PETROLEUM EXPLORATION AND PRODUCTION ACTIVITIES IN SOUTH AFRICA

Mineral and Petroleum Resources Development Act, No 28 of 2002.

Role of Petroleum Agency SA

Under section 71 of the above Act, Petroleum Agency SA has been appointed the designated Agency, with the following responsibilities:

- Promotion and regulation of exploration and production on and offshore
- Receive applications, evaluate and recommend the award of permits and rights
- Review, evaluate and recommend approval of EMPs
- Monitor compliance of licence conditions
- Maintain and add value to the national petroleum exploration and production database
- Acquire reconnaissance data
- Collect all prescribed fees

Permits and rights

The above Act defines the following permits and rights:

- Reconnaissance Permit - 12 months, non-exclusive
- Technical Cooperation Permit - 12 months, exclusive desk-top study, exclusive right to apply for Exploration Right
- Exploration Right - exclusive, transferable, 3 years, renewable for a maximum of 3 periods of 2 years each.
- Production Right - exclusive, transferable, 30 years, renewable.

KUDU GAS FIELD
(Gazprom/Namcor 54%-JVA, Tullow Oil 31%-Operator, ITOCHU 15%)

Discovered in 1974 by a Chevron / Regent /Soekor consortium. The reservoir comprises Barremian (Early Cretaceous) aeolian sandstones with average porosities up to 22 % at 4400 m.

FOREST INT (Operator) (53.2%)
PETROSA (24%)
ANSCHUTZ (22.8%) Production Right

CAIRN INDIA (60%)
PETROSA (40%) *(ER)*

IBHUBESI GAS FIELD

Being appraised for development by Forest with 3D seismic and appraisal wells. This Albian (Early Cretaceous) fluvial play (part of the Orange Delta) extends northwards into Block 1 and upside gas resources are estimated as multi Tcf for the combined area of Blocks 1 and 2A.

BHP BILLITON (Operator) (90%)
GLOBAL OFFSHORE OIL (10%)
Evaluating deep water oil potential.

BOTSWANA COALBED METHANE (CBM) EXPLORATION
Large Potential Resource

PANDE & TEMANE GAS FIELDS
Combined reserves in excess of 5.5 Tcf.
Now operated by Sasol/ENH partnership.

- Exports 300 million scf/day
- To increase to 370 million scf/day by end 2009

Eskom - Majuba Underground Coal Gasification Project
Trial production started Jan. 2007
Planned full production by 2013 is 313 million scf/day (natural gas equivalent)

CGGVERITAS RECONAISSANCE PERMIT

SASOL RECONAISSANCE PERMIT APPLICATION

EXXONMOBIL (75%)
IMPACT AFRICA (25%)
(ER)

EXXONMOBIL
(100%) *(TCP)*

CANADIAN NATURAL RESOURCES - BLOCK 11B/12B
Acquired Seabed logging survey in 2006 and is evaluating deep water potential for oil and gas.

PETROSA - BLOCK 11a
Early Cretaceous shallow marine gas fields currently under appraisal.

F-A GAS FIELD & SATELLITES (PetroSA 100%)
In 2007 these fields produced at an average daily rate of 158 MMscf gas and 4300 bbl condensate. The reservoirs comprise Early Cretaceous shallow marine sandstones at the top of the rift succession.

Separate 91km pipelines convey gas and condensate to the PetroSA GTL synfuels refinery at Mossel Bay where petrol, diesel, kerosene, etc are produced.

E-CE GAS FIELD (PetroSA 100%)
Originally the Sable oil field, gas is now being produced from this Aptian age deep marine channel sandstone reservoir to supplement the feed to the Mossel Bay plant.

ORIBI / ORYX OIL FIELD (PetroSA 100%)
In 2007 (4 months) average combined production from Oribi and Oryx was 20000 BOPD - from submarine fan deposits of Albian (Early Cretaceous) age. Production continues at about 4000 BOPD.

PETROSA - BLOCK 9
(Ongoing exploration and production together with appraisal and development of oil and gas fields.

ANADARKO (Operator) (80%)
PETROSA (20%) *(ER)*

ONSHORE APPLICATIONS
(Under Evaluation)

(118ER) - Msix
(134ER) - Msix
(202ER) - Bundu Gas
(207ER) - Iningi 169
(208ER) - Falcon Oil & Gas
(209ER) - Misty Falls
(210ER) - Gold One Africa
(211ER) - Gold One Africa
(212ER) - Gold One Africa
(213ER) - Gold One Africa
(214ER) - Gold One Africa
(219ER) - Shell
(220ER) - Shell
(221ER) - Shell
(226ER) - Umbono
(254ER) - Extrispex Investments
(255ER) - Moonstone Investments 89
(256ER) - Moonstone Investments 89
(261ER) - Maarifa Resources

