H. B. Stewart, Jr.

Expedition Diary

Persian Gulf Expedition

August 23, 1948 – June 1949

US Department of Commerce

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Oceanic and Atmospheric Research
Atlantic Oceanographic and
Meteorological Laboratory Miami, FL

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Ashley Jefferson, Editor

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January 2016

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NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Atlantic Oceanographic and Meteorological
Laboratory Miami, FL 33149

For further information contact:

Linda Pikula

NOAA Miami Regional Library

4301 Rickenbacker Causeway.

Miami, FL 33149

linda.pikula@noaa.gov

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H. B. Stewart, Jr.

Expedition Diary

Persian Gulf Expedition

Linda Pikula and Ashley Jefferson (Editors)

ABSTRACT

Harris B. Stewart, who eventually became the first director of the NOAA Atlantic Oceanographic and Meteorological Laboratory in Miami, FL, joined the Navy Hydrographic Office as a P-1 Hydrographic Engineer in 1948 and was assigned duty aboard the USS Maury for a survey cruise of the Persian Gulf. He wrote down his experiences during that expedition, and the diary (among other diaries and memorabilia) was donated to NOAA by his family upon his passing in 2000. The Persian Gulf Expedition field diary contains descriptions of the day-to-day ship activities.

INTRODUCTION

Harris B. Stewart was the very first director of the NOAA Atlantic Oceanographic and Meteorological Laboratory in Miami, FL. He was a marine geologist by training and graduated from Princeton University. In 1948, he joined the Navy Hydrographic Office as a P-1 Hydrographic Engineer and was assigned to the USS Maury for a survey cruise of the Persian Gulf. He was assigned the job of survey control. "Stewart was involved with the establishment of visual hydrographic signals between the primary stations. These were large tripods covered with signal cloth of various colors for ease of identification by the hydrographic survey crews. When not involved with survey control he joined the hydrographic survey crews running lines offshore" (Hydro International, 2011).

DIARY AND TRANSCRIPTION

The Stewart family donated the papers of Dr. Stewart to NOAA's Atlantic Oceanographic and Meteorological Laboratory upon his passing on April 25, 2000. Among the Stewart materials were 13 field diaries written over several decades, most during the time of great ocean exploration. The diaries will be transcribed and published as a series.

ADDITIONAL EXPLANATORY INFORMATION

Signal, Surveying: "a marker or tower erected at triangulation stations and, sometimes, at traverse stations. Surveying signals are used in mounting geodetic instruments, such as transits, at a height that provides for line of sight to adjacent markers. The distance to the adjacent markers depends on the order of precision of triangulation and ranges from 5–10 km to 30–50 km. Sighting targets are mounted on the surveying signals. Surveying signals may be simple or complex. A simple signal consists of two pyramids that do not touch—an inner one and an outer one. The inner pyramid is usually trihedral and serves as a base or mounting for the geodetic instrument. The outer pyramid is tetrahedral and serves as the base upon which the observer stands and as a mounting for the sighting target. In complex signals the inner pyramid is fastened to the same posts as the observer's base. Simple signals are 6 to 15 m high and combined signals 16 to 55 m high. In forested regions surveying signals are built of wood; in unforested regions fixed or portable metal signals are used. Simple pyramids that carry only the sighting target are used in open areas. In this case, the geodetic instrument is mounted beneath the pyramid on a conventional tripod" (Signal, Surveying, 2010).

A Great Technology--Bilby Towers: "The great classical continent-spanning geodetic networks of the Nineteenth and Twentieth centuries had two major obstacles to overcome – distance and the curvature of the Earth. Distance was overcome by railroads, automobiles and helicopters. The curvature of the Earth, particularly in areas of low relief, required the building of artificial high points in order to make stations many miles apart visible to each other. In urban areas, pre-existing structures could sometimes be used. But in remote areas, the building of towers was required. The Great Trigonometric Survey of India built masonry towers as the survey had numerous labourers, but other survey organisations began developing less costly means to cope with the curvature of the Earth. In 1845, Edmund Blunt of the United States Coast and Geodetic Survey developed the concept of a tower within a tower while working in the flat marshy area of Delaware Bay. The two towers were built with no mechanical attachment between the outer tower used by the observing crew and the undisturbed inner tower that supported a theodolite. This method worked well for 80 years. A number of towers over 150 feet in height were constructed during this period with the tallest being a tower made of native timber in the Philippine Islands that was 239 feet high. By 1925, the cost of timber, labour and time to construct a wooden tower (up to 5 or 6 days) had become prohibitive. The one-time use of the wood associated with such towers was wasteful and there were areas where timber was difficult to procure. Jasper Bilby, a long-time builder and reconnaissance man for the Coast and Geodetic Survey, devised an ingenious solution.

On his travels throughout the United States, he observed many steel windmills built by Aermotor Windmill Company. In 1926, Bilby worked with Aermotor to design and build re-usable steel survey towers. These towers, like their wooden counterparts, were towers within towers. A large steel survey tower would have literally hundreds of interlocking parts; each one had to be placed exactly in the right place during both construction and tear-down operations. These towers were named ‘Bilby Towers' in honour of Jasper Bilby. By the early 1930s, experienced survey building crews could erect a 103-foot Bilby tower in less than a day. However, for a hydrographer who had never seen, nor even heard of such towers, the experience could be daunting” (Albert E. Theberge Jr. contributing editor, Hydro International, 2011).

REFERENCES

“Bilby Towers – A Great Technology.” Hydro International. December 2011. http://www.hydro-international.com/content/article/bilby-towers

“Signal, Surveying.” The Free Dictionary. 2010. http://encyclopedia2.thefreedictionary.com/Signal%2c+Surveying

PHOTOGRAPHS

[*USS Maury, 1948*]

LOADING TANKER on the Persian Gulf, whence Europe is obtaining an increasingly large part of its oil requirements.

[***Caption***: *Loading Tanker on the Persian Gulf, whence Europe is obtaining an increasingly large part of its oil requirements.*]

[*USS Maury, 1948*]

Dhows tied up at the Kuwait jetty.

[*Photo courtesy of U.S. Navy*]

The Kuwait dhow boatyard in 1948. *(U.S. Navy Photo)*

[*Photo courtesy of U.S. Navy*]

Sheik Ahmed Ibn Jaber al-Sabah of Kuwait and his British Political Officer visit Captain Wolverton aboard the ***U.S.S. Maury****.* *(U.S. Navy Photo)*

[*Photo courtesy of U.S. Navy*]

Persian Gulf Expedition

August 23, 1948 – June 1949

August 23rd-Brooklyn Navy Yard-

It's been almost 2 weeks since I reported aboard on the 10th & here we sit. It's pretty noisy around here in the evenings now- 3 shifts of Navy Yard men, on her day & night. I just looked in topside & they are almost finished welding the forward gun-tub & a flat-car of 20 & 40 millimeters is sitting out under the crane on the dock. Night welding makes weird neurotic shadows and silhouettes the hunched & helmeted form of the welder-The light suddenly goes out, & in the glow of hot metal he lifts his mask & wipes his arm across his sweating forehead- a word with the man beside him, a drag on a bent cigarette – then down comes the helmet & the neurotic shadows start their jumping again as the blinding light & cracking sparks resume.

The fan in my quarters blows a 3 – second breeze over my neck every 11 seconds – I timed it- & the turning fan groans at the end of every arc.

Still nothing definite as to when we leave or where we are going. Had a good talk with Harvey Hess in Princeton Sunday. Got some good pointers on what to look & look out for in running the fathometer. Saw John Maxwell for a while – they may come up to look over the ship before we sail. Hess seems to think the trip is pretty hot & all the priorities we're getting here in the yard seem to bear him out.

We're still working down in #3 hold trying to get our gear squared away. It seems that anything that anyone wants to get rid of is stenciled "Attn. Oceanographer" & is shoved in there. We've found pipe insulation, asbestos, & cement today. Heaven's knows what will turn up tomorrow-

Rowan & Nancy were married Saturday the 21st of August. It was a good wedding & I was glad to be his usher as were Jay Madera & John Timbril. Nancy's pa felt no pain by 2000 hrs. Mrs. Wms. Had a stroke just before the bride & groom left but we kept them from knowing it & I spent the night till 01:30 trying to keep John Wms from going to Princeton & generally raising Cain on his mother who was too sick to see him. In the course of all this he got pretty well loaded. I had a headache but had a good talk with Anne Sutton: & drove him home. Hope to go to Mystic to see John & Bobbie on Friday. Tony Thompson (Smith, South Orange, and A1 4-2696) may come along too – hope so.

I find it hard to realize that college is over for a while & that I'm to be at sea for 8 mos. What then? I don't know. I've got to think ahead & plan it all out. I want marriage when I find her, but can't do much fruitful looking in the Gulf of Oman.

Aug 25, & 27 Temp over 100 [degrees] F. & the Navy Yard is no place to be.

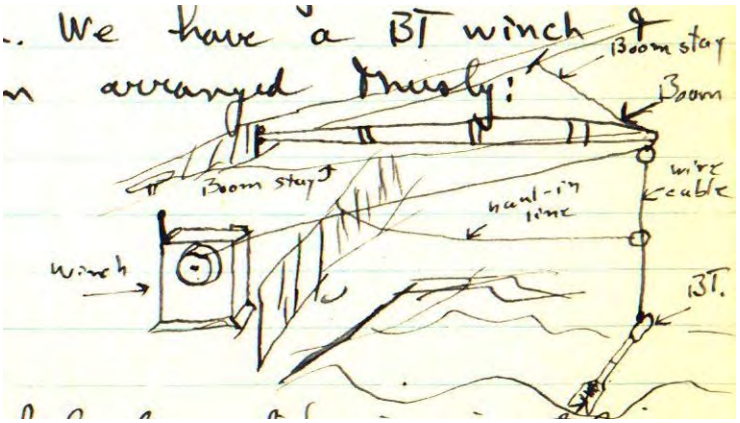
September 8th Wednesday

Had a week's leave & got to the Zellers, Burns & Home. Maury was in Bayonne, N.J. when I got back Sept 7th. She has added a plane & pilot while I was away. They loaded 100 octane gas & fresh food aboard 'till late evening & we sailed at 1230 for Leonardo, N.J. where we today have been taking 20 mm & 40 mm ammunition aboard ~~all day~~. All that's here is a mile & - a – half pier where they run their explosives out from shore. The smoking lamp has been out since we docked, & I guess will be 'till we shove off again in the A.M. The crew seems to be in better shape than when we were in Brklyn & I think will taut up O.K. Weather much cooler & very pleasant. Too hazy for any departure photos.

Saturday Sept. 11th - at Sea

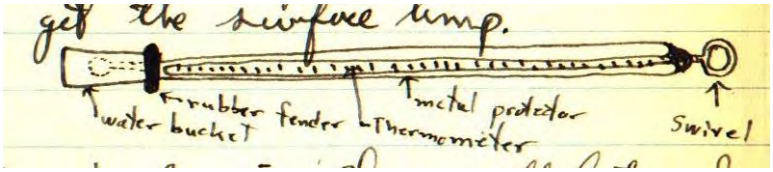
We left Leonardo Thursday Sept 9th at 1230 in a calm sea that has become less & less calm ever since. That afternoon we got the specifications for this job. I had thought it was to be the Gulf of Oman, but we'll be doing the Persian Gulf. I had thought it was to be the Gulf of Oman, but we'll be doing the Persian Gulf – NW part from Kuwait harbor South along the eastern coast of Saudi Arabia to Manifax. The job calls for all the way to Barien I, but we'll be lucky to get as far as Manifax. The State Dept. still hasn't cleared us in yet, so we may just turn around & come home. Our first port is Gibraltar & they say we'll get there about the 26th. I'm not sure quite how, as it seems to me we are doing more rolling & pitching than we are going forward.

At noon yesterday the three PC's (or GSC's as they are called now) broke out of trail & we now have one 5 mi off to starboard & two off to port – one at 5 mi & one at 10 mi. This gives us a 15 mile wide spread with 4 fathometer paths at 5 mile intervals. This way we'll get pretty good coverage of the bottom. At midnight last night I started the first 4 hrs. shift of a continuous watch that takes bathythermograph observations every hour on the hour. We have a BT winch & have arranged thusly:

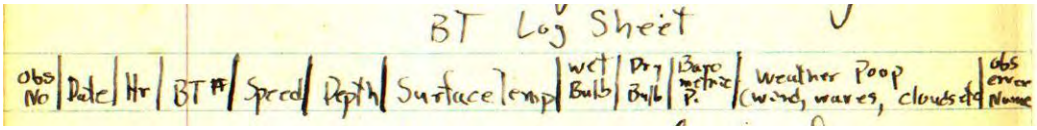


A smoked glass slide is inverted in the B.T., the sliding sleeve slid aft to an lower the slides &

The BT is lowered by releasing the winch brake & handing on to the haul-in line. Once in tail the brake is set & the BT stays just below the surface. A thermometer in a bucket-bottomed case with rubber finder is then lowered to get the surface temp.



The bridge is then called to ask permission to lower BT & to get speed in knots, & depth in fathoms plus the barometric pressure every 4th hr.



The BT is then lowered to the desired depth as determined by a graph of speed & wire to let out to get desired depth. Brake at desired depth, turn on winch power, engage clutch & haul her up. Remove slide, dip in lapure after having noted on slide the obs No., hr., date, & BT no & put in slide box – take out a new slide & prepare for next lowering. A running chart is kept on which the 0800, 1200, & 1800 positions are plotted & the positions of the ship driving the intermediate harves are interpolated & the slide number recorded in its proper location. (my damn chair just left the desk, slid over & with me still in it pitched up against the bulkhead- they can have their Navy!)

Had Typhus & Cholera booster shots this afternoon. I'll take all the shots they have to offer. My bout with dengue in the Philippines convinced me on that score.

Still not seasick, but I'm afraid it won't last much longer she's really rolling.

