

TUDOR

NEWSLETTER

SPRING 1976

FROM THE PRESIDENT ...

Effective April 3, following six months of negotiations, Parsons Brinckerhoff/Tudor succeeded Parsons Brinckerhoff-Tudor-Bechtel as MARTA's general engineering consultants. Over 450 PB-T-B employees became PB/T employees and over 50 subcontracts were assigned from PB-T-B to PB/T.

As stated in March 1976 "Bechtel Briefs", the reason Bechtel withdrew from the MARTA Contract was because they could not accept a reduction in their home office overhead costs allocable to the MARTA project. They asked in February that the PB-T-B contract be terminated in order to allow the formation of a new joint venture between Parsons Brinckerhoff Quade & Douglas, Inc. and Tudor Engineering Company and have been cooperating in every way to minimize the disruption during the transition of activities which will be completed by June 30, 1976. Other PB-T-B joint ventures will not be affected.

PBQ&D and Tudor were able to reach a satisfactory agreement with MARTA because of lower allocated overhead. Closing the gap left by departing Bechtel transferees will require an increased participation on the part of Parsons Brinckerhoff and Tudor.

VISITORS IN SAN DIEGO

Bert LaVigne was joined in San Diego by fellow Tudorites: Lou Riggs and Randy Wilkinson from San Francisco, and Hanford Thayer and Mike Harrington from Seattle. The occasion was the Society of American Military Engineers (S.A.M.E.) Western Regional Conference held in San Diego on April 8-9, 1976. Louis and Hanford are the Southwest and Northwest Regional Vice Presidents, respectively, and presided over the conference. Pictured below are Bert, Lou, and Randy who stood long enough to have their picture taken with one of the three Tudor SAME Sustaining Member Plaques. The others, though more elusive before the camera, were nevertheless, very active at the conference (and the banquets.)



DOWN IN THE VALLEY ...



Redwood Valley! In Mendocino County, California, the contract has been signed signalling the beginning of final design for the \$5,800,000 Redwood Valley Water Supply Project. Work by Dave Willer first began in early 1970 as an element of Mendocino County's overall water development plan and Joe Carson has been instrumental in the continued planning. Funding for the project will come from the U. S. Bureau of Reclamation's 984 Loan Program and the federal Economic Development Administration.

The main features of the project are a pump station with 3-600 horsepower pumps, a 4 mile long transmission pipeline, approximately 20 miles of irrigation distribution pipeline, approximately 30 miles of domestic pipeline, and a 1 MGD water treatment plant.

The overall coordination and client contact will continue to be handled by Dave Willer and Mike Viarnes will oversee the design effort.

DESIGN & CONSTRUCTION ...

... is proceeding on the West Boise Sewer District Project under the direction of Ted Purcell, Project Manager. The design of the first two phases, involving about 7-1/2 miles of trunk lines, and one collection system of about 5 miles of sewer line is substantially complete and these portions are tentatively scheduled for construction in June. Three other collection systems are well underway in the design stage. Sewer Service Information forms have been sent out to approximately 2100 property owners, under the direction of Frank Paden, who has been averaging 20 to 30 phone calls per day requesting help in locating old septic tanks.

PROGRESS IN BOISE ON ...

... The Ethete-Mill Creek water system project on the Wind River Indian Reservation is now ready for construction, thanks to the joint effort of Jerry Crews and Paul Kunz. A Hardy-Cross analysis was run on the appropriate 9 miles of line with Boise's HP-9830 computer.

... The Bruneau Water Project is substantially complete, with the erection of a 100,000 gallon redwood water tank and installation of some 7500 feet of distribution system, under the supervision of Les Ankenman and Steve Alters.

... The Kuna Water Project is now under construction with Les Ankenman and Phil Matthews directing activities. This project involves a 500,000 gallon water reservoir and approximately 3 miles of distribution line.

... The proposed Lewiston Orchards Sewer District is being assisted by Jim Potter and Dave Torgeson in establishing district boundaries in preparation of design on approximately 25 miles of sewage collection system.

CARACAS METRO HUMMING

The sixth floor in San Francisco is once again humming with activity on transit yards and shops. The Venezuelan Office of the Ministry of Transportation (OMT) in Caracas accepted the recommendations for the redesign of Pro-Patria yard and shops as presented in the master plan report submitted in January. Since bids have been received for the yard construction, the revised drawings will be issued as a change order to the existing contract.

The new design takes full advantage of additional property made available by the planned closure of the Carcel Modelo, and advances in technology which have occurred since the original design was developed in 1968. The improvements in the layout include the addition of a third lead track between the yard and the main line to expedite dispatching and receiving at peak times. The train washer is located on the third lead track so that trains can be washed as they are received from revenue service enroute to storage.

The service and inspection shop has been expanded to provide four through tracks with cover for seven-car intact trains. The train storage tracks have been laid out to accommodate 46 seven-car intact trains directly accessible without a switchback movement. Numerous other refinements have been made to optimize the Pro-Patria yard to provide one of the most efficient and advanced transit yards in the world.

A highly qualified team of transit engineers with several years of experience on BART and MARTA has been assembled to perform the work, under the PB-T-B joint venture. Tudor's efforts are in the geometric, civil and structural engineering design aspects of the project. Bechtel is responsible for the train control, communications and electrification features, and PBQ & D is designing the yard mechanical systems and trackwork elements of the project.

As the transit yards and shops systems engineer, Ken Heilig is integrating all of the components into a coordinated facility, and is maintaining liason with PB-T-B and OMT staffs in Caracas. Management of this project is Bob Myrdal's first assignment in the San Francisco office after returning from seven years in Seattle.

SCHOOL DAYS

Four members of the Tudor Engineering staff: Paul Kunz - Boise; Pete Paterson - Seattle; and Ilhami Karaca and Don Scapuzzi of San Francisco attended a one week course at the University of California, Davis campus in March. The course, "Water Surface Profile Computation Using Computer Program HEC-2" was presented by the University Extension in cooperation with the Hydrologic Engineering Center, Corps of Engineers, U.S. Army, developers of the program. The week long session of lectures, workshops, and homework honed the present skills in use of the HEC-2 program for computation of water surface profiles in rivers and streams involved in flood insurance and flood plain studies. The well presented course attracted 37 participants, mostly from private consulting firms, from as far away as New Hampshire, Pennsylvania and Louisiana.

SNOW JOB

Tudor's sphere of operations was recently expanded to include a traffic and transportation study for the University of Alaska at Anchorage. The Anchorage campus is being expanded and traffic and parking problems there are reaching problematical proportions, hence the requirement to establish a comprehensive access, circulation and parking plan.

Tudor, in association with Dames & Moore, was selected to execute the study over a field of five competitors. The project will be conducted by Jim Meyer, Gary Weinstein, and Joe Eng over a three month period.

Upon arrival in Anchorage, our study team was greeted with that city's heaviest recorded snow fall since 1959 - 12 inches in 24 hours.

WYOMING WHATNOTS

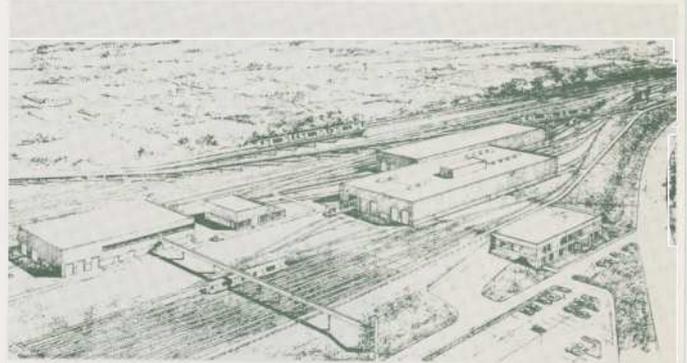
A new employee on the scene in Riverton is Greg Larson. Greg joined Tudor after completing the requirements for a diploma in Civil Engineering Technology from the Duluth Area Vocational School. Greg has been granted by the Institute for Certification of Engineering Technicians the title of Associate Engineering Technician... Jerry Crews was elected a Director of the Wyoming Water Quality and Pollution Control Association representing the Professional Engineers. During this group's annual Technical Meeting, Jerry presented a talk on new piping material available to water supply and waste disposal systems... Rex Sanders, who handled the drafting work of the Wyoming operation, left Tudor in February to continue his education at Central Wyoming College in Riverton... Much to his dismay, it appears that Schlitz beer will be given a priority over Jerry's home brew in the Crews household as he is now growing malting barley for Schlitz on a massive scale of 6 acres. His degree in Agricultural Engineering should be a definite advantage.

CONSTRUCTION IN ATLANTA ...



...the beginnings of the Avondale Yard

which will eventually look like...



Demolition downtown for the Five Point Station

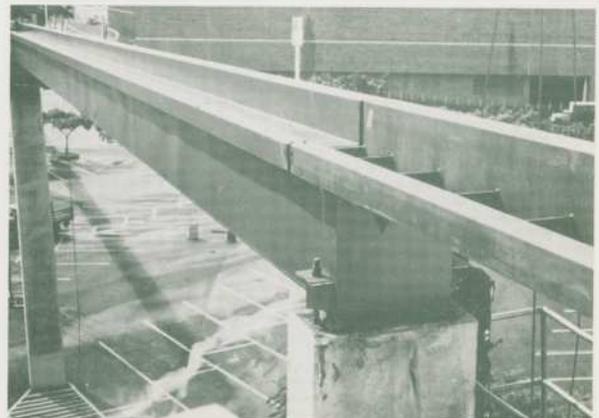


Rail relocation and pile driving for the Arizona Avenue Underpass

... AND IN HAWAII

Don Croft recently visited Tudor's man in Hawaii, Ernest Viner, for the purpose of inspecting the construction of the Pearlridge People Mover. The People Mover is a mini-transit system which will travel forward and reverse on the same guide rail some 1100 feet between two stations within the Pearlridge Shopping Center in Honolulu on an aerial structure approximately 30 feet above the ground. The primary structural elements of the system are two continuous girders -- one straight of 5 spans and the other curved having a 100 foot radius and 4 spans.

At the right is a photo of the girder system atop the supporting columns.



IMAGINATION IS ...

Schuster Parkway -- a unique example of the results that can be achieved through comprehensive, imaginative public works planning and construction. The parkway encompasses a four-lane urban arterial roadway, with an adjacent bicycle path, a system of urban nature trails, and a waterfront park. All elements were planned, designed, and constructed simultaneously to achieve an integrated people-oriented environment along an industrial waterfront corridor. Tudor Engineering Company performed the planning, design, and construction management for the \$5.7 million project as consultants to the City of Tacoma, Department of Public Works. The final construction cost of the roadway was 0.5% under the contractor's bid after two years of construction effort.



The roadway was constructed in a restricted corridor along the shore of Commencement Bay between Burlington Northern's mainline railroad tracks and a steep, heavily wooded hillside. To preserve the natural hillside greenbelt, the directional roadways of the divided parkway were terraced with textured retaining walls to heights of thirty feet and contoured through graceful horizontal and vertical curves to harmonize with the terrain. A two mile paved bicycle path also meanders between the roadway and the toe of the slope.

A bridge was constructed at the Old Town terminus to grade separate the parkway from the heavily traveled railroad. The use of cast-in-place reinforced concrete made it possible to mold the structure to the sweeping reverse curve generated through its 1600 foot length. A trapezoidal configuration was used for the box girder to achieve the slender band appearance of the superstructure.



A two and one-half mile system of urban nature trails was also constructed through the hillside greenbelt to enable the parkway to serve the casual stroller in addition to the hurried commuter. The routes were laid out to take maximum advantage of the natural terrain. Five heavy timber shelters, several picnic areas, and rest stops are located along the trails to take advantage of the commanding views of Commencement Bay, the Olympic Mountains and Mount Rainier.

RADOCK, GIBNEY & AGUILAR ...

... randy radock



Randy grew up in northern Illinois and southern Wisconsin. After attending school in Wisconsin, Randy decided it was time to move to the Northwest. He had spent some time in Seattle during his active duty in the Coast Guard and thought that it was the place to live.

The move to the Northwest was in 1966 with the Boeing Company. At the end of one year Randy went to

work for a consulting firm in Bellevue until 1971 when he came to Tudor. As a designer for Tudor, Randy has worked on almost every project that has passed through the Seattle office, including construction inspection on Schuster Parkway and the Tacoma Spur.

Randy has many interests: raising honey bees, building projects (from planter boxes to a house and a log cabin), family camping, hiking and canoe trips, and bird hunting. The latter was highlighted last fall by the filming of a pheasant hunting trip to eastern Washington for Exploration Northwest, a local T.V. program. He, Sallie, Erik (age 8) and Daphne (age 6) live in Woodinville, Washington.

Although he has been a Tudor employee for nearly six years, Gerry is not well known to many of his fellow employees since those years are about equally divided between the Honolulu and PBTB/Atlanta offices.

Born and raised in Pennsylvania, Gerry graduated from Oregon State University. Prior to college, he served four years in the USN and spent an interesting year and a half as an offshore surveying technician in the Far and Middle East.

