

Potash

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WORLD OVERVIEW

For the first time in six years, potash production rose to meet a recovering world demand as consumption of fertilizer potash increased in most consuming regions. Important events in 1994 included the re-emergence of China as a major importer of Canadian potash and the channelling of potash exports from the Commonwealth of Independent States (C.I.S.) into one exporting group.

World potash production in 1994 was estimated at 22.7 Mt K₂O, an 11% increase compared to the previous year. Increases in production were recorded in a majority of producing countries. Most of this 2.3-Mt K₂O increase occurred in Canada, Germany and the C.I.S. Small increases were also registered in the United Kingdom, Spain, Brazil and Jordan, while decreases were reported in the United States and Israel. Production in France remained flat and none was recorded in Italy in 1994. During the year, the European Union (EU) increased its minimum floor price for potash from the C.I.S. In the C.I.S., potash producers in Russia and Belarus formed a new exclusive exporting company. In North America, no trade measures were implemented against the C.I.S. in the United States; the U.S. Department of Commerce extended for another year the suspension agreement between U.S. and Canadian potash producers; and investigations of allegations of price fixing in North America by several U.S. and Canadian potash producers continued.

In 1994, potash supply capability continued to exceed world demand. Some producers operated at reduced levels to achieve a better balance between supply and demand. As in the past, inventory shut-downs occurred in Canada. On an annualized basis, Canadian mines ran at close to 68% of capacity in 1994 (57% in 1993), while other major world producers (excluding the C.I.S., which operated at 43% in

1994), operated at 70-90% levels. Globally, potash producers ran at an overall average of 64% of capacity. In 1994, the capacity surplus was estimated at 12.2 Mt/y K₂O, of which Canada and the C.I.S. represented 80%. Capacity was curtailed in the United States and the C.I.S., while some developments were pursued in Jordan, Chile and Canada. In Western Europe, the restructuring of the German potash industry continued as two mines closed in the eastern part of Germany. In Italy, operations remained idle. In Canada, Kalium Canada Ltd. acquired Central Canada Potash's operation from Noranda Minerals Inc. In the Middle East, Jordan expanded its capacity by 28% with the commissioning of a new plant.

The increase in world potash production was in response to improving demand and trade for fertilizer potash, which accounts for 95% of overall potash sales. Improvements in demand were recorded in most consuming countries with the exception of the C.I.S. and Western Europe. World consumption for potash fertilizer remained at close to 19.4 Mt K₂O in 1994. Decreases in the C.I.S. and Western Europe offset increases in Latin America, North America and Asia. Setting aside the C.I.S., Western markets rose by 4% to 18.0 Mt K₂O.

Of major interest this year was the re-emergence of China as a major buyer of imported potash, especially from Canada. In 1994, potash consumption in China rose by 20% to reach 1.8-1.9 Mt K₂O. At the beginning of the year, potash sales prospects to China were partially clouded by uncertainties over tax reform (affecting the purchase of imported goods) and by the liberalization of fertilizer prices. However, during the course of the year, China settled major potash sales with exporters, including Canada, which achieved a record level of sales in 1994. Changes were also noted in China's buying structure for potash imports: Sinochem is gaining back its prominence as an exclusive licensed importer for fertilizers, while the central Agricultural Means of Production Company is handling domestic distribution. In East Asia, potash demand in India recovered by 10% to 1.0 Mt K₂O (compared to 1.3 Mt in 1991). In June, the Indian government finally reinstated its subsidy for potash fertilizers with the objective of restoring some balance in the nitrogen-to-potash application ratio. In 1993/94, this N:K ratio was 1:0.10, while the ideal ratio for average all-India conditions would be closer to 1:0.25. In Western Europe, the effects of the

Common Agricultural Policy continued to be felt; however, its major impacts were mainly in the two previous years. Potash consumption in Western Europe declined by 2% in 1994. In the C.I.S., severe economic conditions continued to prevail, particularly in Russia and Ukraine. Domestic potash consumption was reported at 1.4 Mt, 20% lower than 1993 levels as a result of much-reduced state support and a lack of funding for farmers. In Central Europe, potash consumption improved in Poland. In Latin America, demand for potash in Brazil continued to be strong despite a lengthy drought that delayed the fall rainy season in the central coffee-producing region. Demand for fertilizer in Brazil was tempered by stronger prices for fertilizers and the late release of farm credits; however, prices for Brazilian export crops firmed in international markets. Potash consumption in Brazil rose to 1.7 Mt K₂O, up from 1.55 Mt in 1993. Globally, the nitrogen-to-potash ratio has stabilized at 1:0.27 after a continuous decline since 1991 (from 1:0.34), reflecting a still-low potash application and persistent unbalanced fertilization.

In the United States, potash fertilizer demand was strong in 1994 due to extremely favourable weather conditions throughout the year. In late 1993, the U.S. Department of Agriculture set the Acreage Reduction Program rate at 0% for corn, following a below-average harvest in 1993. This led to an 8% increase in corn-planted acreage and resulted in a higher application of potash in the Corn Belt. U.S. potash demand was buoyant in the first half of 1994 due to excellent farming conditions that prevailed in early spring. Conditions in the summer and fall remained favourable and led to an all-time record harvest for corn and soybean. Corn yield rose by 38% compared to the previous year. Overall potash fertilizer sales in the United States increased by 10% to 5.6 Mt K₂O.

THE CANADIAN INDUSTRY

The potash industry in Canada is composed of six companies, which together employ more than 3800 workers. Production occurs in eight underground mines and two solution mining operations in Saskatchewan, and in two underground mines in New Brunswick. The latter accounts for 15% of Canadian capacity. The potash industry in Canada was first developed in the early 1960s with the opening of potassium chloride mines in Saskatchewan. As a result of a series of expansions in the 1970s and 1980s, the Canadian potash industry now ranks as the world's largest producer and exporter of potash.

Major Developments

In 1994, Canadian production rose by 18% from 6.85 Mt to 8.1 Mt K₂O. Increases in potash output were mostly registered in Saskatchewan. New

Brunswick's potash production accounted for about 12% of total Canadian output in 1994. Canadian potash shipments rose by 23% to 8.5 Mt K₂O as a result of very strong sales to offshore markets and improved export levels to the United States. Domestic sales increased by 6% to 0.38 Mt K₂O; exports grew from 6.5 Mt to 8.1 Mt K₂O, a 25% increase. In offshore markets, sales increased, most notably to China where a record level of exports was reached in 1994. Canada's total potash sales in 1994 were estimated at \$1.22 billion, compared to \$0.95 billion in 1993. Canadian inventories decreased by about 0.4 Mt to 1.3 Mt K₂O.

At the end of 1994, Canadian potash productive capacity was estimated at 12 Mt/y K₂O. (This level could sustain an operating rate of 95% on an annual basis.) Of this capacity, close to 1.2 Mt/y K₂O could be considered dormant with idle milling units at the Cory and Lanigan operations. It is believed that such facilities could be reactivated in a relatively short period of time. Of the total Canadian capacity, New Brunswick accounts for 1.28 Mt/y K₂O.

In 1994, mine shut-downs amounted to 104 mine-weeks, a 25% decrease over last year (139 mine-weeks). Most of these shut-downs (90%) occurred in Saskatchewan; Potash Corporation of Saskatchewan Inc. accounted for 80% of these temporary closures. Compared to 1993, winter shut-downs were longer in January, summer shut-downs mostly occurred in July, and fall shut-downs were minimized because of firm sales in Asia during the second half of 1994.

