

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.

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

ONSHORE APPLICATIONS (Under Evaluation)	ONSHORE RIGHTS
(118ER) - Mix	NEW RIGHTS GRANTED:
(202ER) - Bundu Gas	ANGLO OPERATIONS
(207ER) - Inngi 169	(01ER) - Coalbrook 1
(208ER) - Falcon Oil & Gas	(02ER) - Waterberg 1
(209ER) - Misty Falls	(03ER) - Grootevlei 1
(210ER) - Gold One Africa	(04ER) - Waterberg 8
(211ER) - Gold One Africa	(05ER) - Waterberg 2
(212ER) - Gold One Africa	(06ER) - Waterberg 3
(213ER) - Gold One Africa	(07ER) - Grootevlei 2
(214ER) - Gold One Africa	(08ER) - Waterberg 11
(215ER) - Shell	(09ER) - Waterberg 10
(220ER) - Shell	(10ER) - Waterberg 12
(221ER) - Shell	(25ER) - Coalbrook 2
(224ER) - Sanyex Investments	(191ER) - Anglo Coal
(261ER) - Maarif Resources	NT ENERGY AFRICA
(266ER) - Kinello Energy	(06ER) - Orogana Gas
(267ER) - Kinello Energy	(35ER) - Orogana Gas
(268ER) - Kinello Energy	(12ER) - Tully Resources
(269ER) - Kinello Energy	(13ER) - Welcome Gas
(280ER) - Umbono CBM	(32ER) - Highveld Gas
(291ER) - Rhino Oil & Gas	(52ER) - Moonstone Investments 81
(292ER) - Rhino Oil & Gas	(53ER) - Inngi Investments
(293ER) - Rhino Oil & Gas	MOLODO E&P
(294ER) - Rhino Oil & Gas	(20ER) - Inngi Area
(295ER) - Rhino Oil & Gas	(21ER) - Beatrix
(313ER) - Sungu Sungu	(27ER) - Evander Area 1
(080TCP) - Kinello Energy	(31ER) - Evander Area 2
(082TCP) - Moonstone Investments 89	(32ER) - Virginia 1
(104TCP) - Rhino Oil & Gas	(33ER) - Virginia 2
(288TCP) - Sungu Sungu	(34ER) - Virginia 3
(007PR) - Highland E&P	(35ER) - Virginia 4
	(36ER) - Virginia 5
	(37ER) - Virginia 6
	(38ER) - Virginia 7
	BADIMIO
	(11ER) - Amersfoort East
	(38ER) - Amersfoort NWS
	(41ER) - Amersfoort Townlands
	(53ER) - Amersfoort N Extension
	(52ER) - Koppies
	(68ER) - Springbok Flats
	(69ER) - Ailval North
	OTHER
	(14ER) - Riverside
	(52ER) - Bundu Gas
	(96ER) - Umbono Coal
	(104ER) - Umbono CBM
	(228ER) - Umbono CBM
	(97ER) - Tshipise Energy
	(98ER) - Tshipise Energy
	(101ER) - Tshipise Energy
	(171ER) - Extrapex
	(193ER) - Alumi Trading 234
	(206ER) - Moonstone Investments 89
	(207ER) - Inngi Investments 169
	(255ER) - Moonstone Investments 89
	(282ER) - Boli Brothers
	TCP (Technical Cooperation Permit)
	(026TCP) - Moonstone
	(038TCP) - Kinello Energy
	(039TCP) - Kinello Energy
	(046TCP) - Umbono CBM
	(063TCP) - Cain Energy
	(078TCP) - White River Exploration
	(81TCP) - White River Exploration
	(108TCP) - Rhino Oil & Gas
	(109TCP) - Rhino Oil & Gas
	(112TCP) - Motuane Energy
	(113TCP) - Motuane Energy
	(127TCP) - Bertolon
	(128TCP) - Bertolon
	(130TCP) - Ginolor

KUDU GAS FIELD
Namcor 100%
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.

CAIRN INDIA (60%) PETROSA (40%) (ER)
Prospects/leads mapped in the drift sequence

THOMBO (Operator) (34.5%) MAIN STREET (25%) SIMBO (40.5%) (ER)
3D seismic data acquired. Maturing synrift prospects

SUNBIRD (Operator) (76%) PETROSA (24%) (PR)

ANADARKO (65%) PETROSA (35%) (ER)

IBHUBESI GAS FIELD
Ibhubesi gas field comprises fluvial type channels and lobes of Albian to early Cretaceous age. Currently, this production right is under a Gas Market Development Plan with an Integrated Field Development Plan (IFD) ongoing.

SHELL International E&P (100%)
Acquired 3D seismic data and identified prospects within the drift sequence. (ER)

BHP BILLITON Ltd (100%)
Evaluating deep water oil potential. (ER)

SUNGU-SUNGU Petroleum (100%) (ER)
Reprocessed 2D seismic data. Currently evaluating prospectivity in the drift sequence

ANADARKO (Operator) (80%) PETROSA (20%) (ER)
Interpretation of the recently acquired 2D seismic data is ongoing. Several prospects have been mapped in the drift sequences.

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.