Gerry's time in Hawaii was spent primarily on the Neighbor Island Port Master Plans and the Mauna Kea Access Road. His efforts in Atlanta have been under the direction of Bob Ganse in Design Development and Wil Pacheco in Design Management. He has also participated in the coordination of final design on the Arizona Underpass Project and in construction support for the same project.

Gerry and his wife Carol are enthusiastic residents of Atlanta and part-time residents, via backpacking, of the North Georgia hills (Carol, an Oregonian, won't call them mountains). A good deal of their free time is being invested in remodeling their home and in trying to keep Gerry's old pickup running. They are also beginning preparation for their Third Annual Backyard Beer Bust, Oyster Feed, and Horseshoe Chucking Contest.

... gerry gibney



Gloria Aguilar has served on the Tudor Engineering Company staff in San Francisco for fifteen years. She began work here some 10 months after arriving in this country from her own country, Nicaragua. At the time, Tudor was on 595 Mission in an office one-third as large as the present one in San Francisco and much more sparsely staffed; Ralph Tudor was presiding and some Tudorites were working in an outpost in Washington, D. C. Gloria credits Les Helgeson with having assisted her in mastering the English language.

... gloria aguilar



When Gloria came aboard, it was in the capacity of clerical assistant. Ruth Mattox was the accountant and gradually Gloria's position shifted to include duties as assistant in the accounting department. Gloria remembers those days fondly as well as the very congenial and close-knit atmosphere pervading the young and striving firm. The day came when Ruth's job was left for Gloria to fill, which she has ably done since, as she has watched Tudor grow in its proportions and personnel.

Gloria has done a bit of travelling since her move to the U. S., which includes a Hawaiian holiday, a trip to the East Coast, Virginia and D. C., a brief sojourn in Mexico City and visits to San Diego. Gloria lives in Daly City and has four children, 3 boys and a girl. Two of the boys are embarked on their own business careers and the other two children are in school. Gloria's daughter studies psychology at San Mateo College. When Gloria is not dispensing the duties of her department, she enjoys bicycling, dancing, bowling, and the concerts that are plentiful in the Bay Area, especially those by Lake Merritt in the summertime.

Those who work with Gloria have indelible impressions of a very warm individual and one who, in addition to her many responsibilities, remembers birthdays and illnesses with a card or some equally thoughtful gesture, someone who in a moment will fill you in on how much vacation, sick leave, etc., you may have, and she is also the welcome bearer of the paychecks.

A rather exciting event looms in Gloria's future. She is engaged to be married very shortly. Congratulations and Good Luck!

plus new daves in boise ...

... Dave Torgeson who previously worked for CHZM-Hill as a civil engineer is now working on design and specifications for the West Boise Sewer District Project.

... and Dave Milan who recently graduated with an M.S. from the University of Michigan in Lansing is our new sanitary engineer working with Jo Mallard in the laboratory.

BOISE FLASHES

Results of the November EIT and P. E. exams were good news for Brian Grant who passed the EIT, Phil Matthews and Steve Alters, passing the P. E., and especially for Paul Kunz who passed both the EIT and P. E. exams.

Paul Kunz and Don Payne, with the assistance of Harry Hosey from Seattle, are in the process of inventorying contract bid items and their appropriate prices with the HP-9830 computer to help with cost estimating. Harry is also trying to come up with a program to prepare Partial Payment Estimates. This program is still being debugged since the only printouts they get are pictures of pretty girls!

The survey crews and the computer boys are busy on several subdivisions and site development projects as a result of the sunny spring weather prompting several developers to subdivide their land.

Joe Carson, Dave Willer, Rainer Rungaldier, and Harry Hosey have been visiting the Boise office assisting the staff there in preparing for final negotiations with HUD for the Flood Insurance Study in southeastern Idaho. The project will involve analysis of approximately 225 miles of channel.

PORT CHICAGO IS IN CALIFORNIA

The San Francisco office recently submitted contract plans for a new single span highway bridge on Port Chicago Highway near Clyde, California in Contra Costa County. The structure will span Mount Diablo Creek and is to be located less than two miles from the Concord fault having a potential energy release of 6.5 on the Richter Scale. The superstructure was designed of precast, prestressed concrete slabs supported by spill through abutments using precast, prestressed concrete piles.

The bridge, though simple, was somewhat challenging to the design team led by Project Engineer, Joe Sacco, since it had to be designed to facilitate future widening, lengthening or raising.

SPRING IS TRANSPLANTING TIME

If it seems slightly quieter in the San Francisco office, it is because a number of the staff have been transplanted as of early April to the springtime of Atlanta, Georgia for up to two months of work there on the MARTA project. Among those Tudorites who have descended on the Peachtree Towers at 300 West Peachtree Street, N.W., are: Anh-Tuan Le, Mike Goldberg, Bill Buckland, Don Croft, Ocie Williams and Cissie Hsu. Joe Sacco will transfer to PB/T in Atlanta on a more permanent basis in May.

LAST MINUTE...

... Word has been received from HUD that Tudor offices in Boise, Seattle, and San Francisco have been selected for final negotiations for Flood Insurance Studies in parts of Idaho, Washington, and California and Nevada. These offices have been reportedly gearing up for these forthcoming, very interesting studies... More information next time!

... San Francisco reports the recent notification of Mike Goldberg passing his P. E. Exam and Cisse Hsu passing her E. I. T. Exam.

AMERICAN RIVER TRIBUTARY

Tudor-San Francisco has been retained by the El Dorado County Water Agency to study the stream flow in the South Fork of the American River for the purpose of making recommendations on the locations of diversions, power plants, and withdrawal points. Jim Ricereto in conjunction with Dave Willer will prepare a mathematical model using the Corps of Engineers' HEC-3 program. It is believed to be the largest application of the program by a consulting engineering firm.

Previous to this study Tudor prepared a preliminary feasibility report and FPC Application on hydroelectric power from the South Fork American River.

SEATTLE HIKERS MAKE IT TO BEACH

Its backpacking time again for the Seattle office! For the weekend of March 20-21, a group of hardy Tudorites consisting of Joe and Dianne Hofbeck, Randy Radock and family, and Pete Paterson packed up their gear and headed for the ocean.

The party arrived at Lake Ozette, the kickoff point, late Friday evening to the symphony of beating rain and howling wind. Some were fortunate and spent the night comfortably tucked away in the back of a van, but others less fortunate had to brave the nocturnal elements and swore next morning that they saw the evil witch of the west.

After a 4-mile walk from Lake Ozette the group arrived at the W.S.U. archaeological site, located on the most western tip of the contiguous U.S.A. overlooking a colony of sea-lions and the traditional whale migration route to the north, and was treated to a guided tour of the facility. These excavations of an Indian village buried by a mud slide some 300-500 years ago, have unearthed a wealth of information on the culture of the early Northwest citizenry.

From here the party turned south and hiked 3-miles along the beach to where they set up camp for the night. Along the way there was much to admire in the way of well preserved petroglyphs, curious rock formations, and colorful glass floats broken loose from Japanese fishing nets and washed in by the tide. These were all being carried by other hikers who had been lucky enough to spot them lying among the mass of debris littering the beach.

Excellent weather was being enjoyed by all at that time, and after a beautiful night under the stars the group headed home, weary but in high spirits.

The TUDOR NEWSLETTER is published by Tudor Engineering Company for the information and enjoyment of its employees, their families, and friends.

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TUDOR

NEWSLETTER

SUMMER 1976

CONSULTING ENGINEERS COUNCIL OF WASHINGTON

Keith Bull was elected President of the Consulting Engineers Council of Washington at the Aldenbrook Lodge meeting on July 1st. His term of office runs through June, 1977 and the Seattle office expects that he might be wandering about talking to himself during that time. CECW represents 83 consulting firms in Washington. Good Luck Keith!

. . . OF IDAHO

Dave and Loreen Toothman and Ted and Pat Purcell were joined by Bob Janopaul at the Consulting Engineers of Idaho Meeting in Sun Valley, July 8-10, where Dave Toothman presented a paper on Federal contracts. Ted Purcell was selected by the Consulting Engineers of Idaho to become President-Elect. Ted will assume this office in January, 1977.

WYOMING OFFICE ON THE MOVE

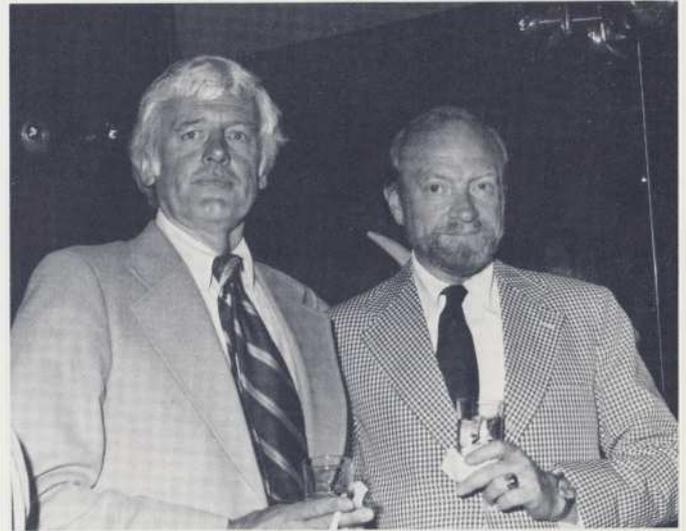
To allow for continued growth, the Riverton Office has moved into new quarters. July 6 found the Rivertonians operating from a new office building with about 800 square feet of space.



MONDAY NIGHT VOLLEYBALL

Monday night volleyball is the latest rage around the San Francisco office as Tudorites and wives practice up for the Industrial League fall tournament. According to Anh-Tuan Le, the gals, most of whom have never played volleyball before, have shown marked improvement in playing style and teamwork. Adorning Tudor's coed team are Sarah Westsmith, JoAnn Ricereto, Joy Nakamoto, Kim Le, and a few other pretty faces recruited by Joe Eng. To cool off, participants gather at nearby Noe Valley favorite spots for beer and "Bud's" homemade ice cream.

MISSION: CARACAS . . .



Randy Wilkinson and Jim Albert made a hurried trip to Caracas in mid May and remained in Venezuela the month of June. Randy and Jim were asked to assist Fred Bunting, PBTB Resident Project Director for the METRO project, in the assembly of various contract document packages being offered to bidders by the government of Venezuela for the construction of the system. On their departure, Miguel Cornejo and family arrived in Caracas to continue the Tudor contribution to PBTB operations in Caracas.

Randy reports on his observations on Caracas as follows: "...I think both Jim and I were impressed by the urban atmosphere of Caracas. The city is by far and above the most active urban center I have seen in Latin America--perhaps only comparable to Sao Paulo, Brazil. The pace of life seemed to be similar to that of New York City. The essential reason for all this is that Venezuela is a very economically healthy country (with the highest standard of living in Latin America), and the growth of Caracas is confined by its topography. All this means that the city has severe growth problems--and an improved public transportation is badly needed; we are fortunate to be contributing to the construction of the METRO system and the opportunities for congestion relief that the system will offer....The PBTB offices are expanding rapidly in anticipation of the assistance we will be providing during construction which should be in full swing next year....Both Jim and I enjoyed seeing the sights of Caracas, and trust that we contributed to PBTB's efforts in assisting the Government of Venezuela in the METRO project...."

THEY COME IN FOURS . . .

During May, Flood Study Proposal Invitation No. 4 came in from the Government - this time to the San Francisco office. Earlier invitations had been received and responded to by Boise (No.1), and Seattle (Nos. 2 and 3). Time allowed for the proposal preparation was short as usual, and our roving specialists Brian Grant from Boise and Harry Hosey from Seattle joined the San Francisco proposal team for some more long hours of work. Bob Janopaul, Dave Willer and Rainer Rungaldier attended the required community meetings for the California portion of the study (Contra Costa County); the meetings for the Nevada portion (Reno area, Incline Village and Ely) were taken care of by Bob, Rainer and Harry, while Dave decided that he'd rather go to Europe. It is hoped that work will begin before the end of September of this year. Below Brian, Rainer, Harry, and Bob take a break to talk over the situation.



TETON DAM FAILURE IMPACTS IDAHO STUDY . . .

Ted Purcell will be the Project Manager for the Southern Idaho Flood Information Studies. He will be assisted by project engineer, Leroy Heitz, Paul Kunz, and Brian Grant. Both Paul and Brian have recently completed a one week course in the use of the HEC-1 computer program for floodplain hydrology at Davis, California.

The southern Idaho studies cover three counties plus eleven communities. One of the communities to be studied is Firth which was very hard hit by the failure of Teton Dam. Leroy spent three days in the disaster area following the dam failure to gain first-hand knowledge of the destruction and extent of flooding brought forth by the catastrophic failure.

MEANWHILE, IN SEATTLE . . .

They are studying South Central Washington, including the counties of Yakima and Klickitat plus 8 selected communities, for approximately 110 miles of stream; and hopefully West Central Washington which will include the counties of Lewis, Cowlitz, Kitsap, and selected communities in King County for approximately 400 miles of stream.

ATLANTA AIRPORT IS GETTING BUSY . . .

The MARTA project has been experiencing a rapid change in personnel for the last few months. However, it is the extremely heavy peak work loads and changing requirements that are responsible for the shifts rather than the departure of Bechtel people in the joint venture.