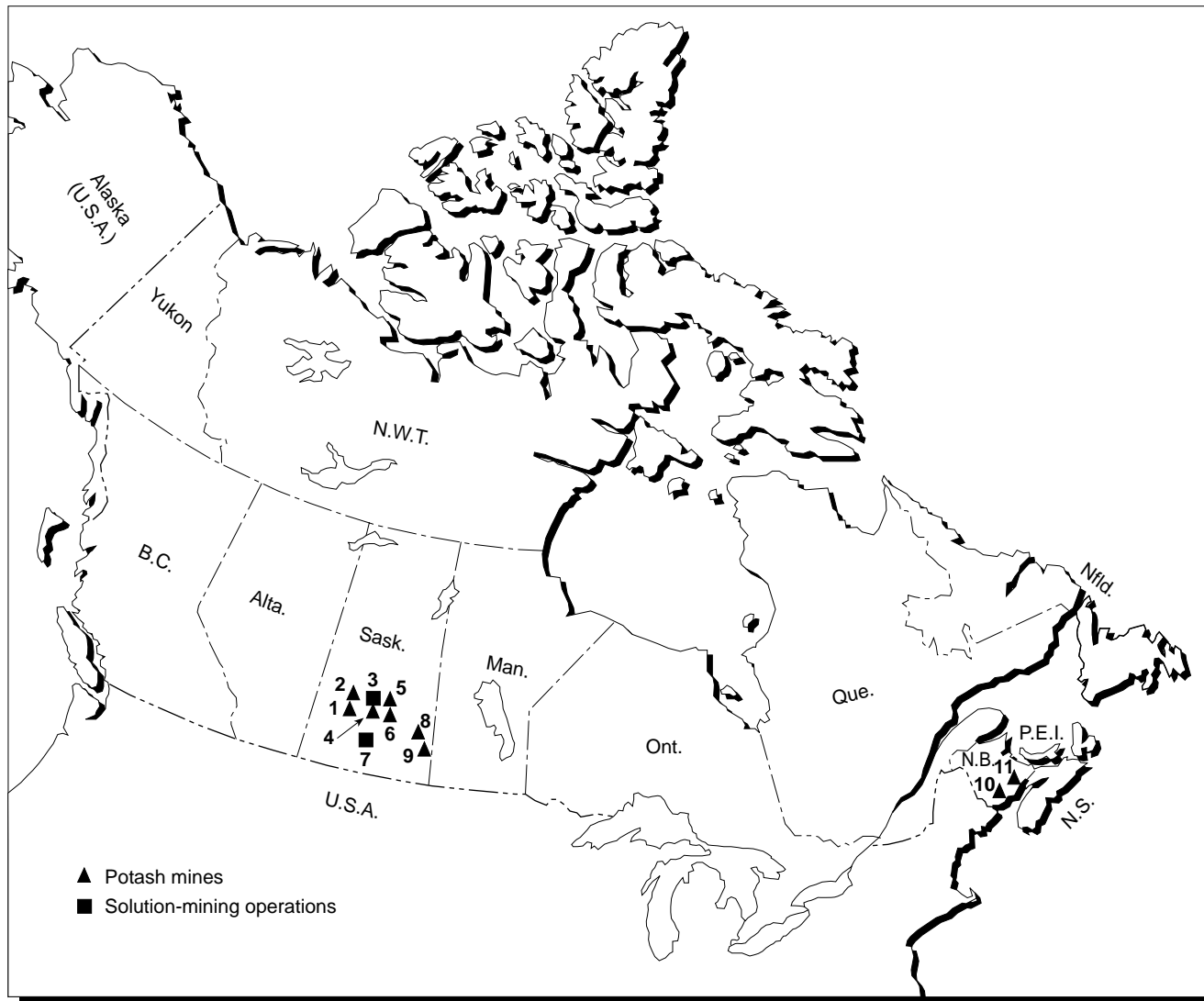
In 1994, the average unit value of potash shipped by Canadian producers was C\$91/t KCl (f.o.b. mines), a C\$6.70/t increase over the previous year. For the first nine months of 1994, the average unit value of exports at port of exit (e.g., Vancouver, Saint John, or a border crossing to the United States) was C\$124/t KCl. For the same period in 1993, this value was C\$120/t. Stronger potash demand worldwide and some tightness in specific product grades, combined with shifts in currency values, were the main factors for this increase in 1994. In 1994, potash exports totalled 13.0 Mt KCl valued at C\$1.62 billion.

In early March 1994, the International Trade Administration of the U.S. Department of Commerce extended for another year the suspension agreement between U.S. and Canadian potash producers, which was due for termination. During the year, investigations continued into allegations of price-fixing in North America by several U.S. and Canadian potash exporters. The investigations are related to class-action lawsuits consolidated in Saint Paul, Minnesota and a U.S. Grand Jury investigation.

Saskatchewan

Saskatchewan produced about 88% of Canada's potash in 1994. During the year, several temporary

Figure 1
Location of Potash Mines and Operations in Canada, 1994



Numbers refer to locations on map above.

POTASH MINES

1. Cominco Fertilizer Ltd.; Vanscoy, Saskatchewan
2. Potash Corporation of Saskatchewan Inc., Cory Division; Saskatoon, Saskatchewan
4. Potash Corporation of Saskatchewan Inc., Allan Division; Allan, Saskatchewan
5. Central Canada Potash Inc.; Colonsay, Saskatchewan
6. Potash Corporation of Saskatchewan Inc., Lanigan Division; Lanigan, Saskatchewan
8. International Minerals & Chemical Corporation (Canada) Limited; Esterhazy, Saskatchewan
9. Potash Corporation of Saskatchewan Inc., Rocanville Division; Rocanville, Saskatchewan
10. Potacan Mining Company; Sussex, New Brunswick
11. Potash Corporation of Saskatchewan Inc. (formerly Potash Company of America, a Division of Rio Algom Limited), New Brunswick Division; Sussex, New Brunswick

SOLUTION-MINING OPERATIONS

3. Potash Corporation of Saskatchewan Inc. (formerly Potash Company of America, a Division of Rio Algom Limited); Patience Lake Division, Saskatchewan
7. Kalium Canada, Ltd.; Belle-Plaine, Saskatchewan

shut-downs were called by mine operators in Saskatchewan for inventory control and, to a lesser extent, for maintenance and vacation. In 1994, Canpotex Limited's producer-members entered into a partnership with Kap Resources Ltd. of Vancouver to invest in a US\$78 million project for the construction of a potassium nitrate plant in Chile. The 250 000-t/y KNO_3 plant will be operated by Minera Yolanda S.A. A long-term potash supply agreement was negotiated with Canpotex. The plant's potassium nitrate production is expected to begin by late 1996 and will be sold exclusively by PCS Sales.

Potash Corporation of Saskatchewan Inc. (PCS Inc.) is the largest publicly held potash producer in the world. In 1994, PCS Inc. operated five mines in Saskatchewan and one in New Brunswick. PCS Inc. also owns reserves at Esterhazy, which are mined by International Minerals & Chemical Corporation (Canada) Limited (IMC Canada) under a long-term agreement under which PCS Inc. is entitled to 25% of production. All PCS Inc. mines, except the Patience Lake solution mine, use conventional underground mining techniques. In 1994, potash production from all of PCS Inc.'s operations, including tonnage on PCS Inc.'s account from IMC Canada, was estimated at 5.5 Mt KCl, a 41% increase over 1993. (This increase included full production from new PCS Inc. divisions at Patience Lake and Sussex that were acquired late in 1993.) PCS Inc.'s operating rate rose to 52%, up from about 39% in 1993. Throughout 1994, PCS Inc. continued to pursue its policy of strict inventory control, with intermittent shut-downs at all of its operations. PCS Inc.'s production capacity is estimated at 6.54 Mt/y K_2O , equating to 55% of Canada's total potash capacity. During the year, PCS Inc. extended for another year its offshore marketing agreements with three U.S. potash producers in New Mexico, including Mississippi Chemical Corp., New Mexico Potash Corp., and Eddy Potash Inc. In 1994, the Government of Saskatchewan passed the *PCS Reorganization Act*. The Act revoked previous restrictions that had limited, to a maximum of 5%, the total value of PCS Inc. stocks that could be held by foreign shareholders, as well as the value of outstanding stocks held by any one individual. In addition, the Crown Investments Corporation had exercised by the September 1994 expiry date and exchanged all of its common share purchase warrants that were issued by the Province of Saskatchewan; the Province no longer holds any common shares of PCS Inc.

IMC Canada, which is wholly owned by IMC Fertilizer Group Inc., extracted potash ore from two interconnected underground mines, K1 and K2, at Esterhazy in southeastern Saskatchewan. In 1994, IMC Canada's production rose by 22%, and ran at rates above 75%. During the year, IMC Canada continued to manage its incurring water inflows and to keep them within acceptable levels. The company still practices chemical grouting for corrective measures. IMC Canada pursued its evaluation of long-

term options for its potash mines – options that include different mining methods; a decision is expected during 1995.

