



DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE  
 BIBLIOTHEQUE  
 REFERENCE COPY  
 NOT FOR LOAN  
 PAS DE REPERENCION  
 PAS DE PRET  
 06 27 1973

More detailed information on any product or service mentioned in this issue is available through the nearest Canadian Government Trade Representative, or by completing the Trade Inquiry Form on page 7 and mailing it to Canada Courier, Department of Industry, Trade and Commerce, Ottawa, Canada. Postal code: K1A 0H5.

INTERNATIONAL EDITION

VOLUME 11, NUMBER 3, OTTAWA 1973

## Oil and gas industry equipment and services

# Canadian experts leaders in the field

In the more than 25 years since the first major Canadian petroleum discovery at Leduc, Alberta, Canadian companies have developed considerable expertise in engineering services and equipment manufacture for the petroleum industry. Today, Canadian expertise and equipment rank among the finest in the world. Specialized equipment and ve-

hicles have gone to such places as Siberia, the Middle East and India. Canadian consultants have provided services around the world.

Such expertise is not surprising: today Alberta produces about 1,450,000 barrels a day of oil and about 180,000 barrels a day of by-products. The total output by the entire Canadian

petroleum industry is approximately 2,020,000 barrels a day of oil and by-products.

More than 300 companies in Canada, employing some 3,000 people, supply materials and services to the oil and gas industry both at home and abroad. Their total annual revenue is approximately \$90,000,000 with more than \$40,000,000 coming

from exports.

Canadian companies offer services in all types of exploration, from seismic operation to aerial survey. Many companies are also involved in logistics: they will put together packages to get men and materials into out-of-the-way places, from northern Canada to the jungles of Peru.

In the drilling phase of the industry, services provided by Canadian companies are being used around the world, in both land and offshore drilling operations. Numerous Canadian built semi-submersible drilling platforms are at work in the rapidly developing North Sea oil and gas fields.

Canadian companies handle primary processing of oil and gas. They remove water from both oil and gas and remove sulphur from gas. Because of the overabundance of sour gas in western Canada, Canadian companies have had to become expert at ridding the gas of sulphur.

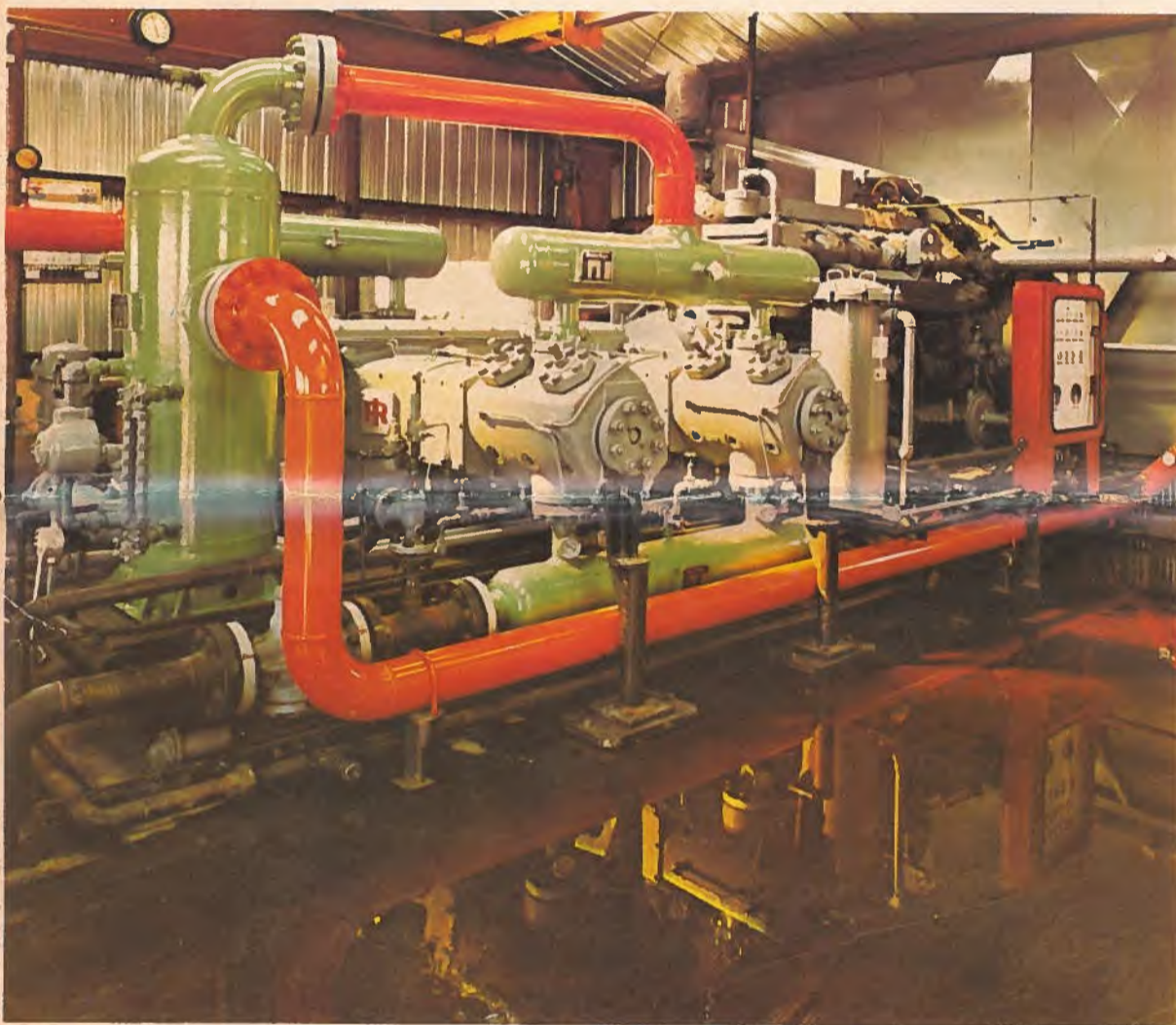
Canadian companies also have considerable capabilities in transporting oil and gas. A 4,000-mile (6,440-km) pipeline built by Canadian Companies carries natural gas from the Prairies to the more heavily populated areas

of eastern Canada and parts of the U.S.A. Canada also has a thriving trade in compressors for gas transmission systems, purifiers to remove impurities from gas streams and off-highway vehicles for travelling where terrain is rough.

Many Canadian products in demand are off-beat items, developed because of the specific characteristics of oil and gas production and accepted wherever similar problems are encountered.

The Canadian Gas Association in Don Mills, Ontario, is the national trade organization representing the natural gas industry. The association, Canadian representative on the International Gas Union, is well known around the world because of its reciprocal agreements to test gas to gas standards of other countries. Its 650 members include transmission and distribution companies, gas producers, gas appliance and equipment manufacturers, pipeline contractors, service companies, associated organizations and individual members.

Products and services of some representative Canadian companies serving the oil and gas industry are described elsewhere in this issue. Code 1-1



A gas field booster compressor, built and packaged in Canada by Canadian Ingersoll-Rand Company Limited, Sherbrooke, Quebec. The company — Canada's largest manufacturer of compressors — recently shipped 21 such units to India.

## Small components to huge compressors, varied products meet many needs

What the customer wants, the customer gets, when dealing with the internationally successful Canadian Ingersoll-Rand Company Limited.

Established in Sherbrooke, Quebec, in 1882, and now the largest Ingersoll-Rand plant outside the United States, the Canadian company manufactures a wide variety of industrial products which range from components that weigh only a few ounces to compressors that weigh many tons. The company's major products include: air and gas compressors, pumps, drilling equipment, hoists, condensers, air tools, pulp and paper machinery, vacuum equipment, specialized process and high pressure equipment, and specialized machinery for the construction, mining, process, util-

ity and service industries.

In the oil and gas industry, Canadian Ingersoll-Rand is noted particularly for its compressors which are used in the transmission of natural gas through pipelines. One of the company's major models is the JP-155 jet gas-turbine pipeline compressor which has the capacity to pump 525,000 cubic feet (14,875m<sup>3</sup>) of gas a day through a pipeline. The JP-155 uses a GE LM-1500 gas generator equipped with variable stators to provide part load efficiency. Weighing approximately 102 tons, the JP-155 has a rated horsepower of 15,500. Maximum horsepower with low ambient is 17,500. The power turbine rated speed is 5,000 rpm; maximum continuous speed is 5,250 rpm and over-speed trip is

5,510 rpm. Performance at NEMA (National Equipment Manufacturers' Association) conditions are: heat rate, 9,800 Btu/hp-hr; thermal efficiency, 26 per cent; mass flow, 151 pounds (69kg)/sec; and exhaust gas temperature, 710 degrees Fahrenheit (371 degrees centigrade).

