2012 Minerals Yearbook

SOUTH SUDAN

U.S. Department of the Interior
U.S. Geological Survey

May 2015

The Mineral Industry of South Sudan

By Thomas R. Yager

In January 2011, the autonomous region of Sudan known as Southern Sudan, which was composed of the States of Central Equatoria, Eastern Equatoria, Jonglei, Lakes, Northern Bahr el Ghazal, Unity, Upper Nile, Warrap, Western Bahr el Ghazal, and Western Equatoria, held a referendum on independence from Sudan. The people of Southern Sudan voted for secession, and the newly established country became independent with the name of the Republic of South Sudan on July 9, 2011 (U.S. Office of Foreign Assets Control, 2011).

Prior to the split, the mineral sector's influence on Sudan's economy was significant because of petroleum production and refining. Sudan was not a globally significant producer or consumer of mineral commodities in 2012. As a result of the referendum, the oilfields were divided between South Sudan and Sudan, but control of the Abyei Area was disputed by the Governments of South Sudan and Sudan (Kushkush, 2013).

Investment in Sudan's petroleum and petrochemical industries by U.S. individuals and organizations was banned by Executive Order 13412, which was issued by the President of the United States on October 13, 2006. The alleged use of revenues from petroleum sales to finance military operations in the Darfur conflict constituted one of the reasons for the Executive Order. U.S. individuals and organizations were banned from participating in the refining of South Sudanese crude petroleum in refineries located in Sudan (Bush, 2006; U.S. Office of Foreign Assets Control, 2011).

Minerals in the National Economy

In 2011 (the latest year for which data were available), crude petroleum exports accounted for 99% of national exports. Crude petroleum accounted for 60.2% of the gross domestic product (GDP). About 98% of the Government of South Sudan's revenues were attributable to crude petroleum production. Crude petroleum's share in exports, the GDP, and Government revenue declined sharply in 2012 (South Sudan National Bureau of Statistics, 2012).

Production

In 2012, South Sudan's crude petroleum production declined by nearly 86%. Gold and crude construction materials, such as brick clay, were also produced.

Structure of the Mineral Industry

Crude petroleum was produced by joint ventures of state-owned companies from China, India, Malaysia, and South Sudan. Gold was produced by artisanal miners.

Commodity Review

Metals

Gold.—Artisanal miners produced gold at Nanakanek. Equator Gold Ltd. of the United Kingdom explored for gold at the Luri project in 2012. New Kush Exploration & Mining Ltd. of South Africa explored for gold at the Eastern Equatoria Kapoeta project (Holland, 2013).

Mineral Fuels

Natural Gas.—Most natural gas associated with crude petroleum was reinjected or flared. In recent years, natural gas exploration in South Sudan has been limited (African Power Mining & Oil Review, 2012).

Petroleum.—All South Sudan's crude petroleum production was exported through pipelines that ran through Sudan. South Sudan paid a pipeline transit fee of $4 per barrel for existing oilfields and $7 per barrel for future discovered oilfields. The Government of Sudan demanded that South Sudan pay between $32 and $36 per barrel as compensation for revenues lost after secession. In December 2011, the Government of Sudan started to divert South Sudanese petroleum exports to its refineries. In response, the Government of South Sudan shut down all South Sudanese crude petroleum production by the end of January 2012 (Petroleum Economist, 2011; African Power Mining & Oil Review, 2012).

In September 2012, the Governments of South Sudan and Sudan reached an agreement on transit fees. South Sudan agreed to pay $8.40 per barrel for petroleum produced in Blocks 1, 2, and 4, and $6.50 per barrel for petroleum exported from Blocks 3 and 7. In addition, South Sudan agreed to pay $3 billion to Sudan as compensation for lost revenues. At yearend, production had not yet restarted. The restoration of South Sudan's crude petroleum production to previous levels could take between 40 days and 6 months (African Power Mining & Oil Review, 2012; Muchira, 2012a; Kushkush, 2013).