Kalium Canada, Ltd. operated a large potash solution mine at Belle-Plaine, west of Regina. During 1994, potash production rose significantly and, according to the company, ran at capacity. The plant is designed to run continuously, 24 hours per day, 365 days per year. At Kalium, by-product salt brine is shipped to a nearby salt evaporation plant operated by Canadian Salt Co. Ltd. Some volumes of salt waste are dissolved and re-injected underground. During the year, Kalium carried out some developments that will expand its capacity by 11% to close to 1.45 Mt K_2O , with the intention of increasing its production of industrial-grade potash products. In the fall of 1994, Vigoro Corporation, Kalium's Chicago-based parent company, signed a letter of intent to acquire the Central Canada Potash (CCP) operation from Noranda Minerals. The transaction was completed in early January 1995 and involved a disbursement of US\$122 million plus US\$17 million in working capital. The operation is now known as Central Canada Potash Inc.

Central Canada Potash, a division of Noranda Minerals Inc., produced 1.1 Mt KCl in 1994, a 27% increase over the previous year. Potash is mined from the company's underground mine at Viscount, east of Colonsay. Shipments were significantly higher than those in 1993 and inventories were reduced. The operation ran at an 82% utilization rate during the year, compared to 64% in 1993.

Cominco Fertilizers Ltd. produced 1.2 Mt KCl in 1994 at its Vanscoy mine, a 3% increase over 1993. The operation ran on a seven-day-per-week schedule throughout the year, except for four weeks in the summer. The operation ran at 88% of capacity, compared to 67% in 1993. Improvements were carried out to increase productivity and the production of premium grades. Nu Salt Corp. recovered some salt from the tailings to sell as a de-icer in local markets. During 1994, Cominco Ltd. sold its remaining 17.8% share in Cominco Fertilizers Ltd.

Big Quill Resources Inc. produced potassium sulphate from sodium sulphate brine from Big Quill Lake and from potash supplied by PCS Inc. The company, located in Wynyard, completed an expansion that increased its capacity from 5800 t/y K_2SO_4 to 11 000 t/y. Another expansion is planned that would increase the capacity to 50 000 t/y K_2SO_4 by late 1996; a decision is expected in early 1995. Potassium sulphate products were used in the chemical and wallboard sectors.

New Brunswick

In New Brunswick, potash was mined at two underground operations located in the Sussex area in Kings County. Potash products for export are hauled

60-80 km from the Sussex area to the Barrack Point potash terminal in Saint John. The terminal, which is operated by Furncan Marine, has a storage capacity of 165 000 t of potash. The shipping port, equipped with a 2700-t/h shiploading facility, can accommodate cargo sizes between 3000 and 50 000 t.

The New Brunswick division of PCS Inc. operated the Penobsquis underground mine, also referred to as the Plumweseep mine, about 5 km east of Sussex. In 1994, production was about 560 000 t of KCl, an 11% decrease over 1993. The mine operated throughout the year at high capacity but was shut down for four weeks in January and four weeks in July-August. It operates on a seven-day-per-week schedule. Sales were stronger in 1994 and resulted in an important reduction of inventories. Common salt is also co-produced at an annual rate of 400 000 t and is sold commercially through a sales agent as de-icing material on North American markets.

Potacan Mining Company (PMC) production remained stable in 1994 compared to 1993. The operation ran at about 77% of capacity during the year. The company extracted potash at the Cloverhill mine located 20 km southeast of Sussex. Since 1991, PMC has been owned by Potash Company of Canada Limited, which in turn is owned jointly by *Entreprise Minière et Chimique (EMC)* of France, and *Kali und Salz AG (K&S)* of Germany.

Under the guidelines of its Potash Exploration Policy, the Province of New Brunswick intends to make available the mineral rights of the Millstream potash deposit, formerly held until 1993 by *BP Resources Canada Limited*. In-situ reserves on the 10 056-ha property have been estimated at 256 Mt grading 20.6% K_2O . Potash occurrences are located in zones with a thickness varying between 6 and 38 m, at depths between 950 and 1050 m.

Manitoba

In 1994, the Manitoba Potash Corporation, held 51% by *EMC* of France and 49% by the Government of Manitoba, continued its evaluation of a proposed 1.2-Mt/y K_2O potash mine near Russell at the Manitoba-Saskatchewan border. *Potamine Mining of Canada Inc.*, a subsidiary of *EMC*, is managing its share of the project. Another three-dimensional seismic program was undertaken in the fall of 1994.

CANADIAN POTASH TRADE

Canada is the world's largest potash exporter with a 40% share of international trade. Germany is the second largest, followed by the C.I.S. Canada exports potash to more than 35 countries, although only 6 countries account for close to 80% of Canada's total potash exports.

In 1994, Canadian potash was shipped mostly to the United States (57%) and Asia (29%), with the remainder being sent to Latin America (8%), Oceania (3%), and Western Europe (3%). Exports to Latin America originated mostly from New Brunswick (70%); 60% of Canadian shipments to Western Europe originated in the province. Saskatchewan accounted for 97%, 94% and 100% respectively of Canada's exports to Asia, the United States, and Oceania.

In 1994, data compiled by Statistics Canada indicated that Canadian potash exports were valued at C\$1.62 billion, with tonnages totalling 13 Mt KCl, a 30% increase compared to the same period in the previous year. The United States remained the dominant destination with exports increasing by 15% to 4.6 Mt K_2O , of which 93% was for agriculture.

Offshore sales rose by 42% to 3.5 Mt K_2O . Exports to every region rose in 1994. Exports to Asia increased significantly as sales to both China and India doubled compared to last year. Important gains were recorded in the Philippines, Indonesia and Thailand. Canada's exports to Asia accounted for 69% of offshore sales for the first 10 months of 1994, compared to 62% for the same period in 1992. Shipments to Latin America rose by 25% with higher sales notably to Brazil. Strong exports were also reported to Cuba and the Dominican Republic. Sales to Latin America accounted for 19% of Canada's offshore exports. Sales to Western Europe rose by 60% as much larger exports were reported to Belgium and France during the year. Exports to Africa and Oceania rose marginally.

INTERNATIONAL DEVELOPMENTS

World production of potash recovered in 1994, increasing for the first time in six years to reach an estimated 22.7 Mt K_2O compared to 20.4 Mt in 1993. Most of the 2.3-Mt K_2O (or 11%) increase occurred in Canada. North America was the major producing region with a 42% share of world potash output, a 1% increase over the previous year. Canada contributed 36% to world production in 1994. The C.I.S. was second with a 22% share, compared to 23% in 1993. Western Europe accounted for 24%, the same level as in 1993. The Middle East accounted for 10%, compared to 11% in 1993.

Americas

Argentina

Potasio Rio Colorado S.A. continued its development work on a new sylvinitic-based, 150 000-t/y K_2O solution mine near Rincon de Los Sauces in the southern Mendoza Province, 960 km south of Buenos Aires. Reserves are reported at 1.5 Mt grading 27-28% K_2O at a depth of 1100 m. In 1994, further tests were carried out to complete the feasibility study.

Brazil

Companhia Vale do Rio Doce (CVRD), a state-owned mining company, produced 229 000 t K_2O , a 32% increase over last year. The 300 000-t/y K_2O mine is located at Rosario do Catete, 47 km from Aracaju, the capital of the Sergipe District. During 1994, Unidade Operacional Taquari-Vassouras (UOTV), a branch of CVRD, solicited bids for mining equipment to meet its targets for potash production of 300 000 t K_2O by 1995 and 360 000 t K_2O by 1996. In mid-year, CVRD started to ship potash through the port of Aracaju, 47 km from the mine, for delivery to the southern regions of Brazil; close to 60% of its sales were destined for the northeast, and the remainder was shipped to the central and southern regions. In 1994, the Government of Brazil indicated that it will initiate the privatization of CVRD in 1995.

