The week of October 17th to 24th was a memorable one in Tapline's history, when the second billionth barrel of Saudi Arabian crude oil handled by Tapline and destined for Western markets made its quiet way from Qaisumah to Sidon. This journey took place nearly sixteen years after that of the first barrel, and just seven and a half years after the anniversary of the first billionth barrel.

Had it not been for the earnest cooperation and dedication of every employee in the organization throughout the years, I doubt very much if we would ever have found it possible to celebrate the arrival of the second billionth barrel, and certainly not this soon.

Tapline was created to provide an economic service for the transportation of petroleum. It has existed, and can justify its continued operation, only by continuing to provide a more economic means of moving crude oil from Saudi Arabia to the Eastern Mediterranean than can be provided by tankers, with which it is in direct competition. During the two billion barrels of its existence, Tapline has met this competitive challenge through the development and application of modern pipeline technology, and through the constant search for more efficient and less costly ways of doing its job. In doing so, Tapline has steadily built its reputation for a consistently high level of performance, and every Tapline employee may well take pride in the contribution he has made toward that reputation.

But a good reputation is like a delicate plant—it thrives only when given wise and constant care. And today, as we view our tanker transport competitor, we see that spectacular improvements have been made in efficiency through the use of larger, faster and automated ships. So it is that we find ourselves facing the challenge of ever-greater improvements in efficiency and performance, so that we may continue to enhance the good reputation so zealously earned, and so that Tapline may continue to hold its own in this competitive struggle.

The search for improvement in the way we do our work and the vigilance with which we protect the interests of the Company are not the property of a few select people—they belong to all of us. Each of us has the opportunity to make his own contribution to the combined effort in his own way. And the process is not merely one of dramatic improvements or additions of modern facilities; it is also a process whereby hundreds of individual daily ideas, decisions and acts, at every Tapline location, combine to create an organized and effective whole, an efficient and competitive enterprise.

Elsewhere in this issue of the Periscope is the pictorial story of some of the events and activities that were taking place in Tapline while the second billionth barrel was on its way. It is a story of imagination, ingenuity and effort, and of commitment to the principle that Tapline may continue to offer an economical and competitive transportation service only by spurning complacency, and by pressing its search for improvement into every single phase of its operations. Let us continue to dedicate ourselves to this principle as we pump the next billion barrels.
Chief Engineers G. H. Canoles and Materials Accountant Khashab H. Akhat were honored for their years of service. The presentations were made by Executive Vice President W. E. Locher and Materials Accounting Supervisor M. A. Khasab. Canoles transferred to Accounting Department with Armour and subsequently served as Engineer (Mech.), Senior Engineer, Abqaiq District Engineer, Supervising Engineer—Field Plants and Pipeline Planning, Engineering Liaison Coordinator and Manager—Lincoln Engineering. Canoles transferred to AOC, The Hague, in March 1960 as Superintendent—Design Section and to Tapline, Beirut four years later as Assistant Chief Engineer. He became Tapline’s Chief Engineer effective May 1, 1964. Canoles obtained his B.S. in Mechanical Engineering from the University of California at Berkeley in 1948. He started in 1929 as service station attendant in Tulsa, Okla., and ended up in the Maintenance Department with Armour and Co., in San Francisco, in 1946. In between, he worked as tank truck driver, tire salesman and soda fountain clerk. Canoles retired on Oct. 20 from the home of Mr. and Mrs. J. H. Rosquist and with the C. H. Hardwick as co-hosts. All families and senior staff attended the function highlighted with the presentation to Mr. Canoles of a miniature pipeline marked with the pump stations and auxiliary pumping units. The presentation was made by Station Superintendent Hardwick. The Arabian team to the Noble Cup was selected at the Line Tennis Tournament held at Turaif Oct. 6-7.

Lebanon

Tapline tennis players from Lebanon overwhelmed their counterparts from Saudi Arabia 18-10 at the annual invitational Noble Cup Tournament played on the Tapline Sporting Club courts in Beirut, Oct. 20-21. This made it three in a row for the Lebanese teammates who have won the cup in 1962, 1964, 1965 and 1966. The Arabian Division team walked away with the cup once in 1963.

