



2012 Minerals Yearbook

TURKMENISTAN

THE MINERAL INDUSTRY OF TURKMENISTAN

By Elena Safirova

Turkmenistan has a wide variety of mineral deposits, but the most important from an economic perspective are its oil and gas resources. Turkmenistan had the world's fourth-largest natural gas reserves, after Russia, Iran, and Qatar, with proven reserves of 24.3 trillion cubic meters. Turkmenistan's total oil reserves as of September 2012 were estimated by the Government to be 20.8 billion metric tons (Gt), including 11 Gt located in the Turkmen sector of the Caspian Sea. According to the Turkmengeologiya State Concern, Turkmenistan has 38 petroleum deposits, but, according to BP Statistical Review of World Energy, the country had only about 100 million metric tons (Mt) of proven reserves (BP p.l.c., 2012; U.S. Energy Information Administration, 2012; Easttime.ru, 2013b; U.S. Central Intelligence Agency, 2013; Ustimenko, 2013).

Among the nonfuel minerals produced in Turkmenistan are bentonite, bischofite, bromine, epsomite, gypsum, iodine, kaolin, lime, quartz sands, salt, sodium sulfate, and sulfur. According to the Government, Turkmenistan has more than 160 deposits of solid minerals and significant resources of "hydrominerals"—in particular, iodine-bromine brines; surface brines of Kara-Bogaz-Gol Bay; and brines of oil, gas, and sulfur deposits (Ministerstvo Ekonomicheskogo Razvitiya Rossiyskoy Federatsii, 2012).

Production

Detailed production data and other information regarding mineral production for most mineral commodities except natural gas and oil have not been available for a number of years. The State Committee on Statistics of Turkmenistan reported only production growth rates for most of the economic categories that it tracks, including those for construction materials, metallurgy, mineral fertilizers, and mineral products. Production estimates in table 1 are based on past levels of production and occasional data reports published in mass media.

Minerals in the National Economy

Turkmenistan's gross domestic product (GDP) in 2012 was estimated to be \$33.5 billion, and real GDP increased by an estimated 8.0%. Although the country's growth rate was lower than in 2011, when real GDP increased by 14.7%, Turkmenistan was still among the 10 fastest growing economies in the world. According to estimates by the U.S. Central Intelligence Agency, industrial production contributed 54.4% of Turkmenistan's GDP. The oil and gas sector accounted for 75.4% of industrial production, including 51.4% for natural gas, 12.9% for oil refining, and 11.1% for crude oil production (U.S. Energy Information Administration, 2012; Ferganews, 2013; State Committee on Statistics of Turkmenistan, 2013; U.S. Central Intelligence Agency, 2013).

The country's exports in 2012 amounted to an estimated \$16.2 billion, whereas the imports were valued at \$10.5 billion. The major export commodities of Turkmenistan were cotton, crude oil, natural gas, petrochemicals, and textiles. The main export partners of Turkmenistan in 2012 were China, Italy, and Turkey. Turkmenistan's main imported commodities were chemicals, foodstuffs, and machinery and equipment. Turkmenistan's major import partners were China, Russia, Turkey, and the United Arab Emirates (UAE). The United States imported from Turkmenistan \$62.5 million worth of petroleum and exported \$92 million worth of goods, including \$9.3 million worth of drilling and oilfield equipment (U.S. Census Bureau, 2013a, b; U.S. Central Intelligence Agency, 2013).

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Commodity Review

Industrial Minerals

Bromine and Iodine.—For many years, bromine and iodine were produced at the Cheleken and the Nebitdag plants. In April, it was announced that two new plants would be built in Balkan Welayaty. One of them would be located next to the city of Balkanabat and was planned to have a capacity of 2,400 metric tons per year (t/yr) of bromine and 250 t/yr of iodine. Another one, to be built in the city of Khazar, would have a capacity of 4,500 t/yr of bromine and 300 t/yr of iodine. In addition to construction of new plants, the existing plants were expected to be modernized and to increase production as well (Turkmeninform.com, 2012).

Potash.—In January 2010, the state enterprise OAO Belgorkhimprom of Belarus and the Turkmenkhimia concern, which was owned by the Government of Turkmenistan, signed a contract according to which the Belarusian company would build Turkmenistan's first mining and beneficiation complex (GOK), called the Garlyk GOK, within a 5-year period. The Garlyk GOK, which would be located in Turkmenistan's Lebap Welayaty, would produce potash fertilizers and have a production capacity of 1.4 million metric tons per year (Mt/yr). The total cost of the project, which was specified in the contract, was \$1 billion, and the GOK was expected to start operations in January 2015 (MinerJob.ru, 2013).

