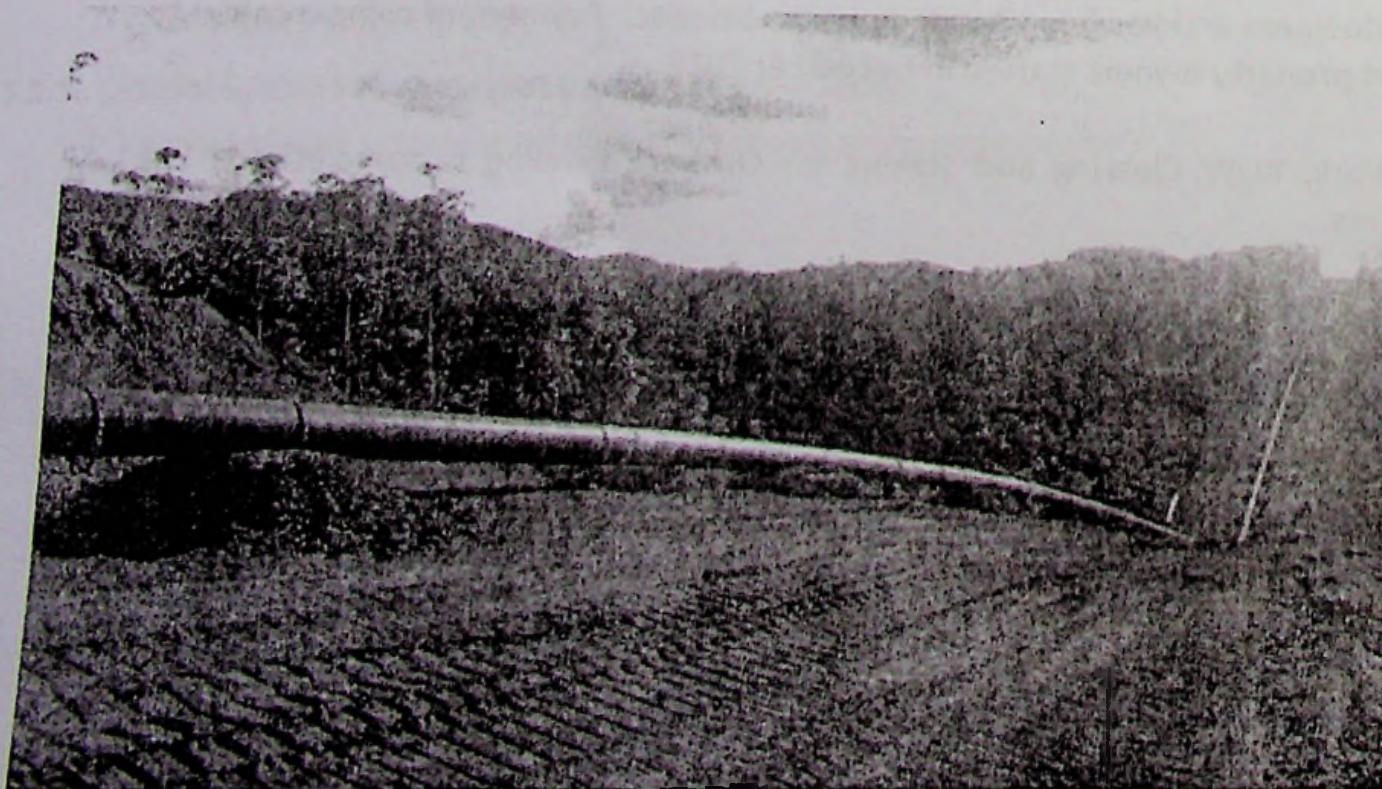
- Construction of the Onshore Pipeline is on-going.
- The complete Onshore Pipeline Right of Way (ROW) has been negotiated with crop and landowners and has been handed over to Sinopec. Payment of compensation to crop and property owners started in December 2012.
- Earth Work, ROW Clearing and Staking for Onshore Pipeline is completed – 111 Kilometers.
- All of the 10,000 pieces of pipeline for the onshore portion of the project from Atuabo to Aboadze are stored along the pipeline route and welding is on-going.
- About 108 Kilometers of line pipes have been strung (laid down) along the pipeline ROW and about 104 Kilometers of it have been welded in place ready for trenching,
- The Horizontal Directional Drilling (HDD) of the Ebi, Ankobra and the Amanzuren rivers has been carried out successfully.