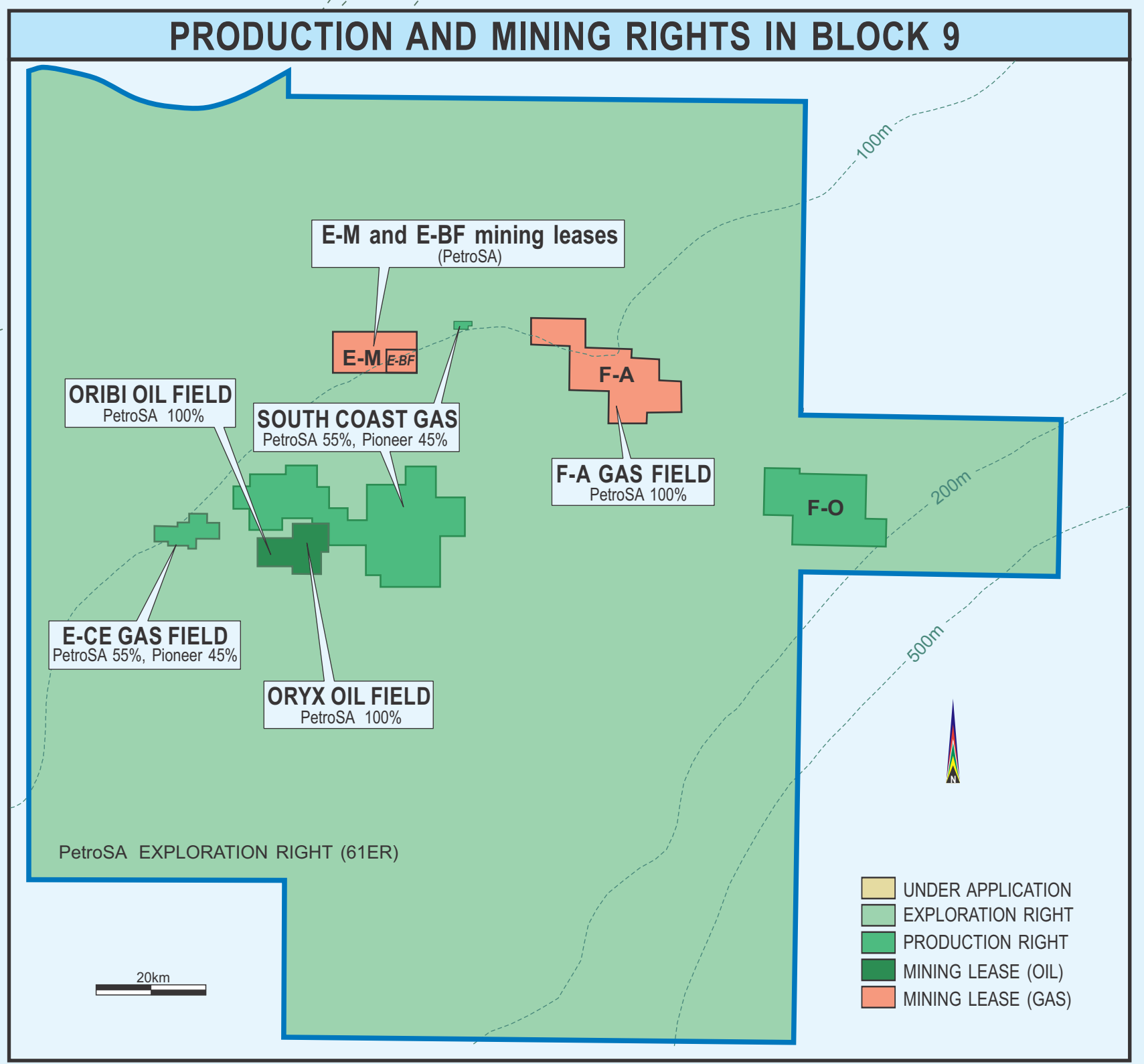
ORIBI/ORYX OIL FIELD (PetroSA 100%)
Submarine fan deposits of Albian (Early Cretaceous) age. Currently not in production.

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

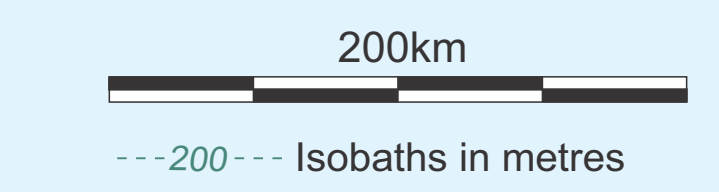
CANADIAN NATURAL RES (50%) TOTAL (50%) BLOCK 11B/12B
Deep water well drilling suspended due to mechanical problems with drilling rig.

NEW AGE ALGOA (50%) RIFT Petroleum (50%) (ER)
Prospectivity evaluation of the synrift and post rift sequences ongoing

F-A GAS FIELD & SATELLITES (PetroSA 100%)
Currently producing from Early Cretaceous shallow marine sandstone reservoirs. Separate 91km pipelines convey gas and condensate to the PetroSA GTL synfuels refinery at Mossel Bay where petrol, diesel, kerosene, etc are produced. F-O Field, 4 wells drilled and currently 2 producing.



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
■	TECHNICAL COOPERATION PERMIT
■	EXPLORATION RIGHT
■	PRODUCTION RIGHT
■	MINING LEASE (OIL) - Block 9
■	MINING LEASE (GAS) - Block 9



Visit our website at www.petroleumagency.co.za 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.
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