

# HALINCO -LIGHTS

July 27, 1962 - Volume 2, Number 6 - page one

Let's Get Technical - by Bill Breyer

Viscometers. Viscosity is a property of fluids which has caused problems for all of us. Trying to empty a bottle of catsup or a jar of jam is an example. It takes longer than we care to wait for that last bit to run out. The viscosity of a product may be thought of as its resistance to flow. A material with a high viscosity such as molasses or heavy oil has a high resistance to flow while water or gasoline has a very low viscosity. Controlling the viscosity of such things as motor oils, greases, paints, inks, facial creams and syrups is a concern of manufacturers.

The viscosity of most fluids changes with temperature. Usually, the higher the temperature the lower the viscosity. This is not a desirable property for motor oils, because ideally, a thin oil is desirable when the engine is cold so it will start readily, and a heavier oil is desirable after the engine has warmed up to provide proper lubrication. This problem has been solved by blending oils of different characteristics together so that the oil actually does become thin with decreases in temperature. Viscosities are often a part of the product's specifications and frequently serve as an indicator to determine whether a product is being manufactured at the lowest cost.

Our Models 1077 and 1251 Viscometers are used to measure viscosity continuously. Several hundred of these are in operation -- some as far away as Arabia and others as close as Standard Oil's Richmond refinery. Gulf Oil has sixteen of our viscometers in one refinery. The Viscometer has been used mainly in the petroleum industry for blending of fuel oils, asphalts and road oils as well as for monitoring the blending and manufacture of lubricating oils.

Operation of the Viscometer is quite simple and requires little attention on the part of the attendant. A small portion of the product to be analyzed is pumped into the Viscometer. The pump provides a constant low flow of 64 ml./min. or about 1 gallon of sample per hour. The sample passes through an 18 foot long heat exchanger which is immersed in oil. The temperature of the oil is controlled at any selected point between room temperature and 300°F by an electric heater and our Thermotrol temperature controller. When the sample comes out of the heat exchanger it is within 0.1°F of the selected temperature. The sample then flows through a capillary tube, similar to a hypodermic needle, and out of the instrument. The size of the capillary tube varies from 1/64" to 1/8" inside diameter and from 2 to 5 inches in length depending on the viscosity of the sample to be analyzed. With a constant flow of even temperature sample, a drop in pressure across the capillary tube is directly proportional to viscosity. The pressure on both sides of the capillary is measured with a pressure transmitter which can send a

continuous signal to a control room. Thus, the refinery operator can continuously determine if the product being refined meets their specifications. Because of its many applications and reliable operation, the Viscometer is our most widely used instrument with little competition from other manufacturers.

Company Picnic. About 80 people attended the picnic this year, and judging from reports, they all had a fine time. Except for the overcast weather (otherwise known as Hallikainen Picnic weather) the area was almost ideal. Barbara Goode thought of everything when she placed our orders for things, Bill Breyer drove the truck and took care of all of the equipment, Al Keil ordered and transported the food, John Chin and his father tended the barbecue, Jack O'Keefe kept the ball games going all day, and activities for the children continued most of the day. Mrs. Schimbor won the prize for guessing the bolts in the jug as 1,801 (there were 1,743), Don Goode won the shoe shag and Don Zolman won the foot race. Judy Kleinstein took home the piggy bank for guessing 281 pennies (there were 276). First prize for the kiddies candy scramble went to Harold Hallikainen and second prize to Melody Montgomery. The children's foot races proved that Judy, Susan and Amy Kleinstein were the fastest runners at the picnic. Susie Hallikainen, John Waner and Holly O'Keefe were members of Amy Kleinstein's winning relay team. There were prizes for all participants and special prizes for the winners. You may think that you stayed late, but the die-hard picnickers packed everything up and continued the party on into the night at Breyers'. See you all next year!

Personality Sketch. Walter Brugmann came to work for the company 5½ years ago and brought with him 25 years of experience in precision machining. He learned his trade in Hamburg, Germany where, after completing his regular schooling he spent 3½ years in specialized training school which gave him the rating of Feinmechanikermeister. He worked in Hamburg on geodetic, medical and optical instruments until 1953 when he went to Brazil and then came to the U.S. in 1956. Before coming to work here, Walter worked for an optical instrument company in San Francisco. He has the reputation in the shop for doing top quality work in the shortest possible time, and he never turns out a poor job. Walter is assigned to do most of the prototype work on our medical instruments. His many spare time activities include the making of jewelry, restoration of old paintings, wood carving, carpentry, painting, gardening and playing the flute. Walter lives in Berkeley with his wife and 18 year old daughter.