- o Inter-tie of the Ghana Gas pipeline into the Volta River Authority Thermal plants gas reception system was successfully carried out at Aboadze, The installed tie-in would be pressure tested.
- o The design of the lateral pipeline from Esiam to Prestea has commenced.

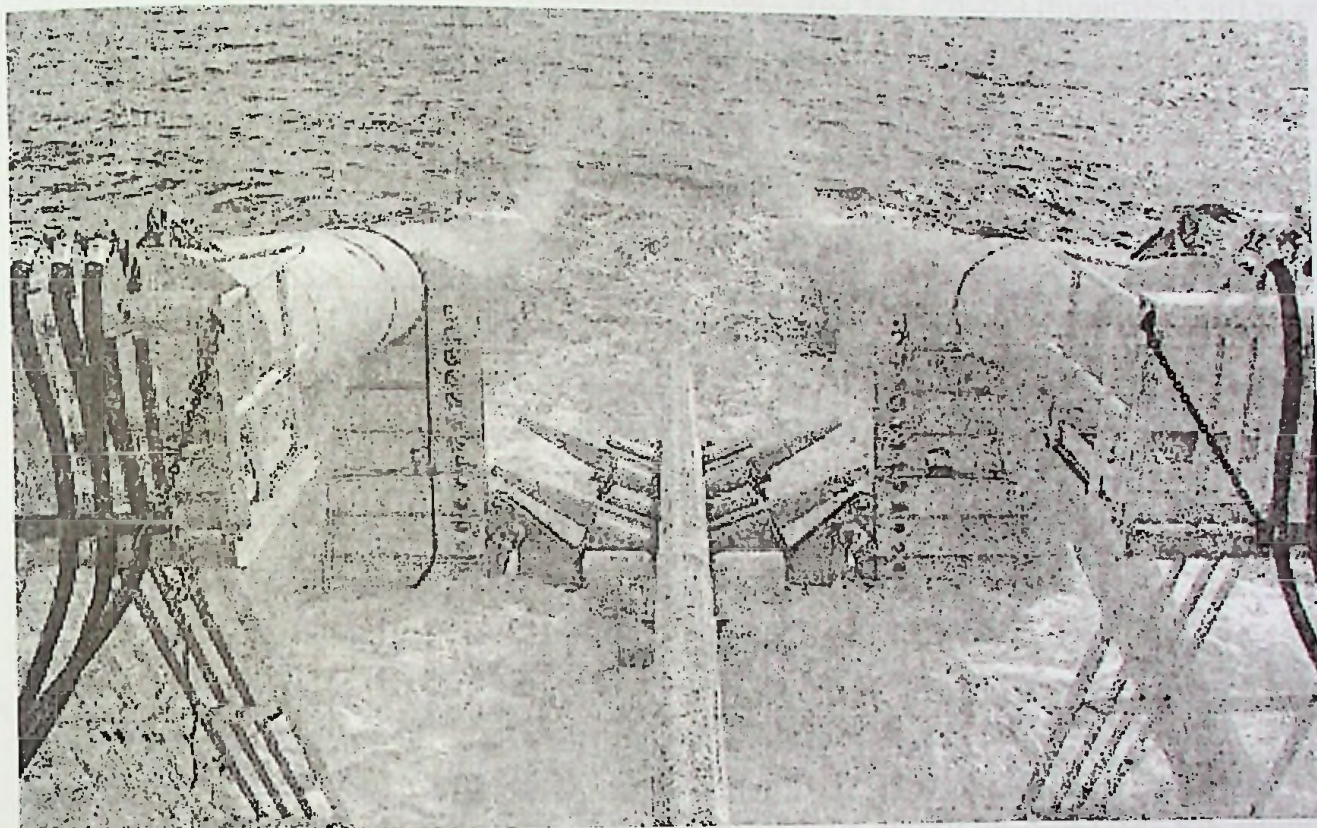
Description	Proposed Work Plan	Actual to Date (31/12/2012)	Completed Work
	(m)	(m)	(%)
Survey	103,437	103,437	100.00%
ROW clearing	103,437	103,437	100.00%
Fit-up & Welding	9,340	7,717	82.62%
UT (Non-destructive testing of welds using ultra-sound technology)	9,340	3,718	39.81%
RT (Non-destructive testing of welds using Radiography technology)	811	481	59.31%
Field Joint Coating	9,340	2,076	22.23%
Trenching	102,607		0.00%
Lower-in & Backfill	102,607		0.00%
Civil Work of ROW			
HDDs Crossings (3 River Crossing)	3.00	3.00	100.00%
Thrust Boring Crossings (7 Road & Railway Crossings)	7.00	1.05	15.00%