Presentation of the Noble Cup to the winning Lebanese team was made by Dr. J. D. Thaddeus at a trophy banquet held at the club on Oct. 21. In the final, H. J. Jassett defeated H. W. Sutherland for the singles title. Mrs. and Mrs. Sutherland had the mixed doubles. Mr. Sutherland also married with M. Khairallah to take the men’s doubles title from the W. E. Locher—D. S. Dodge tandem. The teams comprised:

Saudi Arabia

H. W. Sutherland, M. Khairallah, M. Issa, I. Khatar, S. Sallum, C. Scharn, K. Ameen, P. Elhaj, J. Obeid, Mrs. Scharn, Mrs. Sutherland, Mrs. Jassett and Mrs. Van Oosten.

The Saudi Arabian Division team was selected at the Line Tennis Tournament held at Turaif Oct. 6.

* * *

Tugline’s Lebanon tennis team faces the camera with the Noble Cup presented by Dr. J. D. Thaddeus.

PHOTOS BY NASR

LEBANON RETAINS NOBLE CUP

Players and attendance at TSC.

Mrs. Kurshan in action.

Handed by General Superintendent M. A. Khashab, Executive Vice President W. E. Locher, Manager of Operations J. J. Kelberer and Tapline Station Superintendent C. H. Hardwick, Jim Hughes displays the wrist watch presented to him by his Tapline friends on Oct. 25.

Turaif Mrs. J. H. Rosquist

Aramco on Sept. 27, 1946 as

Sidon Kamal Abu—Zeid

Qaryatain A. Kawar

Locher and Materials Accounting The presentations were made by Accountant Khatchik H. Akhat—

Qaisumah

Executive Vice President W. E. Locher. (Photo by Nasr).

 PIPELINE PERISCOPE
**SERVICE STARS**

K. Akhatcherian, of Accounting, Beirut, became in October the first Lebanese Taglifter to receive a ten-year pin for completing 20 years of continuous service with the company. Twenty other Taglifters received 15-year service pins during the month while seven employees received 10-year pins for clacking up 10 years of company service.

The 10-year pin recipients are:
- Badahm
- M. H. Grugs of Operations—General
- R. M. Megal of Dining Room
- Dr. Nure Turk of Medical
- Michel Chababach of Medical
- F. W. New of Construction (RIP)
- Rafba
- S. Ahmad of Dining Room
- A. Furad of Operations—General
- M. Sney of Operations and Repairs
- Siden
- P. E. Kozul of Marine
- K. S. Banks of Marine
- M. S. Raim of Marine
- M. A. Naiman of Marine
- Rafba
- M. Nour of Sidon
- B. H. Swaid of Operations and Repairs
- Rafba
- Z. Mutib of Medical
- H. S. Mrag of Medical
- M. el-Shelish of Engineering
- Qaisunah
- M. A. All of Operations and Repairs
- Rafba
- M. Hourxy of Operations—General
- M. Mahsan of Street sweepers.
- Nads of Operations—General

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**194 EMPLOYEE HOMES BUILT IN ARABIA**

Completion of 16 Saudi Home Ownership Plan Houses during the first 10 months of 1966 raised the number of S.H.O.P. houses built or acquired along the "Line to 196.

Taglifter's Saudi Home Ownership Plan enables interested and eligible employees to obtain new, good quality and durable houses through a deferred payment program.

Of the 194 houses acquired or built and accepted by Nov. 1, 1966, 74 are at 'Air, 68 at Turaif town, 31 at Rafha town and 21 at Al-Qaisumah.

On the same date, 13 more dwellings were being built near pump station sites at Turaif (six), Badanah (two), Rafha (two) and Qaisumah (three).

Meanwhile, construction of four MM-3 houses of three bedrooms is under way at Badanah, the number of Saudi Arab employees at the company to 94.

