



2014 Minerals Yearbook

IRAQ

THE MINERAL INDUSTRY OF IRAQ

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In 2014, Iraq, a country in the Middle East bordering Iran, Jordan, Kuwait, Saudi Arabia, Syria, and Turkey and which has an area of about 438,000 square kilometers, continued to be an important global producer and exporter of crude petroleum. The country produced an average of 3.11 million barrels per day (Mbb/d) of crude petroleum and was the world's sixth-ranked crude petroleum producer. Iraq was also the world's third-ranked crude petroleum exporter after Saudi Arabia and Russia. The country held the world's fifth largest proven crude petroleum reserves, accounting for 18.5% of the Middle East's and 8.8% of the world's total. Iraq held the world's 11th largest proved natural gas reserves, which were estimated to be 3.6 trillion cubic meters, or about 2% of the world's total. About 75% of Iraq's natural gas reserves were associated with the extraction of crude petroleum, and they were mostly located in the southern part of the country. More than half of Iraq's natural gas was vented and flared owing to the absence of sufficient infrastructure for its transportation, treatment, and export. In 2014, Iraq embarked on several new processing projects that were expected to end the flaring of associated natural gas in its oilfields (table 1; Mirza, 2014a; BP p.l.c., 2015, p. 6, 8, 16, 20; Organization of the Petroleum Exporting Countries, 2015, p. 8, 27–28, 52; Shell Iraq, 2015; U.S. Energy Information Administration, 2015).

According to the Iraq Geological Survey (Geoserv-Iraq), the country was estimated to hold a considerable wealth of mineral resources based on previous geologic surveys and mappings. Some of the mineral resources that were declared as exploitation opportunities by Geoserv-Iraq included the mining and beneficiation of the Swab phosphate deposit and the Wadi Al-Hirri phosphate deposit, both located in Al Anbar Governorate, and the mining and processing of the Mishraq and Lazzaga native sulfur deposits, located in Ninawa Governorate. Geoserv-Iraq has estimated that the country had 330 million metric tons (Mt) of dolomite, 130 Mt of gypsum, 1,200 Mt of kaolinitic clay, 8,000 Mt of limestone, 600 Mt of native sulfur, 10,000 Mt of phosphate rock, and 50 Mt of salt (Gavin, 2014; Iraq Geological Survey, 2015; Jassim, 2015).

The northern and northeastern parts of Iraq have a narrow belt within the Zagros Mountain tectonic units along the country's borders with Iran and Turkey that indicate some occurrences of metallic minerals. These minerals were expected to include chromium, copper, gold, iron, lead, manganese, and zinc. Detailed mapping and surveying of the area using remote-sensing technologies would be needed to update information needed to determine the economic viability of these resources. Although Iraq did not mine any metal commodities in 2014, it produced several industrial mineral commodities in modest quantities that were not sufficient to meet its domestic consumption. These commodities included bentonite, cement, clay, gypsum, limestone, nitrogen and phosphate fertilizers, phosphate rock, salt, sand and gravel, silica sand, and sulfur (table 1; Mustafa and Benni, 2014, p. 185–186; Jassim, 2015).

Minerals in the National Economy

Iraq's real gross domestic product (GDP) decreased by 2.4% in 2014 compared with an increase of 6.6% in 2013 and 13.9% in 2012, respectively. Iraq's crude petroleum exports, which accounted for about 99% of its total exports, decreased by 3.5% (by value) in 2014 to about \$85 billion from about \$88 billion in 2013. The decrease in Iraq's crude petroleum exports was attributable mainly to the decrease in the price of Iraq Basrah Light crude by 8.8% to an average of \$94.45 per barrel in 2014 from an average of \$103.60 per barrel in 2013 as a result of lower global crude petroleum prices. The armed conflict between the Government and the self-proclaimed Islamic State of Iraq and the Levant (ISIL) in the second half of the year disturbed the country's petroleum production, exports, and refining activities at the northern oilfields owing to several attacks on the facilities and refineries near the cities of Baiji and Kirkuk. The conflict did not affect crude petroleum exports from the southern oilfields, however, which accounted for 95% of the country's total exports (BP p.l.c., 2015, p. 6; International Monetary Fund, 2015, p. 63, 175; International Trade Center, 2015a–f; Organization of the Petroleum Exporting Countries, 2015, p. 8, 82).

Government Policies and Programs

The Iraqi Ministry of Industry and Minerals (MIM) law No. 38 for 2011 defines the ministry's objectives, scope, and structure and explains its role in promoting the country's mineral industry sector. Article 3 of the law states that the MIM is responsible for increasing the non-oil minerals sector's share of the GDP, regulating industrial and metallurgical activities, and setting industrial policies and strategies in accordance with the Government's policies (Iraqi Local Governance Law Library, 2015).

By yearend 2014, the Federal Government and the Kurdistan Regional Government (KRG), the ruling body of the semiautonomous Iraqi Kurdistan Region, reached a preliminary agreement that was expected to end their dispute on dividing the country's petroleum revenue from the northern oilfields. According to the agreement terms, the KRG was expected to export a total of about 550,000 barrels per day (bbl/d) of crude petroleum through the Port of Ceyhan in Turkey under the Iraqi Government's authority in return for 17% of the national budget and a payment of \$1 billion to the KRG military forces. The KRG was expected to export about 250,000 bbl/d from the oilfields in its self-governed region and about 300,000 bbl/d from the Kirkuk oilfields, which the KRG had controlled since the Federal Government's military forces withdrew from the area in mid-2014 (Lee, 2014a; Watts, 2014b; U.S. Energy Information Administration, 2015).

In 2014, the Iraqi Ministry of Planning worked with the United Nations Industrial Development Organization (UNIDO)

on a project to revitalize the private sector and to encourage foreign direct investment by developing new industrial zones. The project was expected to encourage a favorable business environment for domestic and foreign industrial companies, including minerals. The project included preparing a draft of the Industrial Zones Law, feasibility studies, and a plan for developing the industrial zones to be submitted to the Iraqi cabinet for approval. The project also included plans to construct two industrial zones in southern Iraq, including one at the Al Faw Grand Port in Al Basrah Governorate and another in Al Najaf Governorate (United Nations Industrial Development Organization, 2014; Ministry of Planning, 2015).

