

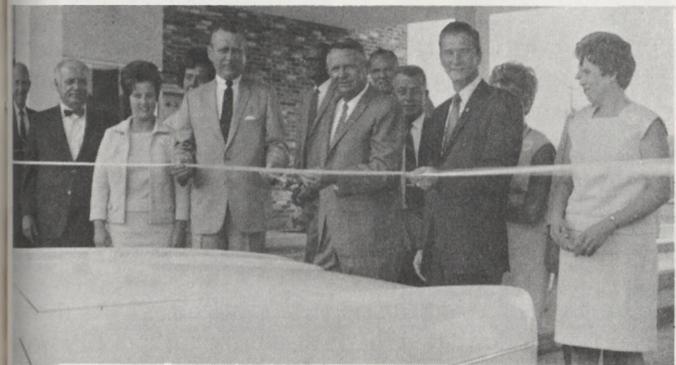


UP, UP, AND AWAY--With the help of many employees, including John Moyers, (1) Co-Chairman, and Jim Miller, Alternate Co-Chairman, the United Fund total reached \$42,567.43. It appears that all departments will reach their goals when all returns are in.

SHELLEGRAPH



No. 354 Friday, September 19, 1969



SEABROOK MAYOR G. W. Robinson, who is a Switchman #1, Dispatching, cuts ribbon opening the new Motor Bank of Clear Creek Bank. With him are, l-r, Robt. Moechell, Fred Hartman, a bank employee, W. C. Ferls, Bank President, Robinson, J. C. Summers, Vice President and another bank employee.

SHELL CHEMICAL ORGANIZES CATALYST DEPARTMENT TO BE UNDER INDUSTRIAL CHEMICALS DIVISION

J. B. St. Clair, President Shell Chemical Company, and H. E. Walker, Vice President Manufacturing, announce the formation of a Catalyst Department in the Industrial Chemicals Division of Shell Chemical Company.

The new department will provide business management for the manufacture and marketing of catalysts used in refining and chemical operations. Such catalyst manufacturing activities as those currently carried out at the Shell Point Plant and at the Martinez Plant will become the responsibility of the new department.

M. L. Baker, Manager, Martinez and Shell Point Plants, has been named Manager Catalyst Department. He will report to the Gen-

(Continued on Page 3.)

RESEARCH LABORATORY DEVELOPS NEW LUBRICANT FOR GYROS USED IN APOLLO SPACE FLIGHTS

Even Buck Rogers and Flash Gordon are often plagued by seemingly insurmountable problems that can be solved easily when the right combination of people get together.

This was the case when NASA experienced problems with the spin axis bearing of the Apollo Inertial Reference Integrating Gyro. Scientists had two theories on the poor performance of the bearings: (1) An improvement in mechanical design of the gyro was needed, or (2) The product used to lubricate the bearings was inadequate.

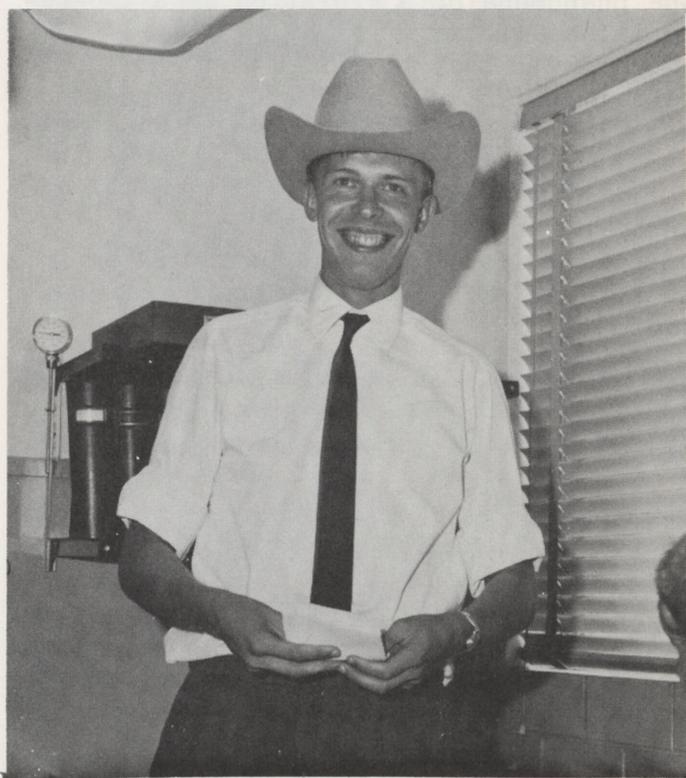
The staff of the Research Laboratory at the Houston Refinery fell upon the problem quite by accident. A Shell Research Engineer and a NASA engineer are neighbors in the Clear Lake area, and they casually chatted about the problems with the gyro. A gyro or gyrocompass is used in guidance of ships, airplanes, missiles and most recently spacecraft. The main type of gyro lines up with the axis of the Earth and the compass always points to the true North.