Joe Sacco arrived in Atlanta in early May to take on new duties as a Design Services Engineer specializing in construction changes on Aerial Structures. (He is also +40 in the Atlanta Bridge game, up from a negative score - which will not be divulged - in the San Francisco game.)

Fred Estep departed from the Seattle office at the end of May to join PB/T in June and will be Resident Engineer on the CW 360 project (that part of the subway running roughly from Griffin Street to just beyond Ashby Street on the West Line.) He just finished as Resident Engineer of the Tacoma Spur Project which was accepted in May.

A sizeable group of Tudorites have visited the PB/T offices to work on high-priority civil and structural projects. The list includes:

Anh-Tuan Le	Cissie Hsu
Bill Buckland	Mike Goldberg
Ocie Williams	Frank Paden
Don Croft	Joe Eng
Don Hoel	Einer Handeland
Basil Kattula	Anchor DeWitt Jensen
Hwa-Chuan Zien	Dave Torgeson

Two members of the PB/T team have been tapped for transfer back to Tudor offices. Bob Ganse, after six years in Atlanta, has returned to the San Francisco office and will coordinate the office's MARTA work. Gerry Gibney, after three years, is being transferred to the Seattle office to assist in flood insurance studies.

POWER PLANT TO BE ADDED TO RESERVOIR

The Board of Directors of Nevada Irrigation District and Pacific Gas and Electric Company (PG & E) recently announced an agreement to permit the development of power generating facilities at the District's Rollins Reservoir, a part of the District's Yuba-Bear River Project. The agreement will provide for the installation of an 11,000 KW hydroelectric generating plant which will produce an average of 68 million kilowatt-hours per year. The project will save the burning of 80,000 barrels of fuel oil each year.

Tudor Engineering Company prepared the feasibility study for this project in the spring of 1974. Dave Willer is currently leading the team preparing the preliminaries prior to final design. Bill Buckland is in charge of preparing the Environmental Impact Report, Jim Ricereto is preparing the Definitive Report and Don Rose is developing construction techniques and cost estimates while Dave is preparing the Federal Power Commission License Application. Mike Viarnes will take over the project management towards the end of the year when final design commences. The project cost is estimated at 7.5 million dollars and construction is projected to start late next year.

"TWO ALL BEEF PATTIES, SPECIAL SAUCE..."

"You wanna what? Will that be with cheese and onions?"

Well it was not quite as fast as MacDonalds, but the Seattle office did turn out the design and drawings for the tail track structure in a very short time.

The tail track structure is an extension to the Pro-Patria Yard designed by the San Francisco office. The structure will be used to assemble trains for the Caracas Metro Rapid Transit system. Direction was given on April 27th to proceed with design and the 100% submittal to Caracas was sent on June 15th. That was about one and one-half months for completion of design and drafting. Design and drawings for 426 linear feet of retaining walls that surround the yard were also done in that time period.

The tail track will be supported by a cast-in-place box girder structure approximately 400 feet long. Both the abutment and supporting piers will be pile supported. Because the structure is for Caracas, all of the drawing dimensions were in the metric system with notes in Spanish and English.

The following people on the Seattle office short-order team combined their design and drafting talents: Dave Thompson, Francois Martin, Randy Radock, Einer Handeland, Joe Hofbeck, Pete Paterson, Don Hoel and Cheng-Nan Lin.

BEER BUST



Shown above is a rare picture of Paul Potter, along with his wife Dawn, relaxing with a glass of beer. The occasion was Gerry Gibney's third annual beer bust which set a new attendance record of about 65 adults.

BERT'S INCOGNITO

Bert LaVigne reports that during a good portion of this summer he will be travelling incognito with about nine relatives in a vacation caravan down the California coast. He promises to think about us and will report on his adventures next time.

SUPERSTAR



Ocie Williams displays "super-star" form in the uniform of the PB/T Electric Train. Ocie may be remembered for his design ability but many members of the team are searching for a good structural problem which would require his presence in Atlanta in early August when PB/T has a shot at the playoffs.

TESTING, TESTING, TESTING...

The Environmental Engineering Lab in Boise has been experiencing an ever increasing workload due mainly to new water and wastewater regulations. Jo Mallard our chemist, now spends close to 100 percent of her time testing water for municipal and private water systems and wastewater for industrial and municipal dischargers. Jo recently received a crash course in well pump operation, as she has been taking field samples in Bruneau to determine the extent of hydrogen sulfide contamination in the water supply.

PROFESSOR FORD

Mike Ford, draftsman in the San Francisco office, was called upon to volunteer his time, with company approval, to the Engineering Society Committee for Manpower Training (ESCMT) as an instructor. Mike, a graduate of ESCMT, is now teaching a basic drafting class, which began with five students and now consists of ten people with various amounts of experience in working for civil, structural, or architectural concerns. Mike teaches one day a week from 11 to 5 at the Community Design Center, at the University of California Extension on Laguna Street in The City

"Y'ALL LISSEN..."

Frank Paden and Dave Torgeson have developed southern drawls. After spending a few weeks in Atlanta, Georgia it could happen to anybody. Dave and Frank were called to aid the MARTA project in its hour of need. They helped the joint venture in resolving utility conflicts in the Avondale Yard and in designing drainage facilities for aerial structures. Atlanta helped them develop an appreciation for the arid climate peculiar to Boise. Although Dave is now back in Boise, Frank will remain in Atlanta until mid-August.

RECENT RECRUITS . . .

. . . boise

. . .Rick Orton, Senior Sanitary Engineer, joined Tudor in April of this year. Rick is a registered civil engineer in Idaho and brings with him much needed sanitary engineering expertise and knowledge of sanitary problems in southern Idaho.

. . .Clair Glenn is a registered land surveyor in Idaho and Oregon and an EIT in Idaho. He has been assigned responsibility for scheduling the field survey crews and is presently assisting Bob Beal with sewer design on the West Boise Sewer District Project.

. . .Henry Mott comes to Tudor following a stint with Morrison Knudson and pipeline inspection in Alaska. Henry has an EIT from North Dakota. He is assisting Steve Alters with sewer design on the West Boise Sewer District Project.

. . .Leroy Heitz has come to Tudor from the Corps of Engineers in Walla Walla, Washington, to take over as Project Engineer on the Flood Information Studies for southern Idaho. Leroy just received his P.E. from Washington. Congratulations!

. . .Surveyors Dave Krueger, Chris Wood, Doug Bergey, and Dave Blankenship have increased the ranks of the Boise field crews to a total of 3-3 men teams.

. . . san francisco

. . .Charles Spinks is a civil engineer and a recent graduate of San Jose State University, with a speciality in hydraulics, water resources and environmental engineering.

. . .Mark Gonzales is a civil engineer with areas of interest in sanitary engineering, water resources, and municipal works. He comes to Tudor after two years with a Sacramento consulting firm. Mark is a graduate of the University of Nevada.

. . .David Church is a geologist and water resources engineer with an M.S. in Civil Engineering (Hydrology) from Colorado State University. Dave acted as a project manager for his last employer.

. . .Janice Downey, drafter, is a former employee of Wilbur Smith & Associates, who came to Tudor with glowing recommendations. Janice attended school on the east coast.

. . .Wu Chien Chen is back from his leave of absence in Chicago only to be told on his first day back in the San Francisco office that he was to join the team in Atlanta to work on the MARTA project. He left the next day on a temporary assignment there.

. . .Gerry Plotner is a civil engineer who most recently was in Iran working on large scale water resources projects. Gerry is assisting Mike Viarnes on the Redwood Valley Project.

. . .Susan Zoya is San Francisco's most recent addition having joined the secretarial group there. She attended Carlton College in Northfield, Minnesota and made the move to California in mid 1974.

. . . riverton

. . .Tim Pantle, who will be a senior at Riverton High School this fall, is helping with surveying and conducting percolation tests during the summer.

. . .Kriste Winningham found three different tools of the trade on her desk when she reported to the office on July 1st; a tee square, a typewriter and an adding machine. Little did she know that all these different jobs would be included in "other duties as assigned" when Jerry Crews interviewed her for a drafting job.

EN VOITURE S'IL VOUS PLAÎT

Vacation to France...why not...as long as the preparation is adequate. Eight weeks of commuting between Seattle and San Francisco seemed the acceptable preparation for Francois Martin's trip to France for his brother's wedding. Although the trip was not without some confusion (13 hours instead of 1 p.m.,...) he did meet with his mother, father, sister and brother, who eventually was married and left for Austria for his honeymoon. Francois on his way stopped in Anney in the French Alps near Geneva and also in Paris to visit relatives he had not seen for 15 years. Most decided that the "American" was still an acceptable member of the family and quite a few showed some emotion when he decided that the 22 days were over. They all agreed that after 13 years, one may have developed some habits which should be respected.

KUNA WATER AND WASTEWATER

The Kuna water project is well under construction and proceeding on schedule according to Resident Engineer Phil Matthews. This \$600,000 project is scheduled for completion in September. In addition to inspecting this project, Phil acts as City Engineer in Kuna inspecting the subdivisions as well as handling other city problems as they arise.

Rick Orton reports that Kuna has been assigned EPA Facilities Planning funds for a sanitary sewer system. The entire city is presently served by individual septic tanks.

IN ADDITION . . .

Rick Orton and Dave Milan are busy at present looking for solutions to industrial waste water treatment problems for Dairymen's Creamery and Idaho Meat Packers in Caldwell.

NEW SEWER DISTRICT

The Lewiston Orchards Sewer District took a step closer to maturity when the formation of the District was recently approved by an overwhelming majority of the voters within its boundaries. Rick Orton has assumed responsibility for this project from Jim Potter, and work is proceeding on preliminary engineering and other necessities for the upcoming bond election.

FOCUSING ON . . .

. . . randy witt



Randy Witt is a senior draftsman in the Boise office, sage of wise thoughts concerning goose and deer hunting and bass fishing, and purveyor of fine smoked game. He was born in Virginia many years ago, grew up in South Carolina, and has lived in the Northwest since 1960. Randy was a civil draftsman and mechanical designer before coming to Tudor in August of 1972.

The photo shows Randy before he cut his hair. He swears this was a mistake and vows it will never happen again. Most in Boise don't recognize him without his hair, so maybe it was best that he let it grow. Randy says he used to do some boxing - did the hair have anything to do with it - but now restricts his athletic endeavors to throwing raw eggs miserably short distances.

Randy recently competed in the annual bass derby at Owyhee Reservoir and placed third out of 60 boats participating. He took Dave Toothman to Owyhee to "show him how the big boys catch bass". No one has heard anything about the number of fish caught, but something was heard about doubling the beer ration the next time around. His smiling face is always missed on Fridays when he's out chasing bass, and his money is equally missed in the after hours poker game.

Bob Ganse is a native Californian, born in the San Joaquin Valley and educated at the University of California. He joined Tudor Engineering Company in 1963, the early days of BART. His own work was related to route location and preliminary engineering, mostly on the East Bay lines for BART. Later, he became involved in detail design for various portions of the BART work for which Tudor was responsible.

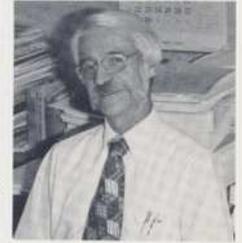


. . . bob ganse

In mid-1970, Bob was transferred to Atlanta's PBTB office to be a part of the staff engaged in a study to develop a rapid transit plan. The report prepared was presented to the voters in 1971 and passed. Following that action, PBTB was selected by the Rapid Transit Authority to do the design, and he continued focusing again on route location and preliminary engineering. Later his responsibilities included the design review of the work submitted by the many subcontractor, architectural and engineering firms which were engaged in the detail design of the MARTA project.

Bob and Joan Ganse had no family connections on the east coast. The two older of their three children remained on the west coast during the Atlanta years. With the arrival of a new granddaughter in the Bay Area, he's especially happy to relinquish the title of Tudorite with the longest time in Atlanta and return to Californian backpacking, hiking, and sailing.

Grant Larsen has the unique position of architect at Tudor Engineering Company. Grant is involved in materials research and his time is principally spent on specifications writing. Although Grant has been with Tudor in San Francisco officially for six years, his association with Tudor goes back some 19 years.



Grant Larsen grew up in Provo, Utah, and attended college at Brigham Young University. He studied at Cornell and M.I.T.. His first contact with Tudor was while working in the architectural office of Blanchard & Maher, managed by the Tudor-Keller & Gannon joint venture. After that office closed, he moved to the Tudor offices and did specifications for the Salazar Bridge project in Lisbon, Portugal. Grant started with the PBTB joint venture in 1964, setting up criteria for the BART architectural design and specifications. Now, Grant is deeply enmeshed in MARTA and in PBTB's joint venture for the Caracas Metro in Venezuela and the Naval Demilitarization Facility in Hawthorne, Nevada.

Grant is an active participant in AIA and CSI activities; he is the CSI Education Chairman and this year received the Chapter Education Citation Award and Chapter Proficiency Award. At the recent CSI convention, his chapter was presented with the National Commendation Award for continuing education seminars which Grant has been working on for the last two years.