Production

In 2014, Iraq's production of crude petroleum increased by about 4.4% to an average of 3.11 Mbbl/d from 2.97 Mbbl/d in 2013 owing to production increases at several oilfields and the commissioning of a new oilfield in Wasit Governorate. Iraq's petroleum-producing wells increased by about 13% to 1,963 wells in 2014 from 1,735 wells in 2013. Output of refined petroleum products decreased by 20% to 175.3 Mbbl in 2014 from 219.3 Mbbl in 2013 owing to several interruptions to production at the Baiji refinery in Salah ad Din Governorate (Iraq's largest refinery), because of the armed conflict between the Government and ISIL. Ammonia production decreased by 28% and urea production decreased by about 38% compared with that of 2013 owing to the suspension of production at the Baiji fertilizer plant during the second half of the year. Iraq produced approximately 1 Mt of crude steel for the first time in 2014. The increase was owing to the commissioning of a new 450,000-metric-ton-per-year (t/yr) billet plant in Al Basrah Governorate by the Al Anmaa Co. for Constructional Material Production as well as the first full year of production for the FF Steel Co. of Turkey at its 580,000-t/yr billet plant in Erbil Governorate (table 1, 2; Harris, 2014; Kurdistan Regional Government, 2014a; Watts, 2014c; Organisation for Economic Co-operation and Development, 2015, p. 30; Organization of the Petroleum Exporting Countries, 2015, p. 26, 28, 37; U.S. Energy Information Administration, 2015).

Structure of the Mineral Industry

The MIM administers the activities of the hard-rock mineral sector through several state-owned companies, including the General Company for Phosphate, Geosurv-Iraq, Iraqi Cement State Co., Mishraq Sulphur State Co., Northern Cement Co., Southern Cement Co., State Company for Iron and Steel (SCIS), and the State Company of Fertilizers—Southern Region. Geosurv-Iraq produced industrial minerals, including, bentonite, clays, construction and silica sand, feldspar, ironstone, kaolin, and salt. Gypsum was the only mineral commodity produced by private companies (table 2; Iraqi Local Governance Law Library, 2015).

The Iraqi Ministry of Oil manages the hydrocarbon sector activity in the country (except for the Iraqi Kurdistan Region) through a number of state-owned petroleum companies. In 2014, the upstream companies included Iraq Drilling Co., Midland Oil Co., Missan Oil Co., North Oil Co., Oil Exploration Co.,

Oil Project Co., and South Oil Co. The downstream companies included Basrah Gas Co. (BGC), Gas Filling Co., Midland Refinery Co., North Refinery Co., Oil Marketing Co., Oil Pipeline Co., Oil Products Distribution Co., Oil Tanker Co., South Gas Co., South Refinery Co., and State Oil Marketing Organization. Many international petroleum companies had established a presence in Iraq and entered into production-sharing agreements with the governing authorities, including in the Iraqi Kurdistan Region in 2014 (table 2; U.S. Energy Information Administration, 2015).

The KRG manages the Iraqi Kurdistan Region hydrocarbon sector, including development and production of oil and gas through its Ministry of Natural Resources. The KRG adopted law No. 22, the Oil and Gas Law, in 2007. In accordance with article 16 of law No. 22, Kurdistan's Oil and Gas Revenue Fund Law was approved by the KRG cabinet to regulate and distribute the region's petroleum revenue; the proposed law was then referred to the region's Parliament for review and approval by yearend 2014. The law was expected to authorize the cabinet to nominate a board that would create public accounts to manage revenue from the crude petroleum and refined products exports. Under the new law, Kurdistan's petroleum revenue could be allocated for the Region's budget, environmental protection, and infrastructure development. The KRG Cabinet also approved a law to create the first domestic petroleum exploration and production company in the Iraqi Kurdistan Region. The Kurdistan Oil Exploration and Production Company law was referred to the Region's parliament for approval by yearend 2014. According to the law, the new company would be a public-shared venture that would plan and prepare policies to manage the petroleum sector in the region in coordination with Kurdistan's Ministry of Natural Resources and the Oil and Gas Council. The company's activities were expected to include the development, exploration, extraction, funding, and marketing of oil and gas domestically and internationally (Kurdistan Regional Government, 2014b, 2015, p. 1, 9; Iraq Business News, 2015; U.S. Energy Information Administration, 2015).

Mineral Trade

The value of Iraq's total exports decreased by 3.7% to about \$86 billion in 2014 from \$89 billion in 2013. The country's top export markets were the United States, China, and India. In terms of volume, Iraq's crude petroleum exports increased by 5.2% to 2.516 Mbbl/d in 2014 from 2.390 Mbbl/d in 2013. Crude petroleum accounted for 97% of Iraq's total exports. Most of Iraq's crude petroleum was exported to Asia (58%), followed by Europe (19%), the United States (14%), and the rest of the world (9%) (International Trade Center, 2015a, b; U.S. Energy Information Administration, 2015).

The value of Iraq's total imports decreased by about 6.3% to about \$37 billion in 2014 from \$39 billion in 2013. The country's leading mineral commodities suppliers were the United States, China, and Turkey. Iraq was the Middle East's sixth-ranked importer of iron and steel products in 2014; its imports were valued at \$1.4 billion. The country's major iron and steel suppliers were China, Turkey, and Ukraine. Iraq was the Middle East's fifth-ranked importer of aluminum products in 2014; its imports were valued at \$437 million. The country's

major aluminum suppliers were China, Jordan, and Turkey. In terms of value, Iraq was the Middle East's eighth-ranked nitrogen fertilizer importer and fourth-ranked phosphate fertilizer importer (International Trade Center, 2015a, c–f).

The value of U.S. exports to Iraq increased by about 5% to \$2.1 billion in 2014 from \$2.0 billion in 2013. Major U.S. exports to Iraq were civilian aircraft and equipment, drilling and oilfield equipment, industrial engines, and iron and steel products. The value of U.S. imports from Iraq, which consisted almost entirely of crude petroleum, increased by 3% to \$13.7 billion in 2014 from \$13.3 billion in 2013 (U.S. Census Bureau, 2015a–c).

Commodity Review

Metals

Iron and Steel.—In 2014, MIM created a committee to resolve the issues contributing to the delay in executing the agreement signed in 2013 between SCIS and UB Holding Ltd. of Turkey. The Turkish company was expected to invest \$700 million to rebuild the SCIS steel complex at Khawr Al Zubayr in Al Basrah Governorate. According to the terms of the agreement, Al Basrah Governorate would get 1%; MIM, 15%; and UB Holding Ltd., 84% of the project's annual revenue. The project, which was expected to be implemented in three phases, was progressing in 2014 and was on target to be completed in 2016. The project was designed to include a plant that had an initial capacity to produce 520,000 t/yr of iron and steel products. In the final stage of the project, the company planned to construct a new 1.2-million-metric-ton-per-year (Mt/yr) plant to produce direct-reduced iron (DRI) (Metal Expert, 2013; Al Adwa News, 2015; Organisation for Economic Co-operation and Development, 2015, p. 30).