In September 2012, the Turkmen Government noted that the construction of the Garlyk complex was slower than expected, and the main reason was insufficient number of workers. To address the problem, 800 construction workers and 200 specialists were recruited from Belarus, in addition to the about 1,200 workers already working on the construction sites. As of December, about 50 structures were at various degrees

of completion. The Government of Belarus considered the construction of the Garlyk GOK in Turkmenistan a project of national importance for Belarus, because good working relations with Turkmenistan, which has large gas reserves, were likely to provide insurance should any problems with Belarus's energy supply arise in the future. Accordingly, the Government of Belarus provided incentives for the Belarusian businesses involved in construction as well as to Belarusian suppliers of materials used for the construction. In particular, starting from December 2012, the Belarusian Government reduced to zero the value-added tax on all materials used for construction in Turkmenistan and on other projects in Belarus related to the construction of the Garlyk GOK. In addition to Belneftekhim, OAO Trest Shalhospetsstroy, OAP Promtekhmontazh, and other construction companies from Belarus were involved in construction (MinerJob, 2012a, b; 2013).

Mineral Fuels

Natural Gas.—In 2012, Turkmenistan produced 69 billion cubic meters of natural gas, about 80% of which was exported. The 2012 production level constituted a 4.2% increase compared with the level of production in 2011. The Dauletabad field, which is located in the Amu Darya basin in the southeast, was one of Turkmenistan's largest and oldest gas-producing fields and produced most of the country's gas (Casfactor.com, 2012; Fergananeews.com, 2013).

Turkmenistan's largest natural gas fields are located in the eastern part of the country in Mary Welayaty. In November 2011, the President of Turkmenistan issued a decree to rename several natural gas deposits, including Minara, Osman, South Yolotan, and Yashlar, into one gasfield, Galkynysh (which means "revival" in Turkmen); the total resources of Galkynysh were estimated to be 26.2 trillion cubic meters of natural gas, according to Gaffney, Cline and Associates of the United Kingdom. The preparation for gas production at Galkynysh started in December 2009, and production was expected to begin in 2013. The preparation included drilling wells, construction of sulfur-removing plants with a total capacity of 30 billion cubic meters of natural gas per year, and construction of pipelines. The four major international companies involved in Galkynysh construction activities were China National Petroleum Corp. of China, Hyundai Motor Co. and LG Chem Ltd. of the Republic of Korea, and Petrofac Ltd., of the United Kingdom; the total cost of the service contracts with these companies was \$10 billion. It was expected that the natural gas from Galkynysh would be exported to China, Iran, and Russia (Neftegaz.ru, 2012; Easttime.ru, 2013a).

In the past 5 years, Turkmenistan concentrated its efforts on developing new export markets for its natural gas. In addition to the two Central Asia–Center (CAC) pipelines, which connected Turkmenistan with Russia, and the Korpezh-Kurt Kui pipeline, which linked Turkmenistan and Iran, Turkmenistan was constructing several new gas pipelines with the goal of bypassing transit through Russia. A second pipeline connecting Turkmenistan to Iran (the Dauletabad-Khangiran pipeline) was initiated in the beginning of 2010; when the second phase of construction is completed, the \$550 million

pipeline was expected to have capacity of 12 billion cubic meters per year. The Central Asia-China Pipeline (CACP) connected Turkmenistan's eastern fields through Uzbekistan to western China. The pipeline began operations at the end of 2009 and had an initial capacity of 30 billion cubic meters per year; the pipeline's capacity was expected to increase to about 60 billion cubic meters per year by 2015. The construction of the East-West pipeline within Turkmenistan's borders was initiated in May 2010. The pipeline would connect Turkmenistan's southeastern gasfields to the Caspian Sea and serve as a potential transit link to Europe using routes along the Caspian Sea. The 766-kilometer (km) pipeline would connect Turkmenistan's natural gas deposits in the west of the country with those in the east and would permit greater flexibility in transporting natural gas both within the country and for export. The pipeline's capacity was expected to be 30 billion cubic meters, and the construction was planned to be completed by 2015. As of the end of 2012, the first 40 km of the pipeline were completed (Easttime.ru, 2012; Rossiyskoye Energeticheskoye Agenstvo, 2012; U.S. Energy Information Administration, 2012).

The Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline was a trans-Afghanistan pipeline intended to reach markets in Pakistan and India. The pipeline's proposed capacity was 35 billion cubic meters per year, and it would be more than 1,500 km long. During 2012, Turkmenistan signed gas export agreements with Afghanistan, India, and Pakistan and was continuing work on assembling resources to start construction (U.S. Energy Information Administration, 2012).

The Trans-Caspian Gas pipeline (TCGP) was proposed to connect Turkmenbashi City, Turkmenistan, and Baku, Azerbaijan. The pipeline would bypass both Russia and Iran and would connect either to the proposed Nabucco pipeline between Turkey and Austria or the Trans-Adriatic pipeline. The TCGP was proposed to have a capacity of 30 billion cubic meters per year and would run across the floor of the Caspian Sea at an estimated cost of \$5 billion; however, the disputes with Azerbaijan concerning Caspian seabed jurisdiction could significantly undermine the project's viability (U.S. Energy Information Administration, 2012).

Petroleum.—In 2012, Turkmenistan produced about 11 Mt (80 million barrels) of petroleum, which was an increase of 11.3% compared with that of 2011. The majority of oil produced in Turkmenistan was extracted by foreign companies working in the county under production-sharing agreements. According to such contracts, the profits were split between the company and the Government of Turkmenistan (usually at 50-50 shares). The companies involved were from Canada, China, Germany, Italy, Malaysia, Russia, the UAE, and the United Kingdom. The leading companies working in the Turkmen Caspian Sea were Petronas of Malaysia and Dragon Oil Ltd. of the UAE (Nefteryok.info, 2012; Fergananeews, 2013).

Turkmenistan had two oil refineries—one in Turkmenbashi and one in Seidi—which had a combined annual capacity of 12 Mt/yr. The refineries' main products were compressed gas, diesel fuel, gasoline, kerosene, polypropylene, and machine oils. Turkmenistan was planning to increase its oil refining capacity to 15 Mt/yr by 2015 and to 30 Mt/yr by 2030. To achieve these

goals, it planned to modernize its existing refineries and to build three new refineries. One of the new refineries would be built in the city of Ekrem on the Caspian Sea in western Turkmenistan by JGC Corp. of Japan; construction was expected to begin in 2015. The new refinery was planned to have an annual capacity of 3 Mt/yr that would later be increased to 5 Mt/yr (Gasanov, 2012; Gurt, 2012).

Outlook

For the next few years, Turkmenistan is expected to continue expanding its production of hydrocarbons. The Galkynysh gasfield, which is expected to come online in 2013, is likely to give a boost to the country's natural gas production. Although Turkmenistan's existing oilfields are likely to be less bountiful, in the short and medium term they are expected to provide sufficient resources to keep up with domestic demand. The Government's plan to further develop the national oil refining sector is likely to provide higher returns for Turkmenistan's petroleum resources because exporting refined petroleum products is usually more profitable than exporting crude oil.

In the past decade, Turkmenistan's economy had exceptionally fast growth, fueled mostly by the export of hydrocarbons, and it is likely to continue this fast-growth trend in the next 5 to 10 years. It is possible that in the next decade the country will focus on diversification of its economy, with further development of manufacturing. One sign of these developments is Turkmenistan's investment in powerplants. The country was planning to build eight more powerplants in 2013 to 2016 that would be powered by natural gas, and thus to double electricity production in the country. It is possible that a part of the additional energy would be exported and that the other part would be used for the needs of local industry, including, perhaps, the metals and industrial minerals sector (Easttime.ru, 2013c).