(042TCP) - Kinetiko Energy
(044TCP) - Sungu Sungu Gas

(047TCP) - Sungu Sungu Gas
(054TCP) - Sungu Sungu Gas
(070TCP) - Sasol Petroleum International
(080TCP) - Kinetiko Energy
(081TCP) - White River Exploration
(082TCP) - Moonstone Investments 89
(086TCP) - Silver Wave Energy

(007PR) - Highland E&P

ONSHORE RIGHTS

NEW RIGHTS GRANTED:

ANGLO OPERATIONS
(01ER) - Coalbrook 1
(02ER) - Waterberg 1
(03ER) - Grootvlei 1
(04ER) - Waterberg 8
(06ER) - Waterberg 2
(07ER) - Waterberg 3
(18ER) - Grootvlei 2
(22ER) - Waterberg 11
(24ER) - Waterberg 10
(76ER) - Waterberg 12
(25ER) - Coalbrook 2
(191ER) - Anglo Coal

NT ENERGY AFRICA
(09ER) - Organza Gas
(35ER) - Organza Gas
(12ER) - Tully Resources
(13ER) - Welcome Gas
(30ER) - Highveld Gas
(49ER) - Moonstone Investments 81
(52ER) - Moonstone Investments 81
(51ER) - Kusasa Commodities
(53ER) - Iningi Investments

MOLOPO E&P
(20ER) - Ingwe Area
(21ER) - Beatrix
(27ER) - Evander Area 1
(31ER) - Evander Area 2
(29ER) - Virginia 1
(32ER) - Virginia 2
(34ER) - Virginia 4
(64ER) - Virginia 5
(88ER) - Virginia 6
(94ER) - Virginia 7

BADIMO
(11ER) - Amersfoort East
(38ER) - Amersfoort NWS
(41ER) - Amersfoort Townlands
(56ER) - Amerfoort N Extension
(62ER) - Koppies

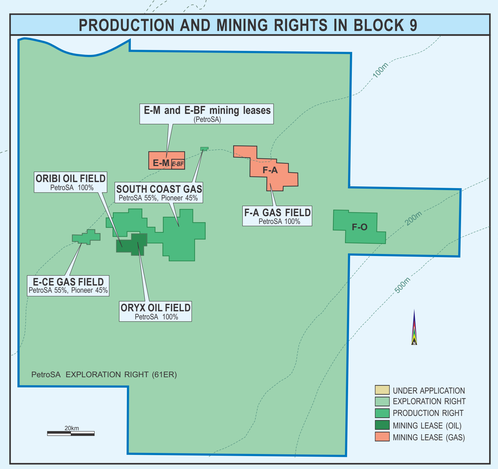
OTHER
(14ER) - Riverwalk
(84ER) - Greatforce Springbok Flats
(92ER) - Bundu Gas
(95ER) - Umbono Coal Ermelo
(99ER) - Umbono Coal
(104ER) - Umbono CBM
(96ER) - Vibrant Veterans
(97ER) - Tshipise Energy
(98ER) - Tshipise Energy
(101ER) - Tshipise Energy
(124ER) - Msix
(126ER) - Msix
(140ER) - Umbono CBM
(141ER) - Richtersveld Mining
(142ER) - Msix
(146ER) - Msix
(147ER) - Msix
(155ER) - Serah Oil & Minerals
(171ER) - Extrispex
(193ER) - Alumni Trading 234
(206ER) - Aberdeen
(207ER) - Iningi Investments 169
(227ER) - Umbono Coal

TCP (Technical Cooperation Permit)
(023TCP) - Sungu Sungu
(024TCP) - Sungu Sungu
(026TCP) - Moonstone
(037TCP) - Kinetiko Energy
(038TCP) - Kinetiko Energy
(039TCP) - Kinetiko Energy
(046TCP) - Umbono CBM
(058TCP) - Motuoane Energy
(059TCP) - Motuoane Energy
(063TCP) - Cairn Energy

ONSHORE / OFFSHORE KEY

- PETROLEUM EXPLORATION WELL
- OIL SHOWS
- COAL FIRED POWER STATION
- GAS TURBINE POWER STATION
- POSSIBLE FUTURE GAS PIPELINE
- SEISMIC LINES
- KOEBERG NUCLEAR POWER PLANT
- COAL FIELD
- ONSHORE OPEN ACREAGE
- OFFSHORE OPEN ACREAGE
- PRIOR APPLICATION AREAS
- AREAS UNDER APPLICATION
- AREAS AWAITING RIGHTS CONVERSION
- TCP TECHNICAL COOPERATION PERMIT
- ER EXPLORATION RIGHT
- PR PRODUCTION RIGHT
- MINING LEASE (OIL) - Block 9
- MINING LEASE (GAS) - Block 9

PRODUCTION AND MINING RIGHTS IN BLOCK 9



200km

-200- Isobaths in metres

Visit our website at *www.petroleumagencysa.com* for more information

This map does not constitute a final authority.
Requests for further details should be addressed to the Chief Executive, Petroleum Agency SA.

August 2013

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