FF Steel Co. resumed its regular operations in Erbil Governorate in the Iraqi Kurdistan Region after a brief suspension of operations because of security threats made by ISIL in 2014. The company, which commissioned its first 580,000-t/yr billet plant in December 2013, continued to increase its production to reach the plant's designed capacity in 2014 (table 2; Kurdistan Regional Government, 2014a; Organisation for Economic Co-operation and Development, 2015, p. 30).

Mass Iraq Iron and Steel Industry Co., which was a subsidiary of Mass Group Holding Ltd. of Jordan, moved forward in 2014 with plans to commission its new 1.25-Mt/yr iron and steel plant (with plans to increase production at a later time) in Al Suleimaniyah Governorate in northern Iraq at an estimated cost of \$400 million. In 2014, the company was in the planning stage for construction of a new DRI plant with a capacity of 2 Mt/yr in Al Suleimaniyah Governorate (Mass Group Holding Ltd., 2015; Organisation for Economic Co-operation and Development, 2015, p. 30).

Industrial Minerals

Bentonite.—The construction of the bentonite-activation plant, which was carried out by Beijing Trading and Development Co. of China at Al Fallujah in Al Anbar Governorate in western Iraq, was 85% completed at the beginning of 2014; however, the status

of progress for the project was unknown for the remainder of the year owing to the continued armed conflict in the area between the Government and ISIL. The plant was expected to convert calcium-based bentonite into sodium-based bentonite to be used as a drilling mud in domestic petroleum operations. The plant had an initial capacity of 75,000 t/yr of sodium-activated bentonite, which could be increased to 100,000 t/yr in later stages (Al Hal News, 2012; National Iraqi News Agency, 2014).

Cement.—Iraq's demand for cement has increased in recent years owing to greater construction activity by the private and the public sectors. Iraq was estimated to have produced about 16 Mt of cement in 2014, and the country imported an estimated 8 to 10 Mt of cement, mostly from Iran. Most of the country's locally produced cement came from state-owned plants. The Iraqi Cement State Co. was a self-financed state-owned company that was governed by law No. 22 of 1997; it produced and marketed cement in Iraq from its plants at Al Fallujah, Al Qaim, Baghdad, Kirkuk, and Kubaisa (table 2; Lee, 2014b; Global Cement, 2014, 2015; Iraqi Cement State Co., 2015).

In 2014, Lafarge S.A. of France employed about 3,000 people locally. The company operated two cement plants in Al Suleimaniyah Governorate in northern Iraq, including a 2.5-Mt/yr-capacity plant at Bazian and a 2.3-Mt/yr-capacity plant at Tasluja. Lafarge S.A. operated a third cement plant in Karbala Governorate in southern Iraq. The Karbala plant went through a modernization process in 2014 and it was expected to have the capacity to produce 1.8 Mt/yr of sulfate-resistant cement in 2015 (Lee, 2014c; Lafarge S.A., 2015a, b).

In February 2014, Lucky Cement Co. of Pakistan began production at its grinding plant in Al Basrah Governorate. The grinding plant was a \$40 million investment in a 50–50 joint venture with the Al Shawy family and was expected to have a 1.1-Mt/yr cement-grinding capacity. Lucky planned to invest an additional \$125 million to construct another cement production plant with a capacity of 1.25 Mt/yr at a later date (Lee, 2014c).

Nitrogen.—The Baiji fertilizer plant in Salah ad Din Governorate was operated by 1st Global Company for Chemical Fertilizers Production Ltd. of Jordan. In 2014, the company was in the final stages of modernizing its plant. The plant, which had a design capacity of 365,000 t/yr of ammonia and 525,000 t/yr of urea, operated at 57% of its ammonia and 70% of its urea production capacities in 2014 (table 2; Mirza, 2014b; Al Fathi, 2015).

In March 2014, MIM signed an \$11 billion agreement with Royal Dutch Shell plc of the United Kingdom to construct a new petrochemicals complex called Nibras in Al Basrah Governorate. The Government had approved the construction plans for the complex earlier in the year. The complex was expected to use ethane cracking and treatment processes to produce 1.8 Mt/yr of downstream petrochemical products, including fertilizers. The project, which was planned to be completed in 6 years, was projected to employ 50,000 people (Ministry of Industry and Minerals, 2015; Watts, 2015b).

Sulfur.—State-owned Mishraq Sulphur State Co. (MSSC) mined sulfur from the Al Mishraq Mine southeast of the city of Mosul in Ninawa Governorate. In June, MSSC received \$53 million worth of equipment from Devco Corp. of the United States as the second major shipment of

a \$78.6 million contract with the MIM to modernize and rehabilitate the Al Mishraq Mine and facility. The shipment included 43 skids or modular units and more than 200 crates of various pipes and structural materials for constructing the supplied sulfur purification system. The sulfur purification system included a submerged combustion distillation system, a sulfur filtration unit, and a sulfur recovery unit. The Al Mishraq sulfur mine and facility rehabilitation project was the largest contract awarded by MIM since 2003. Once the plant becomes operational, MSSC is expected to produce about 500,000 t/yr of sulfur; output was planned to increase to 1 Mt/yr at a later date (Lee, 2014b; Devco Corp., 2015).

Mineral Fuels

Natural Gas.—In 2014, the Ministry of Oil established Basrah Gas Co. (BGC), which was a new \$17 billion natural gas gathering, processing, and treatment company. The 25-year joint venture was established among South Gas Co. (51%), Royal Dutch Shell (44%), and Mitsubishi Corp. of Japan (5%). The new company was expected to capture and treat flared natural gas from the Al Rumaila, West Qurna 1, and Zubair oilfields, which are located in Al Basrah Governorate. The agreement also included plans to rehabilitate and upgrade the current facilities and to construct a new liquefied natural gas (LNG) exporting facility with the capacity to process up to 56 million cubic meters per day of natural gas. Processed natural gas was expected to be delivered to South Gas to supply local power generation stations, and the remaining natural gas supply could be exported by LNG and liquefied petroleum gas facilities. In addition, associated products, such as condensate, were expected to be sold to domestic and foreign markets (table 2; Shell Iraq, 2015; U.S. Energy Information Administration, 2015).