The Greater Nile Petroleum Operating Co. [China National Petroleum Corp. (CNPC) (40%), Petronas Carigali Overseas Shd. Bhd. of Malaysia, (30%), ONGC Videsh Ltd. of India (25%), and Nile Petroleum Corp. (Nilepet) (5%)] produced crude petroleum at the El-Haar, the El-Nar, the El-Toor, the Khairat, the Khairat Northeast, the Toma South, and the Unity oilfields in Blocks 1, 2, and 4, which were located in Unity State. In 2011, production from the oilfields located south of the national boundary in Blocks 1, 2, and 4 was about 88,000 bbl/d, and in the disputed Abyei Area, about 5,000 bbl/d. Since 2004, production has declined because of insufficient investment and maturing oilfields (European Coalition on Oil in Sudan, 2010, p. 10, 11, 25; 2011, p. 8, 10; African Power Mining & Oil Review, 2012; Bol, 2012).

Blocks 3 and 7 in Upper Nile State were held by the Petrodar Consortium [CNPC (41%), Petronas (40%), Nilepet (8%), China Petroleum and Chemical Corp. (6%), and Tri-Ocean Energy of Egpyt (5%)]. In 2011, production in Blocks 3 and 7 amounted to about 250,000 bbl/d (Bol, 2012).

Block 5A is located in the Muglad Basin in Unity State. Block 5A was held by White Nile Petroleum Operating Co. [Petronas (67.9%), ONGC Videsh (24.1%), and Nilepet (8%)]. Output was about 12,000 bbl/d in 2011 (Bol, 2012).

Total S.A. of France and its joint-venture partners held Block B in Jonglei State. In October 2012, the Government announced plans to divide Block B into three smaller blocks and to relicense the new blocks to accelerate the pace of exploration. In early November, Total was negotiating with the Government over restarting exploration activities in Block B. The national boundary ran through undeveloped Blocks A, C, and E (European Coalition on Oil in Sudan, 2010, p. 11, 24–25; Addis Fortune, 2012).

National consumption of refined petroleum products was about 20,000 bbl/d. All petroleum refineries remained in Sudan after the referendum on South Sudan's independence (Bol, 2012).

In September 2012, the Governments of Kenya and South Sudan signed an agreement to build a new 2,000-kilometer crude petroleum pipeline between the two countries. Construction was expected to start in June 2013 and completion was scheduled for 2015. The estimated cost of the pipeline was about $3 billion. Completion of the pipeline could be delayed by security concerns and the lack of roads (African Power Mining & Oil Review, 2012; Muchira, 2012b).

Outlook

Before the shutdown of South Sudan's crude petroleum production in January 2012, production had been expected to decrease to less than 200,000 bbl/d by 2016 and less than 100,000 bbl/d by 2021 without substantial new investments. Production peaked in Blocks 1, 2, and 4 in 2004, and the new oilfields that could partially offset declining production from existing oilfields are located in Sudan. In Blocks 3 and 7, output had been expected to decline sharply starting in 2014. Higher levels of production may be sustained with new discoveries or increased recovery rates. The dispute between South Sudan and Sudan over the national boundary remained unresolved at the end of 2012 (Bol, 2012; Kushkush, 2013).

The development of large-scale mines could take many years because of the lack of power and roads. South Sudan had only 300 kilometers of paved roads at the end of 2012 (Holland, 2013).

References Cited

Addis Fortune, 2012, Total expects to resume South Sudan exploration soon: Addis Fortune [Addis Ababa, Ethiopia], November 4, p. 54.

African Power Mining & Oil Review, 2012, Oil production stuck in talks: African Power Mining & Oil Review, Second quarter, p. 64–66.

Bol, E.J., 2012, Ministry of Petroleum and Mining: Republic of South Sudan Investment Summit, Juba, South Sudan, March 20–22, Presentation, unpaginated.