**Table 6.1: Onshore Pipeline Progress of Work as at 31<sup>st</sup> December 2012**





**Fig. 6.1a: Onshore Pipeline Progress of Work as at 31<sup>st</sup> December 2012**



**Fig. 6.1b: Offshore pipeline**

## 6.2 RESEARCH AND DEVELOPMENT PROJECT

The Commission conducted extensive research on various petroleum regulatory models pertaining in other jurisdictions as part of the review of the regulatory framework for upstream petroleum activities in Ghana. Under the Auspices of the Norwegian Cooperation Agreement, the Ministry of Energy collaborated with Norwegian consultants to assist the Commission to draft regulations for various upstream petroleum activities. During the year under review, technical teams comprising representatives of the Commission, the Ministry of Energy, the GNPC and EPA were formed to draft the following regulations:

- Health, Safety and Environment
- Drilling and Well Engineering
- Fiscal Metering
- Data Management

Additionally, a core team of experts reviewed the draft Exploration and Production Bill and the General Petroleum Regulations. The Commission plans to complete this project by the end of 2013.

Technical research and development activity would commence after the rehabilitation and completion of the office complex and the data centre.



### 6.3 TAXES INCLUDING ROYALTY AND ACREAGE FEES PAID BY CONTRACTORS

The current fiscal regime is based on the specific Petroleum Agreements and the general provisions of the Petroleum Income Tax Law 1987 (PNDCL188). Section 6 of the Petroleum Revenue Management Act, 2011 (Act 815) provides that such receipts be paid into the Ghana Petroleum Holding Fund.

The royalties collected during 2012 amounted to US\$150,746,643 presented as follows:

Srn	Item	Amount-US\$	Amt-GH¢
1.	Royalties from Jubilee field	150,642,450	272,365,515
2.	Royalties from Saltpond	104,193	196,967
	Total	150,746,643	272,562,482

**Table 6.3: Royalties collected during 2012 (Compiled from MOFEP Sources, 2012)**

The royalties accounted for 28 percent of total receipts for the period. The payment reflects the 5% royalty agreed in the PA.

#### 6.3.1 Surface Rentals

License holders are also required to pay annual surface rental fee, section 6 of Act 815 recognises surface rentals as part of the oil receipts. MOFEP and GNPC reported that an amount of US\$567,718.13 was realized as annual rent during the period.

This is presented below:

Srn.	Institution	Amount US\$
1.	Tullow Ghana Ltd	63,866.95
2.	Tap Oil Ltd	43,770.49
3.	Vanco Ghana Ltd	154,398.60
4.	Kosmos Energy Gh Ltd	35,438.56
5.	Hess Ghana Exploration	150,750.00
6.	Eni Ghana E&P (OCTP block)	52,047.00
7.	Eni Ghana E&P (Keta block)	66,841.53
8.	Saltpond Offshore Producing Company Ltd	605.00
	Total	567,718.13

**Table 6.3.1: Surface Rentals**

#### 6.3.2 Corporate Income Taxes

Corporate taxes were not paid by oil companies because they did not declare taxable profit. The capital allowance provisions under the current fiscal regimes spelt out in the PNDCL188,



1987 and the Petroleum Agreements allow oil companies to pay corporate taxes based on an annual recovery of 20% of capital costs and operating cost for the year.

### **6.3.3 Additional Oil Entitlement**

The fiscal regime includes a progressive resource rent tax, known as Additional Oil Entitlement (AOE), designed mainly to capture a progressively larger share of the profit from projects with a higher rate of return. The AOE calculation operates by applying an increasing marginal tax rate as the investor's inflation-adjusted rate of return exceeds a set of increasing thresholds agreed under the PA.