In its efforts to reduce natural gas flaring in southern Iraq, in March the Ministry of Oil, through the new BGC, commissioned two natural-gas-compression facilities at the Zubair oilfields in Al Basrah Governorate. These facilities were the first to be commissioned in the country in nearly 30 years. The Hammar Mishrif and Rafidhiya compression facilities combined were expected to add about 1.7 million cubic meters per day to Iraq's associated natural-gas-processing capacity. The project was carried out by Petrojet Co. of Egypt, and it took about 11 months to complete (Mirza, 2014a).

In May, natural gas production started at the Summail gasfield, which is located in Duhok Governorate in the Iraqi Kurdistan Region and was operated by DNO International ASA of Norway (40%), Genel Enerji A.S. of Turkey (40%), and KRG (20%). The Summail gasfield had an initial capacity to produce 1.5 million cubic meters per day of natural gas that was expected to increase to about 3.4 million cubic meters per day within few months and to ramp up to 5.6 million cubic meters per day eventually. The natural gas produced was expected to supply the Duhok power station, which was located about 40 kilometers (km) from the gasfield. The 750-megawatt-capacity Duhok power station would receive natural gas by pipelines; the natural gas would be used in place of the diesel fuel that was presently powering the plant's six turbines (Iraq Business News, 2014; Watts, 2014b).

Petroleum.—Between 2010 and 2014, Iraq increased its petroleum production, including production from the Kurdistan Region of Iraq, by about 805,000 bbl/d, or by about 32%. In 2014, Iraq started its first crude petroleum delivery from the newly developed Badra oilfield in Wasit Governorate, which is located in the eastern part of the country. The Badra oilfield, which had an initial crude petroleum capacity of 15,000 bbl/d, was managed through a profit-sharing agreement among Gazprom OAO of Russia (30%), Oil Exploration Co. of Iraq (25%), Korean Gas Corp. (Kogas) of the Republic of Korea (22.5%), Petronas Carigali International Sdn Bhd of Malaysia (15%), and Türkiye Petrolleri Anonim Ortaklığı (TPAO) of Turkey (7.5%). The Badra oilfield was expected to supply crude petroleum to export terminals in Al Basrah Governorate through a 165-km inland pipeline network, which was commissioned earlier in the year. The Badra oilfield was expected to reach a capacity of 170,000 bbl/d by 2017, and it was expected to maintain this level for 7 years (Harris, 2014; Watts, 2014c; U.S. Energy Information Administration, 2015).

In April, the Ministry of Oil signed a \$6.04 billion agreement with four companies from the Republic of Korea to construct a new 140,000-bbl/d refinery at Karbala Governorate in southern Iraq. Earlier in January, the Iraqi Government had approved the Ministry of Oil's agreement with the four companies: Hyundai Engineering Co., Hyundai Engineering and Construction Co. Ltd., GS Engineering and Construction Corp., and SK Engineering and Construction Co. Ltd. The project was the first of five new refineries that were planned to increase the country's petroleum refining capacity by more than 700,000 bbl/d through 2019. The refinery in Karbala was expected to be commissioned in 2017 (Mirza, 2014c).

By yearend 2014, the Jisik-1 crude petroleum and natural gas well had been discovered at a depth of about 4.5 km at the Harir Block 60, which is located about 60 km from the city of Erbil in the Kurdistan region. The Harir Block was managed by Marathon Oil Corp. of the United States (45%), Total S.A. of France (35%), and KRG (20%). Initially, Jisik-1 was expected to have the capacity to produce 6,000 bbl/d of crude petroleum and between 2.8 to 4.2 million cubic meters per day of natural gas (Lee, 2014d).

Outlook

Iraq's GDP is expected to increase by 1.3% in 2015 and 7.6% in 2016 (International Monetary Fund, 2015, p. 63, 175). The country's national budget, which allocated \$12 billion for 2015, is expected to focus on the services sector, which may limit the Iraqi Government's efforts to stimulate further development in the mineral industry in the short term. The recently proposed Industrial Zones Law is expected to promote private sector development and to enhance the integration between local and regional economic conglomerates. The Government has started negotiating amendments to services contracts with major petroleum companies to mitigate the instability in national revenue that resulted from fluctuating crude petroleum prices. Although Iraq's petroleum production increased in 2014, the country still faces challenges in meeting its export commitments in a timely manner owing to underdeveloped infrastructure, including insufficient pumping and storage capacities.

Iraq is expected to continue with plans to increase its average petroleum output by 14% to 3.75 Mbb/d by mid-2015 and up to 9.0 Mbb/d by 2020 (United Nations Industrial Development Organization, 2014; Lee and Smith, 2015; Ministry of Planning, 2015; U.S. Energy Information Administration, 2015; Watts, 2015a).

KRG is expected to continue with plans to increase crude petroleum production to about 1 Mbb/d by the end of 2015 or early 2016 and to encourage new petroleum and natural gas developments and discoveries. The preliminary agreement between the Federal Government and KRG is expected to establish a foundation for significant increases in petroleum production and exports; however, delays in the development of the petroleum sector owing to budgetary and security limitations are expected to test the country's economic resilience (Lee, 2014a; Watts, 2014a; U.S. Energy Information Administration, 2015).

Several iron and steel projects were expected to progress in 2015, including projects in the Iraqi Kurdistan Region and the southern part of the country. In the short term, these projects are expected to contribute to the country's nonfuel minerals sector and to reduce dependency on iron and steel imports (Metal Expert, 2013; Kurdistan Regional Government, 2014a; Watts, 2014b; Al Adwa News, 2015; Mass Group Holding Ltd., 2015; Organisation for Economic Co-operation and Development, 2015, p. 30).

The Nibras petrochemicals project is expected to be a significant contributor to the country's industrial sector in southern Iraq. The project is expected to be one of the largest foreign investments in Iraq and the Middle East, to produce downstream petrochemical products, and to contribute directly to the country's economic growth (Ministry of Industry and Minerals, 2015; Watts, 2015b).

In the short term, BGC's natural gas capture and treatment project is expected to contribute to improving the country's power generation capacity and to establish a foundation for future LNG exports from the country's southern terminal in Al Basrah Governorate (Shell Iraq, 2015; U.S. Energy Information Administration, 2015).