Chile

Sociedad Quimica y Minera de Chile S.A. (SQM), which holds a 75% share in Minsal Ltda, started development work at its new project for the extraction of potash, lithium, and borax from brines in the Atacama desert in northern Chile. Close to US\$85.2 million is to be invested in the first phase of the project, which has a design capacity of 80 000 t/y KCl and which is to be completed in mid-1996. A fourth phase, to be completed by 1998, would include a 90 000-t/y potassium sulphate capacity. The whole project calls for a US\$130 million investment to bring the total capacity to 180 000 t/y K_2O . SQM has a long-term agreement with Sociedad Chilena de Litio Ltda to buy all of its production, which currently averages 50 000 t/y K_2O ; the rest of SQM's requirement is currently fulfilled by imports. Minsal's potash production is expected to replace SQM's potash imports for the manufacture of potassium nitrate.

United States

Production in the United States in 1994 decreased by 7% to 1.43 Mt K_2O . The value of production of marketable potash was about US\$183 million. Potassium sulphate and potassium-magnesium sulphate together accounted for 25% of U.S. potash production, with the remainder being potassium chloride. Apparent consumption was estimated at close to 5.4 Mt K_2O , of which 4.4 Mt were imported. Inventories at year-end rose by 11% to 0.34 Mt K_2O . Total employment was 1655 jobs. Based on a revised production capacity of 1.52 Mt/y K_2O , the U.S. potash industry ran at 93% of capacity, compared to 92% in 1993.

In 1994, the U.S. Trade Representative's office met with Russian and Belarussian industry and government representatives to discuss allegations of disruptions in the U.S. potash market caused by low-priced C.I.S. shipments. (In 1993, a petition was filed by several U.S. potash producers on this matter.) No trade measures were undertaken following the April

meeting. During 1994, Mississippi Chemical Corp. became a publicly traded corporation and proceeded with a significant public offering. Great Salt Lake Minerals Corp. signed a letter of intent to acquire Reilly Industries Inc.'s potash operations at Wendover, Utah, from Reilly Wendover of Salt Lake City; the 55 000-t/y K_2O operation produces potassium chloride via the processing of brines from the Bonneville salt flats, and sells primarily in the western states. Eddy Potash restructured its operation in Carlsbad, New Mexico, to extend the life of its mine; the operation cut its production of standard-grade potash to maximize its output of higher-value potash grades (i.e., soluble, chemical and granular). Eddy Potash's capacity was reduced by 0.13 Mt/y K_2O to 0.2 Mt/y K_2O ; its workforce declined by 100 workers.

Europe

European Union

In response to an appeal by the French government and Entreprise Minière et Chimique of France against the Commission of the European Union (CEU) rulings in 1993 concerning the merger of the two German potash producers, the European Court of Justice in Luxembourg ruled that Kali und Salz GmbH will not be required to withdraw from Kali-Export GmbH in Vienna as a condition of the merger of the former East and West German potash producers. The suspension of the condition will remain in place until a full investigation is conducted, which could take a few years. Despite this ruling, Kali-Export (which has exported potash outside the European Union and North America on behalf of the French, German and Spanish producers) ceased its trading operation at the end of 1994.

In March 1994, the CEU re-examined the anti-dumping duties that had been imposed on potash imports from Russia, Belarus and Ukraine. The Commission implemented higher duties representing a 30% increase from the levels set in 1993. The previous minimum price has been replaced by a fixed duty combined with a new minimum price. The duty for standard-grade potash (60% K_2O) has been fixed at European Currency Unit (ECU) 41.06/t and its minimum price at ECU 130.36/t (equating to US\$135-\$140/t c.i.f. borders).

Commonwealth of Independent States

Following the break-up of the U.S.S.R. in 1991, the former Soviet potash industry is now spread mostly among two republics. In Russia, potash is produced at Uralkalii (4.0 Mt/y K_2O capacity) and at Silvinit (2.3 Mt/y K_2O capacity). In Belarus, potash is produced at Beloruskalii, which manages the four Soligorsk operations (5.2 Mt/y K_2O total capacity). In 1994, total potash production in the C.I.S. was estimated at close to 5.1 Mt K_2O , a 9% increase compared to 1993. The utilization rate of potash production capacity in the C.I.S. dropped to about

43%. Production from Russia declined by 6%, while in Belarus production rose by 23%. The decline in production was in response to a sustained weak demand for potash in domestic markets. C.I.S. potash remained available for export.

In 1994, the two Russian potash enterprises were privatized and are now called joint stock companies. (In Belarus, the potash producer is still state-owned.) As of January 1994, enterprises were no longer required to fulfil state orders for potash sales within the domestic market. Rail tariffs have been increasing at a rate of 6-7% per month; however, rail charges for potash exports have received a 15% discount. In February 1994, all potash producers joined International Potash Company, a Moscow-based joint stock company, which acts as an exclusive exporter for Russian and Belarussian producers. The effects of this arrangement were evident in 1994 with less diverse selling channels and better pricing structures. Exports, which remained adequately available during 1994, were mostly shipped from Venstpils (Latvia) and, in part, from the Ukrainian ports of Kherson and Mariupol. Export licences and quotas were eliminated for potash; a nominal export tariff remains. The implementation by the Russian government of a temporary ban on potash exports earlier in 1994 was quickly abandoned. Potash consumption in the C.I.S. continued to be plagued by a lack of credit for farmers. Shortfalls in the application of fertilizers in Russia reached a critical level in 1994, equating to 4 kilograms K_2O per hectare (kg/ha) compared to an adequate level of 60-80 kg/ha. (In 1993, the application rate was reported at 6 kg/ha.)

France

Production in 1994 remained static at 0.89 Mt K_2O , while sales declined marginally. Domestic potash consumption was stable at 1.45 Mt K_2O . In 1994, Mines de Potasse d'Alsace (MDPA), a subsidiary of Entreprise Minière et Chimique (EMC), extracted potash at two underground mines, Amélie and Marie-Louise, near Mulhouse in Alsace. According to the Société Commerciale des Potasses et de l'Azote (SCPA), the closure of the Alsace potash mines will occur around 2004. Due to depleting potash reserves, the eastern extraction shaft serving the Marie-Louise mine in Staffelfelden is to shut down in 1998, while its western shaft will operate until 2002. The 1.0-Mt/y K_2O processing plant at Marie-Louise will be fed with ore from the Amélie mine until 2002. The 0.5-Mt/y K_2O Amélie operation in Wittelsheim will run until 2004. In 1994, the French government is reported to have provided some financial aid to EMC; close to US\$80 million will help Mines de Potasse d'Alsace pay retired miners.

Germany

In 1994, Germany's production of potash rose by 15% to about 3.28 Mt K_2O . With the merger of Kali und

Salz AG (K&S) and Mitteldeutsche Kali AG (Mdk) approved late in 1993 by the Commission of the European Union, the new company, Kali und Salz GmbH (K&SG), continued its restructuring program. The latter will involve expenditures of close to DM 1000 million (close to US\$500 million) from the period 1993 to 1997. The company indicated that it will trade its potash products itself in the European and Asian markets and that Potash Import & Chemical Corp. will be its exclusive agent in the United States. In 1994/95, two mines (the 0.2-Mt/y K_2O Bergmannsseggen-Hugo and the 0.12-Mt/y K_2O Niedersachsen-Riedel, both in the western part of Germany) are to shut down, reducing Germany's potash capacity by 0.35 Mt/y K_2O . Small expansions were carried out at Zielitz (to reach 1.1 Mt/y K_2O by 1995/96) and Hattorf (to 0.72 Mt/y K_2O by 1995/96). In 1996, total potash capacity in Germany will reach 3.65 Mt/y K_2O .

Italy

In 1994, Italian potash operations continued to be affected by technical, environmental, and legislative problems that have been paralyzing all mining activities in Sicily since 1993. No Italian potash extraction was reported for 1993 and 1994. Kainite ore was mined by Societa Italiana Sali Alkalini SpA, a state-controlled company, at the Pasquasia, Pantanelle, Racalmuto, and Realmonte mines. Potassium sulphate and magnesium-potassium sulphate products are produced at two processing plants at Pasquasia and Casteltermini.