Grant Larsen is an avid music lover and will follow it anywhere, from jazz festivals at Monterey to outdoor summertime operas in Saratoga. He on occasion takes lengthier excursions such as a recent Alaskan cruise. Grant has covered all the 50 states but three.

. . . cheng-nan lin



Cheng-Nan Lin was born and raised in Taiwan. He came to the United States in 1967 for higher education. After graduating from Washington State University, he joined Tudor at the San Diego office in 1972 and was transferred to the Seattle office in June of 1973. He has been involved in developing numerous computer programs for MARTA, and also in a wide range of civil and water resources projects.

Recently, he and his whole family took a six week trip back to Taiwan after 8 ½ years living in the U.S. The journey was enjoyable and exciting. They stopped in Tokyo and Honolulu for sight-seeing. They shared a joyous reunion with relatives and friends in Taiwan.

Cheng-Nan and his wife Grace, reside in Wedgewood, Washington and have two sons, Jed (6) and Jeffrey (4). They are planning to have a daughter in the near future (it's a secret to know how), but have not decided when.

SALUTING HANFORD THAYER

On June 30, 1976, Hanford Thayer retired from the employ of Tudor Engineering Company. His association with Tudor began in 1942 when he worked for Colonel Ralph A. Tudor, then Portland District Engineer. Hanford recently completed a record term as an officer in the Society of American Military Engineers. Hanford Thayer was elected Secretary of the Seattle Post in 1949, President in 1950, National Director in 1952, Western Regional Vice President in 1967, and Northwest Regional Vice President from 1970 to 1976. Hanford won the highest national award, the "Gold Medal", in 1973 and was presented a Certificate of Appreciation for his 27 continuous years of service to SAME at the national meeting in Washington, D.C. in April of 1976. Having also served as president of the local ASCE and the Puget Sound Engineering Council, and as director of the Seattle Chapter, WSPE, Hanford hopes to relax in the future leaving behind him a fantastic record of accomplishments.

ETHETE - MILL CREEK WATER PROJECT

Greg Larson, the Engineering Technician assigned to the construction inspection of the Ethete-Mill Creek Water Project, reports that the Contractor has been averaging about 1800 feet per day of 6 inch water line in a six-foot deep trench. The photo below shows progress.



EUROPEAN TRAVELERS . . .

San Francisco welcomes home a host of European travelers: Vivian and Joe Rankin who visited England, France, Italy, Switzerland, and Germany; Dave and Irene Willer who toured France, Italy, and Switzerland; Joe and Kay Carson who toured Eastern Europe - Austria, Hungary, Yugoslavia, Greece and Turkey; and Heinz and Bergit Mueller who returned home to Germany to see his family, visiting also Switzerland and France. All talk about their trips with dreamy eyes and adjectives in the superlative.

BRIARHILL SUBDIVISIONS

Tudor-Boise is presently providing engineering services for the Briarhill Development in Boise 460 acres of foothills property just northwest of the office is the scene of an 88 unit townhouse project and a 75 unit single-family subdivision. Dave Torgeson (who just happens to live there in a cozy townhouse) is the lead contact with the owner, Dale Duffy.

RE: SADA-TUDOR

Guillermo Rangel of Sada-Tudor visited San Francisco in early July with his family. Besides visiting the office he dropped off two children at California summer camps. After returning to Mexico, Guillermo was able to report the awarding of a consulting services and construction inspection contract for the Industrias Resistol, S.A. Office Building.

BAY-TO-BREAKERS . . .

Bay-to-Breakers is that world famous race across the City of San Francisco starting near the Bay - a few blocks from the Tudor office over the hill and through Golden Gate Park ending at the Ocean for a total of about 8 miles. This year two Tudorites entered (up one from last year) - Lou Salaber and Jim Ricereto. Both finished - Lou just under 60 minutes (about 20 minutes behind the winner), and Jim who prefers not to discuss his time - but insists he never stopped once - estimates he finished about 7000 with 2000 or so finishing behind him. Any takers for next year?

WE'VE GOT A WINNER

San Francisco's Barbara Cooper and her husband Jack purchased their first Gordon Setter puppy as the family pet 2½ years ago. They thought that they had gotten a four-legged companion who had just one "fault" - she pointed and chased all the neighborhood birds. A friend persuaded them to enter "Morgan" in professional hunting competition and, when she took a 2nd place in her first trial, they were hooked. They now spend their weekends driving all over California, Oregon and Washington to compete in field trials, and ended up this spring with Morgan getting her field championship. Morgan's record to date includes 16 placements in American Kennel Club sanctioned hunting trials, of which 11 have been 1st places.

In the meantime, they have purchased another puppy. "Shane" is 1½ years old and has placed in 11 out of 13 field trials, with three 1st places. When asked, Barbara insists that two dogs are more than enough, but the temptation is always strong to get just one more when your life has "gone to the dogs".

IN MEMORIAM . . .

It is with great regret that Tudor Engineering Company must pass the word of Larry Barr's unexpected death in Caracas, Venezuela in May, 1976. Larry joined Tudor as a project engineer on the BART project. He first went to Caracas in 1968. In July 1972 he transferred to Singapore to work on the PBTB-Wilbur Smith rapid transit project. He returned to PBTB (on leave of absence from Tudor) in Caracas in August 1975 and was assisting Fred Bunting there at the time of his death.

The TUDOR NEWSLETTER is published by Tudor Engineering Company for the information and enjoyment of its employees, their families, and friends.

CORRESPONDING EDITORS: Kathy Dorbin, Gerry Gibney, Ted Purcell, Valerie White.

EDITING AND PRODUCTION STAFF: Jim Ricereto, Frank Chiappella, Sarah Westsmith

TUDOR

NEWSLETTER

FALL 1976



PORTLAND CEMENT ASSOCIATION

1976

AWARD FOR EXCELLENCE

to
Tudor Engineering Company

for creative use of
concrete on the

Schuster Parkway-Tacoma



Lawrence C. Miller
M. J. Holland
Regional Manager

AWARD FOR EXCELLENCE

Tudor has another plaque to add to its ever increasing number of awards for excellence in engineering design. This time it is for the Schuster Parkway Bridge in Tacoma, Washington--winner in the 1976 PCA Concrete Bridge Awards Program. The Schuster Parkway Bridge was one of seven winners in the eight-state region. It was the only one designed by a consulting engineering firm. This award was given for the creative use of concrete.

The structure was designed to have a slender silhouette type appearance. The trapezoidal shape of the superstructure and hexagonal columns achieved this goal following a symmetrical reverse curve geometric alignment over Burlington Northern's mainline railroad tracks. The basic superstructure shape was carried into the ground at the abutments. The 800-foot reinforced concrete box girder structure was built for a total cost of \$803,000. The imaginative design was featured in our Spring 1976 Newsletter.

WEST BOISE PROJECT

Bank of America, San Francisco, was the low bidder in the West Boise Sewer District's recent bid on construction bonds for its sewer project. The winning bid of 5.89% was considered quite good since early estimates were in the 7% range. Bids have also been received for three of the nine construction projects for the District's interceptor and collection system. The remaining six projects will be bid over the next 18 months. Construction bids were as good as the bond bids, with the three averaging about 25% below engineers' estimates. Construction should commence by December 1, 1976.

ROPES, ROCKS & RATTLESNAKES

As predictably as the swallows' return to Capistrano every spring, Stan Froid and Rainer Rungaldier return to Palm Springs every fall. The occasion is the annual inspection of the aerial tramway up Mt. San Jacinto, this year conducted during the week of September 13th. Following time-tested procedures, Stan and Rainer scrutinized the installation from Valley to Mountain Station, descending to the bottom of the counterweight pits, climbing to the tops of the towers and riding the cabin carriages above the cables. In the evenings, with Harriette Froid joining in, old acquaintances with tramway functionaries were renewed.

1976 happened to be the year for one of the triennial inspections of the powerline to the Mountain Station. This is part of the reason that Steve Alters, engineer and mountain expert from the Boise office, joined the inspection team by mid-week. Coming down the mountain Rainer had his first ever rattlesnake encounter. Both he and the snake survived the shock without harm. Steve, barely raising an eyebrow, noted "the rattlers are bigger in Idaho". Farther down, a rope had been attached to a cliff during the tram construction. Over the years, this rope had been used by Rainer, and before him, Doug Mansfield and Jim Albert in the distant past. Steve didn't think the rope was safe any more and proved it by tearing it apart (with one hand, too!). In the end all went well and Steve and Rainer arrived at Valley Station in what some considered record time.

COLT 22

Greg Larson, construction inspector on the Ethete-Mill Creek Water Project reports that an unexpected visitor happened on the scene over the Labor Day weekend. On Saturday morning employees of the pipelines contractor who are installing the first 4 miles of the 10 mile long water line were notified of a disturbance at one of the pressure reducing stations along the line. The disturbance turned out to be a young colt quite lonesome for its mother. Somehow it had fallen through the 22-inch manhole cover which for unknown reasons had been left open.

It took a front-end loader to raise the 8" thick pre-cast concrete vault cover and 3 strong men to hoist the colt back to terra firma. Everyone will be happy to know the only injury sustained in the mishap was a scratch on the colt's neck, and that no damage was done to the piping and valves.

DAM FEASIBILITY STUDY

The Coastside County Water District has contracted with Tudor Engineering as lead engineer; John Lowney & Associates; and Jim Teter, Consulting Engineer, to study the feasibility of constructing an earth dam on Denniston Creek to provide a supplemental water supply for the Half Moon Bay area in California. The dam will be located within 10 miles of the San Andreas Fault, and must consider seismic problems. An existing water treatment plant near the site will be enlarged to accommodate the increased water supply. The feasibility study, incorporating the work of the three firms, will be completed about the beginning of the year. Dave Willer is Project Manager, assisted by Don Rose, Dave Church, Mark Gonzales and Chuck Spinks.

SLBM-RSF BEALE AFB

As part of a program to install two radar facilities for the detection of submarine launched ballistic missiles, one on each coast of the U.S., the Sacramento District of the Corps of Engineers has selected the joint venture of Tudor/Braccia/Bentley to design related support facilities for the radar site at Beale Air Force Base. The scope includes the design of a paved access road, site parking and service roads, a domestic electrical power supply, a power plant for standby power - including a sub-station and fuel storage, a gate house and security tower, and water distribution and sanitary sewer systems. All of the buildings, including the radar building, will be placed within a sensitized security fence. The estimated construction cost of the joint venture designed items, excluding the six diesel generators to be placed within the power plant, is over \$3.5 million.

Tudor Engineering Company, represented by Lou Salaber, Sunil Yadav, Bill Buckland and Janice Downey, is responsible for project management, all civil design and most of the structural design. Don Bentley & Associates are doing the mechanical and electrical design and Braccia/Heglund & Associates are responsible for the architectural design.

RICERETO IN JAIL

Jim Ricereto spent a day in jail during September. He thought he was going to rescue Dave Willer from the wild block party Dave's neighbors threw in Contra Costa County on Labor Day, but it did not happen that way. Actually Dave was busy being civilized and Jim was only visiting the Contra Costa County Jail as part of the program to design a new detention facility in the county. Tudor-San Francisco is acting as structural engineering consultant to architect, Kaplan/McLaughlin. Jim's true purpose that day was to inspect the jail and other county building structures and to report on the feasibility of their reuse for the future. Really!

TRAFFIC & TRANSPORTATION ...

... TRIDENT TRAFFIC

Work has been completed on the design of a major traffic signal installation at the Trident Navy Base outside of Bremerton. The signal is located just inside the main gate and serves virtually all vehicles entering and leaving this major defense facility utilizing the latest design techniques and control equipment. This assignment is part of our work for Trident which commenced with a traffic study and ended with the design of a major roadway within the base. Gary Weinstein conducted the initial traffic study and was responsible for the signal design. Mike Harrington and Einer Handeland did the roadway design.

... MARE ISLAND RR

Since completing our assignment for the Navy at Mare Island involving upgrading of the Navy's railroad tracks in Vallejo late last year, we recently have been given a change order for further work on their railroad rehabilitation project...In the meantime, we were also awarded a separate assignment involving the upgrading of railroad grade crossing protection at eight intersections of the railroad and city streets. Most of these installations involved replacing wigwag signals with automatic gates and double flashers. Gary Weinstein is conducting this work, assisted by Romy DeLeon.

... MUNI ACCESS STUDY

As subcontractors to McCue, Boone, and Tom-sick; Tudor-San Francisco has been awarded an assignment to study a number of alternative means of providing access for the handicapped to San Francisco's new MUNI-Metro cars. This is the first major study to be undertaken aimed at providing equal - but not separate - facilities for the handicapped. Tudor's portion of this study is being conducted under the general direction of Jim Meyer, assisted by Gary Weinstein and Joe Eng.

ON THE BOISE RIVER

Tudor recently completed a study to rehabilitate Barber Dam on the Boise River near Boise, Idaho and to determine its power potential. The existing dam constructed in 1903 is in serious need of repair. The study concluded that it was feasible to add about 3 megawatts of generating capacity to an abandoned powerhouse and generate sufficient revenue to pay for the power installation and the rehabilitation of the dam. The cost of the project is estimated at \$3.5 million. It was proposed that the area around the powerhouse be developed into a green-belt and a "turn-of-the-century" park with gas lights and the powerhouse building being prominent features.

