IRAQ

By Kyran Casteel
Mineral Industry Intelligence & Information
Woburn Sands, MK17 8RR, UK

Of necessity, Iraq's 25 million people were obliged to make a new political start on July 1, 2004. More than a year after the US administration triumphantly declared the coalition's military mission accomplished, the United Nations envoy to Iraq, Lakhdar Brahimi, was able to announce that an interim Iraqi government would take over the running of the country from the Coalition Provisional Authority (CPA) until free elections are held, probably early in 2005. Sadly, at this time, the military mission has by no means been accomplished. Iraqi insurgents harry the occupying coalition forces continuously and foreign infiltrators apparently attack anyone, Iraqi or foreigner, working to create a new order.

As well as inflicting a tragic loss of innocent lives this barbarism has considerably slowed reconstruction efforts. Although a departure of Coalition troops might be expected to remove a major cause of unrest, few believe that that an immediate withdrawal would achieve the degree of security required for social and economic reconstruction. Meanwhile, it is the country's mineral resources, specifically hydrocarbons, that must continue to underpin economic progress.

Reconstituting a nation
Even before last year's US-led invasion, Iraq was in a precarious state. Psychologically, Saddam Hussein's treatment of the Kurds and the Marsh Arabs, his 1990 failed invasion of Kuwait, the first Gulf War, the years of food and medical supply shortages resulting from UN sanctions (and the resultant high child mortality rates) had left many Iraqis deeply traumatised. Now, with the removal of Saddam Hussein's repressive regime, the historic frictions between the country's ethnic, cultural and linguistic, and religious groups, have come more sharply into focus.

Economically, a country that boasted a per capita annual income of US$4,000 in 1980, saw this fall to a meagre US$150 by 2002, leaving 60% of the population dependent on food aid. GDP is estimated to have fallen by 21.2% in 2003. Nevertheless, political and infrastructure reconstruction, albeit along Western lines, is under way, and estimates suggest that real GDP growth could be as much as 40% in 2004 if oil production and exports increase sufficiently rapidly.

In May 2003, UN Security Council Resolution 1483 lifted sanctions and the 'Oil-for-Food' programme was wound up in November 2003. Most US sanctions were lifted later in May.

Once new national elections are held in Iraq, the new government will devise a permanent constitution, at which point the World Bank will be able to assist reconstruction. The bank has estimated the costs of reconstruction at US$5 billion over the next three years, with the long-term bill being US$100 billion or more.

Reconstructing an economy

Bearing in mind the crucial role that oil and gas play in the economy, Resolution 1483 also stressed the right of Iraqis to control their own natural resources. The State Oil Marketing Organisation retained responsibility for sales, issuing its first post-war oil sales tender on June 5, 2003, and signing its first term contracts in late July with more than a dozen major companies. Meanwhile, during the Coalition Provisional Authority's administration, oil revenues are being paid into a Development Fund managed by the CPA.

The Coalition forces took care to protect the oilfields during the invasion, and only seven of approximately 1,500 functioning oil wells were set alight, but the facilities had already suffered long-term deterioration, and engineers tried to maintain production without proper maintenance and new investment. Looting and sabotage since the Iraqi army was defeated have contributed about 80% of the damage problem, for example the cutting of the pipeline from Kirkuk to Ceyhan in Turkey just a few days after it had reopened in August 2003, which kept this important export route out of action until March 2004. The Restoration of Iraqi Oil programme is being supervised by the US Army Corps of Engineers, with the bulk of the work being done by Kellogg Brown & Root, part of the Halliburton group.

In early August 2003 the CPA put the cost of rehabilitating the oil sector, to its pre-war state only, at US$1.144 billion over nine months. For 2004, the US administration budgeted US$1.7 billion, of which US$809 million was for construction, US$501 million for refined product imports, US$323 million for equipment and raw materials and US$68 million for infrastructure security. The US administration initially expected output to reach 2.8-2.9 Mbbl/d, possibly by the end of 2003 but, by March 2004, gross production had only reached 2.4- 2.5 Mbbl/d. Net output was probably about 2.2 Mbbl/d as some oil was re-injected into northern reservoirs because domestic refinery and oil export facilities could not handle the oil output rate needed to maintain LPG supplies. All the refineries require upgrading and two new refineries, with a combined capacity of 280,000 bbl/d, are planned for Mosul and for Msaib, which is south of Baghdad.

By the end of January 2004, the UN Joint Logistics Centre was reporting that the overall availability of fuel products was at last satisfactory, although this reportedly required the import of 30-40% of total oil and gas fuel requirements.