During the period under review there was no AOE due to lower than expected production and losses carried forward from 2011

### **6.3.4 TOTAL VOLUME OF PETROLEUM SOLD AND DELIVERED**

#### **Gross revenue**

Based on total crude oil liftings and crude oil prices realized, the total petroleum revenues received by the Ghana group amounted to US\$541,071,323. The total volume of crude oil produced from Jubilee in 2012 was 26,351,278 barrels, representing an increase of 8.9 percent over previous year's levels. The Ghana group lifted oil five times on behalf of the state totaling 4,931,034 barrels with a corresponding receipt of US\$541,071,323.



**THE MINISTRY OF FINANCE AND ECONOMIC PLANNING**

**Details of 2012 GOG/GNFC Crude Oil Liftings**

S/n	Item	Unit	Date of Lift	Quarter 1		Quarter 2		Quarter 3	Quarter 4	Yr-to-date-2012
				5th Lift	4th Jan 2012	6th Lift	7th Lift	8th	9th	Total
1		d/m/y				3rd April 2012	27th June 2012	12th Sept 2012	12th Nov 2012	
2	Ghana Group (GOG/GNFC)	barrels		996,484		997,636	995,247	947,021	994,646	4,931,034
3	Market Price per barrel	US\$/bbl		111.63		125.896	90.293	112.556	108.439	-
3a	Marketing Cost per barrel	US\$/bbl		0.08		-	-	-	-	-
4	Marketing Cost	US\$		79,718.72		-	-	-	-	79,719
5	Value of Lift	US\$		111,157,790.20		125,598,381.86	89,863,837.37	106,592,895.68	107,858,417.59	541,071,323
		GH¢		186,678,393.00		219,809,728.00	169,878,598.00	199,659,153.00	202,245,319.00	978,271,191



**THE MINISTRY OF FINANCE AND ECONOMIC PLANNING**

**Composition of 2012 Petroleum Receipts on Lifting Basis(US\$)**

		Quarter 1		Quarter 2		Quarter 3	Quarter 4	Yr-to-date-2012
S/n	Item	4th January 2012	5th Lift	6th Lift	7th Lift	8th	9th	Total
	Date of Lift			3rd April 2012	27th June 2012	12th Sept 2012	12th Nov 2012	
1	Royalties	30,948,012		34,968,492	25,019,453	29,677,076	30,029,417	150,642,450
2	Carried and Participating Interest	80,209,778		90,629,890	64,844,384	76,915,819	77,829,001	390,428,872
3	Surface Rental	-		-	448,225	-	-	448,225
4	Royalties from SOPCL	-		-	104,193	-	-	104,193
5	Total petroleum Receipts from Lift	111,157,790		125,598,382	90,416,255	106,592,895	107,858,418	541,623,740

**THE MINISTRY OF FINANCE AND ECONOMIC PLANNING**

**Composition of 2012 Petroleum Receipts on Lifting Basis(GH¢)**

S/n		Item	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Yr-to-date-2012 Total
			Date of Lift	5th Lift	6th Lift	7th Lift	8th	9th			
1	Royalties		4th January 2012	51,974,092	61,198,358	47,296,774	55,588,132	56,308,159		272,365,515	
2	Carried and Participating Interest			134,704,301	158,611,370	122,581,824	144,071,021	145,937,159		705,905,675	
3	Surface Rental			-	-	847,324	-	-		847,324	
4	Royalties from SOPCL			-	-	196,967	-	-		196,967	
5	Total petroleum Receipts from Lift			186,678,393	219,809,728	170,922,889	199,659,153	202,245,318		979,315,481	