Dave Willer was Project Manager for the study and was assisted by Barbara Cooper, Sarah Westsmith, Frank Chiappella, Dave Church, Mike Viarnes and Chuck Spinks. The Boise office assisted with liaison and obtainment of data.

TUDORMEN ...

... bill buckland



Australian-born William "Bill" Buckland has been with Tudor Engineering Company in San Francisco some seven years. Bill received his degree in civil engineering from the University of Sydney in 1965. His employment began in Australia as a design engineer and site supervisor. Bill was next in London, England, involved in design of highway bridges for the British motorway system.

In the States, Bill got his M.S. in structures from Stanford University, and did some teaching at Cal State in San Jose where he lectured on structural analysis. Bill's educational endeavors continued even after he joined Tudor in 1969. He spent a couple of years on a scholarship at Stanford doing studies on seismic risk analysis and taking courses in environmental planning, meanwhile providing staff assistance at the office as time permitted.

Bill's first projects with Tudor included design work on a number of BART stations and the Warm Springs Creek Bridge. Lately he has been involved in design work on the Arizona Avenue railroad bridge, the Avondale Yard and the Jeddah apartment complex. Bill's major areas of engineering interest are structural and environmental. He has been responsible for several EIRs in recent years for Tudor: the Butler Valley Dam EIR; the San Francisco Performing Arts Center EIR; and lately, for the Nevada Irrigation District, an environmental report on the Rollins Power Project.

Bill has also been engaged in rendering engineering advice, on a volunteer basis, for the Community Design Center in San Francisco. The Community Design Center assists community-initiated self help projects principally in minority areas.

In a non-professional capacity, Bill devotes some of his boundless energy to playing music, specifically the banjo, cross country skiing - as the season permits, hiking and camping.

Bill has just returned from an Hawaiian adventure spent on Kauai--having fallen prey to the old island magic.

... phil matthews



Phil Matthews has been with Tudor Engineering Company since soon after his graduation from the University of Idaho in 1971. Phil's father was the contractor for the original Tudor office building, and Phil spent his summers while in school working for his Dad. Evidently design won out over construction for him.

Phil recently received his P.E. License in Idaho. Since then, he has

... don hoel



Donald J. Hoel was born and raised on a farm in North Dakota situated so far out in the boonies that when his father went to town for groceries, he had to ride a "pregnant" mule so he would have something to ride back.

After graduation from North Dakota State University, Don worked for two years in the South Dakota State Highway Department. While in South Dakota, he met and married Judith.

In the fall of 1965 they decided they could not take another of the twenty foot snow banks and the twenty below zero weather that was about to ensue, so they bundled up their baby son and headed west to the verdant hills and clear blue skies of Seattle.

Don, Judith and their son, Shan and daughter, Holly, live in the Kent area of South King County. They are all in the process of furthering their education with Don working on his Masters at the University of Puget Sound and Judith studying to become a surgical technician at Seattle Community College. This leaves little time for playing bridge or any of their other interests.

They escaped Seattle's liquid summer for three weeks in July and August and journeyed back to North and South Dakota via Yellowstone Park. The sun shone every day and the temperatures ranged from 75° to 102°. They had all completely dried out - the moss had even disappeared from behind their ears - when they returned to Washington and were attacked by mildew 5 miles inside the state line (but it still beats Dakota winters). Now, six weeks later, Don has succeeded in getting all the cow manure off his white shoes and everything is back to normal.

After 5 1/2 years with such local firms as the Boeing Company and ABAM Engineers, Don joined Tudor Engineering Company in March of 1971 where he is known as the office "straight man". During these 5 1/2 years he has worked on the Bayside Drive-Tacoma Spur project, the MARTA Retaining Wall Standards, MARTA Avondale Yard and is currently one of the office River Rats. Don was one of the many Tudorites that journeyed to Atlanta this past year where he spent about 9 weeks working on a number of MARTA jobs.

been Tudor's representative as city engineer for Kuna, Idaho. He has been inspecting the construction of a new water supply and distribution system there and is also actively engaged in the design of a second phase of the Kuna water system which will go to construction very soon.

Phil's major effort for Tudor has been directed along the lines of design of sewer and water projects and field inspection.

Like most Idaho natives, Phil enjoys hunting and fishing. Most weekend mornings this time of year you can find Phil waving at ducks by the Snake River. He even brings a few home now and then.

SUMMER FUN . . .

. . . BOISE PICNIC

The Boise office summer picnic turned out to be a smashing success. As always, the picnic was held at the Toothman's mountain ranch near Centerville, about 50 miles from Boise.

98 people attended including Bob and Beth Janopaul from San Francisco, and an off again, on again rain failed to dampen the spirits of either the swimmers or the horseshoe pitchers. The solar-heated pool water was enough to keep the swimmers happy, and as for the horseshoe pitchers, we can only surmise that they didn't know enough to come in out of the rain. Some extra excitement was added by a small forest fire started by lightning not far from the Toothman's cabin.

All are now looking forward to the Christmas Party presently scheduled for Saturday, the 18th of December at Crane Creek Country Club.



. . . SEATTLE CELEBRATION *by Joe Hofbeck*

The Seattle office staff once again celebrated the coming of the autumnal equinox. The rites were held this year on the 11th of September at the estate of Mr. and Mrs. Harry P. Hosey.

Traditional ceremonial activities, both athletic and social were held. Volleyball with 12 person teams was a real pagan's delight. Horse riding and spirit drinking were also popular. The highlight of the day however, was the formal procession to view the construction of the new residence being built by Mr. Hosey from 16-inch logs. All were impressed by the size and craftsmanship of the traditional old-world structure. However, several comments were made on the demonstrated efficiency of using 2 x 4's to build conventional houses. Mr. Hosey just smiled.

The day was ended with a huge feast. Roast beef cooked over a ceremonial fire was the main attraction. Shaggy dogs were even provided for use as napkins. All agreed that this year's festivities were a lot better than a picnic.

. . . ANNUAL CANOE TIP

Early one mid-August morning, nine of the San Francisco office, accompanied by friends and family set forth on a 10-mile canoeing expedition down the Russian River. There were among the group a few vets from last year's journey and a balance of eager novices. The morning hours were overcast and there was a bit of chill in the air as the aluminum canoes pushed off from shore with much adjusting of life jackets, securing of supplies and manning of the paddles. Just around the first curve Ocie Williams' boat tipped, sacrificing all sorts of vital items to the river bottom. (Ocie, not to be so easily had, returned the next day with a volunteer and some scuba gear and retrieved his keys and shirt and one shoe lost by another "tipper"). A canoeful of already reluctant guests turned over about the same time and watched their beer rations float away, but Minerva McClain took the survivors into her own full canoe.



At lunch the day grew hot as the sky became clear blue. Mike Goldberg and Sarah Westsmith and Gene Altshuler and daughter, Amy, waited behind to see what had become of the folks who should have been lunching with the rest, when finally Minerva at the helm of an overloaded canoe paddled up and told the tales of those who barely had or hadn't made it.

About two miles due south of lunch, Val and Al's canoe jammed--in a perfect fit--between parts of a tree rising menacingly from the water. The water was too fast to get out and push and more motion within the boat would have tipped them (again!). It was "au secur!" until Al managed to climb from the boat onto an overhanging branch and was about to initiate a desperate plan for jarring the boat loose when Gene's boat appeared and accomplished the same thing for them. The current carried off the canoe with Val inside leaving Al literally "out on a limb."

Though Alex Martin and his wife, vets from last year, took a couple of nasty flips, they and their sons finished first along with Chuck and Charl Spinks, followed by Bob, Sue and Nancy Myrdal.



THE BOISE OFFICE RECREATED

Prior to the second floor addition, the Boise office consisted of the original main building, two outside annexes, and the Environmental Engineering Laboratory. Due to increases in personnel, the facilities were overloaded. Dave Toothman determined it necessary to add a second floor to the main building, amounting to 2200 square feet, and also increase the size of the parking lot. The windows in the lower floor of the original building were also changed to "thermopane" to reduce the energy requirements for better heating and cooling.



Dave Toothman, vice-president in Boise, supervising construction.

The addition was designed by the Boise architectural firm of Cline, Smull, Hamill who designed the original building. The addition contains space for 4 private offices, a reception area, a large drafting room for about 5 engineers and a smaller room for 3 engineers. Storage and toilet facilities are also included.



The finished product.

Annexes 1 and 2 are still used by the Flood Study and Sewer District design groups, however, the addition has allowed shifting of support personnel so that previous crowding has been alleviated. The new facilities are very comfortable and provide a pleasant place to work. The transfer of excess furniture from the San Diego office has also made everyone satisfied with desk facilities.

GET YOUR DUCKS . . .



The Seattle Chapter of Ducks Unlimited went all out this year and carved a decoy. Not unusual you say - well try this on for size, 14' long and 6' high. Carved from styrofoam blocks, this decoy seats two and is run by an electric outboard motor. Approximately 300 man-hours went into Super Duck.

Super Duck hit the water on September 10 to bring attention to D.U.'s Fall Harvest Dinner. At 6:00 that morning the duck was headed for the west end of the Evergreen Floating Bridge with Randy Radock at the helm. Armed with a C.B. radio, Randy had conversations with air traffic controllers, truckers and commuters on their way to work. Traffic was backed up for 5 miles and one traffic controller was heard to say "if you want to see the duck, take the Evergreen Floating Bridge - if you want to get to work take the other bridge".

One question that is still in the back of our minds - will Super Duck decoy ducks? On October 27 and 28 he will be used as a decoy by two lucky hunters who were the high bidders for this right at the Dinner auction. The hunt will be filmed by "Exploration Northwest" and aired on TV later this year.



NOTES . . .

. . . atlanta

...Paul Potter, our vice-president in Atlanta, has expressed the appreciation of PB/T-Atlanta management for the assistance provided by Tudor people on temporary assignment in Atlanta recently to help complete the design of the Five-Points Station and other critical work. This station is the "hub" of Atlanta's rapid transit system located at the cross of two major routes. It is not only a large and complex structure, but is located in the most congested downtown area. Five-Points was advertised for construction bids on schedule, October 18th. The documents contain 1000 pages of drawings and they expect good bid activity.

...In addition to the demands of his new assignment as Manager of the Facilities Design Division at PB/T-Atlanta, Doug Mansfield agreed to participate in a series of lectures across the country presenting latest techniques in steel designs for rapid transit. The American Iron and Steel Institute has recently published a new manual devoted entirely to this subject and has scheduled a series of one-day lecture sessions to introduce the works. Doug discusses the "vibration" aspects of steel structures and has made presentations in Washington, Dallas, Atlanta, and Los Angeles so far. He will conclude these junkets in November with sessions in Chicago and New York.

...Fred Estep and family have settled into their new home in Stone Mountain, Georgia. They have enjoyed weekend trips to Callaway Gardens, Savannah, and Dahlonega. Everybody seems to be adjusting to life in the South--Janie is revitalizing DeKalb County school system's crossing guards; Chris is showing southerners how to play soccer, Seattle style; Tamie is busy with little girl's activities and even trying her hand at ballet dancing. Fred is busy with his job as a resident engineer on MARTA's West Line, as well as an assistant coach on son Davy's football team.

...Reports from Oral Conyers find that he is really enjoying southern living and is even considering becoming a "Georgia redneck". He did take a week off in mid-August to attend his high school class reunion in Cascade, Idaho.

...Bela Vadasz and Ava went on a vacation in the spring to Mexico and San Francisco. While in Mexico, Bela had an opportunity to ride their Metro train. There was the usual backpacking and camping during the summer in the Appalachians with discovery trips to south Georgia, Florida, Tennessee and Kentucky in the fall. Next spring another trip is planned to the San Francisco area to attend their son's graduation.

...Frits and Hwa Yong Fenger enjoyed several weeks visiting and touring in Korea this summer. Hwa Yong had the first opportunity in many years to visit relatives and see the changes that have taken place.

...Paul and Dawn Potter took a vacation to Williamsburg and Charleston this year.

. . . san francisco

...Tudor-San Francisco can boast of three new employees. H. Russell McQuigg comes to us from the Southern Cal Edison Company, where he was a senior civil engineer. Mr. McQuigg joins Tudor in the capacity of supervising engineer and will be active in various studies and reports related to planning of hydroelectric projects...Scott Kearney is a structural engineer who has worked with Skidmore, Owings and Merrill in the past. He is to assist on the MARTA project specifically with Candler Park Station...And Louisa Bravo is a familiar face who has returned. She is currently assisting in the push to do the drawings for Candler Park Station.

...Word is received that Les Helgesson has been elected to membership on the Board of Directors of Energy, Inc., in Idaho Falls, Idaho. Energy, Inc., is involved in design of process and facilities for waste products with special emphasis in the nuclear waste field. For those newcomers Les was formerly the mayor of Los Altos Hills, and before that, he held many assignments with Tudor Engineering Company, including Chairman of the Board.

...Another member of Tudor has attained a very important step in his professional development. Hwa-Chuan Zien has been issued a license as a Professional Engineer after having passed the examination conducted by the California Board of Registration. Heartiest congratulations are extended!