Canadian Ingersoll-Rand's machinery — designed for outstanding performance whatever the application — is pre-fitted and pre-assembled before being painted and packaged for shipping. This is to ensure a complete shipment, a fast and accurate assembly and installation that satisfies the customer.

Canadian Ingersoll-Rand has manufactured the JP-240 jet gas-turbine pipeline compressor whose pumping unit, with some modifica-

tion, can be used on oil pipelines. Rated at 20,000 hp, the JP-240 was the first of its kind to be built in Canada and is one of only six of its kind in the world.

Canadian Ingersoll-Rand also manufactured the GT-40, a 4,000 hp gas turbine-powered natural gas compressor unit. Used for pump-

jection for water flooding of oil fields, the GT-40 is a very compact unit and can be transported by truck or Hercules aircraft.

More than 20 of Ingersoll-Rand's gas field booster compressors have been shipped to India and the company's machinery is used in more than 30 countries throughout the world. Code 1-2

And inside . . .	Page	Papriformer produces better paper	
Lifesaver makes waves	2	Air cushioning the blow	3
New finish on modular furniture	2	Effective management	3
Golfers go for Excalibur	2	Sydney steel stands tall	7
Forest machine show	2	Karou gets through	7



Speaking of food . . . see page 8

canada  
courier

Anna Armstrong Hibberd, Editor

Lisa Shapiro, Assistant Editor

Al Viscount, Designer

Published by the Department of Industry, Trade and Commerce, Ottawa. Copies available without charge from Canadian Government Trade Representatives at 78 posts in 54 countries. Contents may be freely reproduced.

## Lifesaver makes waves in recreation market

A new life raft that doubles as emergency lifesaving equipment and plaything is being marketed by Aero Marine Industries Ltd. of Oakville, Ontario.

The Buoyancy Apparatus — tested and approved by the Canadian Ministry of Transport — was designed to be used in emergencies on ships or planes. The rafts are made by a new process in which a skin of thin self-extinguishing fibreglass reinforced plastic is put over a self-extinguishing urethane foam. This process results in a

high strength, low weight float. The center hole increases stability.

Reinforced plastic brackets bonded to the edge of the raft at one-foot (30-cm) intervals are used to attach nylon grab lines. The nylon lines are strong enough to support people, even if they become unconscious. Loop sizes will not change, no matter how much tugging there is on the loops.

As a plaything, the raft can be used to hold onto when a swimmer is tired, to lie on when sunbathing, or to dive from. It can be used as a water ski launching pad when equipped with the ski ramp attachment. It can also be used as a fisherman's float.

The rafts are light and easy to handle. The 52-pound (23-kg) 20-person model will support 20 people in the water or five or six people sitting on the deck. This model is 6 feet by 4 feet by 8 inches (183cm by 122cm by 20cm).

The raft is available in three other sizes: 3 feet by 3 feet by 8 inches (80cm by 90cm by 20cm) at 32 pounds (14kg) supporting 10 people in the water; 4 feet by 4 feet by 8 inches (122cm by 122cm by 20cm) at 42 pounds (19kg) supporting 16 people in the water; and 8 feet by 4 feet by 8 inches (183cm by 122cm by 20cm) at 62 pounds (28kg) supporting 24 people in the water.

Aero Marine Industries Ltd. was formed in 1945 to produce aircraft components and boats and has since branched out to merchandise handling equipment and both insulated and uninsulated containers. It specializes in manufacturing items of fibreglass reinforced plastic.

Code 2-1



Aero Marine Industries' Buoyancy Apparatus can be used as lifesaver or plaything. The company has even been asked to fit a cocktail bar into the center for swimming pool parties.

## Simmons puts new finish on modular furniture

Colorful, functional, award-winning furniture is now available from Simmons Limited of Montreal. Well-known for its top quality mattresses, the company entered the case goods field in 1970 with its Century 2/Vivigrain collection of living room, dining room and bedroom furniture. The line has won five design awards.

The furniture is notable for its modular groupings — ideal for the small space of many of today's apartments and townhouses — and new finish. The finish, called Vivigrain, was designed to let the grain of the hard maple furniture show through any of the

nine available top colors. The finish is vinyl-based, making it resistant to cracks, scratches or harm from household liquids. It can be cleaned with a damp cloth or waxed, and retains its high gloss indefinitely.

The most recent addition to the Century 2 collection is the modular wall system. Along with the usual shelving, the system has magazine racks, cabinets with sliding glass doors, desk/bars, cabinets for TV or stereo, and corner shelves. As the shelving is finished on all sides, it makes a most attractive room divider. When used as a divider, the shelving can be assembled so

that some cabinets open towards one room and others towards the second room.

Other furniture available in the collection includes: dining room tables, armchairs, side chairs, mobile servers, various sizes of cabinets and shelves, coffee tables, end tables, hutch/bookcases, desks, mirrors and bunkbeds. Drawers are interchangeable so retail customers can make up their own color schemes. The drawers slide as if on bearings and do not warp.

All units, except cabinets, are shipped knocked down. Code 2-2



Century 2/Vivigrain modular wall system from Simmons Limited.



Distinctively new is the Excalibur Plus, a set of matched stainless steel irons and woods marketed by Campbell Manufacturing Company.

## Golfers go for Excalibur

Golfers go for Excalibur Plus, the distinctively new set of matched steel irons and woods marketed by Campbell Manufacturing Company, Willowdale, Ontario.

Designed to help the golfer improve his game, the Excalibur Plus is formed in an investment cast rather than in the forging and grinding method. This means that each club head is perfectly reproduced and flawlessly weighted for exact swing weight matching. As well, the 17.4 stainless steel used is harder than forged steel and does not need the chrome plating which occasionally flakes off forged heads.

The "sweet spot," the precise ball contact area on the club face which is meant to deliver the maximum distance, also helps the golfer improve his game. In the Excalibur Plus the sweet spot is extended to a full 2½ inches (64mm) width with the heel and toe weight distribution bracketing the hitting area. This minimizes the effect of toeing and shanking the ball. The combination of a rounded and precisely beveled

wide base helps prevent the club from digging in and reduces club deflection from an uneven lie. And, in the irons, the score lines, numbers and markings are cast — rather than forge-stamped — into the club head to eliminate any possibility of distortion.

Complementing the irons are the redesigned set of registered woods which incorporate several features of advantage to the golfer. The laminated maple core and sole plate are hermetically sealed in a diamond-like Cyclocac shell (the same materials found in football helmets). This high impact shell locks out moisture, eliminates distortion and assures a permanent colour and brilliance. Similar to the irons, computer selected brass weights have been impressed into the club face to widen the sweet spot to 1½ inches (38mm).

Noted in 17 countries throughout the world for its wide range of golf clubs and balls, Campbell Manufacturing Company is certain the Excalibur Plus will gain a similar reputation. Code 2-3

## Canada to host forest machine show

Buyers from all over the world will attend the sixth biennial Forest Industries Equipment Exhibition being held in Ottawa, Ontario, September 19-21, 1973.

More than 200 Canadian manufacturers and distributors will display and demonstrate the latest logging, sawmill and wood-working equipment and services. Exhibits will include skidders, chippers, debarkers, log loaders and stackers, harvesters, slashers, grapples, saws and sharpening equipment, diesel and gasoline engines, generators, winches, cranes and hoists, lift trucks, chainsaws, trucks, trailers, cabs and tracked vehicles, road building machinery, temporary and portable buildings, small utility vehicles and communications, safety and fire fighting equipment.

The show will occupy more than 10 acres (40,470 square meters) of indoor and outdoor exhibit and demonstration space at Ottawa's Lansdowne Park. One section will be kept free for continuous demonstrations of logging equipment: logs will be brought in and about 10 manufacturers will take 20-

minute turns showing how their equipment works.

The exhibit is open only to personnel from logging and woodland operations, woodworking and furniture manufacturing industries, sawmill companies, hauling companies, equipment manufacturers and distributors, governing departments, industry associations and related groups. Translation services will be provided.