Spain

Production of potash in 1994 increased by 4% to 685 000 t K_2O , reflecting improvements in domestic and export sales. In 1997, the 0.2-Mt/y K_2O Subiza mine in Navarra is expected to close due to depleting reserves; however, its compaction plant will continue to operate with standard potash product from the Llobregat operation.

United Kingdom

In 1994, Cleveland Potash Ltd. (CPL) extracted potash ore from its Boulby mine (North Yorkshire) and produced a record 580 000 t K_2O , a 5% increase over 1993. Potash products are railed 32 km south from the mine site to the Teesdock terminal where it is distributed by Teesbulk Handling Ltd., a subsidiary of CPL. In 1994, a second stage in the filter process was installed allowing production to increase to 0.6 Mt/y K_2O . Evaluation of the new Jamieson Cell Flotation technology was carried out.

Middle East

Israel

Dead Sea Works Ltd. (DSW) produced about 1.3 Mt K_2O in 1994, a slight 3% reduction from the previous

year. DSW continued to work on its proposed expansion that will increase its capacity from 1.38 Mt/y to 1.5 Mt/y K₂O by 1997. In the future, potential cooperation may occur between Israeli and Jordanian potash producers within the context of harmonized relations between the two states.

Jordan

In 1994, the Arab Potash Company Ltd. (APC) produced about 925 000 t of K₂O, a 13% increase over 1993. In the summer of 1994, the company completed its expansion activities at Ghor Al-Safi and increased its capacity by 0.24 Mt/y, reaching 1.08 Mt/y K₂O. The US\$125 million plant is based on new technology employing a cold crystallization process that operates at ambient temperature and is less energy-intensive than the widely used hot leach plant. The process also consumes less water but requires a higher grade of carnallite feed. The new plant will produce standard (80%) and fine (20%) white potassium chloride grades from carnallite brines.

A second 0.24-Mt/y K₂O expansion by the year 2000 is under study; however, it is estimated that gradual optimization of the current operation will provide 0.12 Mt/y K₂O of incremental capacity, for a total capacity of 1.2 Mt/y K₂O by the end of the decade. Development work was also carried out to increase the production of granular potash grade from the current level of 200 t/d to 600 t/d.

Asia

China

Potash production in China is derived from brines in the Qarhan Lake of the Qinghai Province situated north of Tibet and about 4000 km west of Beijing. Production in 1994 was estimated at 60 000 t K₂O. The Chinese-Israeli joint venture for the new 480 000-t/y K₂O potash operation near Golmund has suffered some delays because of financial constraints. The US\$475 million project is expected to start in 1995/96 for completion in 1999. Partners include Dead Sea Works of Israel (16.67%), United Development Inc. (a subsidiary of the Eisenberg Group, 16.67%), the Chinese government, and the province of Qinghai. The facility will use the cold crystallization technology of Dead Sea Works to exploit shallow carnallite brines.

Thailand

In 1994, the Asean Potash Mining Co. (APMC) contracted with a company to perform deep-well injection tests to confirm the feasibility of injecting large amounts of waste brines into porous sedimentary formations underneath the potash orebody. (Magnesium chloride-rich waste brines would be generated from the processing of the carnallitic ore into potassium chloride products.) Drilling was completed

down to the 1750-m level, and deep well injection tests were performed with results expected in April 1995. Pending successful results, the existing decline is to be extended down to the 180-m level to reach salt formations above carnallite horizons. Ultimately, APMC's plans are for the construction of a new 0.6-Mt/y K₂O underground potash mine at Bamnet Narong in northeastern Thailand. In northern Thailand, the Vancouver-based Asia Pacific Resources Limited (APRL) continued its exploration program in the Udon Thani concession, 60 km south of the Thai-Laos border. APRL, which is owned by the Crew Group of Vancouver (75%), has held the mineral rights since 1990 and has been carrying out diamond drilling and seismic exploratory work. In 1994, the company pursued a 35-drilling-hole program and reported preliminary results that indicate sylvinitic horizons grading an average of 25% K₂O at depths ranging between 160 and 360 m. A pre-feasibility study will be conducted in 1995 starting after the full completion of the drilling program in May 1995. The project calls for a 1.2-Mt/y K₂O potash mine to be operational by 1999.

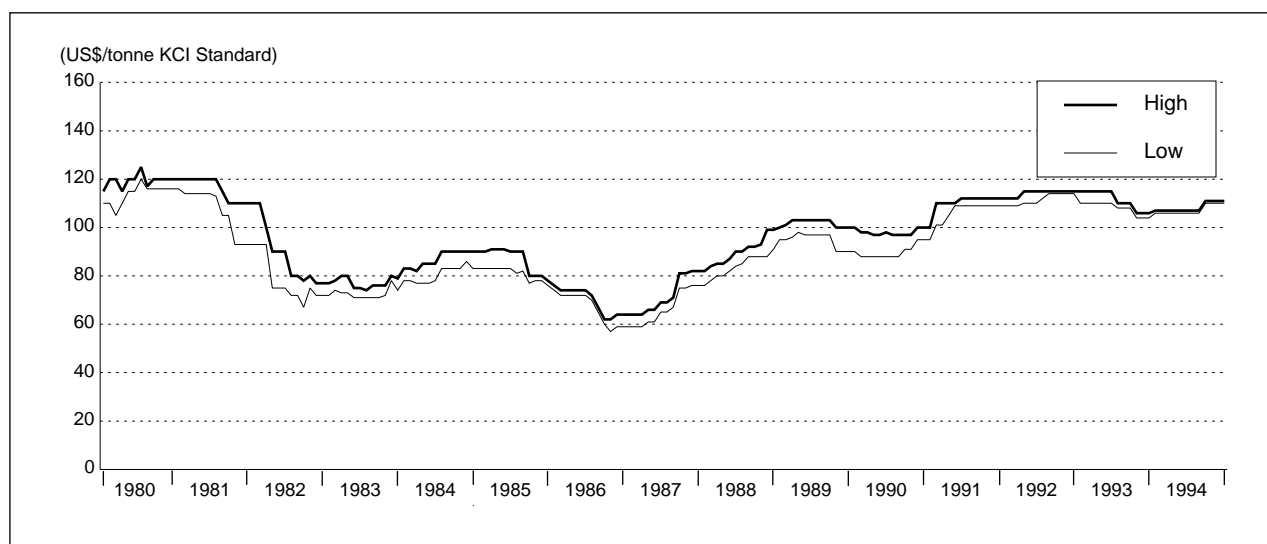
PRICES

The price of potash quoted on an f.o.b. Vancouver basis (in U.S. dollars) is considered the major pricing indication for most Canadian international offshore sales. In many markets, prices are also quoted on a delivered basis, c.i.f. national ports. Canpotex Limited, representing all Saskatchewan potash producers, sells both f.o.b. Vancouver or c.i.f. foreign ports, or out of warehouses in Southeast Asia.

Potash prices in 1994 rose for the first time in two years, recovering to a level that prevailed in mid-1993. Entering 1994, f.o.b. Vancouver potash prices were between US\$106 and \$107/t for standard grade. During 1994, prices remained flat despite buoyant sales in export markets. In September 1994, Canadian suppliers achieved a US\$4.50/t increase with several Asian buyers. In November, China agreed on the largest contract ever signed with Canpotex and settled with the same increase. Late in 1994, f.o.b. Vancouver prices were quoted at US\$110-\$111/t. In international markets, C.I.S. potash prices were quoted at US\$68-\$74/t f.o.b. Baltic in early 1994, and remained static until June. In July, C.I.S. potash quotations rose by US\$5 to US\$73/t for the rest of the second half. The gap between Canadian and C.I.S. potash quotations declined continuously during the year from US\$40/t down to US\$31/t, a 22% decrease mostly in response to rising costs for C.I.S. producers.

In North America, quotations for f.o.b. Midwest on coarse-grade potash started at US\$93-\$108/t in January 1994. Strong demand in the spring led to a gradual increase reaching US\$101-\$116/t in June, a US\$8 net increase since the beginning of the year. During July and September, a seasonal correction

Figure 2
Canada, Potash Price Quotations, 1980-94
 F.O.B. Vancouver Contract



Source: Natural Resources Canada.

brought prices down to US\$97-\$109/t. During the fourth quarter, prices fluctuated at the US\$100-\$112/t level, realizing a US\$4-\$7/t gain in 1994. This gain was the first since 1991.