References Cited

- Al Adwa News, 2015, Settlement committee delays executing the iron and steel plant deal: Al Adwa News [Baghdad, Iraq], 2015, January 30. (Accessed July 10, 2015, at <http://www.aladwa-news.com/?p=5264>.)
- Al Fathi, Saadallah, 2015, Iraq's beleaguered petrochemicals sector gets a lift: Gulf News [Dubai, United Arab Emirates], February 8. (Accessed July 10, 2015, at <http://m.gulfnews.com/business/iraq-s-beleaguered-petrochemicals-sector-gets-a-lift-1.1453115>.)
- Al Hal News, 2012, Geoserv-Iraq signs a contract with a Chinese company to construct a bentonite plant at Al Fallujah: Al Hal News [Baghdad, Iraq], March 31. (Accessed July 6, 2015, at http://www.alhalnews.com/index.php?page=article&id=1310315562#.VVVDGE_6JiUk.)
- BP p.l.c., 2015, BP statistical review of world energy—June 2015: London, United Kingdom, BP p.l.c., 48 p. (Accessed June 15, 2015, at <http://www.bp.com/content/dam/bp/pdf/Energy-economics/statistical-review-2015/bp-statistical-review-of-world-energy-2015-full-report.pdf>.)
- Devco Corp., 2015, Mishraq sulfur purification facility: Devco Corp. (Accessed July 2, 2015, at <http://www.devcousa.com/experience/Mishraq>.)
- Gavin, James, 2014, Iraq struggles to mine a rich vein: MEED, August 4. (Accessed July 2, 2015, at <http://www.meed.com/sectors/industry/metals-and-mining/iraq-struggles-to-mine-a-rich-vein/3194202.article>.)
- Global Cement, 2014, Iraq has agreed to increase the volume of Iran's cement exports: Pro Global Media Ltd., September 15. (Accessed June 19, 2015, at <http://www.globalcement.com/news/item/2873-iraq-has-agreed-to-increase-the-volume-of-iran-s-cement-exports>.)
- Global Cement, 2015, Iran produced 60Mt of cement in 2015 financial year: Pro Global Media Ltd., April 14. (Accessed July 10, 2015, at <http://www.globalcement.com/news/item/3523-iran-produced-60mt-of-cement-in-2015-financial-year>.)
- Harris, Paddy, 2014, Gazprom Neft starts oil deliveries from Iraq's Badra field: Oil and Gas Technology, July 28. (Accessed July 16, 2015, at <http://www.oilandgastechology.net/upstream-news/gazprom-neft-starts-oil-deliveries-iraq%E2%80%99s-badra-field>.)
- International Monetary Fund, 2015, World economic outlook—Uneven growth, short-and-long-term factors: International Monetary Fund, April, 230 p. (Accessed June 19, 2015, at <http://www.imf.org/external/pubs/ft/weo/2015/01/pdf/text.pdf>.)
- International Trade Center, 2015a, List of importing markets for a product exported by Iraq (mirror)—Crude petroleum oils: International Trade Center. (Accessed June 5, 2015, at http://www.trademap.org/tradestat/Country_SelProductCountry_TS.aspx.)
- International Trade Center, 2015b, List of importing markets for a product exported by Iraq (mirror)—Total all products: International Trade Center. (Accessed June 5, 2015, at http://www.trademap.org/Country_SelProductCountry_TS.aspx.)
- International Trade Center, 2015c, List of importers for the selected product—Aluminum and articles thereof: International Trade Center. (Accessed June 5, 2015, at http://www.trademap.org/Country_SelProductCountry_TS.aspx.)
- International Trade Center, 2015d, List of importers for the selected product—Iron and steel: International Trade Center. (Accessed June 5, 2015, at http://www.trademap.org/tradestat/Country_SelProductCountry_TS.aspx?nvpm=1|368|||72||2|1|2|1|2|1|2|1|1.)
- International Trade Center, 2015e, List of supplying markets for a product imported by Iraq (mirror)—Mineral or chemical fertilizers, nitrogenous: International Trade Center. (Accessed June 5, 2015, at http://www.trademap.org/tradestat/Country_SelProductCountry_TS.aspx.)
- International Trade Center, 2015f, List of supplying markets for a product imported by Iraq (mirror)—Mineral or chemical fertilizers, phosphatic: International Trade Center. (Accessed June 5, 2015, at http://www.trademap.org/tradestat/Country_SelProductCountry_TS.aspx.)
- Iraq Business News, 2014, First natural gas arrives at Duhok power station: Iraq Business News [Shrewsbury, United Kingdom], May 27. (Accessed July 6, 2015, at <http://www.iraq-businessnews.com/2014/05/27/first-natural-gas-arrives-at-duhok-power-station/>.)
- Iraq Business News, 2015, MNR welcomes Oil and Gas Revenue Fund Law: Iraq Business News [Shrewsbury, United Kingdom], April 7. (Accessed July 1, 2015, at <http://www.iraq-businessnews.com/2015/04/07/mnr-welcomes-oil-gas-revenue-fund-law/>.)
- Iraq Geological Survey, 2015, Available exploitation chances: Iraq Geological Survey. (Accessed July 6, 2015, at http://www.geosurviraq.com/?page_id=39.)
- Iraqi Cement State Co., 2015, Profile: Iraqi Cement State Co. (Accessed July 30, 2015, at <http://icsciraq.com/?lang=ar>.)
- Iraqi Local Governance Law Library, 2015, Ministry of Industry and Minerals law No. (38) for the year 2011: Iraqi Local Governance Law Library. (Accessed July 2, 2015, at <http://www.iraq-ig-law.org/en/node/2349>.)
- Jassim, S.Z., 2015, Metallic minerals and industrial rocks potential of Iraq: International Conference and Exhibition on Mining, Minerals, and Materials in the Middle East and North Africa, London, United Kingdom, April 20–21, Presentation, [unpaginated].
- Kurdistan Regional Government, 2014a, Foreign companies resume regular activity in Kurdistan: Kurdistan Regional Government, October 1. (Accessed July 2, 2015, at <http://cabinet.gov.krd/a/d.aspx?s=040000&l=12&a=52312>.)
- Kurdistan Regional Government, 2014b, The Region's government approves petroleum resources revenue regulation law and oil and gas fund: Kurdistan Regional Government, November 12. (Accessed July 1, 2015, at <http://cabinet.gov.krd/a/d.aspx?s=040000&l=14&a=52506>.)
- Kurdistan Regional Government, 2015, Oil and gas law of the Kurdistan Region—Iraq: Kurdistan Regional Government, 29 p. (Accessed July 2, 2015, at http://cabinet.gov.krd/uploads/documents/Kurdistan%20Oil%20and%20Gas%20Law%20English_2007_09_06_h14m0s42.pdf.)
- Lafarge S.A., 2015a, Karbala cement plant: Lafarge S.A. (Accessed July 10, 2015, at http://www.lafarge-iraq.com/wps/portal/iq/en/4_2_3-KARBALA_Cement_Plant.)