For further information on the show, fill in the trade inquiry form on page 7, quoting the code number at the end of this story. Hotel reservations can be arranged by Canada's Capital Visitors and Convention Bureau, 251 Laurier Ave. W., Suite 1009, Ottawa K1P 5J6. Code 2-4

Note: The Canadian Chapter of the International Society for Terrain Vehicle Systems will hold meetings September 18 and 19 at the site of the Forest Industries Equipment Exhibition. The society is an open forum for the discussion and development of vehicle terrain systems. The meetings will be open to exhibition visitors.

## Papriformer produces better paper faster

Canadian in concept, design and execution, the world's first commercial Papriformer is the result of 12 years of research and development by the Pulp and Paper Research Institute of Canada and Dominion Engineering Works Limited of Lachine, Quebec.

The paper making machine, designed to make high quality paper at much higher speeds than conventional machines and without the dependence on increasing amounts of expensive chemical furnish, went

into commercial operation in May, 1972, at the Bromptonville, Quebec, newsprint mill of Kruger Pulp and Paper Limited. This Papriformer is now running at its designed top speed of 2,500 f.p.m. to produce more than 200 tons of newsprint in a day.

The main elements of the twin-wire Papriformer at the Kruger mill are the forming section, stock and whitewater systems. The forming section includes headbox, breast roll, couch, sheet pickup,

top wire, bottom wire and savealls located in the wire loops.

Both wires are 50 feet (15.2m) long and 174 inches (4,419.6mm) wide. Headbox consistency typically runs at 0.6 per cent. Going to the couch, consistency has risen to about 7 per cent and by the time the sheet is delivered to the press section the sheet is up to about 20 per cent consistency. The breast rolls and wire rolls are of rubber-covered steel construction. Both wire loops have very accurate

tension controls and enclosed automatic air-operated diaphragms on large-diameter guide rolls.

Whitewater is removed by special savealls fitted inside both wire loops. Curved deflectors make sure the water goes in the right direction. The important feature here is that none of these drainage elements contacts either wire: whitewater exits from the savealls to the backside of the machine and flows downward through large diameter cyclones and pipes to the whitewater silos. The cyclones, or de-aerating downspouts, keep entrained air below two per cent. Of stainless steel cantilevered framing, the Papriformer is strong and virtually maintenance-free.

The unique design concept of the Papriformer centers around its "fluid wedge." The fluid wedge is a self-compensating design unaffected by modest speed and furnish changes and makes operating the Papriformer a less complicated task than running a fourdrinier. The self-regulating fluid wedge, whose length and thickness adjusts automatically to stock and machine changes, is the key to the Papriformer's ability to "run by itself."

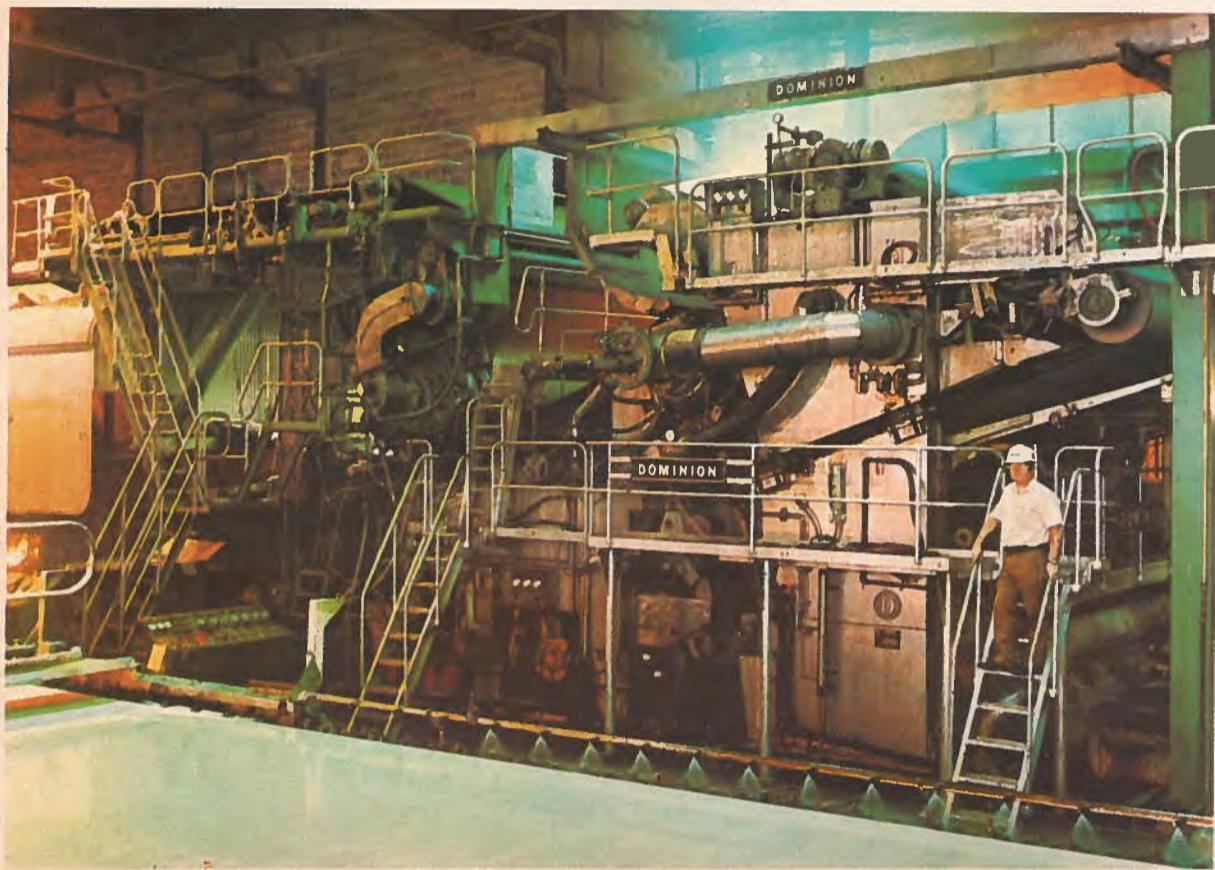
Dominion Engineering claims that, in comparison to the fourdrinier, the advantages of the Papriformer are many: with a 36-inch (914.4-mm) forming roll, formation and web consolidation are accomplished over a continuous distance of about 17 inches (431.8mm) — much less harsh than the start-and-stop dewatering on a fourdrinier table — resulting in a relatively gentle, two-sided drainage to produce a sheet that is uniform in the Z-direction. The wire life is longer because neither has any sharp bends, nor are there any stationary contacting elements like suction boxes, foils

or deflector blades to wear down the wires. The non-contacting design also means a lower power requirement — only about 15 per cent of that needed to drive a fourdrinier at the same speed.

There are other features. The Papriformer practically runs by itself; once in operation it requires little attention from the machine tender. Stock changes, such as freeness or consistency, that would require slice adjustments on a fourdrinier, have almost no effect on Papriformer operation. Sheet formation on a Papriformer is more uniform than on a fourdrinier and is relatively independent of machine speed. Because of its higher porosity and improved moisture profile, the Papriformer sheet is much easier drying than a fourdrinier sheet.

The paper produced by the Papriformer has also proved well in the press room where tests showed that the runability of the sheet was significantly better, the time between press wash-ups had been extended, the new sheet had eliminated fold-over problems on wide offset presses and ink absorbency was higher.

Dominion Engineering Works Limited says that, initially, the principal area of Papriformer application will be in newsprint, either with new machines or speed-ups of old machines such as at Kruger. However, Dominion Engineering points out that the Papriformer will be ideally suited for any grade where speed is at present a limiting factor. The company has rebuilt 10 such machines in Canada and recently sold two: one, with a designed top speed of 4,000 f.p.m., to Southland Paper's, Houston, Texas, and one to a Japanese company. Code 3-1



The world's first commercial paper making Papriformer was built by Dominion Engineering Works Limited, Lachine, Quebec. Installed in May, 1972, at the Kruger Pulp and Paper Company's newsprint mill at Bromptonville, Quebec, the Papriformer has a running speed of 2,500 f.p.m. and produces more than 200 tons of newsprint in 24 hours.