**THE MINISTRY OF FINANCE AND ECONOMIC PLANNING**  
**PETROLEUM RECEIPTS AND DISTRIBUTION REPORT FOR 2012**

Slm	Item	Unit	Quarter 1 5th Lift	Quarter 2		Quarter 3	Quarter 4	Yr-to-date-2012 Total
1	Volume Lifted			6th Lift	7th Lift			
2	o/w Ghana Group(GOG/GNPC)	barrels	5,871,464	5,872,616	4,876,073	6,816,863	7,870,133	31,307,149
3	o/w Partners	barrels	996,484	997,636	995,247	947,021	994,646	4,931,034
4	Ghana Group's Lift	barrels	4,874,980	4,874,980	3,880,826	5,869,842	6,875,487	26,376,115
5	Date of Lift	d/m/y	4th January 2012	3rd April 2012	27th June 2012	12th Sept 2012	12th Nov 2012	
6	Reference Price per barrel	US\$/bb	110.58	124.166	90.193	114.226	109.109	
7	Market Price per barrel	US\$/bb	111.63	125.896	90.293	112.556	108.439	
8	Marketing Cost per barrel	US\$/bb	0.08					
9	Marketing Cost	US\$	79,718.72					
10	Gross Receipts from Ghana Group Lift*	US\$	111,157,790.20	125,598,381.86	89,863,837.37	106,592,895.68	107,858,417.59	541,071,323
11	o/w Royalties	US\$	30,948,012.11	34,968,492.00	25,019,453.18	29,677,076.35	30,029,416.81	150,642,450
12	o/w Carried & Participating Interest	US\$	80,209,778.09	90,629,889.86	64,844,384.19	76,915,819.33	77,829,000.78	390,428,872
13	Transfer to GNPC	US\$	51,334,257.84	53,516,378.74	42,499,839.28	41,683,632.53	41,915,817.31	230,949,926
14	o/w Equity Financing Cost (Section 7 (2))	US\$	32,083,911.00	28,774,038.00	27,603,476.00	18,195,508.00	17,973,695.00	124,630,628
15	o/w Carried and Participating Interest (Section 7 (2))	US\$	19,250,346.84	24,742,340.74	14,896,363.28	23,488,124.53	23,942,122.31	106,319,298
16	GOG Net Receipts from Lifting	US\$	59,823,532.36	72,082,003.11	47,363,998.09	64,909,263.15	65,942,600.28	310,121,397
17	o/w Royalties	US\$	30,948,012.11	34,968,492.00	25,019,453.18	29,677,076.35	30,029,416.81	150,642,450
18	o/w Carried and Participating Interest	US\$	28,875,520.25	37,113,511.11	22,344,544.91	35,232,186.80	35,913,183.47	159,478,947
19	Other Petroleum Receipts	US\$	-	-	552,417.72	-	-	552,418
20	o/w Corporate Income Tax	US\$	-	-	-	-	-	-
21	o/w Royalty(Salipond Field)	US\$	-	-	104,193.12	-	-	104,193
22	o/w Surface Rentals	US\$	-	-	448,224.60	-	-	448,225
23	Total GOG Receipts	US\$	59,823,532.36	72,082,003.11	47,363,998.09	64,909,263.15	65,942,600.28	310,121,397

Notes:

o/w means "of which"

\*Gross receipts from Ghana Group is net of marketing costs

**Sources:**

- 1 1st & 2nd Quarter-MOFEP Website <http://www.mofep.gov.gh/?q=reports>
- 2 3rd Quarter Report Daily Graphic, Wed Dec 5, 2012
- 3 1st & 2nd Quarter collaborated from BOG Semi-annual report
- 4 4th Quarter Report Daily Graphic, Thurs, Feb 14, 2013, Page 54



## 7 HEALTH, SAFETY AND ENVIRONMENT (HSE)

During the year the Petroleum Commission worked on ensuring compliance with Health, Safety and Environmental standards of petroleum activities. Daily drilling reports were submitted to the Commission by Tullow Ghana Ltd, the Jubilee Field Operator and Eni Ghana Exploration and Production Ltd. A Summary of the daily HSE information extracted from the Jubilee Field production report is highlighted below.

HSE Performance	LTI	MTC	FAC	NII	Observation Card	ISPS Security Levels
No. of Occurrence	1	2	7	72	1268	1

### 7.1 Eni HSE REPORTS

Eni Ghana Exploration and Production Ltd is involved in exploration and drilling activities in the Offshore Cape Three Points block. A summary of the HSE performance for the year under review is shown below.

HSE Performance	LTI	NM	FAC
30/06/12 - 24/09/12	0	1	0
25/09/12 - 09/11/12	1	0	2

### 7.2 SAFETY MEETINGS/EMERGENCY RESPONSE TRAINING

Numerous safety meetings and muster drills were held regularly (weekly) by the various departments on the FPSO Kwame Nkrumah. This was to ensure that activities undertaken were in accordance with industry best practice.

#### 7.2.1 ENVIRONMENTAL DISCHARGES

To maximise the utilisation of natural gas reserves Government's policy direction is to prohibit flaring or venting of natural gas produced within Ghana unless necessary in operations and also discourage re-injection of natural gas. Currently some amounts of flaring had taken place during production as a result of HP-B PV to flare passing and depressurized risers, etc.