**PIPELINE THROUGHPUT RISES IN OCTOBER**

<table>
<thead>
<tr>
<th>Month</th>
<th>Average BFD at Sihh</th>
<th>Average BFD delivered to offshore</th>
<th>Average BFD delivered to ships, Medenan and IPC</th>
<th>Ships loaded</th>
<th>Average size of ships loaded</th>
<th>Total BFD increased in percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>September</td>
<td>432,967</td>
<td>446,533</td>
<td>446,365</td>
<td>60</td>
<td>315,100</td>
<td>14.5%</td>
</tr>
<tr>
<td>October</td>
<td>429,687</td>
<td>449,518</td>
<td>428,231</td>
<td>40</td>
<td>335,190</td>
<td>14.2%</td>
</tr>
</tbody>
</table>

A total of 44 Saudi Arab Taglifters currently hold Silver Certificates.

**THE OIL INDUSTRY IN THE NEWS**

Information matter reported in this column is compiled from and based on reports published in Oil and Gas International (October 1966) and Arab Oil (Oct. 10 and Nov. 1, 1966).

**Tankships:**

If the Tanker Recovery Scheme has been in active operation this summer, it could have done much to alleviate the "unsaleable conditions" in the world tanker market. Instead, surplus tonnage is forcing freight rates down to an economic level "even more quickly than expected."

These hard-hitting comments on world tanker operations are contained in the latest statistical report published by London tanker brokers, John J. Jacobs & Co. Ltd. The Jacobs report shows that the world tanker fleet at June 30, 1966 was 3,518 vessels of 2,000 dwt and over with a total tonnage of 95,363,332. Of this figure the companies owned 1,394 vessels (84,245,984 dwt), private owners, 1,879 (57,172,588 dwt), governments 222 (8,037,731 dwt), and others, 21 vessels (262,399 dwt).

Tankers on order at mid-year amounted to 274 vessels totalling 21,077,980 dwt, equivalent to 1,546 T.S..

The past half year has seen the number of tankers in 1966 dwt and over on order jump from 19 to 36. Reasons for this are the increased tonnage of these huge tankers on order as compared to other vessels. In the end of 1965, 2,677 vessels were reserved for the world tanker fleet.

**Soviet Crude:**

The Soviet Union's total oil exports last year rose nearly 14 per cent in volume from 1964, including an 18 per cent rise in exports which accounted for about 40 per cent of all crude oil in product exports according to official USSR trade statistics just released. Crude oil exports last year totalled 43.4 million metric tons.

Refined product exports rose to more than 21 million metric tons. When converted, the total of 84 million metric tons is equivalent to about 3.3 million barrels a day.

**Investments:**

United States international oil company investments abroad will be at their highest rate in history this year and are expected to rise even higher in 1967. The figures are as follows: 1966, $2,936 million; 1967, $2,757 million; 1965, $2,825 million; 1964, $2,073 million.

This year's investment gains will be $50 million, or 15.6 per cent over 1965. It will add to the strong of annual increases in plant and equipment spending overseas which has been unbroken since the slump of the late 1950's. And, according to the oil company reports to the United States Commerce Department, outlays will jump another 7.6 per cent in 1967.

Some totals do not include further big outlays for exploration which are charged to current expenses. Because of President Johnson's voluntary program to curb the outflow of dollars, much of the increase is being financed from retained earnings, and will not add to the United States balance of payments deficit.

**Silver Certificates for English Proficiency**

Silver Certificates for English Proficiency were presented in October to Club Manager Ibrahim M. Naif and Marzouk Matraw of Dammam, who scored at least 4.5 on the standard English Language test.

A total of 44 Saudi Arab Taglifters currently hold Silver Certificates.

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**PIPELINE PERISCOPE**

Materials Accounting Supervisor Michel Abu Jawdeh reviews IBM computer report at the AUB Center. Recent application of Electronic Data Processing to materials inventory control has provided timely information to prevent overstocking and to identify unusual consumption of expensive materials. Application to payroll preparation has resulted in improved accuracy and efficiency. Other computer applications are being studied.