## Air cushioning the blow to reduce accident injury



Irvin Industries Canada Limited is in the safety business. Well known now for the design, development and manufacture of life support equipment and general aerospace products — parachutes for emergency escape systems with zero-zero capability, flare chutes, cargo canopies, to name a few — the Fort Erie, Ontario, company branched into the automotive safety field in 1970. Irvin is now producing and selling seat belts and is working on a development program for automotive air cushions to provide greater protection for car occupants and reduce injury when crashes do occur. The company must be sure that their products — the air cushions and additional safety systems which they will develop for cars of the 1980's and 90's — are the best possible design. To do this has called for a large plant expansion and the installation of a Hyge Test Sled such as the one shown here. Irvin's own experts had designed and developed a 30-mph (48-km/hr) impact test sled to simulate and study crash criteria. The Hyge sled which will now also be installed operates on a 120-foot (35-m) long rail system and can simulate crashes at speeds up to 60mph (97km/hr). With these and the installation of sophisticated electronic and photographic equipment, Irvin Industries will continue its valuable research into automotive safety programs. Code 3-2

## More effective management should lead to higher profits

W. J. Reddin exports "management technology." Through his five-year-old company, Managerial Effectiveness Ltd. of Fredericton, New Brunswick, he offers seminars designed to increase management flexibility and effectiveness. These, in turn, should lead to increased profits. In a nonprofit organization, Mr. Reddin's techniques should result in better service.

The two main stages in the program are the managerial effectiveness seminar and the team role laboratory. The first seminar focuses on improving the effectiveness of the individual manager; the lab puts together a manager and his immediate subordinates to discuss how to improve the way they work together.

The five-day managerial effectiveness seminar, which is often conducted off company premises, is considered useful for all managers and supervisors. Few lectures are given; rather, participants spend about 80 per cent of the time in teams of four to eight managers. Teams are confronted with a wide variety of problems to solve.

The president or general manager usually attends seminars for a few hours, discussing with each team opportunities for increasing effectiveness in the organization.

Mr. Reddin says that this seminar usually has a "profound" impact on an organization. "When a large number of managers from a single organization have participated, the seminar has a deep unfreezing effect on the organization and considerably increases the readiness for change in the organization as a whole."

In the three-day team role laboratory, manager and subordinates decide how to improve their working relationship. The emphasis is on individual and team effectiveness standards. At one point in

the program, each team member, including the senior manager, reads out his effectiveness standards, describes the steps he follows to meet them, and explains what each team member could do for him to enable him to improve his own effectiveness.

Team reorganization often takes place during the team role laboratory. Job trading usually occurs and leads to the talents of individual managers being better utilized through job enrichment. Mr. Reddin says the enthusiasm and commitment generated by this activity lead to the solution of many problems.

The company also offers other seminars, including one on management by objectives. Mr. Reddin suggests using the seminars in different combinations, depending on the client's objective. A manager in a full-scale program would attend seminars for about 15 days over a three-year period. However, none of this is downtime: the first seminar focuses on improving the manager's general effectiveness and the other stages are job-related meetings designed to produce immediate changes.

Seminars have been scheduled for August in Hong Kong and Singapore, for August and October in Argentina and Brazil and for September and November in England and Holland. The seminars are given by local consultants who have been trained by Mr. Reddin, get their material from him and translate the course where necessary.

Mr. Reddin, who received his bachelor of arts from the University of New Brunswick and his master's in business administration from Harvard University, is a professor of business administration on leave of absence from the University of New Brunswick. Code 3-3

## Quality equipment with versatile approach

Incorporated in 1948 to serve the geophysical and exploration drilling industry in Western Canada, Seismic Service Supply (1958) Limited, Calgary, Alberta, has expanded its activities to include the provision of high quality equipment and services to the petroleum, mining, groundwater, soil, foundation, construction and allied industries throughout the world.

The company, which supplies manufacturing, sales and distribution services to the exploration operator, is probably best known for its portable rotary drilling equipment whose prime application is in water well and seismograph exploration industries.

The Seismic Model 15TD Angle Drill, for instance, is one of the most versatile angle drills available today. Its mast, which can angle from 0 to 90 degrees to the horizon, is mounted on a turntable which will swivel 180 degrees allowing holes to be drilled off the side of the truck — a great asset when there is limited space for the drill to work in.

Another feature of the drill is that, by a simple bolt-on process, the pipe handling can be converted

to handle several styles and lengths of drill pipe. Up to 320 feet (98m) of drill pipe may be racked to the mast. With a rotation process, the drill pipe is loaded into the top drive without manual handling and the swivel is equipped with an air inlet so that double wall pipe may be used for the reverse circulation process.

The 15TD Angle Drill is a complete hydraulic unit. The top drive unit will develop 4,400 foot pounds (607kgm) of torque and will rotate from 0 to 150 rpm. The unit is powered by a variable volume pump with a rated capacity of 130 gpm at 2,000 psi. A hydraulic driven sand line is also standard equipment. It consists of a 10,000-pound (4,540-kg) winch (5,000 pounds or 2,270kg single line) which can be used if additional hoisting pull is required.

Seismic Service Supply also owns the Valley Tool and Machine Limited, a well-equipped machine shop which provides the geophysical and exploration industries with equipment and materials which, for the most part, are not readily available from other equipment manufacturers. Code 4-1



Exploratory and production mobile drilling rigs such as this one are produced by Seismic Service Supply (1958) Limited, Calgary, Alberta. The company's Model 17 portable rotary drilling rig for water well drilling will be exhibited at the International Trade Fair in Algiers in the fall of 1973.

## Mapping the way to business success

Lockwood Consultants Limited, Toronto, Ontario, is an internationally known airborne geophysical and aerial mapping company that assists the petroleum industry in its search for potential oil and gas targets.

In searching from the air for oil and gas, Lockwood uses aircraft that are specially equipped with magnetometers and extremely accurate positioning instruments to measure minute variations in the earth's magnetic field. These variations can indicate an uplift or intrusion in the basic rock underlying the sedimentary oil formation rocks in which oil and gas occur. It is this condition that the oil driller needs as a target.

At the completion of the airborne survey, all the data collected by the magnetometers and positioning instruments are recorded on magnetic tape to speedily process and produce computer maps in a minimum of time. A skilled group of geophysicists then interprets the data and advises the exploration companies as to the depth (often 20,000 feet — 6,096m — or more) of the sedimentary rocks, the areas of interest, and the possible cause of the formations or uplifts. Lockwood's task could end there

— if oil or gas were not found. However, if the exploration company does discover oil or gas, it again calls upon the consultants, this time to photograph and map the pipeline routes to the market.

Location of the most advantageous route, the probable cost and quantities of pipe needed and the engineering problems involved in river crossings, pumping stations and storage areas — not to mention the potential danger to the environment and the effect of pipelines on the ecology — are all factors which must be taken into consideration before producing the photo route map.

After carefully studying the aerial photographs, Lockwood produces a photo route map, with center line elevation profiles. Besides being used for the construction of the line, the route map is also used for the involved legal acquisition of pipeline right-of-way through a multitude of private properties.

Established in 1947, the same year as Canada's first significant oil discovery, Lockwood Consultants Limited has worked for oil and gas exploration companies in such countries as Kenya, Indonesia, Venezuela and Colombia. Code 4-3

A route map, showing the route taken by a pipeline, is produced by Lockwood Consultants. The airborne geophysical and aerial mapping company works on international oil and gas projects.



Based on a Canadian invention, this artificial oil storage island under construction in Norway is to be installed in the North Sea. The storage tank, which provides stable deck areas, will sort crude oil at the offshore drilling site. The sea platform design could also be used to provide marine bases for oceanographic studies or as offshore nuclear power plants.