...The San Francisco office is pleased about the return of several employees who have spent anywhere from a few weeks to a few months in Atlanta hard at work on various elements of the on-going MARTA project. Among those recently returned are Don Croft, Heinz Mueller, Anh-Tuan Le, Cissie Hsu, Hwa-Chuan Zien and Wu-Chieh Chen.

. . . boise

...Bob Stannard, a new face to be found in the Boise office, is starting his employment at Tudor with work on the Kuna facilities plan. Bob, a New Yorker, comes to us via the Graduate Sanitary Engineering Program at the University of Idaho.

...Jo Mallard is forever busy in the Environmental Engineering Lab. Currently she is involved with a testing program for the Horse Shoe Bend water project and several new water quality testing accounts.

. . . riverton

A new employee in the Riverton office is the first native Wyomingite to join Tudor. Peggy McMullen, who came onboard in September, hails from New Castle, Wyoming. Peggy will be handling drafting and other technical work for the Wyoming operation. Peggy's background includes 4 years of study in Architectural Engineering at Iowa State University and has worked for a consulting engineer in Rapid City, South Dakota. Since Peggy's major hobby concerns horses, the primary logistics problem encountered in her move to Riverton involved finding suitable accommodations for not only herself, but her horse.

PERFORMING ARTS CENTER GARAGE

Last spring, after it was determined that the site which was then designated for the Performing Arts Center Garage was needed for an Opera Rehearsal Hall, all work on the project stopped. Subsequently a new site was designated across Grove Street and west of Franklin and work on the project is again underway on an accelerated basis.

Work on the project is divided into three elements: a design and revenue report (feasibility study); an environmental impact report; and the preparation of contract plans and specifications. Joe Eng is conducting the feasibility study, Jim Ricereto and Bill Buckland are assisting in preparing the Environmental Impact Report and simultaneously, Don Croft in conjunction with Bill Buckland has the design of the parking structure underway. Jim Meyer is in charge of all phases of the project and is maintaining the liaison with Sponsors for the Performing Arts Center and the San Francisco Department of City Planning.

"WATER, WATER EVERYWHERE — WE WOULD ALL PREFER A DRINK"

by harry hosey

Since the beginning of July, Tudor-Seattle has been deluged in a flood of flood studies. Two Federal Insurance Agency contracts, drifting in the doldrums of negotiations have finally received a notice to proceed turning the calm into a storm. Five counties and 26 communities totalling 526 miles of river and coastal analysis have berthed at 1401 in the Dexter Horton Building.

The hydraulic resources of the staff were quickly drained and several unsuspecting structural engineers have recently been heard muttering "Ven Te..Who?" Mr. Concrete, Basil Kattula, has been trying to apply a factor of safety of two to water surface profiles while budding young structural ace Dave Thompson, has been pressing Joe Hofbeck to tell him where flood plain mapping is covered in the UBC. Don Hoel, formerly known as the "rebar Flasher", is now known as the "HUD Flooder". Don has also found himself in the middle of a seven agency battle formed to resolve the drainage problem of his home town, Kent, Washington.

NEWS . . .

New telephones and typewriters have been installed in Tudor Engineering Company. Electronics have taken over with solid state telephone systems having been installed in both San Francisco and Boise. Boise now has a new telephone number: (208) 342-5511. Their telephones have a small speaker within that speaks to you when you are least expecting it. San Francisco has retained its old telephone number; their phones are pushbutton and "beep" in your ear when you are speaking to someone else.

Boise and San Francisco also now have "memory" typewriters which use magnetic cards. For general typing all offices have generally switched from "Executive" to "Selectric" typewriters.

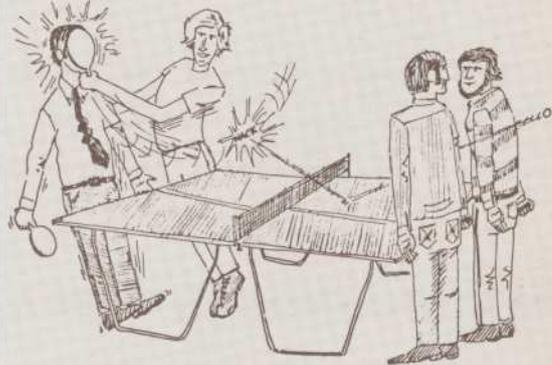
SPORTS!

From the halls of Tudor-Seattle comes the sound of men in athletic competition. Ping... pong... ping... pong... plunk.*@!*x!

The newest rage has been a ping-pong table, four paddles and a gross of ping-pong balls. Daily at 11:45 the back room transforms into a room of sweaty bodies and flying ping-pong balls. Several aces have emerged from the surprisingly competitive office. However, Basil Kattula, Pete Paterson and Cheng-Nan Lin seem to have nosed ahead of the pack, while Joe Hofbeck is mounting a somewhat less than formidable challenge with a variety of garbage shots. Harry Hosey, while displaying graceful moves and a blazing forehead smash, has spent a lot of time at the HP 9830 trying to figure out how to win. Better let him win guys, or he'll take his table home.

Another strange phenomenon has occurred since the noontime tourney has started. All the Tudor "ping-pongers" always seem to have a seat on the bus all by themselves on the way home at night.

(Rumor has it that those in San Francisco who have been practicing for over a year now are desiring to challenge the Seattleites to a Tudor Invitational Ping Pong Classic. Et tu Boise!)



Now we have it made! It's two against one.

...In Boise, they are in the process of getting a recreational league basketball team started. Since it has been determined that athletic ability will not be required to participate, they expect about 14 eager volunteers.

...On the San Francisco scene, Lou Salaber, Alfred Korbmacher, Joe Carson and Don Yamagishi competed in the San Francisco Recreation and Parks Department Industrial Golf Tournament held at Sharps Park on the Peninsula. They did not relate their final scores or standings.

...Ocie Williams reports that the PB/T-Atlanta softball team picked off the league championship this summer. What can not be explained is: did they win because he helped them out during his temporary assignment in Atlanta, or because he was not there during the play-offs?!

VIAJANDO CON ROBERTO

After taking two week of vacation in July to drive with his family through Oregon, Washington, Vancouver and then Victoria Island; Bob Iniguez returned to the office to take off in August to Caracas for two weeks to look after the PBTB operations there. The comptrollers office of the Government of Venezuela has authorized the Caracas Metro office is issue PBTB a notice to proceed to mobilize personnel to initiate construction management activities in Caracas. PBTB will provide construction management services on the systemwide portion of the Caracas Metro. PBTB was also involved in the design of the same facilities.

After taking two weeks of vacation in July to drive with his family through Oregon, Washington, Vancouver and then Victoria Island; Bob Iniguez returned to the office to take off in August to Caracas for two weeks to look after the PBTB operations there. The Comptrollers Office of the Government of Venezuela has authorized the Caracas Metro office to issue the Association of American Women in Chile and her recent projects have included producing the play "The Gay Nineties" and the AAWC's Bicentennial Ball in honor of our country's 200th birthday. More recently her efforts are being directed towards raising money to purchase Christmas presents for the needy children of Chile. Hats off to Mrs. Martinez!

On Bob Iniguez's return to the U.S. he was to stop in Quito, Ecuador to follow up on some business prospects. Poor weather rerouted his trip and he had to settle for conversations by telephone prior to returning to the U.S.

HE'S NOT OLD ENOUGH TO BE A . . .

...Yes he is! Bert LaVigne is the newest member of the "Grandfathers Club" at Tudor. Barbara and Bert had a flying visit to Fort Hood, Texas to visit Capt. and Mrs. Bruce LaVigne and their 7 lb. son Justin born October 6. Congrats, Gramps!

Following son Barry's wedding the end of June, the LaVigne family (sans bride and groom) had a scenic San Francisco to San Diego coastal caravan trip. A motor home and a station wagon transported a fun-loving crew of nine. A certain mid-western state was represented by those who wanted to sing "What's round on the ends and high in the middle: O-HI-O" to keep their minds off State Highway No. 1 and the sheer drop into the Pacific Ocean. Sunny days in Carmel more than made up for the perceived hazard, however, and the festivities were enhanced by discovering the bride and groom also enjoying Carmel. Universal Studios, Disneyland, Sea World, the San Diego Zoo and Wild Animal Park may never be the same after these visitations.

MATT HARRISON TO RETIRE



Matt Harrison, retired U.S. Army Colonel, joined Tudor Engineering Company eleven years ago. Matt was Project Manager for some time on the MARTA job and the Navy job at Hawthorne, Nevada. Matt was also Project Director for the Caracas Metro, with which he was involved since its inception, some eight years ago. In mid-October, Matt began his transition from Engineer to land baron in Marin County, his home, where he has all sorts of things growing abundantly. Matt, a colorful and lovable guy, will be missed very much by one and all. The picture shows him giving his famous "good vibes" speech on the occasion of receiving his 10 year award at the San Francisco Christmas Party of 1974.

COMMUTER

Bob Myrdal started part time commuting to San Francisco in about October of last year. In March of this year, he returned full time to the San Francisco staff and continued to commute back to Seattle to visit his family. Lo and behold, in July Bob's wife, Sue, and his California native daughters, Mary and Nancy, completed their move back to the Bay Area to take up residence in their home in San Carlos which they had been renting during the Myrdal's stay in Seattle. Bob started smiling again, but true commuters never die. In September, Bob took a difficult assignment in Cleveland where he assisted a subcontractor to the MARTA project meet a tight but firm shcedule in the design of the Moreland Station. The Moreland Station is on the East Line of MARTA which is on the critical path for the pre-revenue testings of the MARTA cars. After six weeks in Cleveland, Bob is back once again "permanently" taking up where he left off on the Caracas Metro project and smiling once again.

The TUDOR NEWSLETTER is published by Tudor Engineering Company for the information and enjoyment of its employees, their families, and friends.

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TUDOR

NEWSLETTER

WINTER 1976

TUDOR CELEBRATES HOLIDAYS • HONORS EMPLOYEES



Bert LaVigne and wife Barbara admiring silver tray (part of a decanter set) presented to him in San Francisco for 25 years of association with Tudor Engineering Company.

... san francisco, dec. 13

The Christmas party in San Francisco got underway early in the evening with Tudor folks and their friends assembled around the cocktail bar of the Engineers Club to sample the tempting hors d'oeuvres.

Following an excellent meal, the eloquent Master of Ceremonies for the evening, Rainer Rungaldier, arose to direct after-dinner activities and to assist Louis Riggs in distributing 10-year service awards to Donald Croft and Roberto Iniguez, and a special 25 year award to Herbert H. LaVigne, now vice president of the San Diego office.

An amusing slide show of some memorable Tudor moments over the last two decades was followed by the usual merriment that accompanies hours of dancing to a good band by dozens of people in the holiday mood.

... seattle, dec. 6

"Opening day" for the yuletide season in Seattle was the Christmas party at the Mercer Island Beach Club. Everyone arrived at the clubhouse, situated at the south end of Mercer Island overlooking Lake Washington, well in time to enjoy before-dinner cocktails, hors d'oeuvres, and congenial conversation. Honorary guests included Bob and Beth Janopaul, Stan Froid and daughter Lorri, and Bill and Evelyn Bugge.

After a sumptuous dinner of prime rib, complemented by a fine red wine, awards for 10 years of service were presented to Bob Myrdal, Lin Wilson and Fred Estep by Bob Janopaul. Following the ceremony, Bill Bugge shared some of his memories of Ralph Tudor with the gathering.

It was then "party time" with music provided by the tapes and records of Ernie VanTine. At 2 o'clock in the morning when Ernie decided to pack up and go home, the remaining merrymakers willingly accepted the invitation to a breakfast of scrambled eggs, sausages, cake, and coffee at Keith Bull's house.

... san diego, dec. 2

Staff members Bert LaVigne, Tony Wright and Margith McKean and their guests Barb LaVigne, Beth LaVigne and Tom Parry spent a delightful evening at the San Diego Yacht Club enjoying a full three courses of spirits, fine food and conviviality at the San Diego Christmas Party.

... boise, dec. 26

The Boise Christmas party was held at Crane Creek Country Club. Dave and Loreen Toothman came down from their cabin in Centerville to host the event. The 36 who attended enjoyed cocktails, dinner and dancing.

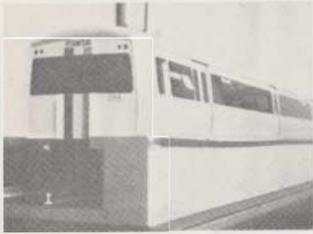
... atlanta, dec. 12

The Tudor contingent in Atlanta joined some 200 of their fellow workers in PBTB to celebrate the holiday in the banquet room of the Knights of Columbus.

Dancing was fast and furious to the "John Scott Five" and potted plants from each table were awarded as door prizes.

PASSES SILVER ANNIVERSARY AS U.S.A. STARTS BICENTENNIAL

MARTA RAIL CAR ON THE WAY



The Urban Mass Transportation Administration (UMTA) approved MARTA's design for Atlanta's first rail rapid transit car. The Authority will order 100 rapid transit cars initially, with more to come as the system is constructed.

MARTA plans to open bids on the rail car February 12. Service will begin on the East Line on Christmas Day 1978.