Overhaul of the turbines at Umm Alqaih was underway as Tapline handled its second billionth barrel. Above, J. H. Rosquist, Assistant Foreman, Diesel Gas Turbine Maintenance, watches Mike Dennis, General Electric Sonic Testing Representative, using ultrasonic reflectoscope and borescope to inspect second stage nozzle stems in place. Formerly such inspection required complete disassembly of the second stage nozzle section of the turbine.

An improved safety record saves money as well as human suffering. On October 17th, in the second billionth barrel (传感Qaisumah) handling, the 29 employees of C. E. and I. (above) and the 37 employees of the Central Mechanical Shop at Turaif Central Facilities had completed over 2000 days free of disabling industrial injury. By the same date, Badanah station had completed over 800,000 manhours without a disabling industrial injury. The safety effort at all Tapline work locations has resulted in a reduction in the cost of disabling injuries and motor vehicle accidents from 543 dollars per one million barrels handled in 1960 to 170 dollars per one million barrels last year and to 16 dollars per one million barrels during the first three quarters of 1966.

THE SECOND BILLIONTH BARREL AND THE CONTINUING SEARCH FOR IMPROVEMENT

The Periscope camera lens has recorded some of the events and activities that were taking place while Tapline handled its second billionth barrel. It is a story of the unceasing search for improvement and efficiency, thus enabling Tapline to continue to offer a successful and economical transportation service.

The second billionth barrel of Saudi Arabian crude oil handled by Tapline was received from Aramco at Qaisumah, the first pump station on the Tapline system, on October 17th. In the week that followed, it made its quiet, 1213-kilometer journey from Qaisumah to Sidon, reaching the marine terminal at 0900 hours on October 24th.

Destined for Western markets, the second billionth barrel was loaded aboard the Olympic Champion at 2300 hours October 30th, nearly 16 years after the first barrel was delivered from Sidon Terminal.

(More photos are on p. 8 and 9)
Y. Khalaf, Senior Engineer (Cathodic Protection), and other members of Tapline Engineering have recently developed new criteria and procedures for determining pipeline reconditioning requirements. Under this program, which considers maximum operating pressures, the nature and extent of corrosion, and the rate at which corrosion is occurring, substantial deferrals in reconditioning costs are being realized.

Shift Operator K. S. Yada readies full flow lube oil filter for operation at the Turaif pump house. These newly-designed filters were being installed at Turaif and tested at Badanah as Tapline handled its second billionth barrel. The new units, which filter all of the lube oil that flows through the pumping engines, will replace the old bypass filters on all engines along the line, and are expected to reduce lube oil consumption and increase the life of wearing parts.

While Tapline handled its second billionth barrel, Consultant J. D. Hoffman was in Saudi Arabia conducting tests on a newly-designed solid state communications relay system which will improve the quality of present VHF circuits and reduce the number of false surge protection trips of the APU's. Shown above is one of the antenna towers erected midway between main stations and APUs where the new equipment will be located.

Bechara Mujalli of GOS transmits a message to the New York Office by means of perforated tape through Tapline’s Telex communication system, which became operative a few days before the company handled its second billionth barrel. The added efficiency as well as the time and money to be saved through the use of this instantaneous communication link are considerable.

Fourteen Sidon Supervisors participated in a “Basics of Supervision” conference held October 17-19 at Sidon Terminal. K. E. Parr (first from left), Staff Coordinator, Employee Development, acted as conference leader. Mohammed Thabet (second from right), Industrial Relations Specialist, Turaif, also attended as observer. Improvement in supervisory skills is another element of Tapline’s accelerated training program.

As part of the continued search for lower maintenance costs, preparations were underway to install a new and more durable first stage nozzle in Utaigilah as the second billionth barrel headed from Qatar to Sidon. This nozzle, rebuilt with partitions made of G.E. X-45 rubber-like material which is more resistant to high temperatures, is expected to increase the period between first stage nozzle repairs by 50%. Shown at the Turaif Central Machine Shop checking the nozzle dimensions are Abdu Hamid and Salem Owdeh. Tapline’s first X-45 nozzle was recently installed in the Qataria turbine.