Another major component of the overall rehabilitation effort is the restoration of electric power supplies. Generating capacity was badly damaged during the invasion, and looting affected the distribution lines thereafter. By February 2004 output was apparently back up to 4,000 – 4,500 MW, still well short of peak summer demand, which is put at 6,000 MW. The CPA introduced rationing and in late February opened a 184 MW mobile diesel-powered generating plant at Baiji, primarily to assure supplies for the refinery there. USAID reportedly earmarked nearly US$500 million to add 1,000 MW of capacity by end-2004, including three new plants.

In October 2003, the rehabilitation of the exchequer commenced in earnest. The new Iraqi dinar was introduced and a donors' conference secured pledges totaling US$33 billion for the International Reconstruction Facility Fund for Iraq (IRFFI). In November 2003, the US Congress authorised a US$18.7 billion supplement to funds for reconstruction and economic development. In February 2004, Iraq was granted observer status at the World Trade Organisation and shortly after this the donor countries group pledged that during 2004 US$1 billion would be injected into trust funds managed by the UN and the World Bank. Meanwhile, estimates suggest, expatriate Iraqis are sending US$5 million daily to private banks in Iraq.

Oil

The oil and gas industry normally meets a high proportion of Iraq's domestic energy requirements, and its exports have typically accounted for 90% of foreign exchange earnings. Even with the limits imposed by UN sanctions, these exports were a significant part of global supply.

The industry has been nationalised since 1972-75, with the Iraq National Oil Company (INOC) managing production until 1987 when it was merged into the Ministry of Oil. The CPA has reportedly considered resurrecting INOC as a vehicle for national and international investment in the industry. At present, the North Oil, South Oil, Iraq Drilling and the Oil Exploration Companies manage primary production facilities for the Ministry; there is a State Oil Marketing Organisation; and there are three major refineries, at Baiji (310,000 b/d), Basra (150,000 b/d) and Daura (100,000 b/d), plus a further seven smaller units. Refining also contributes recovered sulphur to Iraq's mineral output.

Historically, Iraqi oil production peaked in 1979 at 3.7 Mbbl/d, fell as a result of the war with Iran before climbing back to 3.5 Mbbl/d in July 1990, and then collapsed as the Gulf War decimated the southern facilities in particular. Ten years later output had recovered to 2.5-2.6 Mbbl/d and stayed at this level under the UN Oil-for-Food programme. However, various experts believe that the steps taken to achieve these rates, with facilities in a poor state of repair, may have damaged the oil reservoirs.

Proven oil reserves are estimated as 115,000 Mbbl, the world's third-largest after Saudi Arabia and Canada, and probable plus possible reserves are estimated at 220,000 Mbbl. Some 17 fields are presently developed, out of the 80 so far discovered, and estimates of production costs for these and others ready for development vary, although the figures are all relatively low by world standards. The main southern fields include North Rumaila, South Rumaila, West Qurna, Az Zubair, Misan/Buzurgan, Majnoun, Jabal Fauqia, Abu Ghurab and Luhais. In the north, Kirkuk, Bai Hassan, Jambur, Khabbaz, Ajil (previously called Saddam) and Ain Zalah-Butmah-Safaia are the most important. Between these two producing regions lies the East Baghdad field, also an important source of natural gas. The US Energy Information Administration (EIA) believes that the lack of modern exploration activity could mean there is a further 100,000 Mbbl of oil reserves still to be located, but estimates of potential resources in the deeper formations of the Western Desert vary considerably.

Pre-war 'greenfield' development contracts signed by oil firms in, for instance, China, France and Russia, remained in abeyance because of UN sanctions and now appear to be in legal limbo. In January 2004, the state company for oil projects tendered for development of the Khurmalu dome in the Kirkuk field, with the aim of adding 100,000 bbl/d of output in order to offset declining production elsewhere in the field, and for the Hamrin field near Tikrit (60,000 bbl/d). The CPA interim authorities said in February 2004 that any negotiations regarding previously agreed projects would only start when an elected government is in place.

Near-term potential southern Iraq projects include full development of the Majnoun field close to the Iran border north of Basra, and opening up at al-Ahdab and Halfaya. Longer-term development projects focus primarily on the Western Desert exploration blocks, where Indian, Indonesian and Russian companies still have valid agreements. Estimates of the cost and speed of primary capacity increase and output rate that can be achieved vary, but the International Energy Agency has estimated US$5 billion will be needed to lift capacity to 3.7 Mbbl/d by 2010 and US$42 billion to increase it to 8 Mbbl/d by 2030.