Tuesday – Sept -14-at Sea-

The three AGSC's – Dutton, Blish, & Littlehales came along side to take on fuel & water. The excessive rolling & pitching of a few days ago has abated to a good easy – to-maneuver-under roll; but it proved to be enough to make the re-fueling something to watch. We were doing about 10 knots as the John Blish crept up along our port side about 30 yards off. She eased in to about 20 yards, & the line gun sent a light line arching between the two rolling ships to land on the after port of the Blish's cabin space. Her crew began to haul in the line that was attached to the shot line & that in turn was attached to a large hawser bound to the fuel line. It was a real pull to get it all aboard. The slack in the fuel line was held by the forward crane, and as the ships roiled towards each other the crane would lift the line to keep it clear of the water. The Blish for two days now had had engine trouble that made the whole "convoy" adhere to a paltry 8 knots, so when she was through fueling, a heavy hauser was taken aboard - & on all-hands job it was - & she was taken in ignominious tow.

The Littlehales then came along for her short sniftive of a diesel Collins, but first had to send a sick sailor over to us for hospitalization in our sick bay. No breeches lorry was available, so he came over in a canvas bag slung by our crane - & his replacement returned by the same method. It was a tricky job & well done.

The Dutton came up next & darn near rammed us when a swell brought her keeling over to within a few feet of our Port beam. Oaths were loud & lusty, the exec. Turned red & bellowed across to the helmsman, but she cleared us OK. The Blish is still in tow, the other two are 5 mi out on either beam & we have resumed BT observations after an 8 hr. break. The evenings at sea are lovely. One has an unimpaired 360^0 horizon & last night there were about 20 of us gathered on the fantail watching in silence as the western sky changed from light pink to almost blood red off to the north an occasional flash of lightening behind a cloud bank would throw into sharp silhouette a majestic rank of towering anvil-topped thunderheads. Today it was clear as a bell & continued cool. We are still following the axis of the Gulf Stream & the water is a deep turquoise blue with many small clumps of delicate seaweed floating on the surface.

Had my hair brush-cut this morning by Grotch, our ships barber. It should look somewhat decent by the time we hit Gibraltar. Found out today our ports are Gib, Agusta [*Augusta*] in Sicily, the Paeraus [Paeraeus] in Greece, Port Said [Egypt], Aden [in

Yemen, British Protectorate in 1948] & Bahrain [British Protectorate in 1948]- all new to me, & should be most interesting.

Started to plot polyconic projections today – we are just doing the computations for them now & will make the naked charts when we get closer to the area.

Sunday AM- Sept 19th – my 26th birthday.

Our progress seems intolerably slow. Each morning I awake to see the Dutton still riding off to port half way to the horizon – never advancing, never retreating – always just where her lights showed her to be the night before. The only sensation of motion is the now gentle roll & only a look over the side at the waterline reassures me that we actually are moving. The roll, the hum of the ventilators, the creak of gear at the end of each roll- regular like a giant metronome – all combine to make me ever able to sleep. The food continues plentiful & good & weather 'till today has been clear, the nights cool. I awoke this morning to a gray day with the great flat watery disc that has become the limits of my world lying quietly under a low overcast.

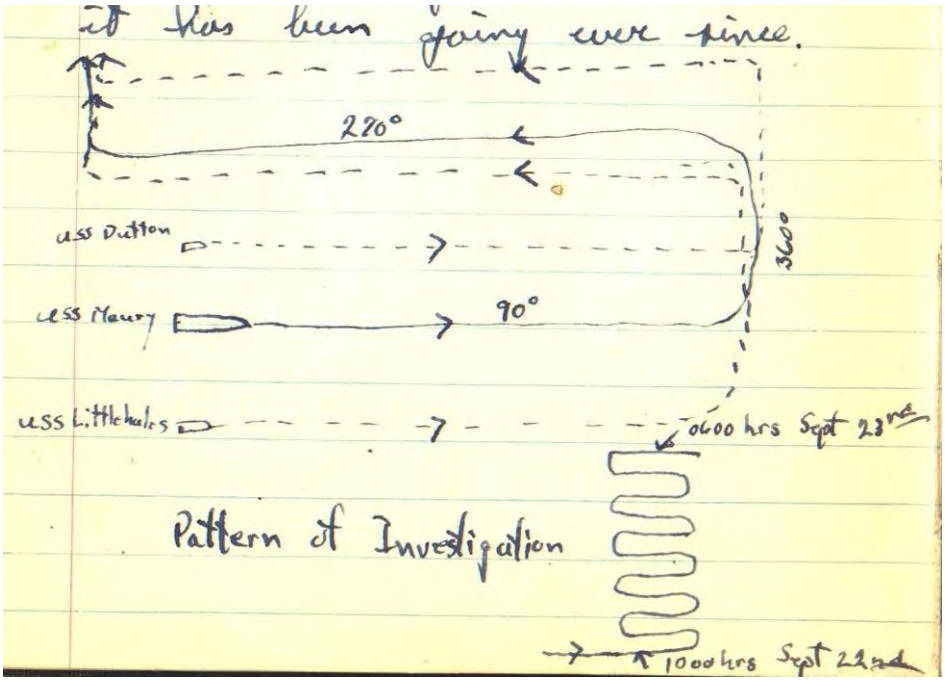
Tuesday 2200 – 21 Sept. '48

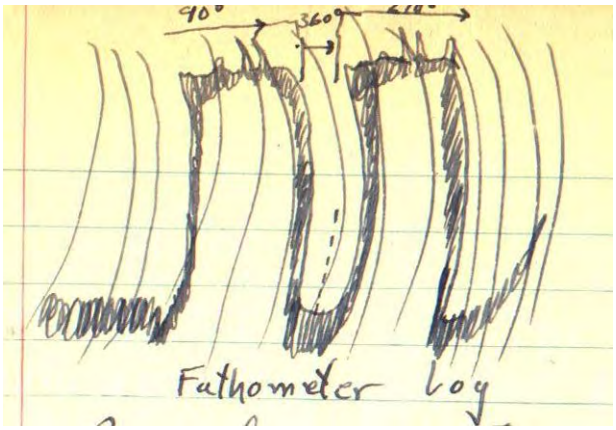
There's a beautiful moon tonight- a golden ballerina dancing in & out among great white columns of cumulous clouds. The wake on the water is a great band of silver spatter – printed on black velvet. The prow of the ship ~~the~~ turns back that velvet & shows it to be lined with white foam that falls away from the ship in great symmetrical folds.

Thursday Sept 23rd 0530 (on 0400-0500 watch)

I'm writing on the fantail by the light of a gorgeous sunrise.

About 1000 hrs. yesterday the fathometer began to show a shallowing out that got down as low as 500 f in an area shown to be 2000-2100 f on the charts We are north of Madeira I. & about 50 miles SW of Josephene Banks (80f.). Realizing that this was the sort of thing this expedition is supposed to snoop out Wolverton (Cdr. The Old Man) ordered a reconnaissance of the shoal area & it has been going ever since.

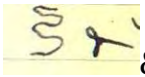




Fathometer log

By making a continuous ~~W~~ pattern with the 2 axes at 2000 yards off each beam, we cover 4000 yrds[yds] [yds.]. - ~~about~~ at each crossing. If the depth is over 1000 f we continue north a mile or so, so there is 4000 yds. between the last most northerly curve & the most southerly curve on the next by & continue back. The shoal area showed up first with a depth of 840f at 1023 hrs. Sept 22 & by 1042 was down to 497 f. At 1121 we were back to 1180 f, & down to 530 f at 1228, & back to 1600 f at 1430 hrs. The minimums from then on were 560 f at 1600 & above 1000f from then on. We started out taking continuous BT lowering's over the shoal then knocked it down to every 15 min & now every ½ hour when we are under 1000f, otherwise every hour. This gives us a darn

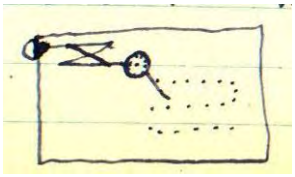
fine coverage of depth & temp. Curves over the relatively small area of our search



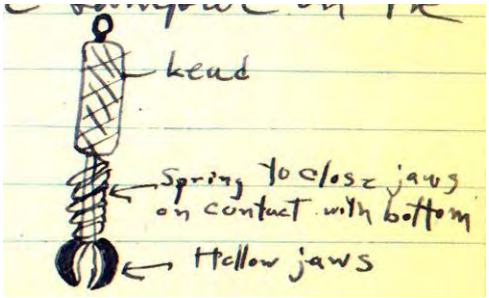
& the strength of any one slide can be checked against the whole.

I have spent a good deal of time in the chart room & on the bridge during the night & yesterday & have a pretty good idea of how they plot this thing up & coordinate over movements with those of the USS Dutton & Littlehales (the Blish is still in tow).

They have a glass topped table with a ~~plain~~ sheet over it & the ~~positions~~ track of the Maury is projected upward by a pinpoint of light every 5 min the plotter pencils in this position & takes bearings on the Dutton & Littlehales with the radar an attached arm with a bearing circle & mile



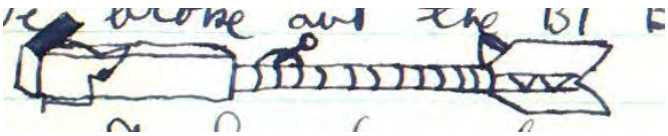
sealed off to 2000 yds. to the inch is used to plot in the bearing & range show crossed out position & the ships as shown in the radar scope. This gives a continuous record (5 minute points joined by dashed lines to get last pts) of the movements of the thru ships. When our true position is plotted from an astro-fix the distance & bearing to Josephine Bank was computed graphically on the main chart & this in turn laid off with the bearing arm on the bearing sheet. This gives the relative position of the bank & we'll be able to tell when we are over her. Hope to get a bottom sample with the snapper sample on the BT winch.



Voice radio with the Dutton & Littlehales keeps us in touch with the depth that their fathometers are recording & also tips them off as to converse & speed changes. The search has been conducted at 6 knots.

1915 hrs.-

We continued on with the three ship coverage; and just after lunch on 2 consecutive passes the depth read as shallow as 96 f & 98 F. The third pass we have too & were dead in the water over a pt. in 95f of water where the chart showed 1900 f. We broke out the BT Bottom Sampler



& sent her down to see what was there. She came up streaming water & even the Old Man came down to see what had been gotten. In it were a 2. Tablespoon load of a white sandy substance that on a closer inspection seemed to be an organic sediment made up mostly of shell parts, teeth, bone.etc. (Later we hove too again & sent down the snapper sampler & brought up a better sample that appeared to be much the same stuff) The first lowering with the B.T. was semi disastrous – she must have hit a rock, for the loading edge had a good dent in it that prevented the trap door from closing tightly – probably in raising. Water streamed through this opening & washed out all but the little bit that was left in it when we got it on board.

I hope to get the Doctor interested in this business of bottom sampling, so I can use his microscope to go over the stuff we brought up today.

Sunday Sept 26th

1 lb. = $4.07

Pulled into Gibraltar on a nice warm Mediterranean day, had a good 1 ½ day's liberty in town which I laboriously wrote up in toto in my 7 page letter to Mother 7 Dad. (2 seven-page letters, in fact)

Tuesday Sept 28th

Off again & I have the mid-watch tonight. Had all day Monday in town. Got to Spain in the afternoon after crossing Franco's border guards no little concern by showing them the required photo for identification – one taken by Johnny James of me in barb & cowboy hat in Wyo. Again all described in letter to the ??? of Oct 1st – La linea de la Conception one should be in Augusta Sicily by Sunday Oct 3rd. 1 Pesita = ca.5cents

Friday – Oct 1st

Still clear, calm & cool. We have been skirting the north coast of Africa all day. I looked it over with the classes & it seemed to have a low range of hills close to the coast

that looked inviting, but the sand that the off- shore breeze left in our decks have silent witness as to what was behind those hills. We should pass Panteleria – or what's left of it after the 8th & 15th Air Forces had their pattern bombing on it a few years back – sometime during the night.

[Pantelleria's capture was regarded as crucial to the Allied success in invading Sicily in 1943 because it allowed planes to be based in range of the larger island. Pantelleria was heavily bombarded, from both air and sea, in the days before the scheduled invasion, and the garrison finally surrendered as the landing troops were approaching. The capture of Pantelleria was called Operation Corkscrew and it played a part as a vital base for Allied aircraft during Operation Husky]

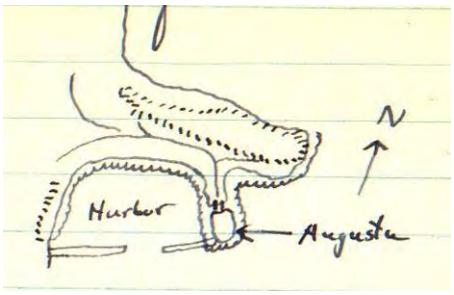
The BT has been handed over to the Basin Mate of the watch & I for one am glad to be rid of it. I was lo~~s~~ing too much sleep. In the drafting room topside we have been laying out the limits of our boat sheets. From the Coast out to the 12f mark will be 1:40,000, from there to approx. the 20F. mark at 1:60,000 & from there to one center of the Persian Gulf at 1: 110,000 – all charts to overlap adjacent ones & all to have ~~pc~~ as much of the shore as possible so our share stations can be used to establish sound boat positions. We secured at 1500 so Massly & Carnell could get the place ready for the Captains inspection tomorrow. Wrote another 7 pages to the lens tonight –mainly Spainly.

(H 1947 issue of the Military Engineer has an article by Charlie Bots & Dr. Fleming of Oceanography in Hydro in the Maury & her survey duties)

Sunday Oct 3rd

Pulled into Augusta, Sicily, this morning & tied to a buoy in the harbor. The carrier F.D.R., cruisers Little Rock, & two others, plus the supply ship Grand Canyon all were here again. No liberty 'till the supplies had come aboard about 1300.

The four hydrographic engineers were in the first boat ashore & climbed the small hill to the town. One look at the narrow streets & divert; & one smell were enough for Frank & me, & we headed for the mainland.