The Worthington pumping engines at Tapline stations are called upon to produce every horsepower of which they are capable. They respond valiantly, but only at the cost of high lube oil consumption and maintenance. George N. Ziady, Senior Engineer—Maintenance, participates in the search for means to reduce these costs as he reviews reports prepared following the recent consultation visit of E.F. Thomas, Chief Engineer of Double Seal Ring Company.
Badanah

Belated congratulations are due to RIP Services Specialist and Mrs. Michel Y. attended the function.

Earlier on Sept. 25, Mr. and Mrs. D. M. Falconer were enter—

(Continued next page)

Good luck to Miss Mona Sarkis, Dr. Y. G. of Jordan, Seta H. Mandjikian of daughter Caroline.

Walid Ghurabi, Abdul Karim who was formerly employed with Assistant Local Company Rep—
dan, a polyglot holding a degree in Journalism from Cairo Uni—

Aide Nafez Muhammad of Jordan.

Tayyarah, formerly of Turaif.

Physician, Badanah Hospital, and Dr. and Mrs. Hanna Warram have returned from vaca—
tion in Lebanon.

Other returning visitors are: Ahmed Saeed, Badi Ralli, Nahal Yafeh, Fahd Falah, and Naim Suray.

During the week of September 25, the upper turbine was moved from Shubaah to Uwaigilah in preparation for the turbine over—

which began on Oct. 8, Super—

vising the move were: R. Robert—

Industrial Relations Specialist, visited Dhahran.

The 0. E. Ritters are back from

J. D. Thaddeus, accompanied Dr. and Mrs. Hanna Warram to a dinner party given by Mr. and Mrs. E. Ghone.

Mr. and Mrs. Rida Abad—

Superintendent of Telephone, and G. M. Hajjar as Assistant Engineer—

Secretary, visit—

to Dhahran.

All families in the stations at—

reviewed with Engineering and Operations staff as well as Execu—
tive

Mr. Dennis was in the

area for four days.

Piston Ring Company returned to

performance of VHF circuits.

Hall and Chief Engineer G. H. Cochran reviewed with Engineering and Operations staff as well as Execu—
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A speedy recovery from surgery

for Turaif the next day to perform

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tained at a dinner party held at the swimming pool. Vacations at the BeachBalls and H. Fous. Back from leave are F. R. J. Khalil, J. Mouhib, M. Rashid, Ciba, and S. Abdul-Attah.


A meeting for mooring masters and their wives was held under the auspices of His Excellency the President of the Republic. Two Tugboat tugboats towed from Beirut port to Sidon harbor the large tug which served as the floating stage. The "Zahrani" was also decorated with Lebanese flags and stationed at Sidon harbor for the occasion. The "Horne" was placed at the disposal of the Tugboat Committee. The Zahrani was manned by Y. Kazzi, E. Deek, K. Baradie and J. Green. The Hornes crew comprised M. Barakat, O. Bashir and S. Suleimen.

Tuna Terminal employees and their sincere condolences to His Excellency the President of the Kingdom, to visit his relations. For Mr. Schiffpen, it was a holiday in Beirut, Lebanon and Rhodes, Holland. The "Kernkraft" steam ship came to the call of a special assignment in Beirut Heliport.

Mrs. C. Scharn sponsored a coffee gathering to welcome Mrs. W. P. Moore to the station. Mrs. Moore and children, Richard, Debbie and Judith arrived here in late September. Mrs. and Mrs. A. M. Chrisman hosted a dinner party in honor of Leonard Bunn prior to his departure on long vacation. Senior Staff School classes were resumed May 34 with Mrs. J. L. Green, Mrs. W. P. Moore and Mrs. R. P. Lightle serving as teachers. The Tugboat school en—rollement includes first grades John Kuenstler and Bernard Makki; second grades Lila Hambrecht; third grades Katherine Koenreich, Joanna Stephens, Tony Makki; and Judith Moore, fourth grades June Christman and Deborah Hardick, and sixth grades Bruce and Brian Faber, Victor Gysen, and Delia Mouni.

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