Lab Proves Second Theory

R. W. Lewis, Assistant Chief Research Chemist at the Houston Research Lab, later discussed the problem with Max Holley, Manager of Guidance Systems at NASA. It was Holley's theory about the unsuitability of the lubricant that Shell later proved.

Although the Houston Research Lab deals with process development, it was decided to help in developing a new product as a service to the government.

Inspection of gyro parts that were failing indicated that large quantities of lacquer-like deposit was forming on its moving parts. Also, microscopic examination of these parts (Continued on Page 2.)



DUTCH COWBOY--Bart Dykman, Plant Engineer for the summer, from Delft, Holland, was surprised when fellow Engineering Services employees gave him a 10 gallon hat. Bart, who is working toward an M.S. in mechanical engineering, said he will wear the hat while studying for exams at Delft Technological University.



PRESENTATION TO THE BOSS--Bodin Hugger, Senior Engineer, Computer Control Applications, right, presents master's thesis to E. L. Doering, Manager of the Department. Hugger started working for Shell 13 years ago.

HEAVING A SIGH OF RELIEF, HUGGER RECEIVES MASTER'S DEGREE AFTER 4 YEARS OF NIGHT SCHOOL

After four years of attending night classes and working hard to find time to be a father, and husband as well as a Shell employee, Bodin Hugger received a Master's degree in mechanical engineering from the University of Houston in May.

With the aid of the Shell Educational Reimbursement Plan, Hugger decided to go back to school four years ago to further his knowledge of mechanical engineering.

"I found that my field had changed in the nine years that I had been out of school," he said. "I found it difficult to devote time to my studies and to my family. My wife had a problem keeping our five children quiet and making them understand that I couldn't play with them whenever I was studying."

His thesis is on "Vibration Analysis of a Two-Material Beam." In the thesis, he extended a mathematical formula and analyzed the phenomena of a vibration of a two-material beam.

He started back to school when Shell only reimbursed 75% of educational expenses and says he really benefitted when the plan was expanded to 100% coverage.

Hugger even acknowledged Shell's support in the thesis.

He was guided in his graduate work by Dr. G. P. Hedgcoxe of the University of Houston.



HECTIC CAMPAIGN--Left, readying for the United Fund kickoff were speakers and committeemen, l-r, Bill Ramey, Secretary-Treasurer, Local 4367-AFL-CIO, John Moyers, Co-Chairman, Joe Gunn, Communications Workers of Am-

GYRO LUBE

(Continued from Page 1.)

showed metal failure indicating that lubrication was also inadequate. R. H. Coe, Group Leader of Physical and Analytical Chemistry and two Research Chemists, P. V. Peurifoy and J. M. Martin, Jr., helped in the analytical work.

Used Classical Additives

Lewis, whose early career was spent in lubricants development research, chose the formulation to be submitted to NASA for trial. He stated, "After getting an idea of the basic problems involved, we simply chose a pair of classical lubricating oil additives that we thought would produce a satisfactory lubricant." These additives were incorporated in a Houston Refinery base oil. "Probably the most noteworthy part of the development is that the customer is apparently rather satisfied with the very first formulation we submitted. This seldom happens," Lewis said.

Herb Poitz of Southern Regional Products Application Department later assisted NASA in developing specification properties.

Service to Government

"We did this as a service to the government, and we are not especially interested in manufacturing this lubricant commercially. Each gyro holds only several milligrams of lubricant," Lewis said.

In a letter to the Research Lab Director, Robert R. Gilruth, Director NASA Manned Spacecraft Center, said, "The test results were very successful. Two of the four gyro manufacturers have changed to the Shell oil and the other two have changed to an oil compounded to match the characteristics of the Shell oil.