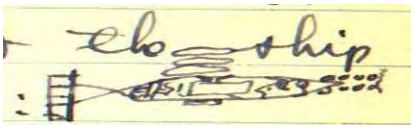
Had a good tramp back in the Sicilian farm country. 93per cent of Sicily is under cultivation & it's not hard to believe. Grapes & olives grew in neat patchwork farms. Dusty roads, a dog barking in the distance, the sweet taste of granadas (pomegranates), a flock of goats driven by a bent & mustachioed Sicilian, a farmer plowing with a wooden plough, broken walls & bent iron gates as the only reminders that the tide of war swept their way, dust clouds behind a honking speeding English car, two wheeled carts with farmers & four wheeled carriages with sailors, a nice sunset, a good view of Mt. Etna from a distance & of Augusta and the harbor, tired feet & dirty shoes – that was Sicily. – Got three rock samples – 2 tuff & 1 diabre.

We had no dinner, & when we got back to town it was teaming with Sicilians & sailors. We had a few cognacs with some of the men from the Maury & got the 10 o'clock boat back to the ship. Many bumboats swarmed around the Maury & little ships all day selling everything from vino to cheap-looking tapestries.

Due to leave tomorrow morning.

Wednesday Oct 6th

Awoke this morning to see the coast of the Peloponnesus off to Port. About 1000 we passed Salamis & made good our mooring in one of the 4 harbors of the Paeraeus about 1130. Here we used the Mediterranean morning. The book is dropped & played out as the ship backs toward the pier, A stern however is taken ashore & the ship secured thusly:



The harbor was jam-packed everything from American TMS's given to Greece & small fishery boats to Swedish lumber ships & American freighters. 10-15 ships that had been badly damaged during the war were being worked on by a few Greeks – it seemed a hopeless job. Next to the Maury was the Sarah Orne Jewett from N.Y. of the Prudential Line, her decks crammed with olive drab 6 x 6 trucks & hungry cranes kept clipping into her holds & coming out with great loads of white flour bags. Across the small basin Paeraeus lay spread out over two low hills & came right down to the harbor.

We caught the first liberty boat again & were dumped off at the fleet landing. We had to beat off a swarm of peddlers, guides, taxi drivers & wichin, but finally gained the lid off on the other side. We decided to see Paeraeus first & walked for over an hour. Got to the top of one of the hills & there before us to the NW lay Athens (spelled in Greek) dominated by the Acropolis & the higher but smaller hill crowned by the Church of St.

George. The whole surrounded by Mts. A lovely sight. We finally latched onto George – a guide who learned English in the British Army - & took a ship (30,000dr) to Athens. The ship gave us 10,000 drachma to the $1 George 12,000 dr. on the blk. Market. We saw Athens pretty completely all but the Acropolis which we plan to see tomorrow. The Cinque George and The Grand Bretagne are the two big hotels. The bar of the former seems to be the meeting place for Americans in Athens.

For the record, the Flirt Bar must be mentioned! Prostitution is legalized in Greece & the Flirt Bar on Constitution square has about a dozen that use that place as their headquarters. They are a rough bunch of females & two or three of them were not bad looking even by U.S. standards. We met them all – Veronica, short & well built. Peroxide hair & too much make-up, a little vitamins pill with legs. She just couldn't sit still – a rhumba numbah by the tinny band would have her up & dancing along among the tables. I say dancing, actually it was a conglomeration of all the motions enticing & lascivious that have come down through the age's vs the sure formulae for making the blood tingle in men's veins. The English was picked up from all the sailors who came into Athens & contained all the most profanity & obscenity of the seven seas. "Kiss me quick I'm coming, Kiss my ass, I'm going" is the only one it is my misfortune to recall. Then there was Luna with the tragically beautiful face. She was 5 mos. pregnant & had the saddest face I have ever seen. I couldn't keep from staring at her. Poppy with the tight red sweater - & an Italian look about her. Vara who looked as though she might be the girl next door & had a hip motion when she danced that I haven't seen since that "sing-sing" of Port Moresby in New Guinea. They would go from table to table turning on the heat for each man in turn, & many went out with them to return later shame. Food & $100,000 dr poorer. The place could have been any bar in the U.S. – a bar at one end, a small band on a recessed dais at the other & in between were small tables with metal chairs. White cloths & metal chairs. Occasionally an old toothless dumb Greek man would go from table to table trying to sell the bags of nuts he carried in a basket on his arm. He would stand before you & dumbly hold out a bag of nuts, when you asked "how much" he would just part his toothless gums in an attempt to smile. The girls would tease him a little now & then – tempt him to do things he no longer could. [Dimitri Constantine around it.] Later learned the Germans had broken the man who sold peanuts by 7 yrs in concent. Camp. Was formerly 1 of the most infl. men in Greece.] At first I got a kick out of the place. I'd never seen anything like it before – then it revolted me. I had no pity for the women. They probably are the best fed women in Greece today. They raised no sexual desire in me, for any such desire was more than canceled out by the revulsion of the whole thing. Frank & I left about 11 o'clock, as we climbed the stairs to the street we could still hear the rise & swell of the tinny band punctuated by the high-pitched laughter

of one of the girls. We stepped out into the cool night & the fresh air of Athens smelled good.

Saturday Oct 9th

We left Paeraus about 1000 this morning & it looked clean & white in the brilliant Mediterranean sun a whiteness that belied the dirty streets & foul smelling alleys, the poverty-stricken people, & the bombed out homes of that ancient sea-port. Thursday we picked up George & went to the Acropolis, we climbed the steep hill, entered the grotto below the propylaea & immediately were back in the 4th century before Christ. The magnificent Temple of Athene Nike, the awesome Parthenon, & Erecthium. I took some pictures – some of which I hope come out. Then down to the Theatre of Dionysius & the Temple of Jupiter, the botanical gardens & the tomb of the Unknown Soldier. That evening I kept my distance from the Flirt bar. The others were there, I guess, but I couldn't see it. Friday we slept in the afternoon after work, had dinner aboard & while the others taxied to Athens & that bordello again Frank & I walked to the station & took the train to AMONIA [Omonoia Square] Square in Athens & walked to the Saint George. He bought a lime & I a copy of the Paris addition of the Herald Tribune; & we sat in the wide – windowed lounge over-looking the sidewalk tables under the large blue & white awning of the St. George & sipped cool Greek cognac? Even now as we pass the Herald of Salamis on our way out. I can see the Acropolis & hill of St. George in the distance.

Tuesday – Oct 12th

Just at sunset yesterday the lighthouse at Port Said became visible off our starboard bow. It was dark by the time we reached the coast & we lay hove to in a good ground swell watching the beacon slice the night & the lights of Port Said clustered along the shore. A small tug came out rolling in the swell & deposited gave us an Egyptian pilot. We circled around & about 2200 made the entrance of the canal where we , along with several other ships, lay moored to buoys 'till 0200 today when we were cleared through the one-way stretch to Great Bitter Lake.

Awoke this morning just as we entered Lake Timsah. The canal is quite narrow & in most places the banks are faced with a slanting stone wall. Above the wall nine 15-20 foot banks of sand dredged from the canal& beyond these is desert. The Port Said-Suez R.R. runs inland a mile or so to the west & in many places the intervening land has been somewhat irrigated & patched of corn grow among date palms & palmettos. To the East was desert – hot dry endless desert. There was little wind, but the occasional breeze was little relief for it was heavy & laden with desert heat. In the Great Bitter Lake we hove to

& dropped the hood while the others behind us came out & there going in the other direction passed us & steamed northward. Moored next us was the Cilicia out of Glasgow & a beautiful pleasure ship she was. The decks swarmed with tourists & a la "Mr. Roberts", the current favorite on Broadway, we manned every binocular, range-finder & telescope on the ship. They were mostly tankers going the other way. A Texaco tanker of Panamanian registry, British, French & Greek tankers, all loaded to the gunwales. Then about 1400 we were cleared on through Little Bitter Lake & the last stretch down to Suez. This was even drier than the first stretch. A fairly good wind had come up

By then & the blowing sand obscured the canal ahead. Occasionally along the banks was piled the twisted & rusted wreckage of luckless ships caught in the canal & bombed during the war. We knocked off work in the drafting room aft & all manned binoculars atop the flying bridge. A road now was paralleling the canal on the west bank & an occasional British lorry sped by or an ancient green bus bearing the green crescent & stars design of Egypt. Here & there along the road a hardy farmer tried to eke an existence out of the land waging a never ending fight against the drought & encroaching sand. Some had goats that their women – veiled & in black- tended. All seemed to have a camel or two. That would sit sphinx-like with their knobby forelegs doubled under them & their heads held high. A cry from Avery- radar man 3rd & we all swung our glances to port to watch a drama probably oft-repeated in this country but startling when you see it for the first time. A camel had fallen about ¼ mile east of the canal. He could not have been there long for the drifting sand had not begun to cover him. On his body & around him where he lay were 12 or 16 turkey vultures – great ugly fat birds- that would peck at the still-warm animal & tear away great ribbons of flesh. Even as they ate more vultures were circling above, circling in ever-decreasing circles until they alighted screaming on the deal animal to add more pecking beaks to those already at work in reducing the carcass to bones that in time would whiten in that blistering sun. Past the great split obelisk (N of the sun) commemorating the first world war & the canals part in it, past folam canal stations, past more irrigated land, more wrecks of ships & buildings & finally off to starboard showed the buildings- homes & minarets of Suez – southern terminus of the canal at the head of the Gulf of Suez.

It is now 2030 & we are ploughing southward toward the Red Sea. We are still actually in Egyptian waters, with the Arabian Desert to the west & the Sinai Peninsula to the east. Another beautiful night but quite cool.

Friday Oct 15th

Since Tuesday we have been plowing steadily, boringly, uninterestedly, southward in the Gulf of Suez & the Red Sea. It's not red; but it is indeed a sea. We might as well be midway between New York & Gibraltar for all the land we see-were it not for the heat. It has become quite warm, the drafting room with its defective air-conditioning would be better with none; for the steady um of that big box with the grilled front is a constant reminder that we should be enjoying a coolness that the crescents of sweat at the armpits of our shirts & the stickiness of our hands shows to be quite non-existent. We are due in at Aden probably Monday morning. The theory behind the establishing of geographic positions on the earth's surface using the 60 degree astrolabe & the celestial triangle has had me in mental contortions for two days now. It's still a mad bubbling boiling confusion of Zenith distance, declination, night-ascension hover angles, & star lists. This afternoon in welcome relief from the mental tedium of trying to assimilate the celestial sphere into my own somewhat oblate spherical I fell to willingly in No 2 hold in helping assemble the top section of one of Mr. Bilby's steel towers. It was like an oven down there, & even though stripped down to my shorts, my body soon was streaming with wandering rivulets of salty perspiration. It soon developed that I was chief die stamper & proceeded to stamp the numbers on the various steel parts by smashing the small numbered dies with a ball hammer. My left thumb is quite sore this evening. I seem to be keeping this journal up to date to a much greater extent than I thought possible when I bought it in Auburn last July. I just hope that my ardor does not die, for it will make a good record of events & feelings that might otherwise be forgotten where I to trust all to memory.

Sunday, October 17th

Still steaming southward in this heat. It's a heat that presses in around you, saps your strength & leaves you weak & limp. About 1030 this morning we passed between Jabaal Zuqar & Quoin I at 14 degrees North. Zuqar is a great mass of barren volcanic rock with two peaks rising over 800' above the Red Sea. *[Zuqar Island is an island in the Red Sea that belongs to Yemen. It lies between the coasts of mainland Yemen and Eritrea, near the Bab-el-Mandeb straits which connect the Red Sea to the Gulf of Aden. Quoin Island, Island located near Al Ghanjah which is a town in Shabwah, a region of Yemen]* There is scrub vegetation along the shore but it rapidly gives way to the red-brown volcanic that make up the peaks. The bluff just south of North Point has a well-defined vertical joint system that breaks the cliff fore up into great vertical columns. Between it and the water is a vast scree slope of great cubical boulders broken off the cliffs above. Quain Island is merely a small remnant of rock – again the brown scoraceous [scoriaceous] volcanic type & it & Pile I. next to it both rise to about 60-80 degrees straight out of the sea. Quoin has

a lighthouse on it with waters in the base. I don't envy the poor bloke who has that for his niche. We now are passing Little Hamish I. on our starboards & should be off Great Hamish before long. Maybe I'll try to get some sleep this afternoon. Frank broke a cot out of # 3 hold & is now asleep on it out on the fo'castle. Avery & Ed are back sweating over a hot bridge table with Staerseth & the Major in the wardroom & the ship is fairly quiet. Spent last evening & part of this morning at the point of the bow on the fo'castle. It's nice up there. The air is clean. & if there is any breeze at all that's where it is. They strung an awning up there yesterday from just aft of the anchor chain winch aft to the paint locker & all the way across. It covers both of our forward 40 mm's but they aren't much good anyway I guess.

Tomorrow Aden – (16 to the ruple, 3 2 a = $1 U.S. C. 1 R = ca. 30 cents) It's now 2200 & I've been at my favorite spot up at the peak of the bow again. A good breeze has come up & many of the crew have brought their bedding topside to take advantage of the breeze. The moon is full & lay directly ahead so that the ship headed directly into the wake – a lovely sight. One wind ripples the shirt on my back & I could feel it in my hair. The ship made steady swish vs it cut through the water each was divided & thrown aside in a fury of white dancing spray. As I leaned over to watch, I could see the gray streaks of two porpoises that lept just ahead of the bow. Occasionally they would break water in an arching jump, moonlight would glisten briefly on a sleek back & they would be gone again in a patch of foam. Looking up the great silver flecked highway ahead I could not make out the horizon- it was lost in a great dazzle of moonlight & mist where the flecks of light were so jammed together. I stood & watched & thought & was awed. The wind caught the halyard on the bow flag pole & began slapping it against the pole in an even rhythm. I turned & saw that more men had come up from below & were sprawled crazily on their blankets spread on the deck. The ship looked different in the moonlight. The anchor winch seemed to merge with the spray shield & the paint locker.

On side of page: Tonight some time we pass through Bab-el-Mandeb, out of the Red Sea & into the Gulf of Aden. Through that strait for years have gone dhows & bagollas for Gizan & Suez & pilgrim vessels for Jeddah, the port for Mecca where all people of Islam try to go once before they go to the Garden of Allah.