References Cited

- BP p.l.c., 2012, BP statistical review of world energy: BP p.l.c., June, 45 p. (Accessed June 11, 2013, at http://www.bp.com/content/dam/bp/pdf/Statistical-Review-2012/statistical_review_of_world_energy_2012.pdf.)
- Casfactor.com, 2012, V Turkmenistane vyrosla dobycha nefiti i gaza [Gas and oil production in Turkmenistan increased]: Casfactor.com, February 6. (Accessed July 11, 2013, at <http://www.casfactor.com/rus/news/2548.html>.)
- Easttime.ru, 2012, Turkmenistan samostoyatel'no stroit gazoprovod vosto-k-zapad [Turkmenistan is building east-west gas pipeline by itself]: Easttime.ru, April 12. (Accessed July 11, 2013, at <http://easttime.ru/news/turkmenistan/turkmenistan-samostoyatelno-stroit-gazoprovod-vosto-k-zapad>.)
- Easttime.ru, 2013a, Perspektivy mestorozhdeniya Galkynysh v Turkmenistane [Perspectives of Turkmenistan's Galkynysh deposit]: Easttime.ru, May 24. (Accessed July 11, 2013, at <http://easttime.ru/news/turkmenistan/2013/05/24/perspektivy-mestorozhdeniya-galkynysh-v-turkmenistane>.)
- Easttime.ru, 2013b, Pochetnoye 4-e mesto po zapasam gaza teper' u Turkmenistana. BP podtverzhdaet [Turkmenistan now has a prestigious fourth place by its gas reserves, BP confirms]: Easttime.ru, July 17. (Accessed July 11, 2013, at <http://easttime.ru/news/turkmenistan/pochetnoe-4-e-mesto-po-zapasam-gaza-teper-u-turkmenistana-vr-podtverzhdaet>.)
- Easttime.ru, 2013c, Turkmeniya planiruyet intensivnoye razvitiye energetiki [Turkmenistan plans intensive energy development]: Easttime.ru, April 14. (Accessed July 11, 2013, at <http://www.easttime.ru/news/turkmenistan/turkmeniya-planiruyet-intensivnoe-razvitiye-energetiki>.)
- Fergananeews.com, 2013, V Turkmenistane v 2012 godu dobyto 11 mln ton nefiti i 69 mlrd kubometrov gaza [In 2012, Turkmenistan produced 11 million tons of petroleum and 69 billion cubic meters of gas]: Fergananeews.com, March 27. (Accessed July 11, 2013, at <http://www.fergananeews.com/news/20413>.)
- Gasanov, G., 2012, NPZ v Turkmenistane pererabotali okolo 4,8 mln. ton nefiti [Refineries in Turkmenistan processed about 4.8 million tons of oil]: Trend.az, October 15. (Accessed July 11, 2013, at <http://www.trend.az/regions/casia/turkmenistan/2076776.html>.)
- Gurt, Marat, 2012, Pravitel'stvo Turkmenistana zayavilo, chto v 2015 godu ono nachnet stroit' novyi neftepererabatyvayushiy zavod [Turkmenistan's Government announced that it would start construction of a new refinery in 2015]: Inozpress.kg, September 14. (Accessed July 11, 2013, at <http://inozpress.kg/news/view/id/37229>.)
- MinerJob.ru, 2012a, "Belneftekhim" aktiviziroval raboty po stroitel'stvu Garlykskogo gorno-obogatitel'nogo kombinata [Belneftekhim speeded up construction of Garlyk mining and beneficiation complex]: MinerJob.ru, December 20. (Accessed July 11, 2013, at <http://www.minerjob.ru/viewnew.php?id=23023>.)
- MinerJob.ru, 2012b, Pravitel'stvo Belarusi nuzhny dobrovol'tsy dlya raboty v Turkmenistane [Belarus' Government needs people to work in Turkmenistan]: MinerJob.ru, November 1. (Accessed July 11, 2013, at <http://www.minerjob.ru/viewnew.php?id=22296>.)
- MinerJob.ru, 2013, Stroiteli Garlykskogo GOKa v Turkmenistane poluchat nalogovye l'goty [The builders of Turkmenistan's Garlyk GOK will get tax breaks]: MinerJob.ru, January 9. (Accessed July 11, 2013 at <http://www.minerjob.ru/viewnew.php?id=23106>.)
- Ministerstvo Ekonomicheskogo Razvitiya Rossiyskoy Federatsii, 2012, Osnovnye ekonomicheskiye pokazateli i otsenki sostoyaniya otrasley ekonomiki i perspektivy ikh razvitiya [Main economic indicators and evaluation of current situation and perspectives of economic sectors]: Ministerstvo Ekonomicheskogo Razvitiya Rossiyskoy Federatsii. (Accessed July 11, 2013, at http://www.ved.gov.ru/exportcountries/tm/about_tm/eco_tm/.)
- Neftegaz.ru, 2012, Dobycha gaza na krupneyshem mestorozhdenii Turkmenistana Galkynysh nachnetsya v 2013 g. [Gas production on Turkmenistan's largest deposit will start in 2013]: Neftegaz.ru, November 16. (Accessed July 11, 2013, at <http://neftegaz.ru/news/view/105676/>.)
- Nefteryok.info, 2012, V 2012 godu 65% dobychi nefiti Turkmenistana pridetsya na dolyu Kaspiyskikh mestorozhdeniy [In 2012, 65% of Turkmen oil production will be from Caspian deposits]: Nefteryok.info, December 10. (Accessed July 11, 2013, at http://www.nefteryok.info/news.phtml?news_id=8524.)
- Rossiyskoye Energeticheskoye Agenstvo, 2012, TEK Turkmenistana [Energy complex of Turkmenistan]: Rossiyskoye Energeticheskoye Agenstvo, August 24. (Accessed July 11, 2013, at <http://rosenergo.gov.ru/upload/medialibrary/41d/Turkmenistan.pdf>.)
- State Committee on Statistics of Turkmenistan, 2013, Osnovnye social'no-ekonomicheskiye pokazateli [Main socio-economic indicators]: State Committee on Statistics of Turkmenistan. (Accessed July 11, 2013, via <http://www.stat.gov.tm/>.)
- Turkmeninform.com, 2012, V Turkmenistane obnovyat proizvodstvo broma [Turkmenistan will modernize its bromine production]: Turkmeninform.com, April 23. (Accessed July 11, 2013, at <http://www.turkmeninform.com/ru/news/20120423/05646.html>.)
- U.S. Census Bureau, 2013a, U.S. exports to Turkmenistan by 5-digit end-use code 2003–2012: U.S. Census Bureau. (Accessed July 11, 2013, at <http://www.census.gov/foreign-trade/statistics/product/enduse/exports/c4643.html>.)
- U.S. Census Bureau, 2013b, U.S. imports to Turkmenistan by 5-digit end-use code 2003–2012: U.S. Census Bureau. (Accessed July 11, 2013, at <http://www.census.gov/foreign-trade/statistics/product/enduse/imports/c4643.html>.)
- U.S. Central Intelligence Agency, 2013, Turkmenistan, in The world factbook: U.S. Central Intelligence Agency, May 15. (Accessed July 11, 2013, at <https://www.cia.gov/library/publications/the-world-factbook/geos/tx.html>.)
- U.S. Energy Information Administration, 2012, Turkmenistan: U.S. Energy Information Administration country analysis brief, January. (Accessed July 11, 2013, at <http://www.eia.gov/countries/cab.cfm?fips=TX>.)
- Ustimenko, Artem, 2013, Turkmenistan 'primeryaetsya' k 'bol'shoy nefiti [Turkmenistan is getting close to big oil]: Oilnews.kz. (Accessed July 11, 2013, at <http://oilnews.kz/1/analitika/turkmenistan-primeryaetsya-k-bolshoj-nefiti/>.)