Although only the three Gulf ocean tanker terminals and the Kirkuk-Ceyhan pipeline are operational (and the latter still requires repair to bring it up to full capacity), there are existing pipeline links to Saudi Arabia and Syria that could possibly be re-activated to raise Iraq's oil export capability to perhaps 6Mbbl/d, plus an existing pipe route to Haifa in Israel. A completely new pipeline to Jordan's Zarqa refinery, previously supplied by up to 1,500 tanker trucks, has been discussed in the past and recently a connection to the refinery at Abadan in Iran has been considered, with the latter exporting a compensating amount of crude.

Natural gas

Iraq has 110,000 billion ft^3 of proven natural gas reserves, plus about 150,000 billion ft^3 of probable reserves. About 70% of the gas is associated with oilfields, 20% is non-associated and 10% is dome gas. Peak output in 1979 was 700 billion ft^3; in 2002 production was just 83 billion ft^3. The Southern Area Gas operations include nine gathering stations connected to a natural gas liquids fractionation plant at Zubair and a processing plant in Basra, and there is a 17.5 million ft^3 capacity storage/loading terminal at Khor al-Zubair. The Northern Gas System handles associated and non-associated gas, the latter coming from the 200 million ft^3/d al-Anfal field. The gas is processed at Jambur near the Kirkuk field. Prior to the Gulf War of 1990 gas was exported to Kuwait and this trade may now be resumed. Joint development of the Siba gas field straddling the border between the two countries is also a possibility. There is potential to increase production from al-Anfal and to develop four other non-associated gas fields in Kirkuk and Diyala provinces. Another deposit was reportedly found in the Aksas area of western Iraq during 2001.

Industrial minerals and metals
In the late 1990s, according to the US Geological Survey, Iraqi state enterprises produced approximately:

- 200,000 t/y of crude steel – State Enterprise for Iron & Steel Industries, Khor al-Zubair;
- 2,000,000 t/y of cement – multiple plants operated by three cement enterprises and the State Establishment for Building Materials;
- 300,000 t/y of phosphate rock (P_2O_5) plus phosphate fertilisers – State Enterprise for Phosphates at Akashat and Al Qaim;
- 250,000-300,000 t/y of salt;
- 98,000 t/y of mined sulphur – Mishraq Sulphur State Enterprise; and
- 250,000 -300,000 t/y of ammonia-based fertilisers.

Few if any of these operations were working at full capacity, possibly partly because of a lack of maintenance and certainly because UN sanctions prohibited export sales. There is also scope for further development of fertiliser mineral resources and, in the longer term, Iraq's relatively cheap energy could be used for metal smelting, for instance at the long-planned Nassiraya aluminium smelter.

USAID projects intended to help restore the road transport infrastructure have shown that although there is an active and substantial contracting industry, the standards applied to materials production and, for instance, concrete specifications, have been rather low. Working on bridge repair projects, the US firm Bechtel reported that local subcontractors were unable to meet concrete specifications before improvements were made to aggregates production facilities, and the firm could not find suitable domestic cement, which had to be imported from Jordan and Turkey; Saudi Arabian experts were brought in to calibrate testing equipment at Iraqi laboratories. The deployment of world-class contractors at this time should help upgrade the construction sector ahead of major development work.

Further Complications
Iraq has a sufficient mineral production and resource base to earn a substantial amount of foreign exchange in the medium to long term and oil/gas earnings are immune from legal proceedings such as debt collection at this time. Even so, the economic outlook has been clouded, as in so many other parts of the world, by debt issues. The ousted regime had accrued considerable debts, including unpaid bills for military goods imports and other government contracts, plus outstanding reparations for the invasion of Kuwait. Starting in early December 2003, US envoy James Baker discussed debt relief with a number of major creditors. Russia said it would horse-trade part or all of US$8 billion of debt, in exchange for favourable consideration for Russian companies on oil and reconstruction projects; Prime Minister al-

Sabah of Kuwait said his government would waive some of the US$16 billion owed it by Iraq and would also help reduce Iraq's overall foreign debt as well.

In a reportedly guarded welcome for the new Iraqi administration, the Shi'ite spiritual leader Grand Ayatollah Sistani said: "The hope is that this government will prove its worthiness and integrity and its firm readiness to perform the mammoth tasks it is burdened with." Only Iraq's worst enemies would disagree.