The forward 40's huddles under the awning & were almost invisible. The superstructure of the bridge was a gray mass rising above me. The moonlight was reflected as gold from the burnished brass on the bridge – wings & the running lights seemed to have a read & green halo around them. I turned back toward the sea & found that the room had shifted – or perhaps a small change of course had done it; but at any rate the ship was breaking to the left of that silver wake & it seemed wrong. I turned & left, stepping

carefully over sleeping men & made my way aft to our quarters. It seems strange not to have a girl to write to when I feel as * do tonight. In the army overseas when moonlight turned the palm fronds to silver I would feel the same way & then go back to my tent in the jungle & write a long letter to Margery Dodd's. Now she is married & Stevie too, even Bunny Burns. I will probably always regret that I did not know the girl I marry sooner. She'll know nothing of Princeton, of the army, & now of this trip. They will all be things I'll have to tell her. I'll show her my pictures & my letters, & she'll try to understand how I felt, but can never really know. On a night like tonight I would have written about the moonlight & all, but I'd have written it to her, & the experience would have been richer for me because of her. I must find her soon after I get back. Either "her" or something else to which I can refer myself. I'm no Larry Darrel (Razor's Edge) but in a way I am searching for something. I am like a ship drifting & need a pier to tie to or a course to run – a part to aim for. This present trip is actually a cowardly thing for me to do. It is just stalling 'till I can hit on what I really want to do. It's escape from having to face the decision that must be made sooner or later. I could turn into a poor-man's Richard Holiburton [Halliburton] with no trouble at all. I do like to travel & there is still a good deal of the world I want to see; but if I find what I'm looking for – whatever it may be - , I'll be willing to confine my traveling to the tourist folders. I've just got to battle the thing out, find out, be sure then settle & stick to it. First though I must find that 'je ne sais quoi' to which I can refer my experience & by which I can set my course. Maybe religion, maybe the love & loving of a women. I don't know, but I don't think I'll find it behind a transit between Kuwait & Manifah in Saudi Arabia.

Tuesday, October 19th

Aden has come & gone, & we are at sea again- heading eastward out of the Gulf of Aden toward the Arabian Sea. The familiar roll of the ship makes it hard to realize that all that I saw yesterday was not a fantasy fabricated out of moonmist & salt spray.

When I awoke yesterday, a hasty glance out the porthole showed that we were just outside the port. By the time I had showered & eaten, the pilot was aboard & we were just passing the mole protecting the outer harbor. With the help of two panting tugs we were swerving this way & that 'till the pilot- British I think- felt it was ok to heave the lines. A small boat moved by rowed by two dusky be-turbaned boys took the hawsers over to the buoy, & made them fast. Since liberty didn't commence until one o'clock, I had time to look over the town from the harbor.

Aden presents a striking picture as it hangs on as best it can to the low ground around the steep volcanic peeks that make up the peninsula. Along the shore dhows of all sizes were

pulled up out of the water & rested on their sides, their masts pointing in all directions & making the shore look like a giant pile of jack straws. Nearer the town the long L shaped Post Office pier on high pilings had a small tug mooned in the crest of its arm & looked as though it had just made a sweep of the harbor & caught just the one small, dirty, tug. A sea wall runs from there north to the Prince of Wales Pier and keeps the dividing line between water & mountains nice & straight neat looking. A road parallels the wall & hugs the foot of the peaks. Beyond the Prince of Wales Pier the road rounds a shoulder of volcanic rocks & deposits the traveler right in the main part of the town of Aden. A row of two story buildings fronts on a crescent – shaped park that I'm sure hold the only trees on the peninsula. It was just after noon when we got there & in true eastern fashion nothing was open. A few goats loitered about the sidewalk, dirty goats that would rummage in the gutter. Some had their great swinging udders protected a dirty calico sack tied close to their belly. An occasional Arab could be seen sleeping in a doorway or rolled close to a building. A few dark-skinned children were kicking a gray tennis ball around the road & stopped to watch us as we passed. We walked to the end of the crescent & were about to investigate the interesting streets that radiate out from it when one of the chiefs from the ship shouted at us from a cab. We went over & in answer to his request agreed to pay our share of the fare over to Crater. I had read of the town built in the crater of an extinct volcano & wanted to see it. We piled in & were off in a cloud of dust. As in Athens (& N.Y.C.) The cab drivers rely mostly on the horn. This cab – a 1935 convertible ford – had a hand operated bull horn that sounded like a duck & he drove with one hand on the wheel & the other on that horn working it constantly. We careened around the other should of rocks that enclosed Aden – I'll never get used to driving on the left side of the road – scattered a herd of goats & seared an old man, passed the dhow shipyards along the flat plain that bordered the shallow Ma'ala Bay & started up the narrow switch-back road that crosses the rim of the old volcano as we labored up the steep grade with much knocking of the engine at every revolution 7 much honking of the horn at nothing, & turned around & saw the whole of the harbor laid out at my feet. Right Below us was a large cemetery, beyond that the dhow yards with many boats in various stages of construction. To the left over a spur of the peak was Aden its cubical white houses bare & bright in the blazing Arabian sun & beyond was the green of the harbor. I could see that the Maury was just putting out a 2 foot boat loaded with one-inch white-clad sailors. A cargo ship was just passing the mole on her way to sea, and several more were still at anchor. A great triangular white sail moved effortlessly in & out among the larger ships, & the 2 – foot liberty launch reached the 12' pier.

By now our cab was approaching the straight-sided narrow defile *[defile is a geographic term for a narrow pass or gorge between mountains or hills. It has its origins as a*

military description of a pass through which troops can march only in a narrow column or with a narrow front.] that carries the road through the mountain. It suddenly grew almost dark as we entered the pass. The steep walls of sheer rock towered above us & seemed almost to meet high above our heads. The sky was a narrow ribbon between two walls of rock. The sun burst upon us as we left the pass & there before us at the foot of another steep grade was crater. From that height it looked much like Aden but for the lack of trees and the precipitous cliffs that surrounded it. It indeed was built in an extent crater. As we entered the town we passed through a large section that had been completely burned out. Roofless buildings with empty staring windows & blackened walls. Great piles of rubble blocked the sidewalks & heat twisted guiders hung from an unsupported wall. It looked much like parts of Tokyo or Manila – like parts of so many of our big cities today. But the war had not gotten down here so I asked the driver. Without turning around he said "Jews" & the way he said it left no doubt in our minds as to what his stand was on the Arab-Jewish questions. Though Aden is actually an Indian protectorate with a British residency the population is predominantly Arab. We later learned that Aden had been the scene of a short & bloody riot. Arabs had joined together & burned, killed & looted until no Jewish owned building or home was left & the Jews themselves were either killed or driven from the peninsula. The feeling still runs high. As we 4 sat later on in a café drinking warm beer we mentioned the word 'Jew' in our conversation & 6 or 8 Arabs turned & stared questioningly at us. They didn't look friendly. We passed through the gutted ghetto & paid off our share of the cab four (4 Rupees) at the edge of the bazzar & started to walk through the market-place-the nerve center of every town in the Middle East. Low two- story buildings all white & all most cubical in shape were packed along both sides of the narrow streets. The flat roofs at different levels made the whole thing look like a fantasy in child's blocks. Light cloth awnings with skirts that brushed your shoulders hung before all the shops.

The bazzar is a living thing, a throbbing pulsating entity, its veins are dirty narrow streets, its blood the jostling multitude dark skinned Arabs their burnooses fluttering about their shoulders brushed past jet-black Somalis from E. Africa, tall stately blacks who wore dirty white wrap around skirts & an undershirt. Women of Islam veiled & in loose black garments that trailed on the ground – an occasional Indian merchant with his shiny black hair, & sharp features, his white robes gathered in front & raised to keep them out of the dirt- old beggars in filthy turbans and only a breechclout [breechcloth] would hold themselves up on a cane & extend a deformed hand crying "baksish" – an old man, his legs gathered under him, sitting against a wall staring blackly off into space with sightless eyes, wearing only a breechcloth & trying to keep from being stepped on – children of indeterminate parentage throwing stones at a camel pulling a water cart & the driver

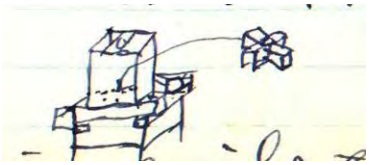
shouting invectives at them in an unknown tongue- unveiled Somali women in long red calico dresses – a sweating man laboring under a great bale of green hay pushing his way through the surging crowd his body bent low & his eyes on the ground – a hunch backed boy in shorts asking for alms- three veiled women looking over bolts of gaudy print – an Egyptian in western dress & a red fez – more Arabs more Somalis - more beggars- more kids – camels-goats-mules-dogs-this was the surging life blood of the bazaar. The air was heavy with the odors of humans & camels. Like the sounds of angry torrent were the combined voices of man & beast. A goat urinating on the sidewalk was kicked by one of the throng & it disappeared through an open doorway urinating as it went. A fat Indian on a rope pallet drew smoke thru his huka & exhaled a long thin stream of blue- gray smoke. A sweating Arab tin-smith worked a bellows with his feet & sparks flew from the pile of coals on the dirt floor. A carpenter in a shop littered with sawdust & shavings was fitting the wooden share into a plow & I stopped & thought of another carpenter in a shop probably much like this. We walked on, ducking under low awnings, stepping around prostrate beggars, waiting for a cursing driver to get his mule off the sidewalk, stopping to let pass a camel cart loaded with great bales bound in burlap; we walked & looked & marveled & wished we were less conspicuous. Somewhere along the way we picked up "curly" I dubbed him Curley for his head was shaved bare and glistened with drops of perspiration. He was about 12, black as midnight, with a ready smile & a mouthful of gleaming white teeth. Curly wore a red print shirt & a blue skirt. First he tried asking "whiskey" – we said no, "fuckey" we said definitely no, so he gave up & just tagged along. He asked for a cigarette & I always eager to contribute to the delinquency of a juvenile, gave him a Lucky. The bazaar after an hour or so became less exotic as the smells became more penetrating, the dust thicker, & the beggars more pitiful & insistent. We left & even two blocks away could still hear the sound of the torment. Curley was still with us. In an open field- perhaps 'field' is not the word, for "field" to me connotes cool green grass or waving grain & this was hard packed earth & dusty – two teams of boys were playing soccer & we stopped to watch. The low wall around the playing field was lined with grandstand quarterbacks sitting jackknife fashion on their haunches with their quarterbacks tucked underneath their chins. We watched for a while & then I crossed the street to a doorway under a large B.O.A.C. sign to pick up a British Overseas Airways folder just in case. As I came out, the other three were shouting at me to come over quickly. At first it looked as though they were besieged. The three of them were standing on the low wall & were surrounded by a small crowd- must have been 15 or 20 & more were arriving all the time. I pushed my way through & had visions of the three musketeers (OK then, 4 in this case) against the world. The thin red line, the hollow square at Khartoum. & the Black Hole of Colcutta all rolled into one. But then I realized

that they were all kids & all smiling. Ed h ad taken his shoe laces out for cat's cradle but had run out of tricks before a demanding & eager house. This was just my meat. I did two string tricks on my hands, but what really got them was the loop through the neck one & in true thespian style was carried on by my audience & even went as far as to "chew up & swallow" a lighted cigarette. We all ran out of tricks then & tried to leave. After two blocks we still had about a dozen of them with us. It was growing late by then so Curley got us a cab from somewhere, we gave him two rupees, he shook hands very solemnly all around & we left with much mad honking. Around the outside of the bazaar, through the burned-out ghetto, up to & through the pass & down into Aden. Ed & Gerry went back to the ship for chow while Frank & I looked in some of the stores. I picked up a nice set of matched ivory napkin rings & a couple of small sandalwood animals. Had a small steak, French fries, bread & cold cream, & good coffee at the Blue Bay on the crescent. Met a couple of the AGSC officers & Ens. Rasmussen from the Maury & went over to the Excelsior Hotel. Had a beer with them & then left for to stay would have been only to drink & that's a heck of a way to spend a whole evening & fortune, so we traipsed on back to the Maury Marie & the movie.

Thursday October 21st

So far this book sounds as though I spend most of my time on the beach; but for every hour spent ashore there are days spent in that drafting room topside.

After getting up the top sections of a Bilby Tower in #2 hold, we proceeded to draw up plans for the wooden observer's platform, the templates for the laying out the bases of various height towers, & framework in which the cement is to be poured for the pier for the astrolabe. These were



Drawn in pencil, then traced in ink on cloth paper & taken down to the carpentry shop. A radiogram the other day suggested we chart Shah Alam Shoal in the Persian Gulf on our way into Bahrien [Bahrain]. It is on the present chart of the Gulf but believed to be poorly located & poorly sounded. The buoy has been carried away & thru tankers have gone aground on her in the past two years. As near as we can tell from the available charts, Shah Alam lies at approx. 52 degrees 31'E, 26 degrees 25'N. I figured out the limits & polyconic projections distances & Ed & I drew up a master sheet with an 18 degree E.W

& 10 degree N-S spread in the shoal area. We'll prick through the coordinates onto sheets to be used as boat sheets & use this one for our smooth plot.

Cooler tonight with a good breeze from the Southwest. The moon slowly fights its arching course through a layer of stratocumulus. I'm reading Ullman's "The White Tower" - a good book that recalls vivid pictures of the Summers of '46 & '47 in the Wind River Range in Wyoming & makes me want to take the same trails again & marvel at the same views – this time I'd like to do it with Butch – maybe if this jaunt is over by June I can pick him up in Colo & we can do some climbing there. I want him to know the incomparable joy of high freedom.