OUTLOOK

In 1995, world potash demand for fertilizers is forecast to rise slightly by 1% to 19.5 Mt K_2O . Consumption of potash is expected to increase in Asia, where a recovery in potash demand began in 1993. Marginal growth is expected in Africa and Latin America. A small gradual decline is forecast in Western Europe and the United States. Consumption in the C.I.S. is expected to remain static with improvements only foreseen by 1997. A gradual recovery, which started in 1993, will continue in Central Europe, mostly led by the Czech Republic and Poland.

In the United States, potash consumption is set to decrease by 1-2% as reduced planted acreage for corn is projected following the record corn harvest in 1994. The 1994/95 Acreage Reduction Program rate for corn was increased to 7.5% from 0%. The subsequent decrease in plant acreages would have resulted in a more important decline, but high yields in 1994 will bring a need to refurbish nutrients and to increase application rate per hectare. U.S. consumption of fertilizer potash is projected to decline to 4.8 Mt in 1995.

Total world demand for potash in 1995 is projected at 22.5 Mt K_2O . Potash usage is mostly in fertilizers with a 93% share of total potash consumption, and the remainder being used in industrial chemicals.

According to the International Fertilizer Industry Association (IFA), long-term fertilizer potash demand is expected to continue its gradual recovery and to grow at an annual rate of 3% to reach close to 23 Mt/y K_2O by 2000. Most of this increase will occur in the C.I.S., Asia, and Latin America. According to the World Bank, world demand for industrial potash is forecast to reach 1.3 Mt/y K_2O in 2000, a 7% overall increase from the 1994 level. Taking into account industrial uses and distribution losses, total world demand for potash is projected at close to 26 Mt/y K_2O by the end of this decade.

Between 1988 and 1994, world consumption of potash fertilizer continued to rise in developing countries despite a global decline of 32%. Setting aside the C.I.S., Europe and North America, potash consumption rose from 7.7 Mt to 8.3 Mt, a 10% increase. For the next six years, potash consumption in developing countries is forecast to grow at an annual rate of 5% to 11 Mt, with India and China recovering, by 1998, to their highest level of potash consumption since 1991. In Latin America, potash consumption is expected to remain strong with increased harvesting in the Cerrado region, firm prices for export crops, and improved fertilizer balance in lower-valued domestic crops. In Asia, fertilizer application is expected to increase as agricultural reforms take effect; however, the greatest gains in potash consumption could be realized from improvements in fertilizer ratios. In China, an often-cited objective of raising the nitrogen-to-potash ratio above the current 1:0.1 to a target of 1:0.2 would result in an incremental demand of close to 1.5 Mt K_2O , an increase of 55% over forecast levels in 2000. In India, an increase of this ratio from the low levels that have prevailed

since 1993 to its average 1980-90 level would bring an additional demand for 0.4 Mt K₂O (or 27%) by 2000. Several small potash-consuming countries offer a prospective strong growth in potash consumption in the 1994-2000 period. In Latin America, they include Cuba, Colombia, Mexico, and Venezuela. In Asia, they include Bangladesh, Pakistan, the Philippines, Sri Lanka, and Vietnam.

On the supply side, over the next six years, capacity will be curtailed in Western Europe (down from 7.1 Mt/y to 6.6 Mt/y K₂O) and in the C.I.S. (down from 11.4 Mt/y to 10.4 Mt/y), resulting in a total decline of 1.5 Mt/y K₂O between 1994 and 2000. Another 1.5 Mt/y will be deducted by 2004 after the closure of the potash operations in France. Additional supply will be expected from Latin America (in Chile and Brazil for a total of +0.2 Mt/y K₂O), the Middle East (+0.2 Mt/y K₂O), and Asia (China, +0.2 Mt/y K₂O), resulting in a total increase of 0.6 Mt/y K₂O by 2000. In North America, the closure of one mine in the United States will be offset by expansions in Canada; total North American capacity is expected to remain at 13.3 Mt/y K₂O, pending no significant change at IMC Canada's K1 and K2 operations.

There are other potential projects bearing a high probability of occurrence; these are located in China (capacity at the Qinghai 3 to reach 0.48 Mt/y K₂O, resulting in +0.28 Mt/y K₂O); Chile (second-phase expansion at Minsal to bring another +0.1 Mt/y K₂O), and Jordan (to commission its second +0.24 Mt/y K₂O by 2000). These projects would bring an additional capacity of 0.6 Mt/y K₂O, but it is only to be utilized after 2000. Some other projects have a lower probability of occurrence before the year 2000, i.e., projects

in Argentina (+0.2 Mt/y K₂O), Manitoba (+1.2 Mt/y K₂O), and Thailand (+0.6 to 1.2 Mt/y K₂O).

For the period 1994 to 2000, world potash capacity is forecast to decrease by 2.5% from 34.9 Mt/y to 34 Mt/y. However, if all potential additions were to be realized by 2000 (while setting aside probable closures in the C.I.S.), world potash capacity would then reach 34.6 Mt/y K₂O. This latter level still represents a 0.3-Mt/y K₂O decrease compared to today's capacity. Beyond 2003, the inclusion of all low-probability projects, combined with the expected reduction in France, would result in world capacity reaching 35.7 Mt/y K₂O, equating the 1993 level.

Current world potash capacity is more than adequate to cover forecast growing demand. Between 1994 and 2000, the world potash demand/supply balance will continue to face a lagging but gradually declining surplus. Based on capacity projections and demand forecasts, this surplus is expected to decline from 12.2 Mt/y K₂O in 1994 to 8 Mt/y by the year 2000 (or to 23% of world capacity, compared to 35% in 1994). World capability is estimated to reach 30.3 Mt/y K₂O in 2000, leading to a world surplus of 4.5 Mt/y K₂O. World capability (which refers to capacity that is readily available when considering technical and logistical constraints) accounted for 86% of world capacity in 1994; however, by 2000 it will account for 89% as obsolete and inefficient capacities are permanently closed and new capacities enhance their efficiency.

Notes: (1) For definitions and valuation of mineral production, shipments and trade, please refer to Chapter 60. (2) Information in this review was current as of January 25, 1995.

TARIFFS

Item No.	Description	Canada			United States
		MFN	GPT	USA	Canada
3104.20	Potassium chloride	Free	Free	Free	Free
3104.30	Potassium sulphate	Free	Free	Free	Free
3104.90.00.10	Magnesium-potassium sulphate	Free	Free	Free	Free
3104.90.00.90	Other potassic fertilizer	Free	Free	Free	Free

Sources: Customs Tariff, effective January 1995, Revenue Canada; Harmonized Tariff Schedule of the United States, 1995.