## Oil storage island uses Canadian invention

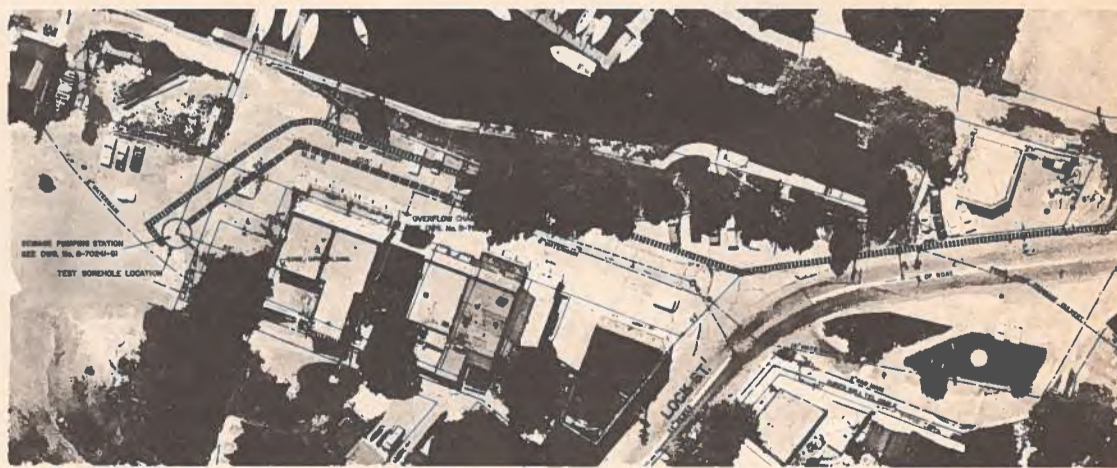
One of the world's largest artificial oil storage islands being installed in the rich offshore oil fields in the North Sea is based on a National Research Council of Canada invention — the Jarlan perforated breakwater.

The first perforated breakwater was developed by G. L. E. Jarland, D.Sc., a former research physicist with the Hydraulics Laboratory of the Division of Mechanical Engineering of the National Research Council of Canada and was first constructed in 1962 at Baie Comeau, Quebec, by the Canadian Department of Public Works.

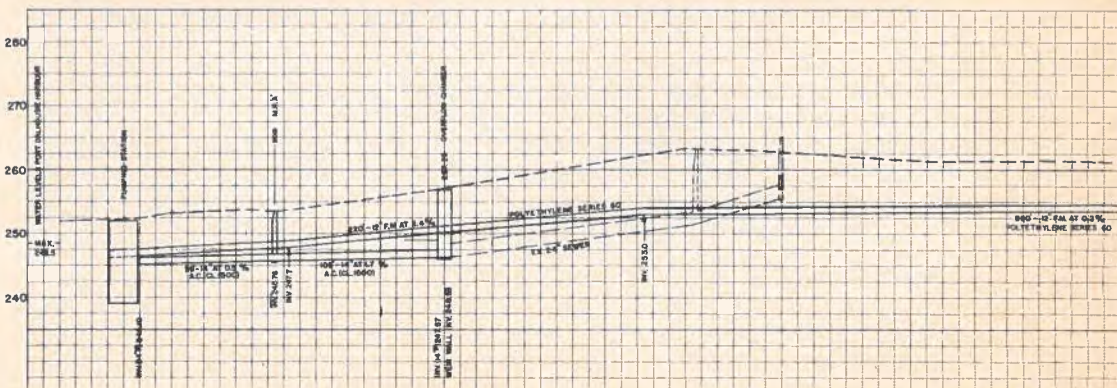
The oil storage island, which is partly immersed in 230 feet (82m) of water, consists of a concrete breakwater of the perforated caisson type which encompasses internal concrete tanks. With a storage capacity of 1,000,000 barrels of crude oil, the tank's outer shape is that of a "round square" with a section base of 302 feet by 302 feet (92m by 92m). The perforated breakwater is 269 feet (82m) high and the storage tank is 295 feet (90m) in height. The tank is partitioned into nine compartments, rests on the bottom of the North Sea and extends 65 feet

(20m) above sea level. Decks atop the tank provide additional space for oil and gas separating and handling equipment.

The key to the storage tank's durability is the perforated outer wall which allows the waves to flow through the holes in the prestressed concrete instead of smashing against a solid structure. Most of the wave's energy flows through the holes into a chamber between the wall and the tank where about 60 per cent of the total wave energy is dissipated by the counter wave which flows back out from the chamber. Code 4-2



Courtesy of Proctor & Redfern Ltd





The Sproule company provides supervision of drilling operations anywhere in the world. This particular unit is at Cook Inlet, Alaska.

## Remote locations pose no problem

Worldwide geological and engineering consulting services to the petroleum and mineral industries and to government and international agencies concerned with resource development are provided by J. C. Sproule and Associates Limited, Calgary, Alberta.

The consulting services offered by J. C. Sproule and Associates include all aspects of petroleum exploration and exploitation as well as most aspects of mineral exploration and development. These include field surveys, photo-geological interpretations, sub-surface geological analyses, geochemical surveys, engineering services, property evaluations and feasibility studies.

Established in 1951, the company's activities are divided into three principal sections: exploration geology, evaluation geology and engineering. There is also the recently formed environmental studies division. The experienced geological group handles the planning, conduct and interpretation of complete exploration programs. Here photo-geology plays an im-

portant role in field studies. Air photographs permit terrain analysis which is necessary for land-use studies and in selecting locations for drilling sites, access roads, airports and processing plants. This group also plans and supervises drilling operations.

J. C. Sproule's engineering staff provides assistance in oil and gas development and has extensive experience with the problems of drilling and production operations in remote locations. Specific engineering services as related to petroleum and natural gas include: reservoir studies, reserves determinations and evaluations, gas deliverability predictions, processing and by-products recovery studies, water-flood and thermal recovery projects, log interpretation and formation evaluation, drilling and production operations and automation application.

The environmental studies section, established because of the increasing emphasis on ecological analyses and controls, can provide estimates of the environmental ef-

fects of exploration and exploitation, terrain sensitivity studies, natural resources inventories of undeveloped areas and analysis of potential ecological degradation problems.

More specific areas in which the environmental studies group can provide assistance are: land use classification, plant site selection, location of surface pollution, location and advice on plant effluent damage and migration of contaminants in ground water.

J. C. Sproule and Associates has provided technical services to most of Canada's large and small oil companies and to many international and foreign-based oil companies. The firm has worked for the United Nations, the World Bank and the Turkish Etibank. The company has also carried out engineering and geological projects in such countries as Indonesia, Australia, Yemen, India, Chile, Denmark, Turkey and the United States. Code 5-2

## Unique ocean floor Rockdrill is self-contained unit

After four years of development and rigorous testing along the mid-Atlantic Ridge, the hydrostatically and electrically powered Rockdrill MKIVs have proved efficient and time-saving devices for taking rock core samples from the ocean floor.

Developed by the Bedford Institute of Oceanography and manufactured exclusively by Hermes Electronics Limited, Dartmouth, Nova Scotia, the hydrostatic Rockdrill MKIV is a self-contained unit that operates automatically. It is unique because its operation requires no power assistance — such as batteries and long electrical cables — from the surface vessel. The only connection between the device and the surface is a polypropylene lifting and lowering rope. The rope free floats, preventing the rig from being affected by current or ship's motions.

The unit, which consists primarily of two spherical reservoirs, a

check valve, a shut-off valve, a hydraulic motor and the drill action, uses a combination of air and water pressure as its main energy source, hence the name hydrostatic pressure.

During descent, the shut-off valve, leading to the motor and the drill stem, is closed. This causes a pressure difference to develop between the sea and the inside of the two pressure-resistant reservoirs. When the shut-off valve opens, the pressure difference between the sea pressure and the pressure in the reservoirs causes the motor to rotate and activate the drill. Some of the sea water which flows into the reservoirs is diverted to the torque tube to apply a downward pressure which drives the drill into the rock. When the core sample is taken and locked into the sample chamber, the device is lifted to the surface. It is during the lifting process that the

whole unit recharges itself automatically for the next operation by opening all the shut-off and check valves. As the Rockdrill reaches the surface the seawater in the reservoirs will have drained out leaving them recharged with air at sea level atmospheric pressure.

The hydrostatic version of the Rockdrill can deliver rock core samples up to a maximum of two meters long with a core diameter of 2.5cm, and the electric version, for use in more shallow waters, delivers core samples up to 10m long with a core diameter of 2.5 cm. Though the drilling depth depends on the material encountered, the drill is designed for a maximum penetration of 69 inches (175cm). Running time with one reservoir is 10 minutes; with two reservoirs, 20 minutes. The weight in air on one or two tanks is respectively 2,200 pounds (1,000kg) and 3,000 pounds (1,360kg).

## Flying high and flourishing

Where resource exploration and development projects flourish, Kenting Earth Sciences Limited is flying high.

Formerly Spartan Aero Limited of Ottawa, Kenting Earth Sciences, now a division of Kenting Limited, Calgary, Alberta, has conducted aerial survey work in more than 30 countries throughout the world, thus adding an international dimension to the parent company which already operates divisions in oil well drilling, oilfield construction, aviation and geophysics.