Environmental Discharges	Planned	Actual
Gas	0.00	942mmscf
Slops Overboard	-	15000bbls
Loss of Containment	-	63bbl (ytd)

Table 7.2.1: Environmental discharges

Environmental Discharges	Actual
Loss of Containment	40bbl

Table 7.2.1a: Environmental Discharges from Eni Exploration and Drilling Activities

From the above 942mmscf gas was flared in the year 2012. Also 15,000 bbls of slops were discharged overboard and 63 bbls of oil was released into the environment even though they were unplanned.

Loss of containment during Eni exploration activities occurred on August 17, 2012 as a result of Slip joint packer failure.

### 7.3 Waste Generation

Waste Generation and Disposal from Eni Exploration and Drilling activities

Duration	Waste Category				
	Drill Cuttings	Metals	Empty plastic drums	Wood and pallets	Mixed waste (paper, plastics, wood)
30/06/12 – 24/09/12	243.5m3	62.5m3	6	85.5m3	234m3
25/09/12 – 09/11/12	0m3	34.5m3	6	42m3	133.5m3

Table 7.3: Waste Generation

### 7.4 INTEGRITY/SAFETY CRITICAL EQUIPMENT

Safety case: The operator continues to identify, review and take necessary actions on safety cases. The safety critical equipment is inspected regularly to ensure their integrity.

### 7.5 MAINTENANCE OF EQUIPMENT

Preventive and corrective maintenance on safety equipment were carried out regularly during the period under review. The maintenance covered equipment such as: Mechanical, Electrical, Production, Marine and Engine Room.



## **7.6 ENVIRONMENTAL IMPACT ASSESSMENT**

The Commission and Environmental Protection Agency reviewed a number of Environmental Impact Assessment documents for activities in the upstream sub sector. These included the following:

- Eni's preliminary Environmental Impact Assessment (EIA) ;
- Environmental Impact Assessment review for Ghana National Gas Company (GNGC) on the pipeline infrastructure project ; and
- Environmental Impact Assessment review for Ghana National Gas Company (GNGC) on the Gas Processing Plant.

## **8 DECOMMISSIONING ACTIVITY**

North Sea Pioneer currently offshore Sekondi Naval Base is being decommissioned.

## **9 RESOURCE STATUS**

### **9.1 SHUT DOWN FIELDS**

No activity took place.

### **9.2 PRODUCTION FIELDS**

Saltpond and Jubilee Field

## **10 RESERVES IN PRODUCING FIELDS AND VOLUME OF ORIGINAL HYDROCARBON IN PLACE IN GHANA**

### **10.1 PROSPECTIVE RESOURCES**

For the year 2012 prospective resources in Ghana is being undertaken by Oranto, and TAPOL.



## RESOURCE STATUS IN PRODUCING FIELDS

	STOIIP (MM bbls)	Reserves (MM bbls)	Recovered to date (MM bbls)	Estimated Oil Recoverable (MM bbls)
Saltpond	32.51	5.12	4.94	0.18
Jubilee	1630.00	616.00	62.40	662.60

	Reserves (Tcf)	Reserves (MMBOE)	Recovered to date (Tcf)	Remaining Reserves (Tcf)
Saltpond	0.027	4.867	0.026	0.002
Jubilee	0.404	71.387	0.066	0.338

	Non associated gas		
	GIIP (Tcf)	GIIP (MMBOE)	Reserves (MMBOE)
Saltpond	0.022	3.880	0.015
			2.633

## DISCOVERED RESOURCES AWAITING POD APPROVAL

	STOIIP (MM bbls)	Reserves (MM bbls)
Tweneboa	32.00	4.00
Enyenra	467.00	166.00
Ntommo	207.00	75.00

	Reserves (Tcf)	Reserves (MMBOE)
Tweneboa	0.000	0.000
Enyenra	0.165	27.389
Ntommo	0.097	17.140

	Non associated gas		
	GIIP (Tcf)	GIIP (MMBOE)	Reserves (MMBOE)
Tweneboa	0.489	86.406	0.068
			10.249

## DISCOVERED RESOURCES YET TO SUBMIT POD

	STOIIP (MM bbls)	Reserves (MM bbls)
Sankofa East - 1X (Cenomanian)	157.00	Not declared
Sankofa East - 2A (Cenomanian)	164.00	Not declared
Sankofa East - 2A (Campanian)	78.00	Not declared
Mahogany (LM3)	20.00	Not declared
Akasa (JM3)	16.00	Not declared
Teak (L. Campanian)	10.00	Not declared