-Notes-

Zarooh – Dhows-booms-baggalas-sambuks

Lateen rigger. Nakhodka = captain of Dhow

Ramadhan= Moslem fast month

Aghal=black lambs – wool head rope of desert Arabs

Basra dates – twisted wood from Yemen & logs from the Malabar Coast – dhow built with adz & Indian drills. Taiyib=good

Swahili=Lingua Franca of Persian Gulf

Tuesday October 26th

Since we left Aden, we have followed the coast north & east. Past the Hadhramant past the ports of Mukalla,[Makala] Saihut & Salala [Salalah], past the Kuria Muria Is (the British Quarantine station for Mecca pilgrims coming from the east) up the coast of Oman. Today we steamed almost due north up the western side of the Gulf towards the Straits of Ormuz or Hormuz. Late this afternoon we passed close to Ras Al Musandam – the easternmost top of Arabia – through the Straits of Hormuz & into the Persian Gulf at last. The sun was low & made the water between the ship & the shore a deep turquoise a big sea – going dhow sped southward hugging the coast. Here triangular latun sail well-filled by the fresh wind & very white in the low sunlight. High naked cliffs were straight out of the water. I got a glass on them & they were a great thickness of sedimentary beds slightly folded & faulted, and arranged tier on tier up & back to the peaks of Musandam. Their tops were hidden in clouds that spilled downward through the barren volleys. Higher up, great towering cumulo nimbus clouds with their flat anvils streaming southward were starting to turn pink. To the east I could just make out the mountains of

Persia. (Iran)I climbed to the top of the fling bridge & watched the color change from pink to blood-red & then drain from the sky leaving dirty clouds against a light blue background & felt strange as we went through the Straits of Ormuz. Actually it was not much different from Gibraltar or Bab el Mandeb; but where they linked ocean to sea & Sea to Gulf, Ormuz seemed to be a strait between the present & the past. Sounds a bit corny, I know, but we were entering the Persian Gulf where men live much as they did in the days of Christ, they said their booms & bagalas – ships much like those of the Phoenicians in the 3rd century B.C. The Gulf is believed by many to be the place where man first started in this veil of tears. Here (Hormuz) Marco Polo ended his return voyage, here Nearctus [Nearchus of Crete, Alexander the Great's admiral in command on trip back to Mesopotamia] sailed in 325 B.C. here the African slave traders brought their black ivory for the slave marts of Baghdad & Kuwait—and it is still much as it was then. The same boats, the same houses, the same clothes. I'll be most interested to see what lies ahead. Lots of work I know, long hours in the boiling sun of the day, & weary hours over our charts & computations in the heat of evening. It will be work, but I also plan to keep my eyes, ears & mind open & thereby learn a lot. Tomorrow we get to Shah Allum Shoal [Shah –Alam Shoal].

Wednesday, Oct 27th

I in my naivte [naiveté] thought that snafu operations were limited to the army. It is indeed a consoling thought , yes a golden revelation, to know that the navy can- when the right circumstances present themselves – present a fouled up situation that almost reaches the peaks attained by the army units to which it was my dubious honor to be attached during the late international altercation. The AGS's went ahead of the Maury about noon. It was a nice formation. Their fathometers pinged away madly as the swept the bottom looking for the shoaling that would indicate our approach to Shah Allum Shoal [Shah-Alam Shoal]. As we drew nearer to the area where it was reputed to be, we reduced our speed to 4 knots. The sound bouts seemed to be ready. Their crews looked about on their decks & the boom was attached to the shiny on #4 Sound boat – port side first aft of the drafting room. We slowed down even more & looking through the davits above the captain's gig I could see the AGSC's had hove too. Then the order came over the speaker system 'Sound boat crews man your soundboats – on the double." Well, I was impressed. This was nothing like the army. Then the old system went into operation. Men standing ready with lines slacked their grips & looked toward the bridge as though they expected to see a big neon sign up there saying "Hold on, I'll be right there", The man in the hull of #4 ready to kick over the two engines stuck his head out of the hatch & looked toward the loud-speaker in the after mast as though seeing him it would explain

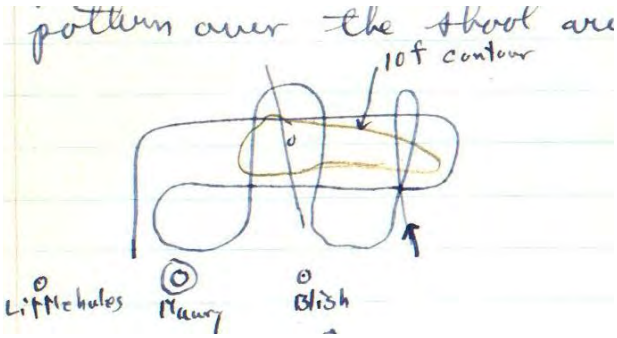
the delay. Osborn – Cox'n of #4 cocked an eye toward the bridge then leaned back & lit a cigarette as though he was to sit there all day – Osborn's been in the navy 7 years. The cooks that had come out of their holes to watch took a last look at the sky & ducked below- again they are all Navy men; even Bongo (the dog) went back to sleep under the lip of #2 hatch cover- Bongo has been in the Navy 3 years. I leaned over the rail along the drafting room & looked forward expecting them to start lowering away any second now - & have been with the Navy two months. We waited---& waited---& waited. Bongo was asleep & dreaming of the lamp posts on 57 Avenue, Osborn's cigarette was out long ago & he & the man from the bowels of $3 had both removed their shirts & were sun-bathing on the sloping deck of the sound boat. The whole operation had bogged down, fizzled out. It was good to be back in a familiar situation. I lit up a week & sauntered aft to the drafting room again & was back at cleaning meter – bars when the others came in. Lt. Shaw soon arrived looking like the cat that ate the canary & herded us all down to the bottom of #3 hold. What for--- To get out the generators that supply the power for the radar equipment on the soundboats. We were going to plot the positions of the soundboats by radar- radar equipment was on the soundboats all polished & ready to go- but the power for these ingenious machines-roped against the bulkhead under 10 boxes of Helmet, sun, tropical at the bottom of #3 hold aboard the Maury. Yes indeedie it is good to get back on ground I know so well. It is now 2200 & everything is as expected. We are still anchored the 3 AGSc's are still around (2 of them anyway, the Dutton has gone to Bahrain for mail – for additional food too I hope if this keeps up) the soundboats are still in their cradles right where they were when we left New York. Everything quit for chow & then quit again (or rather – stayed quitted) while all hands went to the movie & now everyone is in the rack. We'll try again in the morning I guess. That "Soundboats crews man your soundboats on the double" really had me sold on this navy efficiency for awhile – until I learned it was just the army's Hurry up and wait – on the double.

Friday Oct 29th

Between the full day of yesterday, & the arrival of mail & 3 Sat. Eve. Posts today I have kept fairly busy.

Yesterday & today both were fairly warm. The air-conditioning in the drafting room purrs contentedly but doesn't do a damn bit of good. We finally opened all the parts today when the temp. in there got up to 92 degrees but got little relief. I spent yesterday slaving over hot fathometer rolls from the N 5-9 & NNC-2 sets aboard. Checked the soundings from Gibraltar to Augusta to Piraeus to Port Said all but for some NNC-2 missing on the 11th. The work entails interpolating time intervals on the rolls between ½

hr. marks & checking the depths at these derived times against the depth as recorded in the sound books. I have climbed every peak in the Mediterranean Sea using a pair of 11-point dividers as a climbing stick. About 1630 the combination of heat, glare from the sun on the water, too many cigarettes, & too much close work gave me a splitting headache & I checked out for my rack. One sound-boat (#1 with Ens. Menke) had been put in order & had made a good pattern over the shoal area &



His boat sheet showed the shoal to be just where & the shape that the charts showed it to be. The boat was beached in the VF radar set on the bridge & the range bearing plotted on a boat sheet up there. During the movie that eve. I made up my hour & a half tracing & plotting in the drafting room. Today they managed somehow to get 3 of the 4 sound boots working & filled in the holes where they had no soundings. I spent the day plotting polyconic projections for the 1:20,000 smooth sheets to be used in Kuwait Harbor.

We weighed anchor about 1880 & are now en route to Bahrien Should be there about 1000 tomorrow.

Picked up some strange green clay on our anchor just south of Shah Allam Shoal – a sample is with my other one- it looks much like blauconite clay such as might be found on the Cretaceous coastal plains of the Atlantic Coast. The waters abound in strange life. Last eve one of the million of fishing lines over the side hooked a shark. He broke water only once – a big 7 or 8 footer & then sounded. They had only a light line on him so just played him till he took a few turns around our starboard anchor chain & they had to cut the line. There were lots of water snakes- yellow & brown – up to 4 feet in length that slither along the side of the ship & looked especially eerie as they were picked up by the battle lanterns being used to light up the battle with the shark An especially strange critter is a light orange fish, that I have seen up to 10’ in length. Looks something like this:

They at first seemed to be lurching along by pushing with their tails but a closer look showed that they had flippers of some sort mounted on their bulbous looking heads that they used. Only would paddle once & then glide, then paddle again & so on. I watched one for some time. He would seem to attack the hull of the Maury coming partially out of the water & then fall back with a splash turn & by his flip & glide method of locomotion get over to the sound boot tied alongside & attack her seeming to shoot along the water level at the hull, thrust himself out, fall back & return for another crack at the Maury. A good ball of fluorescence was in the water too. The anchor chains seemed to be coated with an incandescent mist below the surface & occasional blue-green globules of colonial protozoans would be carried by in the current lighting about every 5-10 seconds. They were noticeable only along the hull where evidently a turbulence of some kind causes them to lumonesce. [Luminesce] To quote from Sverdrup p. 834 "The light rays produced by organisms are wholly within the range of human vision and may at time be sufficiently brilliant to make the crests of breaking waves, the wake of a ship, or other mechanically agitated water glow with a general greenish light of sufficient intensity to enable one to see…carried by innumerable microscopic organisms mainly dinoflagellates (dinoflagellates) such a Noctiluca"

Saturday October 30th

Again we worked 8 hrs. overtime on a Saturday. Spent the entire day helping the small boat officers to get their boat sheets squared away & the soundings in their log books checked against the fathometer rolls. It was menial labor & not too interesting to do.

We had the curtains drawn over the ports all day to keep out the glare of the water & about 1100 when & came below for coffee & found we had anchored & that the 3 AGSC's were again tied up side by side along our port beam. We are anchored still – about 2 miles off Bahrein Island. Unlike Gibraltar or Piraeus or Aden which had mountains or at least hills, there is here very little to show were the water stops & the land begins. Our horizon is still very very flat. In the distance off our stern & could make out one lane flat – topped hill & it is hard to realize that the shore isn't way back there. Off our port bow a long low line of flat white buildings that seem to be right on the water is Wanamax. [Dubai] On to the left, again right at water level is a long horizon

of storage tanks and the refining towers of the Bahrien Oil Company. Farther to the left with binoculars you can just make out a cluster of bandy-legged oil well rights at the base of that one lonely hill that somehow got misplaced. The world from here seems to be unidimensional- no up or down, just horizontal distances on a vast plan. There is not a cloud in the sky – a sky only a shade lighter than the wide stretch of blue water between here & the shore. From the ship, the island looks like a white pencil line on a big blue sphere. From somewhere along that pencil line three dhows had put out & now catching a light breeze from the northwest crept along toward the open gulf.

The sun dropped lower down in the sky & approached the horizon without the softening effects of a sunset. Still at noon. Brightness it plunged below the horizon and you seemed to feel that when it rose out of the sea in the morning it would not be preceded by a gentle dawn glow, but would rise suddenly screaming & hard again. It grew dark rapidly and a million lights came on along the island making a sparkling belt of diamonds to girdle the drab night. (Colorful, but would be better for a woman's scream on a quiet night). A dog barked in one of the ships tied alongside & the thin silence shattered & fell in a million tinkling slivers. (I sailor flipped a glowing cigarette butt over the side & it fell in a wide arc and died as it hit the water – as though nature were mimicking him a shooting star fell in a lazy arc and seemed to be snuffed out as it fell below the horizon. On one of the little ships a harmonica was playing Peg 'O My Heart it fouled up the beginning of the second chorus and somebody laughed. Rope bumpers groaned as the Dutton rubbed shoulders with the Maury & somewhere behind me someone bumped into a cable in the dark & cursed. It is much cooler now 7 should be a good night for sleeping.

Sunday, October 31st

The other three went ashore today – don't know why I didn't. The crew were allowed to go only to a British recreation area & they took off in the PL with about 40 cases of beer. I couldn't quite see that ride just for a beer - in a fenced in recreation area. Well, as it turned out, the others picked up a cab & went over to Manamax. They seemed to have had a good time & saw lots of the local color – even bought 3 burnooses (Bernice) I was sorry I hadn't gone, for I could have sent off my last toll of color film. As it was I spent the time while they were ashore reading all the decent articles in my 3 Sat Eve Posts up on the deck above the drafting room. I wore only my Australian shorts & got some good color on my front. Got a really nice letter from Bobbie Imbrie w. notations & corrections by Imbo, one from Mrs. S. & a brief epistle from Charlotte McNulty the lounge lizard of Wells'50 – gives me a pain where pills can't reach. She is a spoiled brat who will soon mature into a full-blown, cultured,

bitch. (fine way to start a new page)

Monday 1st November

It's 2120 and we are tied up to the Tec at the end of the long fueling pier that stretches from Bahrein Island far out into the bay. The Pier is flush against our hull to starboard & across the 100 feet of black oil-stained planking. The American tanker Camas Meadows is moored close alongside. She rises & falls with the swell and is big black monster breathing heavily as she sucks nourishment from the great black hose that rises like a python from the pier & drapes over the gun wholes with its head thrust deep into the ships entrails. Ahead of the Camas Meadows is the U.S. Navy tanker Guadalupe also taking on fuel. The Maury too has all day had a sleek black flexible hose disgorging hundreds of gallons of black diesel oil into her tanks. The action of a pump somewhere beneath the surface of the pier causes the hose to pulsate like a loaded artery. Now it is night and the pier between the walls of hull on either side is lighted by the lamps at the end of curved arms atop the 30' lamp-posts that line the middle of the pier. The light is absorbed by the dark planking but picks out every bit of bright work & white on the ships alongside. The overall effect is one of unreality as though the whole thing were a set for the first act of Eugene O'Neill's the Long Voyage Home. A few Arabs that work as labors for BAPCO (British-American Petroleum Company) tend the cranes that hoist the hoses & turn the valves that control the flow of oil. The bases come from large trap doors in the pier that are now thrown back beside the dark holes filled with control valves & pipes. One dark skinned Arab wears a light red turban and what looks like an army overcoat – for the nights are cool- but he is barefooted. Leaning against one of the lamp posts he seems to be contemplating the small black spot at his feet that is his shadow. In the small booth in the middle of the pier a telephone jangles demandingly & the Arab looks up from his shadow toward the booth & then toward the gangplank leading up to the deck of the Camas Meadows. Down it hurries a white man in khaki shirt & shorts. His arms & bare legs look very white & he has a good sized paunch that sways as he hurries across toward the shed & makes his attempt at running look ludicrous. He disappears inside, the jangling of the telephone stops & silence closes in around the shed. The Maury rises on a swell, hawsers strain in their bits and rope finders groan as they are crushed against the oily pier. The fat man waddles across the pier toward the Maury, his shadow getting shorter & shorter as he nears a lamp post, gets mixed up in his feet as he passes & reaches out in front of him as he comes toward the ship. The Arab goes back to watching his own shadow, the black pythons still pulsate & the loud speaker system aboard tells us again that the smoking lamp is out throughout the ship.