The interior will be soil-resistant and decorated in brown tones. The floor and lower walls of the car will be carpeted, and synthetic materials will be used for the seats and upper walls. Each car will be air conditioned and will have large tinted picture windows. Other design features include public address systems and accommodations for the handicapped.

Each car will be 11 feet 10 inches high and ten feet six inches wide. At peak operating hours, each car will be able to carry approximately 280 people. For easy maintenance, the rail car will be either stainless steel or unpainted aluminum. Testing for the electrically powered cars will begin in mid-1978.

BOISE ROUNDUP...

... The West Boise Sewer District Project has passed the District's Bond Election. Tudor-Boise will act as consultant for the installation of approximately 45 miles of interceptor, trunk, and collector sewers over the next two and a half years to serve an area of 2,400 acres. Ted Purcell is the project manager, being ably assisted by Neal Eager. Don Payne will look after surveying and mapping; Les Ankenman will take care of construction management, and Jim Potter will be looking for federal and state funding to help the District. It is expected that 'most everyone in the Boise office will be involved with the project at one time or another.

... The Portneuf River Flood Hazard Study was completed for the Walla Walla District, Corps of Engineers. Ted Purcell, Paul Kunz and Brian Grant worked on the project with excellent assistance from draftsman Randy Witt.

... The Jordan Valley Sewage Collection/Treatment and Water Supply/Distribution Projects had its final inspection recently, but by the time Les Ankenman and Bob Beal had finished their tour, 10 car loads of local citizens were following them down the street supervising the inspection!

... The Old Faithful and Madison Junction Waste Treatment Facilities have finally been completed and Neal Carnam has made the last changes to the Maintenance and Operation Manual.

... Finally, the surveyors and back-room boys have been kept quite busy this past year with subdivision work, construction staking, and a few water distribution projects run on the HP-9830. Subdivision business is brisk, and with the West Boise Sewer District and evening poker games this coming year those guys should keep out of trouble!?

MULTI-MEDIA PRESENTATION

Those attending the December 13 San Francisco Office Christmas Party were able to preview the multi-media production "Centre City Fixed Guideway Transit: Impacts and Opportunities", prepared for the City of San Diego by Tudor-San Diego, Tony Wright, Project Manager.

The presentation consists of 125 slides arranged in 2 carousel projectors, with an accompanying narrative on cassette tape. The addition of a lap dissolve unit to the basic audio/visual equipment permits a continuous visual image during the shift from one slide to another, thus eliminating the distraction of a blackened screen between slides. Additionally, this dissolve unit provides the unique ability to "zoom in" on a particular section of a graphic for emphasis or clarification. While this first attempt at a presentation of this nature can be considered successful, if measured by the good reception it has enjoyed in San Diego, it is just a beginning as far as investigating the capabilities offered by this technique.

PORTLAND FLOOD STUDY

After seven months, the completion of the backwater analysis of the Columbia and Willamette Rivers and Johnson Creek in the vicinity of Portland brought a sigh of relief to the Seattle office. The study began last April and represented the largest contract to be let by the Portland District Corps of Engineers for this type of work. The magnitude of the computer analysis led to opening a temporary office, adjacent to the CDC terminal, in Bellevue. Three drafting tables and a layout area for the tons of maps and survey data, created a tight fit for Harry Hosey, Francois Martin and DeWitt Jensen. The arrival of Paul Kuntz with the Portneuf River study and Pete Paterson with the Nehalem River study required using 'The Cellar Tav' for technical and strategy discussions.

The end product comprised over thirty plates of water surface profiles and flooded areas. A Flood Plain Information Report for the Willamette River was produced and selected by the Corps as their bicentennial publication. On time completion of the study brought a letter of commendation from the District Engineer.



Views of the Flood, Portland, Oregon, Feb. 5, 1890
Duck's Photo. Cor. First and Taylor Sts.

TUDOR PERSONS...

... lou salaber



Eleven years ago, in 1964, when Tudor in San Francisco maintained headquarters on 2nd and Mission Sts. and BART was getting under way, Robert Louis Salaber (Lou) left his job with the California Division of Highways and took a place behind a Tudor Engineering Company drawing Board. In those days, Lou spent most all of his time on BART location work until a transfer to the

Atlanta office came about, in 1966. BART final design work was beginning when Lou left to accomplish location work on the MARTA project in Atlanta, where he spent two years and became father to his one daughter. As his assignment in Atlanta began winding down, Lou and family returned to San Francisco (Lou's home town), and he once again took up working on the BART project, still in its final design phase.

Early in 1971, another move was necessary--this time to Seattle, where the Salaber family remained for three years. Lou's work there included the Mercer Island Freeway and the Tacoma Spur urban waterfront project. Lou and Company came back to San Francisco at the end of 1973. Since then, Lou's work has involved, among other projects, a study for a county-owned bus system for San Mateo County, the BART Extension to Pittsburgh and Antioch, and MARTA's Avondale Yard.

Lou is a graduate of the University of California at Berkeley. He and his wife, Phyllis, have three children and live in Corte Madera, in Marin County. The Salabers have enjoyed travels--in Europe and, recently, on Mexico's west coast. However, they love California and are content to remain at home these days.

Lou is active on Tudor's basketball team and takes time to play golf, and to ski and hike in the mountains. His particular fondness is for long distance running. He takes part in races which are sometimes sponsored by local clubs, and this spring Lou ran in the annual Bay-to-Breakers Race from the Embarcadero to the beach in which 6,000 participated.

... and did you know

...Sunil Yadav is on loan 'til March from San Francisco to PBTB - Atlanta to settle some drainage problems.

...Frank Paden has relocated from Seattle to Boise.

...Minerva McClain is our new receptionist in S. F. and,

...Sarah Westsmith is Robert Janopaul's new secretary.

...Eva Spantenka who hails from Czechoslovakia recently became a U. S. citizen.

...Anh-Tuan Le's wife Kim had a baby boy in December.

...Darryl Tyson, San Francisco's man about the xerox/mail room, graduated from ESCMT's O-J-T drafting program and is now burning lead on the boards!

Kathy Dorbin joined Tudor Engineering Company in February of 1974, and was, until recently, one of two secretaries in the Seattle office. As of the new year, however, she has been on her own and is now responsible for all secretarial duties here.

... kathy dorbin



Kathy is originally from New Jersey. She grew up and spent most of her life in Newark, but after her parents moved out of the city to the suburbs in 1970, she began seriously thinking of a change of scenery. What city farthest away from Newark but yet still in the continental USA? Why! Seattle, of course, complete with wooden sidewalks, nickelodeons, and handsome bow-legged cowboys. Things weren't quite like that when Kathy finally did arrive in October of 1972, nevertheless she did appreciate what the city had to offer and has never looked back.

Included in her present list of hobbies are bicycle riding, dancing and going to the racetrack to wager on the gee-gees. Planned future activities include skiing, backpacking and foreign travel; the last mentioned activity being contingent upon her ability to achieve something which to this day has eluded her, i. e. the depositing of monies into her account in excess of those which are withdrawn within any given period between paychecks.

... steve alters



Steve Alters has been in the Boise Office since 1973 when he decided to forsake the security of the U.S. Forest Service, and a transfer to Tim - Buk - Too, for a "soft" position in private enterprise. He had worked for the Forest Service as a surveyor and engineer since 1967. Steve attended Boise College for 2 years and obtained a BSCE in 1971 from Utah State University. Presently an E.I.T., Steve is anxiously awaiting the results of the past November P.E. exam.

Steve, Gayle, and sons, Justin and baby Christopher, reside in Boise. Their home is within the West Boise Sewer District Project being designed by the Boise office. Steve insists that his neighborhood needs the sewers more than other parts of the District - Gayle agrees - - and they're probably right - - it's been 2 years since she last used her washing machine.

Steve's interests, outside of sewers, include rock climbing, cross country skiing, flying, hunting, and fishing. He is also an emergency medical technician with the Mountain Rescue Group of Boise.

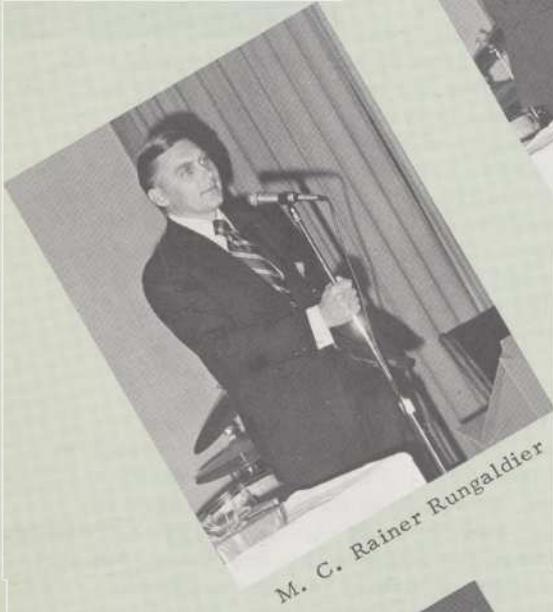
MORE PARTY PICTURES. . .



Louis Riggs and Don Croft



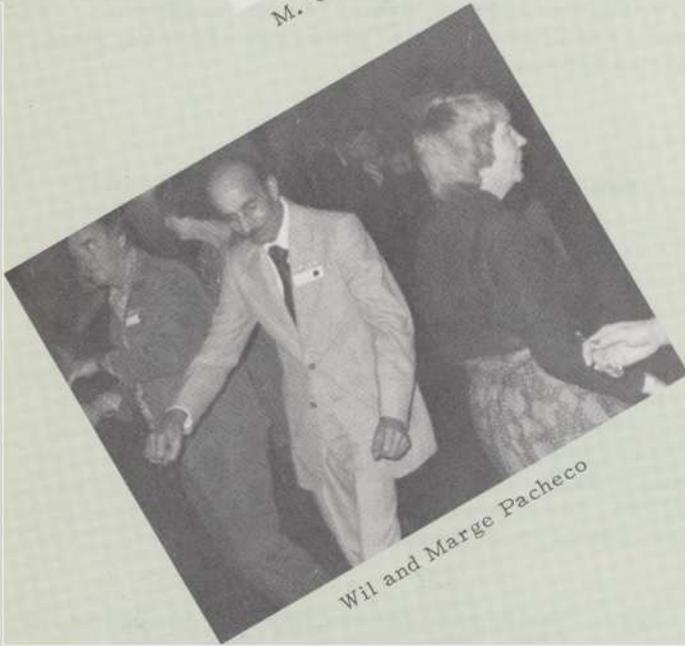
Roberto Iniguez



M. C. Rainer Rungaldier



Charlie Tsang back at office
with 10 year award

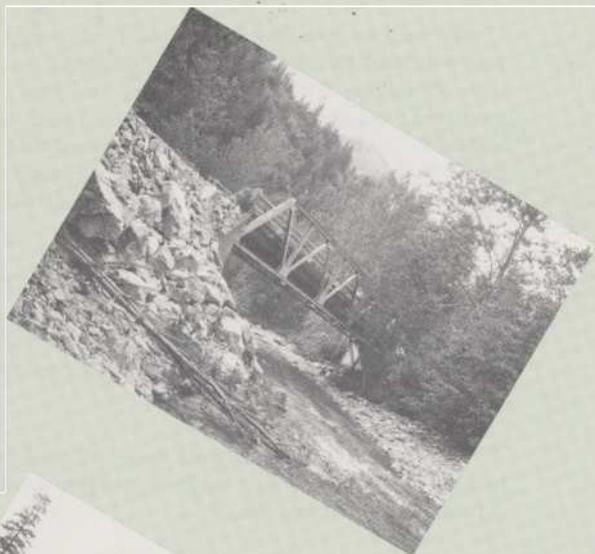


Wil and Marge Pacheco

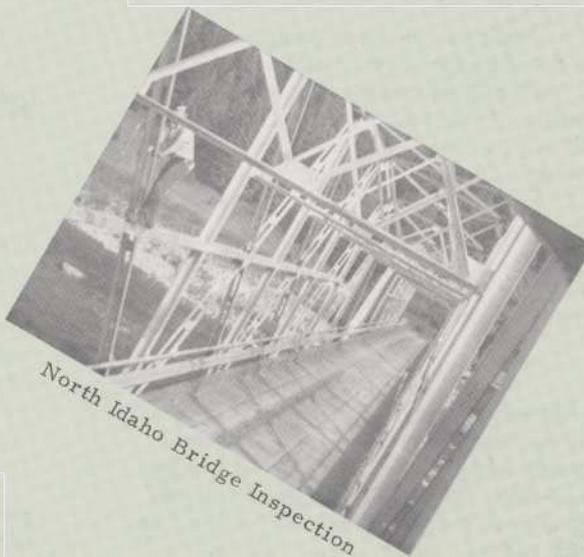
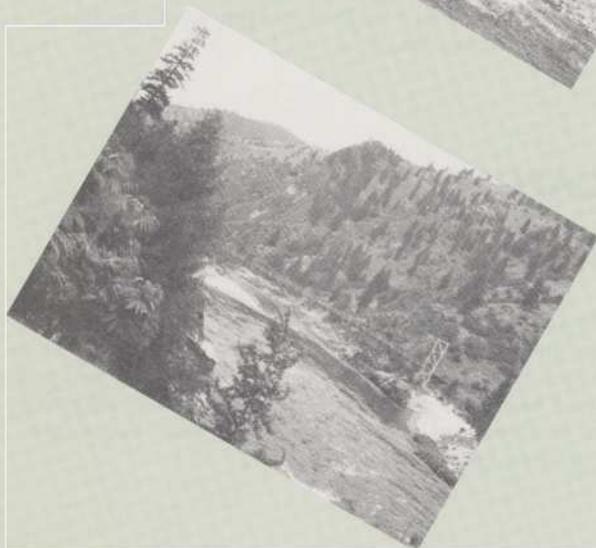