Slated for Moon Missions

"While the lead time associated with manned lunar flights will not allow us to fly gyros with the Shell oil in the first two lunar missions, certainly succeeding missions and the taxpayers will benefit from the cost savings associated with the impressive improvements in gyro yields together with the added reliability of the longer lasting bearings lubricated with the Shell oil blend."



erica, and Jim Miller, Alternate Co-Chairman. Right, solicitors received campaign material, pledge cards and pins from J. C. Allen, left. They are J. W. Norton, Kenneth Sparks and D. Pennywell.

ABOUT 1,000 EMPLOYEES, PENSIONERS EXPECTED FOR ANNUAL 10 AND OVER PARTY AT EXECUTIVE CLUB

The committee for the Ten and Over Party is making arrangements for the day-long event which will be held Saturday, October 11.

Food, games and fellowship will welcome some 1,000 employees and pensioners who are expected to attend the party at the Executive Country Club.

Employees who have at least 10 years of service as of this year are invited.

Serving on the Committee are G. L. Boatright, R. L. Gibson, O. G. Green, W. R. Davis, J. Casas, J. D. Wood, R. Fisher, Miss Ety Mathews, L. J. Hallmark, Mrs. Josie Ochoa and George Thorn.

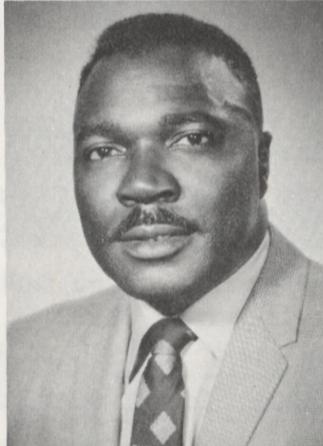
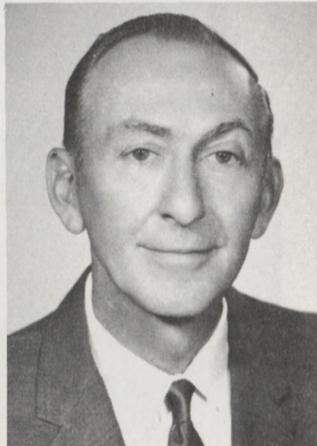
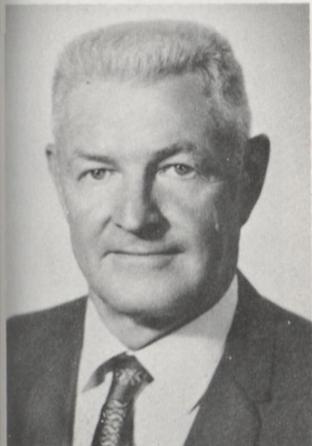
NEW CATALYST DEPARTMENT

(Continued from Page 1.)

General Manager, Industrial Chemicals Division. Baker will make his headquarters at Shell Point.

C. B. Amspoker, Manager, Geismar Plant, will succeed Baker. R. G. Dillard, Superintendent, Industrial Chemicals Division, Houston Plant, will become Manager, Geismar Plant

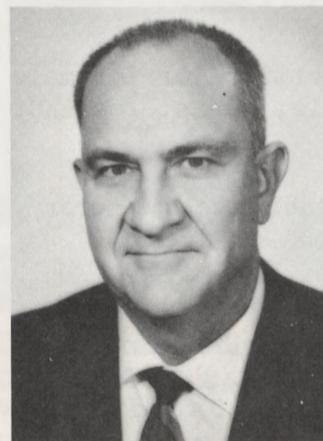
SERVICE ANNIVERSARIES



25 Years
S. W. Chalmers
Engineering Field

25 Years
O. A. Cox
Engineering Field

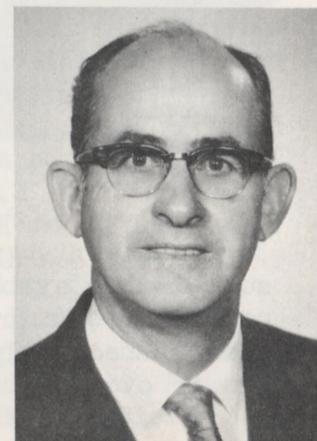
25 Years
W. E. Hall
Automotive



35 Years
L. N. Harling
Gas & Therm. Crack.

25 Years
E. C. Mathews
Employee Relations

25 Years
M. J. O'Neal, Jr.
Research



25 Years
E. W. Page
Engineering Field

25 Years
M. S. Smith
Catalytic Cracking

25 Years
R. Tanner
Automotive



NEW TREASURE HUNTER J. W. Pearson, Automotive, found only a saw while he was searching for money his grandfather supposedly buried on his farm near Bastrop. L. E. Millholland, an avid treasure hunter, has interested Pearson in the new outdoor sport.