Spent the day in the drafting room trying to unscramble the Sound Books & fathograms from the soundboats over Shah Allam Shoal. The fathometer in Beggs sound boat (#2) was on the fritz & he had used a portable set (N11-6). The hitch is that they had voltage trouble for ½ a day 'til they put in fresh batteries & so positions that should be evenly spaced at three minute intervals along the roll are spread all over. On Menke's rolls from S.B. #1 there are 15-20 minute stretches with no time or position locations – stretches while his fathometer man was hanging over the side sick as a dog. Thus we had to go along 'till we found a place where they had changed from feet to fathoms on the roll. Try to find the break in the book & then figure ahead & back from that break assuming that the roll kept moving at a continuous rote past the stylus arm. It made a lot of finagling, but we came out O.K.

We should pull out of here early in the morning & arrive at Kuwait Wednesday some time. Then our real week begins. I have been assigned as head of triangulation party #1 & hope to set up stations to mb & tip on Jasirut Falakah (that's "Jazirat Faqlakah") the island between Ras Al Ardh & Shatt –al-Arab (The mouths of the Tigris & Euphrates). It is an interesting looking island from the map & her position makes her an island that was probably one of the first known to man. I want to see that tomb & to snap along her shoals.

Got today in the mail my first roll of color film back from Eastman. They are 8 good shots of Athens. They exceeded my wildest hopes. Must get some more color film.

Wednesday. November 3rd

1230 – Well we're here. Anchored about an hour ago between Ras – Al Ardh and Jasirat Faqlakah. Yesterday we left Bahrien about 0800 & I spend the day working over the fathometer rolls from the Maury run off while we were anchored over Shah Allam. Any fluctuations should have been attributable to tide & we hoped to get a tidal correction to apply to the sound books from the soundboats; but the joker on fathometer watch on the bridge had goofed off & fudge in the times in such a way that Nov 29th just isn't in the book at all. I spent the better part of the day trying to figure out what had gone on. That afternoon our assignments were confirmed & I am indeed to go to Falakah tomorrow with M.R. Smith & C.D. Taylor (apprentice seamen) as assistants to reconnoiter the island, try to find good locations for triangulation stations Tom, Nya & Tip (now Tipe), take a solar shot, & determine visibility along the horizon, getting magnetic azimuths to all blind spots & nocturnal features. Today – or at the best far today – Ed Craig & I have laid out & inked thru boat sheets (1.002, 1.003 & 1.005) of the harbor – still have one to go. Last eve after the movie & at the risk of being through "eager" by the others I put

one of the photo stated copies of HO 3654 (Kuwait Harbor) in the Saltzman projector & traced off a large map of the island, laying off & measuring the magnetic azimuths of the lines of sight to the other proposed stations in the net which are supposed to be visible from Faqlakah.

1800 "Welcome Stranger" is the movie tonight, but since we hat it a few weeks ago (minus one reel); I think I'll skip it & get caught up in here & with my letter writing.

Our survey operations will not get underway tomorrow after all, as the captain wasn't able to make all his shore calls today. We were all set though – our stateroom already crowded now looks like a phone booth holding the gear for a marine division before Tarawa. Between the desk where I'm writing & the door, the bulkhead is festooned with map cases & sun helmets. Charts of Kuwait Harbor are on both desks where I'm writing & the door, the bulkhead is festooned with map cases & sun helmets. Charts of Kuwait Harbor are on both desks & binoculars, Whyte fore tops, pods colored pencils, & protractors are all stored & ready to go. Now it's postponed – at least for a day. I was ready but will be glad of the chance to brush up on solar observations with a teas nil. I think we all felt & still feel much relieved that the two-month trip to Kuwait is over & that we are about to start. We already know the area as though we had been here. We could produce most of these charts by memory now. As the ship pulled ever closer to land yesterday we began calling off 'familiar' landmarks as though we were coming into an area we all knew well. We picked up the headland of Ras Al Ardh & identified the land to starboard as Jazirat Faylakah recognized the muddy water as the effluvium from Shott Al Arbe & Kuwait from the sea looked much as we had imagined it. A great expanse of low white flat-topped adobe – looking buildings with one or two minarettes rising haughtily above the irregular levels of the hoses around them. Nearer the waterfront are several larger buildings with two tiers of arched balconies along the front- they look almost like Italian Renaissance bldgs. from a distance. Along the water front dhows with their sails down look like skeletons as they cluster close against the shoreline. There must be several hundred of them moored & tied – up over there. The entire city is surrounded by a turreted wall that reaches to the harbor at both ends as though to see the people off from the land to the south & keep them at the water from which comes their livelihood. A few though seem to have broken out and several deltas of houses extend out from the wall onto the hot dry plains. From where we are anchored there is not one in site. The shore of the harbor stretches off beyond the town barren & flat to disappear in the distance. It comes back into view on the other side of Kuwait harbor but here it is backed by a low sandy bluff still dry-looking & without vegetation. About 1100 the dhow fleet returned from wherever dhows go during the day & it was lovely to see.

There must have been 50 or 60 of them – all sized- there wasn't much wind. Streaks of wind-nipples on the smooth surface of the harbor looked like greasy finger streaks on a gray-green mirror. By the time supper was over (& our mess bill jumped to $97 monthly) it had begun to get dark. It's strange the way it gets dark out here. The grayness seems to spread up from the land & out from the shore. The land is invisible while the sky & water still seem to be hanging on to the last traces of the day. A little fingernail man has come up & the wake is very narrow band of gold from the shore straight to the ship. A cool breeze has come up – a welcome relief from the glaring heat of the day – and the ship is getting ready to retire for the night. Though it is 7 in the evening here, it is only 7 AM in Frisco on the day after a presidential election. We still don't know who won, but the last report heard about noon by short wave from England said Truman was way ahead – that would have been just after midnights sometime in the States. We don't seem to have gotten two worked up over the election over here. Our being so out of touch with the states renders us quite immune to the virus of newspaper propaganda, hence we don't know quite what goes on nor are our stands influenced by the current whim of the nations' editors. I cannot help but feel, however, that if Mr. Truman is re-elected & his democratic senators returned to their seats & additional seats go to D's over R's that our country is in for four hard years. He is a weak man. I pray God to give him the strength of character & the awareness of right to keep this country behind the principles we know to be good. It is hopeless to try to form a government stronger than the people who make it up, to aspire to political ideals higher than those ideals of the men assigned to perpetuate them, it is sheer folly to even hope for a Christian settlement of world affairs when the men in whose hands the power of war or peace may lie are Godless, self-centered, money –mad, power-crazy hypocrites, again – the ethics of a social in political system can be no better than the personal ethics of the people who make up that society or that government.

Thursday, Nov. 4th 2130

Fathograms most of the day today – had my boys off work painting 1 foot black & white stripes on the 16' 2 x 2 's read on the signals. Lt's Shaw & Cook went ashore to see oil co. men & the old man to see the Sheik. Evidently the word didn't get through & not a soul ashore knew we were coming; so we won't be going ashore at least 'till Monday. – so it goes. His Highness Sir Ahmed Ibn Jaber al-Sabah – his rt. hand man Ali Kalifa whose nephew Fahad was at Beirut

Sheikh Ahmed Sabah his subjects call him

Friday, November 5th

Cooke & Shaw went to the oil co again today & down to Fahil for the tile gauge rewards. We worked topside on fathograms again. All caught up to it hover but for one NJ-9 roll that's missing & the NMC-2 roll still in the machine.

Yesterday & today were both clear & hot – also the flies have discovered us. They are persistent little devils that get into your nose & ears-& hate 'em.

Beautiful sunset tonight. No harsh colors – all pastels pink, & yellow against a baby blue sky & reflected in the light green mirror of the bay. A big boom with both sails rigged for the slightest wisp of moving air sat motionless on its reflected image in the water & was silhouetted just as the orange sun slipped behind the low sand hills west of the harbor. The nights are really quite cool & make for darn nice sleeping.

Tuesday, November 9th

1150- The word finally came through – we're to start tomorrow as previously planned for last Thursday.

Sunday we went ashore to the oil company's area & recreated – baseball beer & blazing hot sun – over & back in Soundboats. It was good to get on terra ferma again but it irked me that we couldn't get into the town. Still hope to see Feugaut. In the drafting room, we have made tidal plot from the Maury's rolls over Shah Allam & have applied the corrections by time to the sound book sound books. Set up 0.201 smooth plot 1:40,000 & are now working

0202

Thursday Evening November 12th,

I'm really tired tonight – left the ship at 0730 this A.M. & got back in the dock at 1920 tonight. Yesterday was another long one too. Holiday routine tomorrow & work Sunday. I had Sunday School last Sunday – we get a miserable attendance – maybe 25 out of 300 men & 3 out of 28 offices 15th Chapter of St. John – I am the vine & you are the branches- Hope to get caught up in here when I wake up tomorrow afternoon. Doc Calin is a wonderful guy has picked up Jaundice & is being flown to Dhahran for shipment back to the States. Tough break for him & us.

Friday eve November 12th

I find it most difficult to write of yesterday when tomorrow loon so big. Daily I am faced with tasks the enormity of which staggers me; but each eve & somehow seem to have muddled my way through. The difficulty stems from my own inadequate knowledge of

this type of work, a knowledge that should be gained from those laying out the jobs for us; but they are of no help & I learn only by trial & error while doing.

Tuesday evening the plan of the day came out with "0700 Mr. Stewart & triangulation party #1 away in LCUP #5 to reconnoiter Jazirat laylbah stations Tomb Type & Tviya" It's funny that no one ever tells us where we go or what we do-its always that impersonal Plan of the Day- a mimeographed sheet tacked up among other papers on the bulletin board in the wardroom. By the time I sacked in that evening I had all our gear- transit, biped, stadia rod, my map cave, hatchet, sheeting, tacks, maps everything – even food & water arranged for – I know where I was going Faylolsoh, and what I was to do – locate sites for stations, take 1 minute cuts to natural objects, check horizon visibility & take three sets of sun shots at each stations. I should have rested well, but as I lay there staring through the darkness at the overhead I was assailed by a thousand doubts, small details that never noted the plan of the day, little problems that couldn't be prepared for & would have to be sized up & dealt with as they were met. How close could we get with the VP? Was the existing chart accurate enough so we could trust the depth? What if we ran aground? Were the Arabs on Falashoh going to resent our landing on their island. I had read of the Arabs castrating British fliers & sewing their testicles in their mouths. They cut off a man's hands for stealing – their regard for life is small here where it is so cheap- only the strong survive & death is no novelty. Would they resent my setting up a transit on top of a tomb? These things I did not know-would not know 'till tomorrow.

It was dark at 0600 when I was awakened. Ed & Jerry & Frank each had slept with his own problems & we were quiet as we washed & dressed. Breakfast was hurried & by 0630 I was below were our gear had been stored the night before. Smith & Taylor had not shown up so I had the word passed for them. By 0650 we had all our gear piled at the head of the gang way & were awaiting the LCUP to come along side. At five of seven she came around the turn of the Maury her broad nose door spanking the waves & the American flag slapping smartly in the dawn breeze. We toted our gear down the gangway, handed it over into the rocking boat & went back for more. The boat was loaded & we hopped aboard & jumped down into the great space forward. The Maury loomed high above us. Lt. Stoerseth was OD & he was standing on the grilled platform at the head of the gangway directly above me. I recall thinking that if a woman were standing there I could see everything. It's strange the thoughts that rush unchecked through one's mind. "Cocks'n shove off – take your orders from Mr. Stewart." Nolan a husky black slipped the bow line, Fade hauled in the stern line & Powers standing at the high wheel turned the spade-handle throttle for power & guard it forward. We were off.

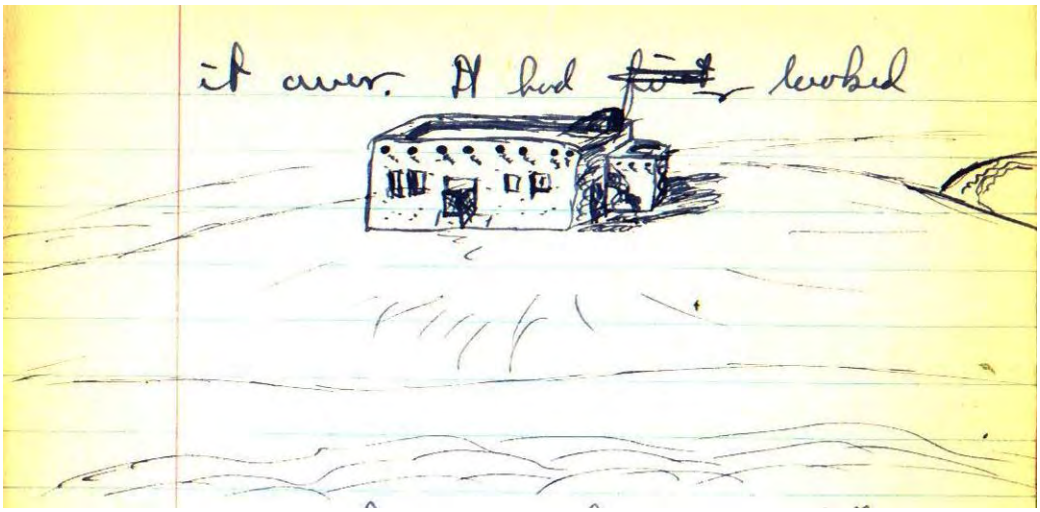
I looked up & could see men & officers standing along the rails watching us leave. I saw Frank & Jerry had paused in their own preparations to watch me go. What were they thinking as they watched? I had an urge to wave but checked it. It would have seemed silly I guess. Must appear business-like. We went around to the port side of the Maury where a 10' wherry *[a long light rowboat made sharp at both ends and used to transport passengers on rivers and about harbors]* dangled in mid-air from a boom cable. Powers eased in alongside, pulled back on the spade handle to reverse our engine & stop us. We nudged the great hull & the boom lowered the wherry twisting largely toward us.