Specializing in map making and geophysical surveying, Kenting Sciences is also involved in aspects of mineral exploration, rough-terrain construction projects, irrigation and agricultural planning, forest management and flood control programs. For instance, some of Kenting's projects include a photographic forest inventory in Kenya, high-altitude photography in the Dominican Republic and an airborne magnetometer study in Argentina.

For airborne surveys Kenting maintains a fleet of 14 aircraft ranging in size from light Piper Aztecs to DC3s, plus full-time air crews which normally include a pilot, navigator and aerial photographer. The aerial photographs can show with pinpoint detail — right down to the man hole covers — the area equivalent to that of a small town. They can also be large enough to cover a 144-square-mile

(374-km<sup>2</sup>) grid while retaining focal clarity.

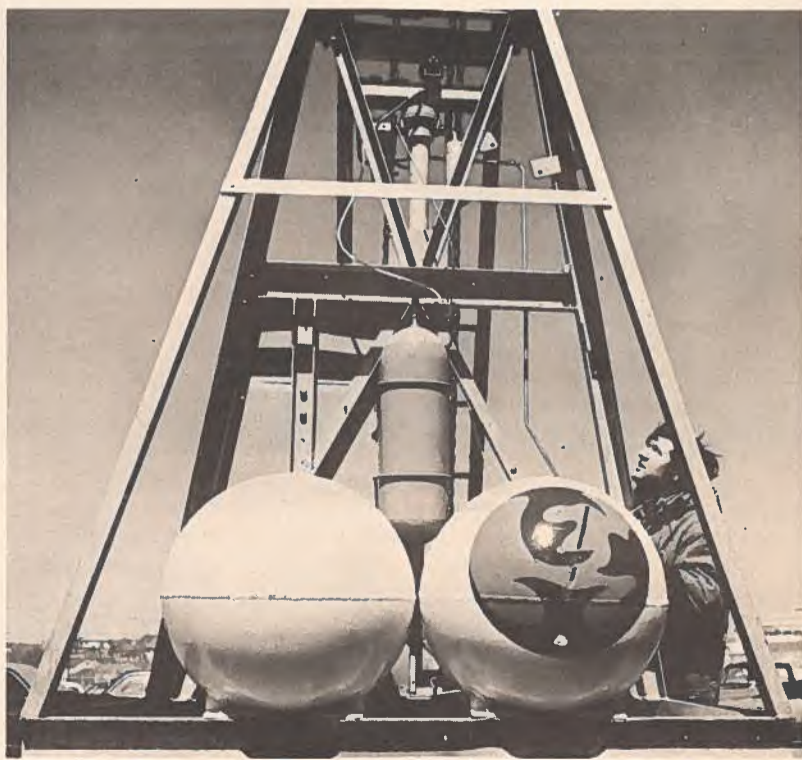
In the search for precious metals, the company's stock of ground-based precision equipment comes into play. To confirm airborne findings Kenting technical crews employ such ground-based equipment as magnetometers for magnetic metals, spectrometers for radio-active minerals and electromagnetic equipment for conductive minerals. There are also company agronomists, geographers, aerial photo interpreters and civil engineers who work individually or pool their expertise on various projects.

On overseas projects Kenting has worked with such organizations as the United Nations, the Colombo Plan and the World Bank. Other international clients include the World Health Organization, the Organization of the American States and the Canadian International Development Agency.

One of the largest geophysical exploration and topographic mapping companies of its kind in the world, Kenting Earth Sciences currently is surveying 400 miles (644km) along the Niger River for the route of a power transmission line and has projects underway in the Congo, Cameroon, Algeria, Tunisia and Ecuador. Kenting Earth Sciences is eager to supply its services wherever the demand exists. Code 5-1



A Kenting Earth Sciences (formerly Spartan Aero Limited) airplane trails an airborne magnetometer or "bird" for mineral exploration over the Canadian Shield. The company provides resource exploration and development services on an international scale.



Developed for geologists and geophysicists, the Rockdrill MKIV takes rock core samples from the ocean floor.

Both the hydrostatic and the electric units are mounted on lightweight channelled frames for easy handling and use an EXET diamond matrix drill head for penetrating the hardest rock structures.

Hermes currently exports the Rockdrill to such countries as France, Germany, Italy, the United States, South Africa and Australia.

Code 5-3

## Consulting engineering services provided to pipeline sector



Employees of Alberta Gas Trunk Line Company are shown automatically welding 42-inch (106-cm) pipe.

Algas Engineering Services Ltd. was established in Calgary, Alberta in February, 1973, to provide consulting engineering services to the pipeline sector of the oil and gas industries.

Algas, a wholly-owned subsidiary of the Alberta Gas Trunk Line Company Limited of Calgary, markets the engineering and related services which AGTL has been providing to other companies. From its small administrative base, Algas calls upon the expertise of AGTL personnel for support in pipelining projects.

Since 1957, Alberta Gas Trunk has operated pipeline systems gathering and transporting natural gas in Alberta for delivery at border points to shippers who move the gas to other Canadian and United States markets.

At the end of 1972, the company had more than 4,000 miles (6,440km) of line in service and more than 360,000 pumping horsepower. Throughput averaged 4.46 million cubic feet (126,218m<sup>3</sup>) per day in 1972.

Alberta Gas Trunk was the first company to reforest in pipeline

right-of-way areas, conserve topsoil during pipeline construction, install 42-inch (106-cm) pipe in Canada, do automatic pipe welding in the field, and install a 20,000 horsepower centrifugal compressor unit driven by a gas turbine. It was also a pioneer in the application of program control to parallel operated gas turbine-driven compressors.

Algas Engineering is willing and able to offer its services anywhere in the world. Code 6-1

## A first for Steel-Flo



Steel-Flo's drawn outlet headers are the first made in Canada for the oil and gas transmission lines and the petrochemical and nuclear industries.

Steel-Flo Industries of Turner Valley, Alberta, was formed in 1972 to produce the first Canadian-made drawn outlet headers for the oil and gas transmission lines and the petrochemical and nuclear industries.

Drawn outlet headers by Steel-Flo are used in oil and gas transmission lines where tees were formerly utilized. Special applications include scraper barrels, valve settings, manifolds for compressor engines, pulsation dampeners.

Steel-Flo also produces an allied range of piping components for the gas industry. These products in-

clude large diameter pipeline flanges, anchor forgings, venturi reducers and heavy wall pipe for compressor station yard piping. Materials carried in stock for pipeline applications range in yields to 60,000 and are qualified for low temperature service.

Steel-Flo has extrusion presses to produce drawn outlets from 2½ inches (63.5mm) to four feet (1.219m). Cylinders from which outlets are pulled can be to any size that can be handled within the plant and in thicknesses up to 2 inches (50.8mm). Steel-Flo headers are produced to various codes

as specified by the customer. Among these codes are ANSI B31.1, B31.3, B31.7, B31.8, B16.9, ASME, MSS-SP-75, CSA Z 183 and CSA Z 184. Steel-Flo can also produce to European standards on request.

In addition to rolling and extrusion facilities, the company has a wide range of equipment for machining and one of the largest furnaces in Western Canada. Measuring 42 feet by 8 feet by 8 feet (12.8m by 2.4m by 2.4m) capable of fully normalizing the product, the furnace is accurate to within five degrees Fahrenheit. Code 6-2

## From exploration, drilling to production and logistics

Bow Valley Industries Ltd., Calgary, Alberta, takes the client from the early stages of exploration through to production. Bow Valley and its partners offer: exploratory consultation, involving geological, geophysical and seismic information collection and interpretation; petroleum engineering, seismic drilling, helicopter-transportable drills; surface and underground diamond drilling, land and offshore oil and gas drilling for shallow and deep wells; supply of oilfield equipment; logistics from purchasing, expediting, transporting, and on-site warehousing to accounting, pipeline construction and control systems; processing plant construction, operation and maintenance; transportation services via helicopter; and engineering consultation and equipment for environment protection.

Two drilling divisions offer a complete service from seismic to production drilling. Rigs are capable of drilling to 14,000 feet (4,267m). Included are wheeled and tracked seismograph shot hole rigs, slim hole rigs, and helicopter-transportable shot hole rigs.

Bow Valley also offers, with partners, an offshore drilling service. The construction of a self-propelled, semi-submersible drilling vessel with water depth capacity of 700 feet (213m) and a rated drilling depth of 25,000 feet (7,620m) was commissioned recently. It will be operational by the second quarter of 1974.