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

(Metric tons unless otherwise specified)

| Commodity ³ | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|------------------------|------------------------|-------------------------|------------------------|-------------------------|
| METALS | | | | | |
| Rolled steel | -- | 10,000 | 40,000 | 50,000 | 120,000 |
| INDUSTRIAL MINERALS | | | | | |
| Bentonite | 50,000 | 50,000 | 50,000 | 50,000 | 53,000 |
| Bentonite powder | 250 | 250 | 250 | 250 | 255 |
| Bischofite | 100 | 100 | 100 | 100 | 105 |
| Bromine | 400 ^r | 420 ^r | 445 ^r | 460 ^r | 480 |
| Cement | 1,025,000 ⁴ | 1,100,000 ⁴ | 1,140,000 ⁴ | 1,500,000 ⁴ | 1,900,000 |
| Ferrous bromide, 74% Br | 85 | 85 | 85 | 85 | 95 |
| Gypsum | 100,000 | 100,000 | 100,000 | 100,000 | 105,000 |
| Iodine kilograms | 468,400 ^{r,4} | 470,000 ^r | 470,000 ^r | 470,000 ^r | 480,000 |
| Lime | 16,000 | 16,000 | 16,000 | 16,000 | 18,000 |
| Nitrogen, N content of ammonia | 270,000 | 270,000 | 270,000 | 270,000 | 280,000 |
| Salt | 215,000 | 215,000 | 215,000 | 215,000 | 220,000 |
| Sodium sulfate | 60,000 | 60,000 | 60,000 | 60,000 | 62,000 |
| Sulfur | 9,000 | 9,000 | 9,000 | 9,000 | 10,000 |
| MINERAL FUELS AND RELATED MATERIALS | | | | | |
| Natural gas ⁴ million cubic meters | 70,501 | 38,000 | 44,270 | 66,200 | 69,000 |
| Petroleum: | | | | | |
| Crude: | | | | | |
| In gravimetric units | 9,678,000 ⁴ | 8,850,000 | 9,097,800 ⁴ | 9,882,300 ⁴ | 11,000,000 ⁴ |
| In volumetric units 42-gallon barrels | 70,400,000 | 64,300,000 | 66,100,000 | 71,800,000 | 79,915,000 ⁴ |
| Refinery products: | | | | | |
| In gravimetric units | 7,300,000 ⁴ | 7,600,000 | 7,752,000 ⁴ | 7,900,000 | 8,000,000 |
| In volumetric units 42-gallon barrels | 58,700,000 | 61,100,000 | 62,322,000 ⁴ | 63,200,000 | 64,300,000 |