- Lafarge S.A., 2015b, Lafarge in Iraq: Lafarge S.A. (Accessed July 10, 2015, at http://www.lafarge-iraq.com/wps/portal/iq/en/3_2-LafargeInIraq.)
- Lee, John, 2014a, Baghdad, Erbil reach deal on oil exports: Iraq Business News [Shrewsbury, United Kingdom], December 2. (Accessed July 10, 2015, at <http://www.iraq-businessnews.com/2014/12/02/baghdad-erbil-reach-deal-on-oil-exports/>.)
- Lee, John, 2014b, Devco ships \$53 million kit to sulfur mine: Iraq Business News [Shrewsbury, United Kingdom], May 29. (Accessed July 2, 2015, at <http://www.iraq-businessnews.com/2014/05/29/devco-ships-53m-kit-to-sulfur-mine/>.)
- Lee, John, 2014c, Lucky cement starts production in Iraq: Iraq Business News [Shrewsbury, United Kingdom], April 7. (Accessed June 28, 2015, at <http://www.iraq-businessnews.com/2014/04/07/lucky-cement-starts-production-in-iraq/>.)
- Lee, John, 2014d, Total, Marathon discovery at Harir block: Iraq Business News [Shrewsbury, United Kingdom], December 1. (Accessed June 22, 2015, at <http://www.iraq-businessnews.com/2014/12/01/total-marathon-discovery-at-harir-block/>.)
- Lee, Julian, and Smith, Grant, 2015, Iraq about to flood oil market in new front of OPEC price war: Bloomberg, May 26. (Accessed June 16, 2015, at <http://www.bloomberg.com/news/articles/2015-05-26/iraq-about-to-flood-oil-market-in-new-front-of-opec-price-war>.)
- Mass Group Holding Ltd., 2015, Iron and steel: Mass Group Holding Ltd. (Accessed June 20, 2015, at <http://www.massgroupholding.com/MassPages.aspx?PID=66&lang=en>.)
- Metal Expert, 2013, State company for iron and steel (Iraq) to resume operation by end—2016: Metal Expert, September 10. (Accessed July 10, 2015, at <http://www.menasteeltrade.com/market-news/103-state-company-for-iron-and-steel-iraq-to-resume-operation-by-end-2016>.)
- Ministry of Industry and Minerals [Iraq], 2015, Ministry of Industry and Minerals signs an agreement with Shell plc to construct a petrochemical complex: Ministry of Industry and Minerals, January 29. (Accessed July 6, 2015, at <http://www.industry.gov.iq/index.php?name=News&file=print&op=PrintPage&sid=1353>.)
- Ministry of Planning [Iraq], 2015, The Ministry of Planning completes “Enhancing investments in Iraq via developing industrial zones” project with a grant from the Government of Italy: Ministry of Planning, March 19. (Accessed July 1, 2015, at <http://www.mop.gov.iq/mop/index.jsp?sid=3&nid=1625&y=2015&m=2&d=19>.)
- Mirza, Adal, 2014a, Iraq completes two new gas facilities: MEED, March 12. (Accessed June 22, 2015, at <http://www.meed.com/sectors/oil-and-gas/gas/iraq-completes-two-new-gas-facilities/3190158.article>.)
- Mirza, Adal, 2014b, Iraqi firm pushes ahead with fertilizer revamp: MEED, April 23. (Accessed July 16, 2015, at <http://www.meed.com/sectors/industry/petrochemicals/iraqi-firm-pushes-ahead-with-fertiliser-revamp/3191401.article>.)
- Mirza, Adal, 2014c, South Korean group signs \$6 bn Iraq refinery deal: MEED, April 23. (Accessed June 16, 2015, at <http://www.meed.com/3191403.article>.)
- Mustafa, M.M., and Benni, T.J., 2014, Mineral resources of the high folded zone: Ministry of Industry and Minerals, June 5, 198p. (Accessed July 6, 2015, at <http://www.iasj.net/iasj?func=fulltext&afd=95651>.)
- National Iraqi News Agency, 2014, General company for mineral industries and water insulation declarers starting a five-year investment plan: National Iraqi News Agency [Baghdad, Iraq], January 27. (Accessed June 18, 2015, at http://ninanews.com/Website/News_Details.aspx?eR1yJy8DtwECgG1erzmc%252bQ%225d%253d.)
- Organisation for Economic Co-operation and Development, 2015, Excess capacity in the global steel industry and the implications of new investment projects—Organisation for Economic Co-operation and Development science, technology, and industry policy papers No. 18: Organisation for Economic Co-operation and Development, January, 39 p. (Accessed July 10, 2015, at <http://dx.doi.org/10.1787/5js65x46nxhj-en>.)
- Organization of the Petroleum Exporting Countries, 2015, Annual statistical bulletin 2015: Organization of the Petroleum Exporting Countries, 120 p. (Accessed July 10, 2015, at http://www.opec.org/opec_web/static_files_project/media/downloads/publications/ASB2015.pdf.)
- Shell Iraq, 2015, Basrah gas company: Royal Dutch Shell plc. (Accessed July 10, 2015, at <http://www.shell.com/iraq/en/projects-business/basrah-gas-company.html>.)
- United Nations Industrial Development Organization, 2014, UNIDO projects help Iraq develop industrial zones and enhance trade capacity: United Nations Industrial Development Organization, October 23. (Accessed June 30, 2015, at <http://www.unido.org/news/press/unido-projects-help.html>.)
- U.S. Census Bureau, 2015a, Foreign trade—U.S. trade in goods with Iraq: U.S. Census Bureau. (Accessed July 2, 2015, at <https://www.census.gov/foreign-trade/balance/c5050.html>.)
- U.S. Census Bureau, 2015b, U.S. exports to Iraq by 5–digit end–use code: U.S. Census Bureau. (Accessed July 2, 2015, at <https://www.census.gov/foreign-trade/statistics/product/enduse/exports/c5050.html>.)
- U.S. Census Bureau, 2015c, U.S. imports from Iraq by 5–digit end–use code: U.S. Census Bureau. (Accessed July 2, 2015, at <https://www.census.gov/foreign-trade/statistics/product/enduse/imports/c5050.html>.)
- U.S. Energy Information Administration, 2015, Iraq: U.S. Energy Information Administration country analysis brief, January 30. (Accessed July 2, 2015, at <http://www.eia.gov/countries/cab.cfm?fips=iz>.)
- Watts, Mark, 2014a, Erbil and Baghdad reach agreement on oil revenues: MEED, November 18. (Accessed June 19, 2015, at <http://www.meed.com/sectors/oil-and-gas/oil-upstream/erbil-and-baghdad-reach-agreement-on-oil-revenues/3197210.article>.)
- Watts, Mark, 2014b, Erbil forges its own path: MEED, September 3. (Accessed June 17, 2015, at <http://www.meed.com/sectors/oil-and-gas/oil-upstream/erbil-forges-its-own-path/3195040.article>.)
- Watts, Mark, 2014c, Gazprom Neft starts oil deliveries from Badra: MEED, September 1. (Accessed July 10, 2015, at <http://www.meed.com/sectors/oil-and-gas/oil-upstream/gazprom-neft-starts-oil-deliveries-from-badra/3194996.article>.)
- Watts, Mark, 2015a, Iraq owes \$22 billion in oil debts: MEED, May 13. (Accessed June 20, 2015, at <http://www.meed.com/sectors/oil-and-gas/oil-upstream/iraq-owes-22bn-in-oil-debts/3209206.article>.)
- Watts, Mark, 2015b, Southern Iraq holds potential: MEED, March 16. (Accessed July 8, 2015, at <http://www.meed.com/sectors/oil-and-gas/petrochemicals/southern-iraq-holds-potential/3207464.article>.)