The company's petrochemical services group operates construction and plant services divisions. The construction division builds pipelines, small processing plants and compressor stations. Pipeline control systems are engineered, built and installed.

Plant services include the operation and maintenance of processing operations on a contract basis. The entire running of a petrochemical facility can be contracted, or alternatively, maintenance services are available on a continuous or part-time basis.

In logistics, Bow Valley will do purchasing, shipping, warehousing, and expediting in support of drilling or construction anywhere in the world. Code 6-3

## Alberta company offers complete consulting services

Tottrup & Associates was established in Edmonton, Alberta in 1960 to provide engineering and inspection services to the oil, gas and petrochemical industries of Alberta. Today, from its offices across Canada and in England and Japan, the company offers a complete line of engineering, consulting, inspection and expediting services to all parts of the world.

Tottrup's principal fields of activity are: inspection of high pressure pipe encasing, shipping and loading surveillance, metallurgical consulting, laboratory testing, welding and fabrication, plastics inspection, marine services, electrical equipment inspection, heavy machinery inspection, forest products inspection, insurance investigations, expediting, specification writing and feasibility studies.

The company has inspected 90 per cent of the line pipe produced in Canada in recent years. Stringent inspection procedures are implemented, with every section of pipe being individually inspected at each phase of manufacture. This quality control of high test large and small diameter pipe, casing and tubing helps to reduce installation delays and incidence of field

failure.

Loading and handling of pipe are also watched closely. Loading inspection is particularly important for pipe which is destined for overseas markets.

Quality control of all phases of pipeline installation from stringing through coating and backfilling is maintained to help reduce field installation problems. Engineering, construction supervision and inspection of installations are also provided for compressor and pumping station construction, as well as for refinery and petrochemical plant construction.

The company also conducts source inspection of equipment such as pressure vessels, heat exchangers, pipe spools, pumps, turbines, compressors, valves, control instrumentation, structural steels, reactors and entire process systems for refineries, and gas and petrochemical plants. These inspections ensure that the products meet specification requirements for performance and workmanship and are dimensionally compatible with the piping, flanges, control, and other parts which make up a particular portion of refinery or plant. Code 6-4

## For your bookshelf . . .

A directory of Canadian firms selling equipment or offering services to the oil and gas industries has been prepared by the Machinery Branch of Canada's Department of Industry, Trade and Commerce. The book contains a detailed cross-reference to more than 2,500 prod-

ucts and services available from Canadian companies, together with the addresses and key personnel of the companies. It is available free of charge in English or French by filling in the trade inquiry form on page 7, stating language required. Code 6-5

Just off the press, an up-to-date listing of facilities in Canada that are fully or partially available for commercial metal heat treating. The booklet — "Commercial Metal Heat Treating Facilities in Canada" — gives details of the capabilities

of 44 companies. Published by the Canadian Department of Industry, Trade and Commerce, the booklet is available in English and French. For free copies, fill in the trade inquiry form on page 7, specifying language requirement. Code 6-6

# Sydney Steel stands tall

Building in the '70s a plant for the '80s already is paying off for the Sydney Steel Corporation (SYSCO) which recently bid against world competitors to win a contract to supply Mexico with 87,000 tons of railroad rails valued at \$13,000,000.

Located in Sydney, Nova Scotia, and noted internationally for producing finest quality steel rails, SYSCO currently is undergoing a

\$94,000,000 rehabilitation program that will increase its efficiency and make it more competitive in world markets.

A new rail-finishing plant, already in operation and scheduled to open officially in July, 1973, makes this the only facility in North America capable of producing and handling the new 78-foot long (up to 25 meters for export) rail sections. These sections,

double the length of conventional rails, cut down the rhythmic "clickety-click" caused by wheels passing over the joints, reduce maintenance problems caused by wear at the ends of the rails, and are more economical because the longer rails reduce the number of welds, thereby reducing welding costs. SYSCO can also cut shorter rails to customer requirements.

The rehabilitation program also

includes the introduction of two continuous casting units which will be in full operation in the fall of 1974. These new machines will be able to cast slabs up to 7 feet (2.5m) wide and 12 inches (305mm) thick. They are also capable of casting three bloom strands 16 inches (406mm) by 12 inches (305mm). Unlike slab and bloom machines, which would require two different casters, these units have unlimited flexibility and will be the only ones of their type in the world. Each with a capacity of more than 1,000,000 tons a year, the units are designed to meet the ever-increasing demands of heavy plate mills in Canada and other countries.

The advantages of the continuous casting process are many. For instance, it enables the by-passing of the conventional and costly steps of teeming to ingot, stripping ingot moulds, reheating ingots in soaking pits, and rolling to size. As well, steel can be cast to billet sizes — attained normally only after extensive rolling.

Conversion of the 70-year-old firm's open hearth furnaces to a new technique called Submerged Injection Process (SIP) will reduce heat time to 1.5 hours compared to the seven to eight hours required by the conventional open hearth furnaces. One SIP furnace, which will be converted by the end of 1973, will be able to produce five times as much steel as SYSCO currently is producing.

Other plans at SYSCO include construction of a \$2,000,000 Vacuum Degasser, new oxygen production equipment and a multi-million dollar pollution abatement facility.

In five years the Sydney Steel Corporation has achieved a remarkable performance record. Its steel rails have been shipped throughout the world: to Chile, Mexico, South Africa, India, Pakistan and Bangladesh. Once the rehabilitation program is complete SYSCO will be even better able to serve its growing list of world-wide customers. Code 7-1

# Karou gets through . . .

To construction sites, road building projects, army patrols or fishing and hunting expeditions — Karou gets through — regardless of terrain.

Built with utility in mind, this all-terrain vehicle is manufactured by Karou Incorporated, Drummondville, Quebec. Four years of research, experimentation and tests have proved the Karou can climb 45-degree hills, pull twice its own weight, churn its way through mud, water and snow, and turn on a dime.

Sturdy, dependable and easily manoeuvred, the Karou all-terrain vehicle weighs 600 pounds (272 kg), is 84 inches (2,134mm) long, 53 inches (1,346mm) wide and 34 inches (864mm) high. Its load capacity, whether on land or water, is 600 pounds (272kg) and it comfortably seats three people.

Combined with Karou's utility is its sportiness. The Karou will transport hunters and fishermen to areas that normally are unreachable by other motor vehicles and, since it travels on both land and water, the gamesman does not need to transfer equipment and gear from one vehicle to another. For duck hunters the Karou can become a mobile blind.

The Karou body is of high impact fiberglass with molded-in colours of green, tangerine or mauve. The nose and stern are reinforced and the specially designed stern can accommodate an outboard motor when greater speed on water is desired. Water speed without the outboard is 2 to 4 mph (3 to 6km/hr). Maximum speed on land is 35 mph (56km/hr). Six low air pressure treaded tire wheels, three on each

side and individually motorized, give the Karou solid traction and act as efficient shock absorbers. Winter treads can be fitted over the tires for travel on snow and ice.

The Karou gear box has forward, neutral and reverse and the steering mechanism involves a dual cone clutch which incorporates a brake for each side of the vehicle. The broom-stick, which permits single-hand driving, controls direction, speed and brakes. Optional features of this work/pleasure vehicle include safety belts, convertible top, canvas covering, roll bars and windshield.

Karou Incorporated, which also manufactures the Karou trailer, now exports to Africa and Cameroon and seeks additional markets overseas. Code 7-2



Karou does it all — climbs 45-degree hills, pulls twice its own weight, churns its way through mud, water and snow, and turns on a dime. This all-terrain vehicle is manufactured by Karou Incorporated, Drummondville, Quebec.



**Why not become a regular reader of Canada Courier? Let us put your name on our mailing list. And we'd like to hear from your business associates.**

To receive complimentary copies mail the form below.

**canada courier**

Department of Industry, Trade and Commerce  
Ottawa, Canada. Postal code: K1A 0H5

Please send the Canada Courier edition indicated:  
English/United States  French  German   
English/International  Spanish  Japanese

To: V11N373  
Name .....  
Title .....  
Company .....  
Address .....  
Country .....