^r Revised. -- Zero.

¹ Estimated data are rounded to no more than three significant digits.

² Table includes data available through July 8, 2013.

³ In addition to the commodities listed, barite, bench gravel, coal, dolomite, epsomite, and kaolin are thought to be produced, but available information is inadequate to make reliable estimates of output.

⁴ Reported figure.

TABLE 2
TURKMENISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2012¹

(Metric tons unless otherwise specified)

| Commodity | | Major operating companies, main facilities, or deposits ² | Location or deposit names | Annual capacity |
|---|----------------------|--|---|-----------------------|
| Ammonia | | Maryzoat Association | Mary Welayaty | 400,000 |
| Argillite | cubic meters | Keramzit plant | Yagmanskoye deposit | 200,000 |
| Barite-witherite | | Arpaklenskiy mining enterprise | Arpaklen deposit | 10,000 |
| Do. | | NA | Kumytash deposit and other deposits | NA |
| Bench gravel and loam: | | | | |
| Bench gravel | | Bezmeinskiy deposit | Near Ashgabat | 1,200,000 |
| Loam | | do. | do. | 12,000 |
| Bischofite, epsomite, Caspian Sea salt, Glauber's salt | | Karabogazsulfate Association | Kara-Bogaz-Gol Lagoon, off the Caspian Sea | NA |
| Bromine | | Cheleken plant | Cheleken region | 4,740 |
| Do. | | Nebitdag plant | Nebitdag region | 2,370 |
| Cement | | Bakharlinskiy cement plant | Bakharly | 1,000,000 |
| Do. | | Kelyata cement plant | Kelyata | 1,000,000 |
| Do. | | Jebel cement plant | Jebel | 1,000,000 |
| Clays: | | | | |
| Bentonite | | Oglanly Mine | Oglanly region | 100,000 |
| Kaolin | | Ashkhabad glass plant | Kyzylkainskoye deposit | 80,000 ^e |
| Do. | | Tuarkyrskoye deposit | 250 kilometers southeast of Turkmenbashi | NA |
| Coal | | do. | do. | NA |
| Dolomite | | Ashkhabad glass plant | Kelyatinskoye deposit | 6,000 ^e |
| Gypsum | | IA Turkmenmineral | Mukry, Tagorin deposits | 300,000 |
| Do. | | Wastes from Gaurdak sulfur deposit | Gaurdak, Gora | 400,000 |
| Do. | | Krasnovodsk Aylagy (anhydride) deposit | 9 kilometers east of Turkmenbashi | 160,000 |
| Iodine | | Cheleken plant | Cheleken region | 355 |
| Do. | | Nebitdag plant | Nebitdag region | 255 ^e |
| Limestone | | Deposits: Gaurdak Kara-Dzhumalaks koye | 4 kilometers northeast of Gaurdak 60 kilometers from Gaurdak | NA |
| Limestone, for facing materials | | NA | Charshanginskoye, Gaurdaks koye, Geok-Tepinskoye, Kaylyu, Krasnovodsk Aylagy (tuff and granite), and Tyuzmergenskoye deposits | NA |
| Do. | cubic meters | Tagarinskoye deposit | 8 kilometers from Gaurdak | 1,000 ^e |
| Limestone, for aggregates | do. | Aeroport deposit | 21 kilometers northeast of Turkmenbashi | 2,000 |
| Do. | do. | Bekdashskoye deposit | 200 kilometers north of Turkmenbashi | 5,000 |
| Do. | do. | Dostluksoye deposit | 230 kilometers southeast of Turkmenbashi | 2,000 |
| Do. | do. | Mukrinskoye deposit | 60 kilometers southwest of Gaurdak | 25,000 |
| Natural gas | million cubic meters | Achaks koye, Dauletabad, Dovi et-Denmez (Donmez), Gygyrlinskoye, Ioltan (South Yolotan-Osman), North and South Naipskiye, Shatlyk, and Yashlar deposits | Onshore in eastern and southwestern parts of the country and offshore in the Caspian Sea; Amu-Darya and Murgab basins; Dashoguzskiy, Lebapskiy, Maryyskiy deposits | 90,000 ^{e,3} |
| Ozokerite | | Cheleken mining enterprise | Cheleken region | NA |

