

THE MINERAL INDUSTRY OF NIGER

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Niger is a landlocked African country bordered by Algeria, Benin, Burkina Faso, Chad, Libya, Mali, and Nigeria. In 2003, population was estimated to be about 11.1 million. The country's total land and water area is about 1.3 million square kilometers. In 2003, the gross domestic product (GDP) based on purchasing power parity was estimated to be \$9.6 billion (U.S. Central Intelligence Agency, 2003[§];¹ International Monetary Fund, 2004[§]).

Niger's mineral sector was dominated by uranium mining. Other commodities produced were cement, coal, gold, gypsum, limestone, salt, and tin. According to the World Nuclear Association (2004[§])³, Niger was the world's fifth leading producer of uranium after Canada, Australia, Kazakhstan, and Russia. Uranium accounted for about 32% of total exports, which were valued at \$113 million (World Bank, 2004[§]).

Production of uranium (contained in uranium oxide) rose to 3,143 metric tons (t) in 2003 compared with 3,076 t in 2002 (table 1). Production of uranium came from the Akouta underground mine, which was operated by Compagnie Minière d'Akouta (COMINAK), and the Arlit open pit mine, which was operated by Société des Mines de l'Air (SOMAIR). COMINAK was owned by Compagnie Générale des Matières Nucléaires (COGEMA) of France (34%), the Government of Niger (31%), Overseas Uranium Resources Development Company of Japan (25%), and ENUSA Industrias Avanzadas, S.A. of Spain (10%). SOMAIR was owned by COGEMA (56.86%), the Government of Niger (36.6%), and Urangesellschaft GmbH of Germany (6.54%) (Antenna Netherlands, 2004[§]).

In May, Etruscan Resources Inc. of Canada and Semafo Inc. of Canada announced that construction had begun at the Samira Hill gold property. The cost of the Samira Hill Mine, carbon-in-leach (CIL) plant, and related facilities was estimated to be \$27 million. The operating company was Société des Mines du Liptako SA (SML), which was a limited liability company owned by African GeoMin Mining Development Corporation Ltd. (AGMDC) (80%) and the Government of Niger (20%); AGMDC was owned by Etruscan Resources (50%) and Semafo Inc. (50%). Samira Hill was located about 90 kilometers west of the capital city of Niamey. Movable reserves were estimated to be about 10.1 million metric tons (Mt) at a grade of 2.21 grams per ton (g/t) gold, or 22,300 kilograms of gold. The two main deposits in the property are Libiri and Samira

Hill. Production was expected to average 3,100 kilograms per year (reported as 100,000 troy ounces per year) at an average cash cost of \$203 per ounce. The CIL plant, which will be constructed within 300 meters of the main pit, was designed for a throughput of 6,000 metric tons per day (t/d) of saprolite and 4,000 t/d of harder transitional material. A second grinding mill will be added during the second year of operation. The life of the mine was estimated to be 6.3 years. Commissioning of the mine was expected to begin in the third quarter of 2004 (Africa Mining Intelligence, 2003; African Mining, 2003; Etruscan Resources Inc., 2003).

PETRONAS Carigali Niger Exploration and Production Ltd. [a subsidiary of Petroliaam Nasional Berhad (PETRONAS) of Malaysia and Exxon Mobil Corp.] planned to begin drilling at three exploratory oil wells in the Agadem Basin in April 2003. Each of the companies held a 50% interest in the Agadem block 1 permit. Previous exploration in the Basin had confirmed oil reserves of about 300 million barrels (Africa Energy Intelligence, 2003; U.S. Energy Information Administration, 2003[§]).

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¹References that include a section mark (§) are found in the Internet References Cited section.

TABLE 1
NIGER: PRODUCTION OF MINERAL COMMODITIES^{1,2}

(Metric tons unless otherwise specified)

| Commodity | 1999 | 2000 | 2001 | 2002 | 2003 ^c |
|--------------------------------|---------|--------------------|--------------------|----------------------|---------------------|
| Cement, hydraulic | 30,000 | 40,000 | 40,000 | 40,000 ^c | 40,000 |
| Coal, bituminous | 168,466 | 158,200 | 163,275 | 182,916 | 183,000 |
| Gold ³ kilograms | 21 | 25 | 30 | 28 | 28 |
| Gypsum | 1,502 | 1,474 | 3,205 | 17,652 ^r | 17,700 |
| Limestone | 68,672 | 60,535 | 103,726 | 146,399 ^r | 146,000 |
| Salt ^e | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 |
| Sulfuric acid: | | | | | |
| Gross weight | 60,000 | 52,000 | 55,000 | 62,000 | 67,000 ⁴ |
| Sulfur content | 20,000 | 17,000 | 18,000 | 20,000 | 20,000 |
| Tin, mine output, Sn content | 32 | 22 | 9 | 11 | 11 |
| Uranium, U content | 2,916 | 2,898 ^r | 2,920 ^r | 3,076 | 3,143 ⁴ |

^cEstimated; estimated data are rounded to no more than three significant digits. ^rRevised.

¹Table includes data available through October 25, 2004.

²In addition to the commodities listed, phosphate rock, tungsten ore, and a variety of construction materials (clays, sand and gravel, and stone) were produced, but information is inadequate to make reliable estimates of output levels.

³Does not include unreported production; total output of gold was estimated to be roughly 1,000 kilograms per year.

⁴Reported figure.