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July 27, 1962 --- page two

Vacations are over and everybody looks well, although some of us didn't get much rest. We were crowded off of the first page by "Let's Get Technical", but here's a list of everybody and where they went. Al Beach went to Colorado to visit his brothers and sisters and their families. George Black took his family to Los Angeles and then to Clear Lake fishing. The Skip Bradfords and the Bill Breyers went to Lake Pillsbury with water skis, boat and camping equipment and didn't want to come back. Hans Bockenamp and Julius Rosin and their families went to Yosemite camping for the first week and then joined the Breyers and Bradfords at Lake Pillsbury. Walter Brugmann went gold panning in the American River - didn't strike it rich, but had a lot of fun. Ron Bultena took advantage of his free hotel in Seattle (relatives) and went to the fair. John Chin took his family camping in the Sierras. Carol Clark stayed with her aunt in Seattle and took pictures at the Fair - didn't have time to enjoy it until she got back home and looked at her pictures. Kay Crawford stayed on the job and kept Mr. Schimbor busy, but she and her family are going camping at Echo Lake in August. Paul DeFrates took advantage of his free time and put his motorcycle motors in top condition. Your Editor took her niece and nephew to Laguna Beach (stayed with an aunt) and visited Disneyland, etc. Pieter Fredzess did an interior paint job on his house. Alice Gibbons stayed on the job and relieved on the switchboard. Barbara Goode rested at home in between water skiing trips. A remodeling job on the garage kept Andy Guild busy. The Tom Hales went to Los Angeles, did all of the tourist spots and took the steamer to Catalina. Mr. Hallikainen's parents were visiting from San Diego, so he took assorted days off and visited old friends in Northern California with them. Ken Harris spent a week entertaining his children at Disneyland, Knotts, etc, and then brought the children back and he and his wife went to Reno and Tahoe and had a vacation for themselves. Honors for covering the most territory go to Rose Hendrickson who took her four children (or they took her) to Minnesota and Wisconsin to visit the grandparents and aunts and uncles, then added a cousin to the party and went on to Washington D.C. for an educational tour of the Capitol. The Hank Johnsons spent their vacation south of Bakersfield visiting a sister and seeing the tourist spots. John Kaufmann rented a cabin at Donner Lake and spent his time doing oil paintings of the scenery while his wife entertained their daughter and her playmate. Alfons Keil went up the Redwood Highway to the Russian River area and then took another trip to Clear Lake. The Howard Kirks went to their cabin at Pinecrest and sailed, fished and swam (not necessarily in that order). Jim Kvasnicka and his family went to Las Vegas and then went camping in the area of Markleville and drove to Redding to visit relatives.

Camping at Tahoe was the vacation activity for Ben Kleinstein and all of his girls (his wife and three daughters). P. C. Leung spent part of his vacation recovering from his appendectomy, but he has another week coming for fun. Larry Mellott enjoyed the luxury of getting up as late as he pleased every morning. Monty Montgomery stayed home and rested and planned picnic outings for the family. Talmage Nelson stayed home and helped his four brothers and his sister to plan two big family parties in honor of his parents' 50th wedding anniversary. Rich Netto drove to Seattle - they enjoyed the Fair and the lovely green countryside and they agree that Seattle is a fine place if you don't mind the rain. Mr. Schimbor stayed on the job and supervised the painting of yellow lines on the floor of the shop. We are giving him two weeks off in August to go to the Fair. Henry Schuetz stayed home and relaxed. Steve Schulte remained on the job and caught up on the accounting, but has a week vacation coming later. Kathy Sims took her family to her parents' cabin at Tahoe. Bud Singh and Ben Kleinstein moved their offices upstairs with Sun Yung Kim and the three of them kept the engineering department alive during the plant vacation. Bill Stairs took the family to Disneyland and the other tourist spots in Southern California. Gerry Stanke and his family took trips to Sequoia and Yosemite National Parks while visiting relatives in Dinuba. Eugen Steiert tried to build a dining room set and baby-sit at the same time -- The children had a wonderful time, little was done on the furniture, and Eugen is glad to be back to the peace and quiet of the machine shop. Fumi Takeshita went to Tahoe -- saw the Lawrence Welk show while she was there. Opal Taylor had a perfectly delightful time relaxing in Mazatlan for two weeks and then they took a third week to stop at Lake Mead and fish for black bass. Eero Vasankari worked for his landlord roofing a building and then went to Berryessa Lake trout fishing. The Norm Waners went to Blue Lake swimming and fishing. John Wolf drove up and down the coast enjoying the scenery. Fred Wolff and his wife drove to Tahoe and Reno and toured the historic gold country on the way home. Rae Marie Zolman relaxed at home and made curtains since Don didn't have vacation. That's it for everybody -- all set for another year of work!

On behalf of Gerry Stanke we extend his thanks to his many friends who gave blood and cleared his account at the blood bank. We have reason to cheer, because Gerry hasn't needed a transfusion for the past 3 months. Medications are keeping his blood count under control, and we are all keeping our fingers crossed that this is the turn toward complete recovery. In addition to the 18 employees who gave blood, Bill Breyer sent his wife (Joy) passes out, but they always revive her again).

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