See footnotes in the end of the table.

TABLE 2—Continued
 TURKMENISTAN: STRUCTURE OF THE MINERAL INDUSTRY IN 2012¹

(Metric tons unless otherwise specified)

| Commodity | | Major operating companies, main facilities, or deposits ² | Location or deposit names | Annual capacity |
|--------------------------------|----------------------|--|--|-----------------------|
| Petroleum: | | | | |
| Crude | thousand metric tons | Barsa-Gelmesskoye, Burunskoye, Cheleken, Gograndagskoye, Ioltan (South Yolotan-Osman), Kamyshldzhinskoye, Korturtepinskoye, Kum Dag, Kuydzhikskoye, Okaremskoye, and Yashlar deposits | Centered in Caspian plain in west Turkmenistan and in offshore oilfields to the west of the Cheleken Peninsula in the Caspian Sea | 11,000 ^{e,3} |
| Refined | do. | Refineries: Seidi oil refinery Turkmenbashi complex of oil refineries | Lebap Welayaty Turkmenbashi | 12,000 ³ |
| Potash (sylvinite, carnallite) | | Karlyuk deposit (experimental mine closed in 1998) | 25 kilometers from Gaurdak | NA |
| Do. | | Karabil'skoye deposit | 17 kilometers south of Gaurdak | NA |
| Quartz sand | | Annauskoye, Babadurmazskoye, Bakhardenskoye, and Kelyatinskoye deposits | NA | NA |
| Rock salt | | Gaurdak deposit | 8 kilometers from Gaurdak | 15,000 ^e |
| Do. | | Khodzhuymaskoye deposit | 4 kilometers west of Gaurdak | NA |
| Do. | | Kugitangskoye deposit | 75 kilometers from Gaurdak | 2,000 ^e |
| Do. | | Uzun-Kudukskoye deposit | 20 kilometers from Gaurdak | 2,000 ^e |
| Salt | | Kuulinskoye | 40 kilometers north of Turkmenbashi | 650,000 ^e |
| Sand and gravel | cubic meters | Dushakoye deposit | NA | 1,150,000 |
| Do. | do. | Kala-I-Morskoye deposit | NA | 925,000 |
| Do. | do. | Kernayskoye deposit | NA | 36,000 |
| Do. | do. | Kubatayskoye deposit | NA | 740,000 |
| Do. | do. | Ufrinskoye deposit | NA | 900,000 |
| Sodium sulfate | | Karabogazsulfate Association | Bekdash, Kara-Bogaz-Gol Lagoon (off the Caspian Sea) | 400,000 |
| Steel, rolled | | Turkmen metallurgical plant | Near Ashgabat | 160,000 |
| Do. | | Shakhtaminskoye deposit | do. | NA |
| Do. | | IA Turkmenmineral | Gora deposit | 340,000 |
| Do. | | Kugitangskoye deposit | 75 kilometers from Gaurdak | NA |

^eEstimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.

¹Many location names have changed since the breakup of the Soviet Union. Many enterprises, however, are still named or commonly referred to based on the former location name, which accounts for discrepancies in the names of enterprises and that of locations.

²The majority of companies are owned by the Government.

³Capacity estimates are totals for all enterprises that produce that commodity.