	GIIP (Tcf)	GIIP (MMBOE)
Sankofa East - 2A (Campanian)	0.106	18.730

	Non associated gas		
	GIIP (Tcf)	GIIP (MMBOE)	Reserves (MMBOE)
Gye Nyame	0.478	84.463	0.373
Sankofa Main + Sankofa East	1.484	262.22	1.168
			66.881
			204.63

## SHALLOW WATER TANO RESERVES

	STOIIP (MM bbls)	Reserves (MM bbls)
North Tano	53.60	1.10
South Tano	71.30	14.30

	Reserves (Tcf)	Reserves (MMBOE)
North Tano	0.071	12.616
South Tano	0.031	6.442

	Non associated gas		
	GIIP (Tcf)	GIIP (MMBOE)	Reserves (MMBOE)
3-AX Structure	0.138	24.385	0.102
			18.023



## 11 LOCAL CONTENT AND CORPORATE SOCIAL RESPONSIBILITIES

The Commission took over the registration of all oil and gas service providers and operators in the upstream petroleum industry from GNPC. The Commission also developed a new pricing regime for such registration in consultation with relevant stakeholders.

The Commission organized a Local Content Forum which provided an opportunity for stakeholders to engage with the Commission on Local Content issues. Additionally, companies operating in the sector were required to submit their quarterly Local Content and Procurement plans to enable the Commission monitor compliance with the Local Content Policy currently in force.

The Commission also organized a Local Content Forum which provided an opportunity for stakeholders to engage with the Commission on Local Content issues. Additionally, companies operating in the sector were required to submit their quarterly Local Content and Procurement plans to enable the Commission monitor compliance with Local Content legislation currently in force.

To promote Corporate Social Responsibility (CSR), the Commission undertook a community engagement exercise to ascertain the socio-economic impact of upstream petroleum activities on the livelihoods of Fisherfolk (specifically in the Western Region) and to gather information on the level of interaction between IOCs and relevant stakeholders.

The Draft Local Content Regulations was submitted to the Ministry of Justice and Attorney General's Department, was laid before Parliament. Although the Draft was discussed by the Parliamentary Select Committee on Subsidiary Legislation and laid before Parliament, less than the required 21 days elapsed before Parliament rose. The Commission has to go through this entire process in 2013 during which the Draft Local Content Regulations is expected to be passed into law.



## **12 CHALLENGES**

The Petroleum Commission was established with the daunting task to regulate and manage the utilization of petroleum resources and to coordinate the policies in relation to them.

In the quest to ensure that these tasks are performed judiciously in the interest of the citizenry, the Commission unfortunately was saddled with numerous bottlenecks in the year under review.

### **12.1 Budgetary Allocation**

First of all the inability of the Government to provide the requisite funding (Budget) for the Commission to commence its onerous responsibility is worth mentioning since the Commission, established in accordance with Article 269 (1) of the Constitution, had to operate on a loan facility from the National Petroleum Authority. This facility is yet to be redeemed. The Commission has been extremely affected with respect to the acquisition of numerous operational logistics for the smooth performance of its duties.

### **12.2 Office Accommodation**

Lack of appropriate accommodation cannot be under emphasized. The Commission has been housed in a rented apartment under the sponsorship of the Oil and Gas Capacity Building Project, Ministry of Energy. This situation had virtually not been conducive for proper work performance. On the other hand the Ministry of Finance and Economic Planning approved a contracting loan facility from UBA Bank for the Commission to purchase a building to serve the purpose of an office complex. The building has been acquired; however the mortgage payment is a serious challenge to the Commission.

### **12.3 Lack of Regulations**

The needed regulations (Legislative Instruments) to enable the Commission implement its mandate prudently is another challenge. Due to the absence of these regulations the Commission was not able to raise internally generated funds for its operations and also address other critical issues in the upstream petroleum sector. Notable of them is the review of the Petroleum Exploration and Production Bill which is yet to be finalized.

### **12.4 Lack of Specialized Personnel**

Again, it has proven difficult for the Commission to attract personnel with the requisite industry experience specifically in the areas of petroleum engineering and petroleum geosciences. As knowledge based industry bereft of massive poaching and competition the Commission has been saddled with the problem of finding well qualified staff within and outside the boundaries of Ghana.