CLASSIFIEDSFOR SALE

Tokai Walkie Talkies, like new, \$90 value, for \$45.
Telephone: GR 2-8410

1955 Chevrolet work car.
Telephone: 946-3338

Silvertone amplifier, 100 watts, 2 channels, 4 inputs, reverb & tremolo, 2 heavy duty 12" Jensen speakers, 2-way polarity switch, footswitch included.
Telephone: 946-8803

1969 Mustang Mach I, still in warranty, fully-equipped, 7,000 miles, \$3095
Telephone: 643-6158, after 6 p.m.

1961 Oldsmobile, 4 door sedan, \$275. GE refrigerator, \$25.
Telephone: 946-2807

Used doors with frames. Hardwood floors. Loose insulation. 3½ foot attic fan.
Telephone: 472-8445

1960 Ford Econoline van chrome rims, wood paneling and stereo tape unit. Good running condition, \$500.
Telephone: 473-7314

11,500 BTU Sears thinline air conditioner, \$75.
Telephone: GR 2-5988

Set Low Boy Side tool boxes by Koenig, for short wheelbase pickup, like new, \$150.
Telephone: GR 2-3018

Olds trombone, case and music stand, good condition, \$75.
Telephone: 472-2203

Two champion-sired Scottish Terrier male pups, 12 weeks, brindle, registered AKC.
Telephone: 946-3435

One table, two step end tables, contemporary, perfect condition. \$75 takes all.
Telephone: 643-1026 after 5.

Purebred German Shepherd puppies, nine weeks old, wormed & shots. Males, \$40, females, \$35.
Telephone: GR 9-1282

Apartment size cookstove, butane, good condition, \$25.
Telephone: MI 3-1140 or GR 3-3874

LOST

Parker 51 chrome and gray fountain pen, lost presumably between main gate and east parking lot.
Telephone: HU 7-2902

CAR POOL WANTED

From Gulfgate area. 6811 Rustic Lane, Gulf-land Apartments. Can drive also.
Telephone: 649-3909

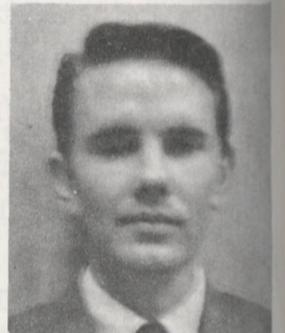
From Clear Lake City near Bay Area Boulevard, 8-4:30 Shift.
Telephone: 488-1481

WANTED

Have opening for another car pool rider, Glenbrook Valley area, 8-4:30 shift.
Telephone: 643-9802

WELCOME TO SHELL

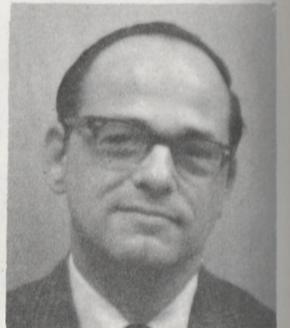
Una C. Grigsby
Industrial Nurse
Employee Relations



William Hamilton
Engineer
Eng. Services



Phillip A. Johnson
Inspector
Eng. Services



Kenneth C. Jones
Senior Engineer
Tech

GLAUCOMA SCREENINGS TO BE HELD AT 3 LOCATIONS

Adults over 35 years of age are invited to take advantage of free Glaucoma screenings to be carried out at three Houston area locations next week.

The screenings, sponsored by the Texas Society for the Prevention of Blindness, and other health-oriented organizations, will be held at three locations simultaneously on Thursday, Sept. 25, from 7 to 9 pm.

The Houston location will be at the First Baptist Church at 1020 Lamar, the Pasadena location will be at the First Presbyterian Church at 1211 E. Harris, and the Humble site will be at Humble High School.

Glaucoma is a disease causing high pressure in the eyeball which, if untreated, results in the gradual loss of sight. It occurs frequently in persons 40 years of age or over.