TABLE 1. CANADA, POTASH PRODUCTION, SHIPMENTS AND TRADE, 1993 AND 1994

Item No.	1993		1994p		
	(tonnes)	(\$000)	(tonnes)	(\$000)	
PRODUCTION, Potassium Chloride					
Gross weight	11 170 791	..	13 141 651	..	
K ₂ O equivalent	6 835 865	..	8 037 169	..	
SHIPMENTS					
K ₂ O equivalent	6 880 345	946 438	8 207 323	1 220 474	
IMPORTS, Fertilizer Potash					
3104.20	Potassium chloride, in packages weighing more than 10 kg				
	United States	4 562	548	4 811	579
	France	-	-	74	9
	Germany	13	1	42	5
	United Kingdom	-	-	23	2
	Total	4 576	550	4 950	597
3104.30	Potassium sulphate, in packages weighing more than 10 kg				
	United States	12 750	3 705	13 753	4 028
	Germany	38	63	8	14
	United Kingdom	2	4	2	5
	Netherlands	-	-
	Total	12 790	3 773	13 763	4 049
3104.90.00.10	Magnesium potassium sulphate				
	United States	94 589	16 075	55 886	9 623
	Germany	55	10	74	14
	Mexico	-	-	66	13
	Total	94 644	16 086	56 026	9 651
3104.90.00.90	Other potassic fertilizer				
	United States	1 537	741	1 177	591
	Mexico	-	-	20	13
	Norway	-	-	18	11
	Total	1 537	741	1 216	615
Potash Chemicals					
2815.20	Potassium hydroxide (caustic potash)	10 267	4 994	9 887	6 265
2834.21	Potassium nitrate	5 221	3 002	6 468	3 875
2835.24	Potassium phosphates	799	911	892	1 015
2836.40	Potassium carbonates	1 990	1 385	2 075	1 536
2839.20	Potassium silicates	706	597	643	532
	Total potash chemicals	18 982	10 892	19 966	13 224
EXPORTS, Fertilizer Potash¹					
3104.20	Potassium chloride, in packages weighing more than 10 kg				
	United States	6 430 215	735 686	7 302 127	895 447
	People's Republic of China	673 880	84 266	1 722 384	214 510
	Brazil	330 390	36 123	789 092	97 794
	Japan	488 438	66 341	518 298	73 517
	Malaysia	375 023	46 099	470 397	61 901
	South Korea	373 398	45 574	373 872	49 326
	Australia	296 452	37 616	249 079	32 794
	India	54 454	7 255	226 301	28 431
	France	41 401	5 112	211 531	24 976
	Taiwan	123 877	17 351	164 417	22 888
	Belgium	25 496	3 345	152 377	19 842
	New Zealand	158 426	20 981	126 509	16 680
	Chile	75 267	9 985	82 230	10 979
	Colombia	76 820	8 401	90 280	10 622
	Indonesia	97 125	11 904	79 065	10 541
	Philippines	39 300	4 303	57 850	7 683
	Thailand	47 507	6 352	43 512	5 771
	Cuba	12 565	1 257	46 250	5 273
	Denmark	28 237	2 383	45 750	5 038
	Guatemala	32 135	3 445	27 440	3 204
	Dominican Republic	6 008	674	23 850	2 897
	South Africa	15 650	2 054	22 000	2 880
	Netherlands	19 318	2 389	25 726	2 584
	Jamaica	22 446	3 809	16 037	2 454

TABLE 1 (cont'd)

Item No.	1993		1994 ^p	
	(tonnes)	(\$000)	(tonnes)	(\$000)
EXPORTS (cont'd)				
Ireland	9 811	1 264	16 813	2 181
Bangladesh	—	—	15 750	2 085
Argentina	—	—	14 479	1 932
Italy	34 673	4 540	10 060	1 391
Nigeria	17 500	1 881	9 999	1 115
Fiji	—	—	5 823	882
Ecuador	6 000	571	7 000	834
Singapore	13 114	1 700	5 000	664
Martinique	—	—	5 500	645
Uruguay	—	—	1 679	226
Pakistan	36	23	675	89
United Kingdom	108	67	90	59
El Salvador	7 875	866	500	40
Trinidad and Tobago	—	—	8	...
Vietnam	—	—	5	...
Costa Rica	21 004	1 983	—	—
Venezuela	34 912	3 576	—	—
Guyana	2 621	610	—	—
Norway	16 000	1 631	—	—
Honduras	1 050	104	—	—
Mexico	54 387	5 746	—	—
Total	10 062 918	1 187 286	12 959 756	1 620 193
3104.30	Potassium sulphate, in packages weighing more than 10 kg			
United States	2 768	1 461	11 408	7 183
France	900	542	80	48
Australia	—	—	22	7
Mexico	2	1	—	—
Netherlands	1	...	—	—
Total	3 671	2 005	11 510	7 239

Sources: Natural Resources Canada; Statistics Canada.

— Nil; . . Not available or not applicable; . . . Amount too small to be expressed; ^p Preliminary.¹ Countries are ranked in descending order of value, based on 1994 data.

Note: Numbers may not add to totals due to rounding.

TABLE 2. CANADA, POTASH PRODUCTION AND TRADE, FERTILIZER YEARS ENDED JUNE 30, 1976/77-1993/94

	Production ²	Imports ¹	Exports ¹
(tonnes K ₂ O equivalent)			
1976/77	4 803 015	24 289	4 175 473
1977/78	6 206 542	26 095	5 828 548
1978/79	6 386 617	21 819	6 256 216
1979/80	7 062 996	20 620	6 432 124
1980/81	7 336 973	35 135	6 933 162
1981/82	6 042 623	25 437	5 400 662
1982/83	5 378 842	21 846	4 864 219
1983/84	7 155 599	17 934	6 730 733
1984/85	7 283 509	17 396	6 784 178
1985/86	6 519 777	12 837	6 479 678
1986/87	7 031 586	12 122	7 100 135
1987/88	7 839 625	14 486	7 315 318
1988/89	8 088 748	18 604	7 075 122
1989/90	6 773 019	20 714	6 387 857
1990/91	7 520 235	23 714	6 727 678
1991/92	7 011 915	22 437	6 464 897
1992/93 ^r	7 286 620	27 581	6 450 457
1993/94	7 260 773	24 375	6 866 310

Sources: Potash and Phosphate Institute; Canadian Fertilizer Institute; Statistics Canada.

^r Revised.

¹ Includes potassium chloride, potassium sulphate, potassium-magnesium sulphate, except that contained in mixed fertilizers. ² Potassium chloride only.

TABLE 3. CANADA, POTASH PRODUCTION AND SALES IN 1993 AND BY QUARTERS, 1994

	Total 1993	1994				Total
		1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	
(000 tonnes, K ₂ O equivalent)						
Production	6 808.8	1 847.9	2 407.9	1 823.5	2 010.3	8 089.6
Sales						
North America	4 392.1	1 396.0	1 397.5	1 219.7	930.5	4 943.7
Offshore	2 458.5	633.6	1 341.2	887.5	673.2	3 535.5
Total	6 850.6	2 029.6	2 738.7	2 107.2	1 603.7	8 479.2
Ending Inventories						
Mine site	917.8	812.6	512.1	411.4	612.3	n.a.
Off site	808.7	690.9	703.0	492.7	671.2	n.a.
Total	1 726.5	1 503.5	1 215.1	904.1	1 283.5	n.a.

Source: Potash and Phosphate Institute.

n.a. Not applicable.

TABLE 4. CANADA, POTASH SALES BY PRODUCT AND AREA, 1992 AND 1993

		Agricultural				Total	Industrial			Total Sales
		Standard	Coarse	Granular	Soluble		Standard	Soluble	Total	
(tonnes, K ₂ O equivalent)										
British Columbia	1992	62	79	5 774	38	5 953	–	–	–	5 953
	1993	16	13	5 593	666	6 287	522	12	534	6 822
Alberta	1992	172	26	34 847	1 899	36 944	1 469	117	1 586	38 530
	1993	792	332	33 904	2 015	37 043	1 332	445	1 778	38 821
Saskatchewan	1992	51	2 425	11 494	303	14 273	4 943	623	5 566	19 839
	1993	47	671	10 576	160	11 454	4 323	1 926	6 248	17 702
Manitoba	1992	–	1 705	24 076	1 490	27 271	63	–	63	27 334
	1993	145	3 473	22 588	1 274	27 480	10	5	15	27 495
Ontario	1992	27	85 316	58 156	1 291	144 790	7 473	282	7 755	152 545
	1993	–	70 429	76 247	246	146 922	8 492	488	8 980	155 902
Quebec	1992	–	1 541	82 228	332	84 101	1 040	–	1 040	85 141
	1993	–	3 103	67 726	3 921	74 749	1 198	48	1 246	75 996
New Brunswick	1992	648	9 485	3 391	–	13 524	–	–	–	13 524
	1993	–	8 299	5 565	–	13 864	–	–	–	13 864
Nova Scotia	1992	–	3 920	1 779	–	5 699	–	–	–	5 699
	1993	–	3 570	1 619	–	5 189	–	13	13	5 202
Prince Edward Island	1992	1 624	–	12 999	–	14 623	–	–	–	14 623
	1993	980	1 556	11 825	–	14 361	15	–	15	14 377
Newfoundland	1992	–	–	–	–	–	–	–	–	–
	1993	–	116	–	–	116	–	–	–	116
Total	1992	2 584	104 497	234 744	5 353	347 178	14 988	1 022	16 010	363 188
	1993	1 981	91 563	235 641	8 282	337 467	15 893	2 936	18 829	356 296

Source: Potash and Phosphate Institute.
– Nil.