## trade inquiry form

More information is available without charge on Canadian products and services mentioned in Canada Courier. List the items below which interest you, complete the form, cut out and mail it to the following address:

**CANADA COURIER  
DEPARTMENT OF INDUSTRY, TRADE AND COMMERCE  
OTTAWA, CANADA. POSTAL CODE: K1A 0H5**

I am interested in further information on the Canadian products and services mentioned in Canada Courier which I have listed below:

Code \_\_\_\_\_  
Code \_\_\_\_\_  
Code \_\_\_\_\_  
Code \_\_\_\_\_  
Code \_\_\_\_\_

V11N373

NAME: \_\_\_\_\_  
POSITION IN COMPANY: \_\_\_\_\_  
NAME OF COMPANY: \_\_\_\_\_  
TYPE OF BUSINESS: \_\_\_\_\_  
ADDRESS OF COMPANY: \_\_\_\_\_

## Speaking of food . . .

Ask a group of Canadians to define their national dish and they'll speak up quickly with great enthusiasm — and probably all give different replies.

"Lobster," answers one. "Deer meat," another. And you'll hear Canadian Cheddar cheese and apple pie, Arctic char, buffalo steaks, pea soup, barbecued chicken, pancakes with maple syrup, salmon, and more.

Canadians have a particular zest for food. It's a subject of earnest conversation at least as popular as the weather. A Canadian might offer life-long loyalty in return for your favourite lobster recipe.

This is equally true of men and women. Canadian men not only tend to take over the outdoor barbecue, they're at home in the kitchen, particularly with stews and steaks.

The distinguished chef of a renowned Ottawa hotel, asked to serve a truly Canadian meal to visiting royalty, had these coast-to-coast dishes on the menu: Nova Scotia apple juice, Maritime oysters, Quebec pea soup, Newfoundland salmon, Grilled Alberta elk, Saskatchewan grouse, Manitoba wild duck, New Brunswick potatoes, Ontario Queen Anne squash, Maple bombe, British Columbia candied fruits and Ontario cheese.

From a formal banquet served before a Queen to the informal contents of a picnic basket, Canadians take pride in home-grown fare.

Food plays an important part in summer events throughout Canada. A growing number of nostalgic festivals reconstruct the days of the pioneer. At one of these in Western Canada, it is reported

that the ubiquitous hotdog is out-sold by "great slices of home-made bread, fresh from the outdoor ovens and baked as bread was baked by the early settlers."

In the Manitoba town of Flin Flon, there is an annual trout-catching festival with fringe attractions which include "moose-calling, squaw-calling and bannock-baking contests."

At a fishermen's regatta in Nova Scotia, freshly-caught lobster, barbecued chicken, home-baked bread, pies and cakes appeal to visitors' palates.

The world-famous Calgary Stampede features chuck wagons at every corner from which free breakfasts of flapjacks (pancakes) and Canadian bacon are served.

Many of the foods Canadians enjoy are available for export.

Fine fish and meats, maple syrup with the flavor of the northern woods, table potatoes from Prince Edward Island, McIntosh apples, grains and cereals from the Prairies, rye whisky, tangy Cheddar cheese and wines from the famed Niagara fruit belt — these products spell Canada in the markets of the world.

Canada also supplies a large export market with a wide variety of other products such as spices, sweet biscuits, pasta, honey, candy and bottled water.

Canadian foods and beverages add a distinctive quality note to grocery shelves in many countries. And since 1945, revolutionary developments in Canadian food production and processing methods have added a whole range of time-saving convenience foods to traditional quality products.



### Instant chocolate, instant success

Kingsmill Foods Co. Ltd., manufacturer of chocolate drinks and soup bases, started exporting its instant chocolate under the Kingsmill label only about a year ago — and met with instant success. One customer of this Scarborough, Ontario, company is businessman Victor E. Mouttet of Port-of-Spain, Trinidad. He found that sales of the Kingsmill chocolate far exceeded his expectations, with more than 80 per cent of his first order of 2,100 cases being sold out in five weeks. Naturally, he placed repeat

orders!

Kingsmill sells the chocolate in half-pound (227-g), pound (453-g), two-pound (906-g) and five-pound (2,270-g) packages. The chocolate contains sugar, Dutch processed cocoa, lecithin, salt, vanilla and natural and artificial flavorings.

The company's other products include chocolate whip, dietetic instant chocolate, white sauce bars, loaf mix, chicken and beef powdered soups, low sodium soup bases and other special dietetic foods. Code 8-1

### Everyone likes lox of B.C. salmon!

If lox on a bagel leaves you cold, think of smoked salmon on an onion roll. Add cream cheese. And perhaps lettuce, asparagus and chopped egg whites.

Discerning diners in more than 30 countries have been doing just that for quite a while — and the smoked salmon they're raving about often come from the Imperial Salmon House in Vancouver, British Columbia.

Imperial owner Mel Langner started the business in 1965; and in pursuit of the perfect smoked salmon, he has modified the traditional methods of processing the fish. The salmon, of course, come from British Columbia waters.

Mr. Langner's processing involves three main steps. First the fish are cooled and conditioned for several days to remove the blood and avoid discoloration. Then they are cured. This involves adding salt and other ingredients. Next comes the smoking: for 18 hours, the fish lie in 80-degree F. heat (27 degrees C.) in a large structure fed by a small slow-burning sawdust furnace. Mr. Langner uses oak sawdust from eastern Canada because it is considered superior

to the more readily-available alder.

Finally, the smoked salmon are shipped in polyfoam packs. The fish retain their flavor and condition in these packs, while shipping weight and air space are minimized.

Opinions on the best way to serve the fish vary: according to one school of thought, the smoked salmon should be served plain, with light buttered rye bread and half a lemon on the side. Other devotees like adding brown sugar. Still others prefer their smoked salmon heaped with as much lettuce, asparagus and egg whites as can be balanced on top! To some, smoked salmon tastes best when it's called "lox" (the Jewish word for this traditional Jewish dish) and served on a "bagel" (a doughnut-shaped roll).

When customers graduate to other smoked dishes, Mr. Langner is ready: he also sells smoked salmon butter and smoked salmon paste.

Editor's note: After researching, writing, checking and proofreading this article, Canada Courier staff spent the rest of the day in an Ottawa delicatessen. Code 8-2

### Fruit from Niagara makes classic liqueurs and brandies



Rieder Distillery Ltd.'s fruit brandies and fruit liqueurs are distilled in the traditional European way, from the fruit itself.

Climate, choice fruits, modern distillery and an experienced European still master have combined to make Rieder Distillery Ltd. a manufacturer of excellent fruit brandies and fruit liqueurs.

The three-year-old company is located in Grimsby, Ontario, in the heart of the Niagara Peninsula. This area, between Lake Ontario and Lake Huron, provides an ideal fruit-growing climate.

The company identifies its fruit

brandies by a term used in France, eaux-de-vie (waters of life). Unlike liqueurs, which are sweet, eaux-de-vie brandies are dry in taste and highly aromatic. They are mostly aged in inert containers rather than wood, to preserve their characteristic fruit flavor and to avoid acquiring color. (Brandies distilled from grape wine are aged in oak casks in order to give the brandy its distinctive color.)

Rieder's fruit liqueurs are made

from an eau-de-vie (or brandy) base with fruit concentrates added for sweetness. A light drink, they are sold as a perfect companion for desserts or a delightful after-dinner drink, particularly after a meal served with wine.

Rieder products include: Kirsch eau-de-vie and Kirsch Rouge liqueur from cherries; Peach eau-de-vie and Pêche Dorée liqueur from peaches; Pruneau eau-de-vie and Prunelle liqueur from plums; Williams eau-de-vie and Williams liqueur from pears; Pommal brandy from apples; Bordulac brandy from grapes; Grappa from grapes; orange brandy flambée liqueur; Swiss chocolate liqueur; coffee liqueur; a wine and whisky aperitif called Skipper and a uniquely Canadian spirit called maple brandy liqueur.

In keeping with the objective of producing classic fruit brandies and liqueurs in the European way, Rieder's master distiller, Gerhard Cohn, is a graduate of the Institute of Fermentation of the University of Berlin. He is in charge of production and quality control.

The 25,000-square-foot distillery is one of the most modern and versatile in North America. It can process 1,500 tons a year of virtually any type of fruit grain.

President Otto Rieder, a mechanical engineer, says he dreamed of owning his own distillery for 19 years. He gained his first experience in the distilling business in his family's small distillery in the fruit brandy district of Basel, Switzerland, where he was born. When he moved to Canada in 1953, he was impressed with the similarity between the Niagara Peninsula and his native Basel. Three years ago he left his engineering career to open the distillery. Code 8-3