We guided her into the U.P & unhooked the cable. Looking up, I could see the hulk of Bosn' Robertson standing at the rail. He shouted an order to someone I couldn't see & the dangling empty cable rose up toward the deck high above us. I asked Powers if he knew where we were going when he said no, I told him to head the East into the sun & we were off. I gave him my extra chart for he had none, showed him the island & our position & started arranging our gear. The sun was only a few feet above the horizon & had not yet taken the night chill out of the air. We plowed along with a good sea coming from astern & slightly to port. The ungainly LCUP would rise at the stern as a wave overtook us ever crazily as the cox'n cranked the wheel to get her back on course & straighten out again as the stern went down in the trough. Thus our course was a constant zig zag one- the sharp veer to port as a wave swerving our stern and the return to course as the helmsman corrected. This plus the steady pitch & slight roll made our small world hounded by the side of the landing craft, a crazily swaying drunken microcosms. This was the type of craft that took the marines ashore at Tarawa & Iwo only a few short years ago. I looked forward to the slit in the steel door at the bow & thought of the many men that had watched Betio & Suribacki draw closer identical slits in identical LCUP's& wondered what they had thought. The Maury was fast disappearing to stern & Kuwait was sliding port to starboard. The low morning sun made the adobe bldgs. of the town stand out clearly, & together with their shadows that would disappear as the sun rose higher made a black & white pattern of bare rectangular blocks & broke out the glasses & identified the black pyramid shaped lighthouse of Ras Al Ardh. Then that two slipped behind us & we were alone but for a lone seagull that circled screaming above us. We ploughed onward & the sun grew warm & then hot. The two mariners were asleep – I would have plenty of time to get to know them. I climbed up to the top of the bow door & scanned the horizon with the binoculars for the first sight of what I had come to call 'my Island". My field of vision rose & fell with the boat & I could see only a few big dhows hull-down on the horizon. It seemed hover that we plowed along, the waves were higher now that we were past the point & out into the Persian Gulf & the man at the wheel was fighting it continually. That wheel is not vertical as you expect boat wheels to

be but rather is horizontal like the steering wheel of a truck or big bus. He now had extended the steering column upwards & stood with one foot on the guns whole & the other on the box that hauled the gyro & controls & he two was peering intensely ahead his white sailor cap low over eyes squinted against the sun. His sleeves were rolled up over powerful forearms tattooed. His left arm had a pretty girl in a bathing suit & a big sunflower hat & I remember wondering why the artist had priced in pink coloring for her flesh when he could have left it plain & had it flesh-colored. His right arm had a shield & eagle with U.S. Navy underneath in black letters.

The light at Ras Al Ardh was still visible on the horizon behind us. I swung the binoculars through 180 degrees & level ahead on the opposite horizon was a small gray rectangle – a different shape from the painted dhow sails that I had been seeing & I knew it was the tomb. Even as I watched, the horizon north of the tomb sprouted trees. Then more rectangular bldgs. & then the low land that was the western end of *Faylakah [*Failaka *Island (Arabic: □□□ □ □ □□□□□ jazīrat Faylakah / Fēlaka) is a Kuwaiti Island in the Persian Gulf. The island is 20 km off the coast of Kuwait City in the Persian Gulf]* rose beneath them. We altered course to it just north of the tom, between it & the tow & waited as it all drew nearer. The mariners were awake now & I jumped down from the ramp where I had been perched to have a conference with Sgt. Fifield (John F. from Montana near Billings). I pulled out a dirty creased map & painted out where I planned to land. We would take the landing craft in as far as possible & then put out the wherry. I planned to set-up the transit on the tomb if possible & then move down by boat to Tipe on the other end of the island. John & S/SSgt Brenham planned to walk down to meet us there. We were close now & the end of the island seemed completely deserted – I couldn't see a soul. At first & though that was a good sign – no Arabs no trouble, but then I began to remember Villiers's comment about visitors being welcomed with a shot from behind a wall & I wished I could see a few Arabs- had visions of dark eyes peering over ancient rifle barrels from every corner. We slowed down to half speed & felt our way toward the beach. 100 yards then 70 & 50, then a blump under the storm. We all turned & saw right a stern of us a coffee-colored turbulence in our wake & knew we had run aground. Powers quickly reversed the engine & we began to even back & off the bottom. As we backed we bumped again- & again- not hard jolting bumps, but just enough to let us know the bottom was still there. We backed & tweaked & headed out again- the coffee colored wake & occasional scraping continued 'till we were back at least 100 yds. from the shore. The tide must have been ebbing fast, for we had hit none of it going in. Once back in deep water – I say 'deep' here at the delta of Shatt al Arab *[*Shatt al Arab *(shät äl äˈräb) [key], tidal river, 120 mi (193 km) long, formed by the confluence of the Tigris and Euphrates rivers, flowing SE to the Persian Gulf, ...]* 5' is

deep water – we hove to & tossed out the hook. With much pushing & cranking the ramp creaked down & a few brave wavelets came in between the ramp & the bottom of the boat. We pitched our gear in the wherry & headed for shore. I suppose we could have put her out when we were in closer, but all our efforts at the time were concentrated on getting water between hull & bottom again. Even the wherry drawing lens then a foot went aground & we all piled out, our equipment on our backs & waded ashore pulling the wherry with us. It was a 20 yard splash through the foot-deep water to the shiny mud-flat that the water had so recently quitted. There must be a good deal of organic material in that mud for it had an odor of purification & decay. We beached the wherry, waved the marine on their way & turned toward the tomb. The building was only 20 or 30 yds. away now & seemed quite deserted. We crossed the mud flat that sucked at our feet & watched our footprints fill with water, crossed the high water mark – a long thin line of shells – I stopped & picked up 3 or four nice tarpon scales – then into the dry sand. Water slushed in my shoes & the wet bottoms of my trousers clung to my legs. The tomb loomed above us now & we paused to look it over. It had looked



Gray when we first saw it on the horizon, had seemed pure white from the beach, & now as we stood facing it, it was a washed out khaki color & seemed to be made of adobe – sand, straw & mud baked together into block & plastered with more mud & sand. A latticed doorway of palm cacti hung lastly open & four bare openings for windows stared at us like empty eye sockets. The roof was low & flat & seemed to have a low wall around it. A small window-less cubicle at one corner broke the rectangular symmetry of the building. The ground around the entrance was well beaten down & I could make out bare foot print & deeper prints of cloven hoofs that probably were made by a camel. We walked completely around it and saw no one back at the broken doorway I peered in & risked a “hello” that I tried to make sound authoritative but friendly—try it. I was

startled by the hollow & dead tone that the building imparted & the sound of my voice. There was no answer & I went in. The door opened onto a corridor that ran the full length of the building to another door at the other end & intersected similar corridors in the middle – thus dividing the building into five separate rooms about 25 feet on a side. These rooms each had a door & a window giving onto one of the corridors, so in effect it was four separate one – roomed houses under the same roof. We peered in each room in turn & all were empty. One had the remains of a small cook fire in the middle of the dirt floor, but aside from this they were all devoid of any evidence of human habitation & might easily have been a house set aside for flies for they were legion. They buzzed continually in the starting ray of sunlight that came in thru one of the doorways & soon we were covered with them. At the corner to which the small annex was attached, a stairway led upward from the main corridor. The steps were so filled with sand that it looked more like an uneven ramp leading upward. There was one turn in the stairs where a small window had been cut & was more hung with a tattered piece of burlap that flapped in the breeze. There were no footprints on the stairs, so I felt sure no one was up there waiting for me to put my head out of the opening that gave onto the roof. I climbed up & came out on the flat roof as a small rat scurried to the other side & disappeared down a hole. The sun & air felt good after the dusk & dirt & flies of the interior. I went over to the low parapet around the roof & peered over & I was about 15' above the ground & had a fine view of the surrounding area. To the west the shore lay just below the low mound in which the tomb was built – if it is a tomb- & I could see that even during the short time since we had left it, the wherry had been left high & dry by the receding tide. Off shore the LCVP bobbed reassuringly in the gentle swell to the north by the town of Az-Zawr huddled close to the shore. Between the tomb & the town were several low sand mounds, probably dunes, & over them ranged a small herd of goats – what they found there to eat I don't know for it looked like bare sand from where I stood. Nothing there was what I assumed to be a woman. It was a person shrouded from head to foot in a black shawl – the first person I had yet seen on the island. Beyond lay the town naked in the glaring Arabian sun-more of the same flat-roofed rectangular buildings with one lone white minaret pointing up into the blue. Behind a wall I could see the tops of a small grove – probably 15 or 20 of date palms. Many dhows of all sizes were drawn up in the stretch of narrow sand beach between the town & the water. The shore –side of the town seemed to be walled and before the wall I could discern several moving dots that were more people. Above & below the town were shaped fish traps painted out into the water & bagalla that had been approaching the town under full sail dropped her latun rig & coasted on toward the shore as the dots converged toward the place where she touched shore. Looking through the binoculars I seemed to be viewing a silent movie. I was

watching people moving & a boat landing but could hear none of the chattering & sing song chanting that I have learned accompanies any group activity by the dhow sailors. It was very quiet – all I could hear was the buzzing of the flier & a nearby curse as Taylor blew a fly out of his mouth. It was quite hot by now & I took off my shirt to absorb some of that warmth. I took my one minute cuts? & my set of three sun-shots & cursed the flies myself. They aren't bad when they crawl on your hands & backs & neck, because you know where they are; but once on your face, they get into your ears & nose, walk into the corner of your eyes and across your lips. They are persistent & seem determined to give you just as much trouble as they can. We finished up on the roof, drove a stake with a strip of bunting on it into the S.W. corner of the adobe rampart , packed up the gear & ducked back down into the tomb & on out onto the sand again. The roof is too unstable to be used as a station for a thendobty? but I was lucky in that the rise of ground is high enough above the water so I can see light without having to set up a tower. Back across the shell line, the mud flat – now dry, is beginning to break up into hexagonal blocks, & down to the wherry now a good 10 yards from the water. The LCVP came in part way to meet us, we loaded the gear aboard, climbed on ourselves & put the wherry in tow.

Nov 14th Sunday eve –

I'm tired of trying to keep up in this stuff – each days task seems bigger than the last – and the interesting details of the mesh Are neglected when my mind is filled with the size of the cloth (that's a weird & confusing metaphor if ever I saw one) Anyway we got back Wednesday eve tired & sun-burned to find that Lts. Shaw & Cook were ashore at a party & that & the next day was to center mark TIPC Tomb & Niya – hell I hadn't even gotten to Tom's & Niya & had never mixed concrete in my life. The other three all had pblms. Too. We sacked in about midnight after 3 hrs. of study trying to puzzle out how to do what was expected of us. We were all pretty P.O.'d. How in hell do they expect to run a survey from their damn parties? I left Thursday morning (yes, Memorial day) before they had shaken off hangovers that I hoped made them feel miserable all day. We ran into a lot of trouble getting the LCUP in at Tipe & I ended up carrying a 100 lb can of cement in through the surf & mud on my shoulder. Taylor is a big help but Dumb & Smith is a persecuted intellectual & no earthly help whatever. I think him a bit effeminate too. Somehow I got the concrete mixed & poured & the upper & lower stations marks in. Then back to the wherry & out to end of Faylakah to Niya where we were to pick up the Lynenes, but kept running aground – so had to go the long way back past Tomb to get them. I ended up running in for each of them because it turned out that I'm the only civilian among 5 sailors, was also the only man that could row a boat. They

were willing to try & I let them but bare oars & open oar-locks got the best of them & if we wanted ever to see the Maury Mare again I just had to do it myself. Saturday – yesterday I spent breaking out a 90' Bilby Tower.

[Survey towers were used by U.S. Coast and Geodetic Survey surveyors from the mid-1800s through the 1980s to obtain the clear lines-of-sight needed to conduct the surveys that are the backbone of our nation's spatial reference framework. One of the most enduring and widely used types of towers was the Bilby Tower, designed by Jasper Bilby in 1926.]

from #2 hold & had the boom load all the parts on the USS Littlehales - I was to have left today on her to erect the tower at Tipe. At noon the Little hales was sent to Bahrein for mail (a 2-day trip) so we had to unload all that steel- it is still lying up on the boot deck together with the 2 103' towers I spent today breaking out. The Doc has been flown back to the states with jaundice

& cook might as well go too. I have never seen a less capable officer in a position of equal responsibility. He has been griping for two days now & has accomplished almost nothing. Tonight I hold the briefing while he goes ashore to another party. Says he doesn't want to, but nobody but M.M. Cook accepted for him. Since he & I made out tomorrow's plan of the day. I put myself in Jack's sound boat going down the coast tomorrow I'm darned if I'll stay aboard in this madhouse another day. Everyone is P.O.'d at everyone else & Cook who is supposed to be running the show doesn't know which way to turn. Shaw is ashore with the astroparty as is Craig. Shaw knows his stuff pretty well, but is completely negative personality – a strange duck. Either I'm the only sane or the only crasy one aboard & tonight I think maybe it's the latter.