TABLE 1
IRAQ: PRODUCTION OF MINERAL COMMODITIES¹

(Thousand metric tons unless otherwise specified)

Commodity	2010	2011	2012	2013	2014
METALS					
Steel, crude	--	--	--	--	1,015
INDUSTRIAL MINERALS					
Bauxite metric tons	3,350	--	--	--	--
Bentonite ² do.	6,127	6,472	6,530	6,288	6,000 ^c
Cement, hydraulic ^c	8,000	10,000	10,000	12,000 ^r	16,000
Clay	2,283	33,013	33,380	34,000 ^c	34,000 ^c
Gypsum ³	728	713	1,369	1,400 ^c	1,400 ^c
Iron oxide pigments metric tons	3,000	--	--	--	--
Kaolin do.	20,060	--	--	--	--
Limestone:					
For cement	986	4,086	4,648	5,000	5,000
For construction	NA	585	326	500	500
Nitrogen:					
N content of ammonia	126	143	143	146	105
N content of urea	100	129	129	135	84
Phosphate fertilizer	45 ^r	59 ^r	80 ^r	68 ^r	64
Phosphate rock, gross weight	139	185 ^r	250	213 ^r	200 ^c
Salt	102	136	143	182	180 ^c
Sand and gravel ²	10,139	21,300	23,181	24,000 ^c	24,000 ^c
Silica sand ²	232	173	1,439	1,500 ^c	1,500 ^c
Sulfur ^c	20	20	20	25	35
MINERAL FUELS AND RELATED MATERIALS					
Gas, natural:					
Gross million cubic meters	16,885	18,692	20,496	21,390	21,853
Dry do.	1,303	877	646	1,179	1,300
Natural gas plant liquids thousand 42-gallon barrels	16,000	16,400	16,400	16,400 ^c	16,000 ^c
Petroleum:					
Crude, including condensate do.	905,200	1,022,365	1,136,975	1,146,465	1,199,025
Refinery products:					
Liquefied petroleum gas do.	3,139	3,285	3,614	3,614	2,500 ^c
Gasoline do.	26,207	27,521	27,886	31,354	21,389
Kerosene and jet fuel do.	19,892	31,901	16,242	15,184	9,745
Distillate fuels do.	37,339	47,486	46,574	48,326	38,033
Residual fuels do.	89,973	79,278	103,076	106,945	91,177
Other do.	24,945	44,370	14,308	13,942	12,465
Total do.	201,495	233,841	211,700	219,365	175,309

^cEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available through August 3, 2015.

²Reported in cubic meters and converted to metric tons.

³Reported in cubic meters and converted to metric tons by multiplying by a factor of 2.3; includes only primary gypsum.

TABLE 2
IRAQ: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement:				
Portland		Southern Cement State Co. (Government, 100%)	Al Basrah plant, An Najaf Al Ashraf plant, Kufa plant, Muthena plant, Nora plant, As Samawa plant	7,500,000.
Do.		Iraqi Cement State Co. (Government, 100%)	Al Qaim plant, Al Qaim; Baghdad plant, Al Maamil; Kirkuk plant, Kirkuk; plant, Al Fallujah; and Kubaisa plant, Kubaisa	5,200,000.
Do.		Northern Cement State Co. (Government, 100%)	Al Tamin plant, Badoosh I, II, and III plants, Mosul; Hammam Al Aleel I and II plants, Mosul; and Sinjar plant, Mosul	3,740,000.
Do.		Bazian Cement Company (Lafarge S.A., 70%, and Faruk Group Holding, 30%)	Bazian plant at Sarchinar, near Hayasi, 40 kilometers west of Suleimaniyah	2,500,000.
Do.		United Cement Company (Lafarge S.A., 60%, and Faruk Group Holding, 40%)	Tasluja plant, near Sulaymaniyah	2,300,000.
Do.		Karbala Cement Manufacturing Co. (Lafarge S.A., 51%, and Merchant Bridge Co., 49%)	Karbala plant, Karbala Governorate	1,000,000.
Do.		Lucky Cement Co. (Lucky Cement of Pakistan, 50%, and Al Shawi family, 50%)	Al Basrah plant	1,100,000.
Do.		Mass Group Holding Ltd. of Jordan, 100%	Bazian plant, 35 kilometers west of Suleimaniyah	6,000,000.
Do.		do.	Al Shamal cement factory, Atbara	1,500,000.
White		Iraqi Cement Co. (Government, 100%)	Fallujah white cement plant, Fallujah	300,000.
Gypsum		Fire companies, including: Al Ahlia Gypsum Industrial Co. Ltd. Al Ameen Gypsum Production Co. Ltd. Al Ma'moon Building Materials Co. Ltd. Al Rashid Gypsum Co. Ltd. Al Shemal Gypsum Industries Co. Ltd.	Baghdad	1,368,750.
Iron and steel	thousand metric tons	Al Anmaa Co. for Constructional Material Production, (Al Tanmiya Co. for Steel Industries of Jordan, 100%)	Plant at Khawr az Zubayr, Al Basrah	450.
Do.	do.	FF Steel Co. of Turkey, 100%	Erbil plant	580.
Do.	do.	State Company for Iron and Steel (SCIS) (Government, 100%)	Khawr az Zubayr, Al Basrah Governorate	NA.
Natural gas	million cubic meters	Basrah Gas Co. (BGC) (South Gas Co., 51%; Royal Dutch Shell plc, 44%; Mitsubishi Corp., 5%)	Hammar Mishrif facility, Al Basrah Rafidhiya facility, Al Basrah Governorate	310.
Do.	do.	DNO International ASA, 40%; Genel Enerji A.S., 40%; Kurdistan Regional Government (KRG), 20%	Summail gasfield, Duhook Governorate Kurdistan-Iraq	2,044.
Do.	do.	Pearl Petroleum Co. Ltd. (PPCL) (Crescent Petroleum, 40%; Dana Gas PJSC, 40%; MOL Hungarian Oil and Gas Co. p.l.c. (MOL), 10%; OMV Aktiengesellschaft, 10%)	Chemchamal and the Khor Mor fields, Kurdistan-Iraq	350.
Nitrogen	thousand metric tons	State Enterprise for Fertilizer and Petrochemical (South) (Government, 100%)	Plant at Abu Al-khasib, Al Basrah	230 ammonia; 350 urea.
Do.	do.	State Company for Fertilizers Northern Area (Government, 100%)	Plant at Baiji, Salah ad Din Governorate	231 ammonia; 202 urea.
Do.	do.	1st Global Company for Chemical Fertilizers Production Ltd. of Jordan	do.	365 ammonia; 525 urea.
Petroleum:				
Crude	thousand 42-gallon barrels per day	BP p.l.c., 38%; China National Petroleum Corp. (CNPC), 37%; South Oil Co., 25%	Rumaila, Al Basrah Governorate	1,350.
Do.	do.	China National Petroleum Corp. (CNPC), 75%, and North Oil Co., 25%	Al-Ahdab, Wasit Governorate	140.