Bush, G.W., 2006, Blocking property of and prohibiting transactions with the Government of Sudan—Executive Order 13412 of October 13, 2006: Federal Register, v. 71, no. 200, October 17, p. 61369.

European Coalition on Oil in Sudan, 2010, Sudan's oil industry on the eve of the referendum: Utrecht, Netherlands, European Coalition on Oil in Sudan, 30 p.

European Coalition on Oil in Sudan, 2011, Sudan's oil industry after the referendum—Conference report: Utrecht, Netherlands, European Coalition on Oil in Sudan, 23 p.

Holland, Hereward, 2013, Mining law set to bring light to Juba's black market: Gold Mining Journal, v. 1, no. 110, January–March, p. 44–45.

Kushkush, Isma'il, 2013, Sudans sign agreement to resume oil exports: The New York Times, March 13, p. A4.

Muchira, John, 2012a, Major breakthrough: Engineering Weekly, v. 32, no. 31, August 17–23, p. 31.

Muchira, John, 2012b, Work on Kenya-South Sudan pipeline expected to start in June 2013: Engineering Weekly, v. 32, no. 32, August 24–30, p. 28.

Petroleum Economist, 2011, Kenya oil-link revisited: Petroleum Economist, v. 78, no. 8, October, p. 39–40.

South Sudan National Bureau of Statistics, 2012, Release of new South Sudan gross domestic product (GDP) estimates for 2011 and revised figures for 2008–2010: Juba, South Sudan, South Sudan National Bureau of Statistics press release, October 2, 7 p.

U.S. Office of Foreign Assets Control, 2011, 31 CFR part 538 Sudanese sanctions regulations; final rule: Federal Register, v. 76, no. 236, December 8, p. 76617–76619.

TABLE 1

SOUTH SUDAN: PRODUCTION OF MINERAL COMMODITIES[1, 2]

(Thousand 42-gallon barrels)

Commodity[3]	2011	2012
Petroleum, crude[e]	62,000 [r]	8,900

[e]Estimated; estimated data are rounded to no more than three significant digits. [r]Revised.

[1]Table includes data available through October 31, 2013.

[2]Data for 2011 are from July 9 to December 31; South Sudanese production was included in Sudan until independence on July 9, 2011.

[3]In addition to crude petroleum, gold and such construction materials as brick clay were produced, but available information is inadequate to estimate output.

TABLE 2

SOUTH SUDAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2012[1]

(Thousand 42-gallon barrels unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Gold	kilograms	Artisanal miners	Mines at Nanakanek	NA
Petroleum, crude		Petrodar Consortium [China National Petroleum Corp. (CNPC), 41%; Petronas Carigali Overseas Shd. Bhd., 40%; Nile Petroleum Corp. (Nilepet), 8%; China Petroleum and Chemical Corp., 6%; Tri-Ocean Energy, 5%]	Blocks 3 and 7 in Upper Nile State	91,500
Do.		Greater Nile Petroleum Operating Co. [China National Petroleum Corp. (CNPC), 40%; Petronas Carigali Overseas Shd. Bhd., 30%; ONGC Videsh Ltd., 25%; Nile Petroleum Corp. (Nilepet), 5%]	Blocks 1, 2, and 4 in Unity State[2]	32,200
Do.		White Nile Petroleum Operating Co. [Petronas Carigali Overseas Shd. Bhd., 67.9%; ONGC Videsh Ltd., 24.1%; Nile Petroleum Corp. (Nilepet), 8%]	Block 5A in Unity State	4,400

Do. Ditto. NA Not available.

[1]In addition to the facilities listed, about 1.8 million barrels per year of crude petroleum were produced in the Abyei Area, which was claimed by both South Sudan and Sudan.

[2]El-Haar, El-Nar, El-Toor, Khairat, Khairat Northeast, Toma South, and Unity oilfields only. The Bamboo, the Bamboo West, the Garaad, the Heglig, the Taiyib, and the Toma oilfields remained in Sudan.