TABLE 5. CANADA, POTASH INVENTORY, PRODUCTION, DOMESTIC SALES AND EXPORT SALES, 1994

Month	Beginning Inventory	Production	Domestic Sales			Export Sales			Canadian Total Sales		
			Agriculture	Non-Agriculture	Total	Agriculture	Non-Agriculture	Total		Offshore Total	Exports Total
(000 tonnes K ₂ O)											
January	1 726.4	436.9	2.9	1.8	4.7	297.1	45.5	342.6	157.2	499.8	504.5
February	1 638.1	660.2	18.7	1.6	20.3	489.8	36.3	526.1	197.5	723.6	743.9
March	1 557.5	751.0	25.0	2.1	27.1	445.0	30.2	475.2	278.9	754.1	781.2
Subtotal, 1st quarter		1 847.9	46.6	5.5	52.1	1 231.9	112.0	1 343.9	633.6	1 977.5	2 029.6
April	1 502.9	780.1	72.2	2.4	74.6	605.1	34.8	639.9	310.9	950.8	1 025.4
May	1 251.7	822.6	123.4	4.1	127.5	343.1	27.6	370.7	427.3	798.0	925.5
June	1 185.2	805.2	27.2	1.6	28.8	123.5	32.5	156.0	603.0	759.0	787.8
Subtotal, 2nd quarter		2 407.9	222.8	8.1	230.9	1 071.7	94.9	1 166.6	1 341.2	2 507.8	2 738.7
July	1 214.5	409.1	13.2	1.5	14.7	133.2	34.6	167.8	337.4	505.2	519.9
August	1 075.7	565.8	20.1	1.3	21.4	537.0	40.8	577.8	190.9	768.7	790.1
September	856.6	848.6	24.1	1.7	25.8	374.7	37.5	412.2	359.2	771.4	797.2
Subtotal, 3rd quarter		1 823.5	57.4	4.5	61.9	1 044.9	112.9	1 157.8	887.5	2 045.3	2 107.2
October	904.0	777.1	14.2	1.3	15.5	285.7	40.5	326.2	160.7	486.9	502.4
November	1 180.1	685.1	8.1	2.4	10.5	230.8	43.6	274.4	200.7	475.1	485.6
December	1 365.9	548.1	12.0	1.1	13.1	239.0	51.8	290.8	311.8	602.6	615.7
Subtotal, 4th quarter		2 010.3	34.3	4.8	39.1	755.5	135.9	891.4	673.2	1 564.6	1 603.7
Total		8 089.6	361.1	22.9	384.0	4 104.0	455.7	4 559.7	3 535.5	8 095.2	8 479.2

Source: Potash and Phosphate Institute.
Note: Stocks at year-end: 1283.5 Mt.

TABLE 6. WORLD POTASH PRODUCTION, 1989-94

	1989	1990	1991	1992	1993P	1994e
	(000 tonnes K ₂ O)					
Brazil	109	98	101	85	170	230
Canada	7 333	7 002	7 405	7 270	6 850	8 150
Chile	20	20	38	35	35	35
China	32	46	60	60	60	60
C.I.S.	10 232	9 126	8 510	6 948	4 667	5 090
France	1 195	1 292	1 129	1 141	890	890
Germany	5 386	4 850	3 902	3 525	2 860	3 280
Israel	1 273	1 311	1 270	1 296	1 342	1 300
Italy	154	68	31	86	—	—
Jordan	792	841	818	808	822	925
Spain	741	686	585	594	661	685
United Kingdom	463	488	494	530	555	580
United States	1 580	1 654	1 692	1 658	1 525	1 425
Total	29 310	27 452	26 035	24 036	20 437	22 650

Sources: Natural Resources Canada; International Fertilizer Industry Association Ltd.; U.S. Bureau of Mines.
C.I.S. Commonwealth of Independent States.
— Nil; e Estimated; P Preliminary.

TABLE 7. CANADA POTASH, CURRENT SITUATION AND FORECAST, 1988-95

	1988	1989	1990	Actual				Forecast
				1991	1992	1993r	1994P	1995
	(000 tonnes K ₂ O)							
Capacity	11 430	11 550	11 800	11 800	11 950	11 950	12 005	12 065
Production	8 328	7 333	7 002	7 405	7 270	6 850	8 090	8 300
Capacity utilization (%)	73	64	59	63	61	57	67	69
Sales	8 030	7 124	7 190	7 056	7 025	6 863	8 480	8 200
of which: Domestic	420	315	396	350	370	356	385	350
United States	3 830	3 886	3 630	3 610	3 945	4 048	4 560	4 450
Offshore	3 780	2 923	3 164	3 096	2 710	2 459	3 535	3 400
Year-end stocks	1 360	1 596	1 272	1 585	1 785	1 726	1 285	1 400
World production	32 545	29 310	27 452	26 035	24 036	20 437	22 650	23 000
Canada/world production ratio (%)	25.6	25.0	25.5	28.4	30.2	33.5	35.8	36.0

Source: Natural Resources Canada.
P Preliminary; r Revised.

TABLE 8. CANADA, POTASH MINES, CAPACITY PROJECTIONS, 1986-96

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
	(000 tonnes K ₂ O equivalent)										
Potash Corporation of Saskatchewan Inc.											
Allan ¹	575	575	575	575	960	960	960	960	960	960	960
Cory	830	830	830	830	830	830	830	830	830	830	830
Esterhazy (25% of IMC)	580	580	580	580	580	580	580	580	580	580	580
Lanigan	1 240	1 740	2 090	2 090	2 090	2 090	2 090	2 090	2 090	2 090	2 090
Rocanville	1 160	1 160	1 160	1 160	1 160	1 160	1 160	1 160	1 160	1 160	1 160
Patience Lake ²	—	—	—	—	—	—	—	400	400	400	400
Subtotal	4 385	4 885	5 235	5 235	5 620	5 620	5 620	6 020	6 020	6 020	6 020
Cominco Fertilizers Ltd.	815	815	815	815	815	815	830	830	830	830	830
International Minerals & Chemical Corporation (75%)	1 745	1 745	1 745	1 745	1 745	1 745	1 745	1 745	1 745	1 745	1 745
Kalium Canada, Ltd. ⁴											
Belle-Plaine	1 055	1 245	1 245	1 245	1 245	1 245	1 245	1 245	1 300	1 360	1 360
Central Canada Potash Inc.	815	815	815	815	815	815	830	830	830	830	830
Potash Company of America, Inc. ²	630	100	30	150	400	400	400	—	—	—	—
Saskaterra Fertilizers Ltd. (Allan) ¹	385	385	385	385	—	—	—	—	—	—	—
Subtotal	5 445	5 105	5 035	5 155	5 020	5 020	5 000	4 650	4 705	4 765	4 765
Total Saskatchewan	9 830	9 990	10 270	10 390	10 640	10 640	10 670	10 670	10 725	10 785	10 785
Potacan Mining Company	450	650	780	780	780	780	810	810	810	810	810
Potash Company of America, Inc. ³	300	380	380	380	380	380	470	—	—	—	—
Potash Corp. of Saskatchewan ³	—	—	—	—	—	—	—	470	470	470	470
Total New Brunswick	750	1 030	1 160	1 160	1 160	1 160	1 280	1 280	1 280	1 280	1 280
Total Canada	10 580	11 020	11 430	11 550	11 800	11 800	11 950	11 950	12 005	12 065	12 065

Source: Natural Resources Canada.

— Nil.

¹ Potash Corporation of Saskatchewan Inc. increased its share of the Allan mine from 60% to 100% in mid-1990. ² Patience Lake PCS operation acquired by PCS Inc. in 1993. ³ New Brunswick PCS operation acquired by PCS Inc. in 1993. ⁴ Kalium Canada Ltd. purchased Central Canada Potash in 1994.

Note: Capacity means "rated" capacity; under normal conditions, Canadian mines can operate comfortably at about 95% of rated capacity.