Bob Myrdal, Lin Wilson, Fred Estep and Bob Janopaul

...BOISE CONSTRUCTION ET CETERA



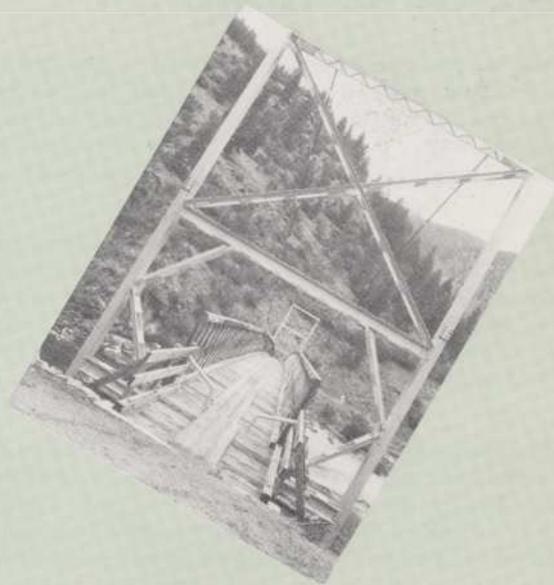
Jordan Valley Water Supply



North Idaho Bridge Inspection



Old Faithful Wastewater Treatment



SOUTH OF THE BORDER...

... panama

The Panama Technical Assistance project was completed December 31, 1975. Alex Martin was in Panama during the last week in November reviewing the work accomplished in connection with the development of unit prices and preparation of construction qualifications. Consequently, Alex had to spend Thanksgiving in Panama working before he departed for Buenos Aires on vacation.

Lou Salaber also went to Panama during the second week in December to review the geometric and interchange design for the Panama-Colon Freeway, and consequently missed the San Francisco Office Christmas Party. However, information from unreliable sources lead us to believe that he had his own Christmas Party in Chiriqui.

The successful completion of the Panama project was mainly due to the diligent participation of the following to whom Tudor Engineering Company extends its appreciation: Robert N. Janopaul, Roberto E. Iniguez, Miguel A. Cornejo, James Meyer, Alex Martin, Louis Salaber, Gary Weinstein, Joe Eng.

Miguel Cornejo and his family will be back in San Francisco early in February after a well deserved vacation.

... chile

In Chile, the Highway Construction Supervision contract will continue for another year. Raul Martinez, the Resident Engineer and Coordinator of that project, is quite happy about this. He has found good friends in Chile and would like to remain there for as long as Tudor can keep him there.

RIVERTON RATTLINGS...

... The Wyoming office was officially 1 year old when Father Time ushered in 1976. A quick look at the project log for the year indicated 16 jobs with fees ranging from \$22 to \$16,400. The bulk of the work consisted of subdivision planning and ancillary water and sewer systems.

... The affiliation with Inberg Surveying Company has allowed Tudor to offer clients the complete package of engineering and surveying services for land development work. With the growth boom that Wyoming is experiencing there is a pressing need for water, sewer and housing work throughout the state.

... The Arapahoe and Shoshone Joint Business Council has obtained a grant from the Department of Housing and Urban Affairs to build approximately 7 miles of water line in 1976 for which Tudor has been retained as consultant. In addition, a new storage tank and pumping plant improvements will be built by the U. S. Public Health Service to complement the new distribution system. The total length of pipe to be installed is nearly 15 miles and will serve farms and ranches along the alignment through its length.

MARE ISLAND RAILROAD

December saw the completion of design work on the Mare Island Offshore Railroad Repair and Reconstruction Project. This facility links the Mare Island Shipyard trackage with the Southern Pacific main line in Vallejo, California. Due to its expertise in rail facilities, Tudor was selected for preparation of plans, specifications and cost estimate for rehabilitation of the line.

Ken Heilig was the project manager and Gary Weinstein was the project engineer. Grant Larsen wrote the specifications, and Romulo DeLeon and John Wensinger handled the technical and drafting responsibilities.

As a result of a job well done, Tudor has been retained by the Navy for further design work on Mare Island Shipyard trackage.

SINGAPORE

Singapore may be the location of a future mass transit design job for Tudor as a part of PBTB. Singapore is one of those fascinating far-away places; it is also much more: a 10-year old city-state-country; the foremost banking, commercial, trading and shipping center of Southeast Asia located less than 100 miles north of the equator.

Sixty percent of the more than 2,000,000 people of Singapore are presently housed in government subsidized high-rise apartment complexes, and it is projected that by the end of the next 10 years, 80-85 percent of the population will be so housed. The remaining portion will live in private luxury high-rise apartments or individual houses.

There have been many studies in Singapore on master planning, concept planning and mass transit planning particularly since 1951. In 1970 Tudor became involved in these studies as part of PBTB in joint venture with Wilbur Smith and Associates. Larry Barr represented Tudor in that study, which was done under the aegis of the United Nations and World Bank and culminated in a Phase I Mass Transit Study Report. During 1975 there was a Phase II Mass Transit Study with Don Moore representing the Tudor part of PBTB again in joint venture with Wilbur Smith and Associates. The Phase II studies in more detail the patronage, route and construction selection, preliminary right-of-way, budget estimating and financial and economic feasibility. The recommended rail portion of the system is composed of approximately 14 kilometers of underground, 21 kilometers of aerial, 6 kilometers of at-grade and depressed lines, and 32 stations for a total length of nearly 47 kilometers of double track and a yard for an estimated 350 vehicles. The final report is expected to be issued soon.

PRINCELY PROJECT



The San Francisco office has submitted for 100% review structural design drawings for a commercial complex in Jeddah, Saudi Arabia for his royal highness Prince Fahd bin Mohammad bin Abdolaziz bin Abdelrahman al Faisal al-Seoud. If that looks like a lot, you should see the building ... Rhombic in plan and borrowing somewhat in design from the Hyatt Regency style, it includes exposed elevator cars rising in the center of a sixteen story atrium-lobby, surmounted by a two story villa below a two story revolving restaurant. Other features of this building include two stories each of garage space, shops, and offices, a sixth floor swimming pool and plaza area, and eleven stories of two and three bedroom apartments, each with maid's quarters.

Design of this 600,000 square foot, steel braced frame structure was completed in ten weeks through the holiday season by the team of Don Croft, Bill Buckland, Charlie Tsang, Jim Ricereto, Al Korbmacher, Gil Zambrana, Anh-Tuan Le, Cisse Hsu, and Jim Albert.

REDWOOD MONUMENT



Horseshoe Bend's
200,000 gal.
water reservoir

SKINNED A BEAR WHEN HE WAS THREE

What does an engineer do when he's not engineering???
..... Engineering!!!!!!

After taking a course in log cabin construction one summer weekend with his wife, Sallie, and Harry and Gigi Hosey, Randy Radock decided he would be doing himself a grave injustice if he didn't build one. So he decided to build a guest house, which just might second as a poker parlor, on his acre and a quarter, and convinced a neighbor to part with some logs from a freshly logged area at no charge.

With the loan of a ton and a half flatbed, a case of beer and four good friends, the logs were loaded and hauled to the site one evening. The hand loading of the logs to the truck took on a carnival atmosphere, with the little guy always getting the heavy end of the log and the dirt from the logs sticking to the sweat covered bodies turning everyone into clowns.

Spudding the logs (removal of the bark) was the hard part, but after two weekends of work, the walls were finished and the ridge pole was ready to go up. The ridge pole was a 27 foot, 10 inch diameter log which had to be raised atop two fourteen foot columns with a block and tackle. After the first attempt of hoisting (the pole fell 6 inches short of the top column), lowering and re-rigging, success was achieved. Spudding 34 rafters was next, and after two more weekends of placing rafters, 1 x 4 nailers which had been ripped from the logs of a friend's mill, were to go on.

The roof was finished October 12th, just in time for the winter rains. Work on the cabin was slowed during the fall due to the Washington bird hunting season, but in mid-January work started again, and by mid-March the cabin should be finished with a loft, brick floor, hand made door and a nice little wood burning stove. The total outlay will consist of about \$300.00 and many hours of hard, enjoyable work.

Beginning this spring, Harry and Gigi will be starting the log house of their dreams; and Harry wants everyone to feel free to come and enjoy the spudding of his logs.



Randy
Radock's
Log Cabin

GEOLOGY AND ENGINEERING

On Thursday 6 November, Don Rose delivered a paper to the 1975 Annual Meeting of the Association of Engineering Geologists (AEG), convened at Lake Tahoe. The title of Don's paper was "Civil Engineering for the Engineering Geologist - Part Two." It was one in a series of papers delivered by Don to various AEG Annual Meetings, devoted to improving understanding between civil engineers and engineering geologists.

Don's AEG papers have discussed civil engineering techniques of interest to engineering geologists, such as the Finite Element Method for static and earthquake analysis, seepage under dams, and cost estimating for tunnels. He has recommended that engineering geologists simplify their language when describing foundation conditions to engineers. Don plans to continue the dialogue with the AEG in the future.

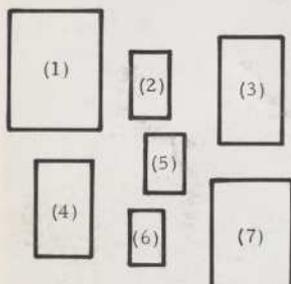
SAN DIEGANS SPLIT DURING HOLIDAYS

Bert and Barb LaVigne spent 8 days in Puerto Vallarta, joining Lt. and Mrs. Bruce LaVigne on leave from Ft. Hood, Texas. Besides sailing and sunning, the LaVignes also tried their hand at parachute flying, connected by a 450-foot line to a Mexican speedboat -- which only proves that Bert will leave no stone unturned in his quest for the ultimate transportation mode!

Margith McKean took advantage of the 4-day Thanksgiving break to visit friends in Needles, California (no, she did not see Snoopy while she was there), and then spent a quiet Christmas vacation at home where she traveled between the refrigerator and the TV at commercial breaks during the Bowl games.

Tony Wright took the big leap and returned to England after a 7-year absence to spend an extended Christmas vacation with his family in Croesyceiliog, Gwent, South Wales. Hopefully Tony will give us a clue as to the pronunciation of "Croesyceiliog" -- and whether that's a place or a state of mind! -- when he returns in mid-January.

ANSWERS TO QUIZ...



TUDOR Starlets: (1) Bob Peterson, (2) Einer Handeland (3) Frank Paden, (4) Hanford Thayer, (5) Kathy Dorbin, (6) Randy Radock, and (7) Keith Bull.

MATHEMATIZATION ON THE BARBARY COAST... by francois martin

After six years in the Seattle office, it was a real experience to be called to work in San Francisco. It was a joy to renew with the friends of years past, the surprise to be among so many unknown faces whose names may have been seen often, the strange feeling to be "at home" and yet to get lost in unfamiliar surroundings. The last trip at Thanksgiving time brought back very good memories of the BART era.

Ken Heilig had been faced with a problem. In no time flat he had sketched a system, walked into Caracas and assured everyone that it was possible. While he and Bob Myrdal were describing the arrangements in detail and John Wensinger was drawing the exhibits, I was, diligently I think, trying to comfort both the management and Ken by proving that it was indeed mathematically feasible to achieve what had been promised and described.

The following might interest those less familiar with "Mathematization". It is not, by any means, giving a set of coordinates for every point. Rather, having established the limits of the work, mathematization will painstakingly assemble the elements in a rigorous fashion to produce the effect sought by the designer. In the case of a rapid transit yard, we may list the boundaries of the land parcel, the spacing between tracks, the length of the trains, the grouping of various functions (storage, assembling, maintenance, inspection, etc.). The various parts of the yard have to be related to each other in a functional order and the physical relationship between tracks or groups of tracks is accomplished by means of switches. The switches are like the fittings in plumbing - they come with a complement of physical properties and limitations which have to be respected. They are also the keys to assemble a puzzle - a puzzle that nobody has ever seen before.

It is the purpose of mathematization to assemble the parts of a puzzle according to a guideline, respecting all the limitations and boundaries to "concretize" the goals expressed in a text or in a sketch. A further step in mathematization is the optimization of the arrangement to present eventually the puzzle in its best final form.

Rapid transit being built for densely populated areas, the yard designer seems always faced with the worst piece of land, the smallest to accomplish the most. The Propatria Yard in Caracas was no exception and optimization seemed hardly an additional step. The job was great and very challenging. It was an opportunity for team work in great mutual confidence with very dear friends, but, best of all - - it worked.

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