See footnotes at end of table.

TABLE 2—Continued
IRAQ: STRUCTURE OF THE MINERAL INDUSTRY IN 2014

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Petroleum—Continued:				
Crude— Continued	thousand 42-gallon barrels per day	China National Petroleum Corp. (CNPC), 37.5%; South Oil Co., 25%; Petronas Carigali International Sdn Bhd, 18.75%; Total S.A., 18.75%	Halfaya, Maysan Governorate	70.
Do.	do.	CNOOC Ltd., 63.75%; Iraq Drilling Co., 25%; Türkiye Petrolleri Anonim Ortaklığı (TPAO), 11.25%	Maysan, Maysan Governorate	450.
Do.	do.	DNO International ASA, 55%; Genel Enerji A.S. 25%; Kurdistan National Oil Co. 20%	Tawke, Kurdistan region	100.
Do.	do.	Exxon Mobil Corp., 60%; Royal Dutch Shell plc, 15%; Oil Exploration Co., 25%	West Qurna 1, Al Basrah Governorate	400.
Do.	do.	Eni S.p.A., 32.81%; Missan Oil Co., 25%; Occidental Petroleum Corp., 23.44%; Korean Gas Corp. (Kogas), 17.75%	Zubair, Al Basrah Governorate	270.
Do.	do.	Gazprom OAO, 30%; Oil Exploration Co., 25%; Korean Gas Corp. (Kogas) 22.5%; Petronas Carigali International Sdn Bhd, 15%; Türkiye Petrolleri Anonim Ortaklığı (TPAO), 7.5%	Badra, Wasit Governorate	170.
Do.	do.	Lukoil Oil Co., 56.25%; South Oil Co., 25%; Statoil ASA, 18.75%	West Qurna 2, Al Basrah Governorate	NA.
Do.	do.	North Oil Co. (Government, 100%)	Kirkuk, Kirkuk Governorate	280.
Do.	do.	Petronas Carigali International Sdn Bhd, 45%; Japex, Missan Oil Co. Corp., 30%; South Oil Co., 25%	Garraff, Dhi Qar Governorate	35.
Do.	do.	Royal Dutch Shell plc, 45%; Petronas Carigali International Sdn Bhd, 30%; Missan Oil Co., 25%	Majnoon, Al Basrah Governorate	18.
Do.	do.	Sociedade Nacional de Petróleos de Angola (Sonagol), 75%, and South Oil Co., 25%	Qiayarah, Ninawa Governorate	120.
Do.	do.	Sociedade Nacional de Petróleos de Angola (Sonagol), 75%, and North Oil Co., 25%	Najmah, Ninawa Governorate	110.
Do.	do.	Taq Taq Operating Co. Ltd. (Genel Enerji A.S., 55%, and Addax Petroleum Corp., 45%)	Taq Taq, Kurdistan region	105.
Refinery products	do.	Midland Refineries Co. (Government, 100%)	Daura refinery at Daura	140,000.
Do.	do.	do.	An Najaf Governorate	30,000.
Do.	do.	do.	Samawah	30,000.
Do.	do.	do.	Diwanya	20,000.
Do.	do.	North Refineries Co. (Government, 100%)	Baiji	230,000.
Do.	do.	do.	Kirkuk	30,000.
Do.	do.	do.	Haditha	16,000.
Do.	do.	do.	Qiayarah	16,000.
Do.	do.	do.	Kasak	10,000.
Do.	do.	South Refineries Co. (Government, 100%)	Al Basrah Governorate	135,000.
Do.	do.	do.	Nassiriyah-Samawah	30,000.
Do.	do.	do.	Missan	20,000.
Do.	do.	Kar Oil & Gas Co. (private)	Kalak, Erbil	80,000.
Do.	do.	Bazian refinery (Qaiwan Group, 100%)	Suleimaniyah	20,000.
Phosphate rock		General Company for Phosphate (Government, 100%)	Mines at Akashat, Al Anbar Governorate	3,400,000.
Phosphoric acid ¹		do.	Plant at Al-Qaim	400,000.
Phosphatic fertilizer ^{2,3}		do.	do.	600,000 TSP; 280,000 MAP; 650,000 NPK.
Sulfur		Mishraq Sulphur State Co. (MSSC) (Government, 100%)	Qiayarah	820,000.
Sulfuric acid ¹		do.	do.	500,000.
Do.		General Company for Phosphate (Government, 100%)	Phosphatic fertilizer plant at Al-Qaim	1,700,000.

Do., do. Ditto. NA Not available.

¹No production has been reported since 2003.

²The fertilizer production unit U400 produces triple superphosphate (TSP), monoammonium phosphate (MAP), and compound fertilizer (NPK).

³Fluoride salts production unit U500, which had the capacity to produce 11,000 metric tons per year of aluminum fluoride, was idle for technical problems but was being used to produce unknown quantities of ammonium chloride, pure silica, silica gel, sodium fluorosilicate, sodium phosphate, and zeolites.