### 12.5 Managing Public Expectations

Since the discovery of oil and gas in commercial quantities the expectation of the stimulation of accelerated economic growth, job creation, poverty reduction and the general prosperity to the people have been high. Though it is the preoccupation of Government to ensure the judicious exploitation and maximum benefits of the oil and gas resources to Ghanaians, it has also become a challenge for the Commission to manage public expectation in relation to the vigorousness with which it is expected to implement issues pertaining to local content and local participation in petroleum activities and community relations.

### 13 CONCLUSIONS

The Petroleum Commission was established by an Act of Parliament on 14<sup>th</sup> July 2011 in accordance with Article 269 of the Constitution of Ghana.

On 23<sup>rd</sup> November 2011, the then Minister for Energy, Hon. Dr. Joe Otèng-Adjei inaugurated the Commission's Board chaired by Prof. Ivan Addae-Mensah with board members Dr. Kwabena Donkor (Chief Executive Officer), Mr. Daniel Amlalo, Prof. David Atta Peters, Mr. Kwame Pianim, Mrs. Victoria Emeafa Hardcastle and Mr. Bishop Akolgo.

During 2012, a core staff was initially put together with about a dozen secondees and temporarily appointed officers being brought together in rented accommodation to commence business. An institutional structure was devised and approved for the Commission and a vigorous recruitment effort was then pursued leading to the gathering of a staff of about 60 people by the end of the year. A great effort was made to try to engage well-qualified and experienced staff, but have been a major challenge.

There being only minor levels of exploration and production activity prior to the Jubilee discovery, it has proven difficult to find appropriately qualified staff with the depth of experience required, especially in the specific technical areas such as petroleum engineering and petroleum geosciences. This has been mitigated to some degree by the engagement of some experienced local and foreign advisers who with the benefit of their experience have been able to guide the Commission and help train the younger and less experienced staff.

A Corporate Plan and Conditions of Service of the Staff have been prepared for Board approval, and now the Commission is pleased to present its first Annual Report. The information in this report has been compiled from many sources as a result of the Commission having no initial records or data about the upstream petroleum sector. The Commission wishes to extend its appreciation to the Ghana National Petroleum Corporation and from amongst the current operators of the various petroleum agreements from where much of the relevant information was obtained.



The Commission has an enormous responsibility under the Petroleum Commission Act, 2011 and will necessarily take time to develop its capacities and strengths. It has been assisted by generous support from the Oil and Gas Capacity Building Project being managed by the Ministry of Energy and funded by the World Bank without which it could not have developed so far.

As the Commission develops, it will need to obtain sustainable and consistent funding and attract the best qualified and most experienced staff in order to meet the challenges ahead. It will need the support of both the Executive and Legislative arms of Government to augment its significant responsibilities defined in the Petroleum Commission Act, 2011 with appropriate powers supported by appropriate regulations. Those regulations will augment the mandate provided to the Commission in the Act and will seek not only to uphold good oilfield practices, but best industry performance, so that the benefits of petroleum sector development may be optimized for the people of Ghana.



**GLOSSARY**

**LTI** – Loss Time Injury is a work-related injury or illness resulting in the employee/contractor being unable to attend work on the next calendar day after the day of the injury.

**MTC** – Medical Treatment Cases is a work-related injury requiring medical care beyond First Aid. If a medical care provides only First Aid or observation, and if no additional follow-up care is provided, the case is not a MTC.

**FAC** – First Aid Cases are work-related injuries or illness that requires only first aid treatment.

**NII** – Non Injury Incidents are incidents that do not cause any injury to personal. However, asset damage may occur.

**WCTP** – West Cape Three Points

**DWT** – Deepwater Tano



**SUMMARY** – The purpose of this document is to provide information on the various types of work-related injuries and illnesses that may occur in the workplace. It is intended to be used as a reference by employers and employees alike. The document is divided into two main sections: (i) Work-related injuries and illnesses, and (ii) Compensation and benefits. The first section discusses the various types of work-related injuries and illnesses that may occur in the workplace, including physical injuries, mental health issues, and occupational diseases. The second section discusses the various compensation and benefits that may be available to employees who are injured or become ill as a result of their work. This document is intended to be used as a reference by employers and employees alike. It is not intended to be used as a legal document. For more information, please contact the relevant authorities.

19th January 2014