Monday eve- Nov 15th

The Littlehales came back about noon, & the five bags of mail on her fo'castle looked good. In the morning Nelsen & Tavern Parties 3 & 4 broke out the rest of that 3rd 103' Bibly & loaded all three aboard the USS Littlehales in the afternoon. Mr. Cook went ashore again to try to see the Political Agent about putting the base line through the city wall & erecting a Bilby near the Sheiks palace on that low hill. About 1800 the wind began to rise & by 1900 had lashed the waters of the harbor into a maelstrom of heaving green topped with wind-whipped spume. A heavy fog developed & eddies of mist swirled around the ship & were blown sternward. By Movie call & 1915 the wind was carrying sand that gritted underfoot on the deck. It got into my hair, I could feel the grit in my mouth & smell the dust, collected in my ears & I was constantly trying to alleviate the

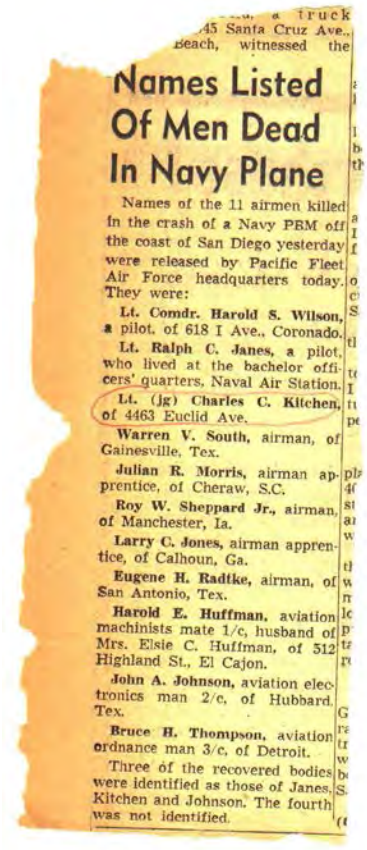
pain of grains in my eyes. They moved the Little hales out from the port side & hauled the VP's & soundboats up out of the water. Cook is still on the beach & it doesn't look now as if the tower parties will get away in the morning.

Mail= letter from Sis & Scotty, 2 Later posts & my bppl pm Saidi Arabia from the clan I'm afraid my 3 rolls of pictures were among the mail that was jettisoned somewhere between Tripoli & Dhaharan.

Thursday Nov 25th – Thanksgiving-

Ten days since my last entry, & they were ten hectic ones. Every day from Monday till Friday of that week I expected to move onto the Littlehales with tower parties 3 & 4 and each day the weather was a bit worse. The harbor each morning was a shining green & white fury – no kin to the mivear- like tranquility that I first new as Kuwayt Harbor. Saturday Matchead decided that things had been held up too long & we would go as scheduled – weather be damned. We all loaded our gear into LCVP #5 as she tossed crazily at the foot of the Jacobs ladder of the port side. The lines were cast off & we headed forward along the great hull of the Maury. Once out past the bow in whose lee we had loaded we were lashed by the full strength of the wind & waves. The bow of the landing craft would raise high out of the water, & crash down with a sickening jolt as great sheets of water rose above the gunwhales [gunwales] & were driven back on us. By the time we had covered the few hundred yards to the Little Hales we were all thoroughly soaked. We came alongside& the lines were thrown over. Getting onto the heaving ship from the tossing VP developed into quite an undertaking. We would climb up onto the VP's gunwhales & toss our gear to one of the sailors aboard the Little Hales as her deck came flush with us in the middle of one of her violent rolls. Then the next time her rolling our tossing brought the decks parallel again & jumped, caught the line that serves as a railing on her after deck & was hauled aboard by two young husks before the VP was thrown violently into the ships side – a crash that shook the ship & left a great splintered tear in her port rubbing strake. I had the VP put in tow & we were off. The Capt. Is Lt Jg.Carroll, Ens. Kitchens her Exec. & Ens.Coulter

[Note: years later on Charles C. Kitchen: Died 22 Nov 1951 in crash of PBM off LaJolla I had seen him in San Diego just the week before]



...a truck
...45 Santa Cruz Ave.,
...Beach, witnessed the

Names Listed Of Men Dead In Navy Plane

Names of the 11 airmen killed in the crash of a Navy PBM off the coast of San Diego yesterday were released by Pacific Fleet Air Force headquarters today. They were:

Lt. Comdr. Harold S. Wilson, a pilot, of 618 I Ave., Coronado.

Lt. Ralph C. Janes, a pilot, who lived at the bachelor officers' quarters, Naval Air Station.

Lt. (jg) Charles C. Kitchen, of 4463 Euclid Ave.

Warren V. South, airman, of Gainesville, Tex.

Julian R. Morris, airman apprentice, of Cheraw, S.C.

Roy W. Sheppard Jr., airman, of Manchester, Ia.

Larry C. Jones, airman apprentice, of Calhoun, Ga.

Eugene H. Radtke, airman, of San Antonio, Tex.

Harold E. Huffman, aviation machinists mate 1/c, husband of Mrs. Elsie C. Huffman, of 512 Highland St., El Cajon.

John A. Johnson, aviation electronics man 2/c, of Hubbard, Tex.

Bruce H. Thompson, aviation ordnance man 3/c, of Detroit.

Three of the recovered bodies were identified as those of Janes, Kitchen and Johnson. The fourth was not identified.

Ens Coulter is the handy man. We anchored about 4 mi south of the Eastern tip of Jazirat Faylakah in 15 feet of muddy water. We had lunch aboard & loaded the parts of a 90 – foot steel tower into the V.P. I could go on for page after page about the trouble we ran into getting that damn tower up. We could get the VP no closer than 3 or 4 hundred yards to the beach & even then we had her aground several times. From her we ferried all the steel ashore in a rubber life-raft & ten carried it all on our backs over 300 yards of mud & canal tidal flats to the high water mark where I had put in the cement station mark the week before. Sat. we got all the holes for the footing dry & one cannon post put in Sunday we poured the rest of the cement & got more parts ashore. Monday we had all the parts – some hundred & twenty-odd pieces of steel- ashore by noon & had the first 2 sections up by the time we left. That night when we got back to the V.P. about 1800 she had let the tide go out from under her & was hung up on a coral head. I got the Littlehales on the Walkie Talkie & they sent out her motor whaleboats for us. It was dark when she arrived & we safely transferred all personnel to her in a life craft that now

looked badly. The crew of the VP stayed with her 7 brought her back when the tide returned about 2300. That night it was really rough. I was hunkered down on the chart table 7 by 0100 the roll was so bad that I had to hang on to keep from being thrown to the deck. A chair, charts & a wastebasket washed around the chartroom & I could hear the gear in the galley below crashing to the deck. I couldn't sleep; it was all I could do to hang on. The books in a rack with a bobble board around it were thrown out, bounced off me & joined the mess on the deck. A door was banging somewhere below & a radio set in the radio shack just off of the chart house broke loose & was thrown across the room & smashed against the opposite bulkhead. I set up front sometime during the course of the night & smashed my nose on the book shelf above me. It has since gotten infected as do all small cuts over here & is pretty sore even now. Had 30000 units of penicillin yesterday & the same today. It's still swollen & red. The next morning the sea had not abated. A man couldn't stand up & movement about the ship was from handhold to handhold. I held off showing off the VP & tower parties 'till 1000. By then the seas had gone down some & the VP came alongside to take us aboard. Again it was jump as the deck heaved by & we were off- & sun drenched again by the walls of water that were continually thrown over us. If the sea was this bad when we got to Tipe I had planned to return, but we were in the lee of the island & the swell wasn't too bad. That day we got the tower up to about 60'. The OP had developed a bad leak from the beating she had taken while loading alongside the AGSc - & I had sent her back & got on the Walkie talkie & contacted Caroll. Another VP- #7 had been sent from the Maury. The Major – Major Pala (USMC) & 4 marines had been ashore since Sunday up near Az Zwar. The VP was to pick them up & then come for us. Well, it was 1915 before we saw their light – we lit a fire as a beam for them. There are no trees at all – only sand- so we chopped up one of our wooden forms for the concrete for firewood. They sent in a sherry for 4 of us & five others went out in the life rat. It was quite dark, the wind had come up again, the raft looked badly – the water sloshed around our feet. It was quite chilly & the sea was fairly rough. We all got back OK, but all our dry clothes had gone in VP #5 so we had to stay wet. I talked to the Maury by radio that night & told then the tower would be done by 1600 the next day. We left the Littlehales by 0730 & I bolted in the last piece on top myself at 1525. We got all our gear ferried out to the VP by 1620 & were back at the Littlehales shortly after 1700. Reached the Maury by 2100 & I was in the rack & asleep after a good hot shower by 2200. I'm no construction engine, but I must admit I'm proud of the job we did. We ferried in over 2 tons of steel on a rubber life-raft – carried it on our backs over 300 yards of mud & coral & got it all up from the blueprint.

Mail had come when we got back & I had one Sotwepost? that the others had opened & no letters. This Navy has p. poor mail service. I haven't heard from home since Oct 22nd

– pretty miserable service. The Maury leaves for Bahrein on Saturday & I guess will stay here & put up more towers. So it goes.

Tuesday December 7th

The Maury did indeed leave for Bahrein on Saturday & was due to return the following Sat. (Dec 4th). I moved over onto the Littlhales again but this time with tower parties 2 & 4, 3 having been sent with Eddy & Primer on the Blish to erect towers on the North Shore. Lt Shaw is SOPA of the powerful units of the U.S. Fleet now holding Kuwait Harbor - 3 136' AGSC's 2 52' soundboats and good old VP#5.

Saturday afternoon (that was Nov 27th) we were lucky. We loaded all the parts for a 103' steel tower in Jocko's (En.s Joccodime from Hoboken) Sound Boat (3#) & moved into the oil jetty. We'd been there but 3 minutes when I ran into Mr.Peiper of Bectol & Scrounge & arranged a truck & rag-head driver who took all of it over to the Sheikhs Gate & out onto the sand outside the wall. It was hard digging but we got the holes in OK & poured some concrete Sunday Mr. Kitchens & Carwell & GMC Beller went over & poured the rest of them. Mon Tue Wed & till 1500 Thurs we worked on the bloody steel. The wind was quite strong Tues & Wed AM's & I had the men knock off for I wanted no one working on that platform in such a gale. We all expected the Maury back Sat the 4th & got a message Fri that she'd be back on the 7th. Then last night another that she'd be back on the 10th. Started another 103' in at West Base but are missing U-284 parts which are the corner posts of the first sections. We planted the footings in concrete Friday & listed all missing parts. I took 30 cuts with a transit from the top of Wait Tower Sat & knocked off on Sunday. That PM. I went into Kuwait with Eddy Primer, Craig & Chief Whitrock to look, shop, & take pictures. Lots of looking – all of which will be written up when I feel up to 't. Bot a nice set of six silver napkin rings for 45 Rupees – ($11.25) Took some pictures along the waterfront (also to be described) & got four more rolls of film in turn. Don't know how or why they have 828 film over here, but I'm glad they do. The ship is way low on provisions & fuel – the food has slipped pretty badly – weevils in our flour & no mail add up to a rough kick in the morale but the men seem to be holding out O.K. I got a carton of Chesterfields from Ens. Carpenter on the Dutton & poured them out to my tower parties. Today I took the day off – to hell with them. I was tired. Had a swimming party after lunch & we had a fine old time diving from the bridge. Water pretty cold, though & the cool breeze didn't help any. Shot a couple of clips of carbine shells with the skipper from atop the canvas sun shade over the bridge. Nellie (P.G. Nelson BN2) threw some tin cans over & we blazed away at them. All good sport. First time I've had a carbine to my shoulder since my army days.

Message last night from the Maury said "High Winds & loading trouble make New ETA 10 Dec. Report Projects & Conditions" airwall wanted to wire back. No progress No conditions, no fuel, no food, no water, no kidding. We bummed water from the Forreria a Limey water barge down from Basra & the Skipper goes ashore to try & bum some food from IBI in the morning. Our operations has completely bogged down, & I guess will remain so 'till the Maury gets back. Should have a goodly chunk of mail by then.

December 26th Sunday-

Time indeed does fly. The night after this was written in last, the local wind really came up & Thursday A.M> looking for the Littlehales we could see no tower at Wait. We went over the next AM to find a twisted mass of steel. Since then I moved to the AGSc-7 again parties 2 & 4 we built West Base & re-built Wait towers; the Maury returned & Ed Craig & I have been cutting in signals in the harbor 7 south to Fahil. All work was suspended thru eve. Dec 23rd & I was invited aboard the L. for Xmas at Fahahil. The message came by blinker at 2400 & I got out of the rack to blink back an answer, left the next AM & 0600. It was good to get away from that damn ship again & back with the Skipper, Kitch & Coult. That first night the Skipper & I went to a real whing-ding at the I.B.I. (Bechtel) camp at Fahahil. Sat back to the ship about 0200 & sat drinking champagne till 0330. It was quite an evening. Johnny Madder & some other joker (Joe Lany) came out for lunch & that eve Jerry Irby, Chuck Meteo F, & Wally Janes came out for the move & eve finished off 5 more bots. Of champagne. It was the stuff gotten in Athens & good! Tonight Caveall & I go in with our movie projector to give them a double feature. They are a good oufit in there, but all they have to do in off time is drink & really do. They have a nice area in there with air-conditioned barracks, nice rec-hall with Indians to wait on table & do their housekeeping.

Sorry I haven't done better in keeping this up, but I leave the ship at 0700 in the morning & it is usually 6 PM before I get back & go to a movie & then I'm ready for bed. There is no time at all for this or even letters, & I haven't read a book since we started survey operations. The family has sent lots of film & I have been taking pictures like mad. Hope they came out.

International Bechtel Inc. at Fahahil,

Del Jarvis & Margaret Doughtry (Dotree)

Jerry Hunter Ralph Stinson

John Madder Bob Lorenson

Jerry Irby Mike Gramangin (Schlumberger)

Chuck Metcalf Joe Lang

Wally Jones Jim Bolderson

Bob Eckerd Leo Ash

Bob Howard

Al Cottier & Jade Rockje

Tuesday- January 18th at Bahrien

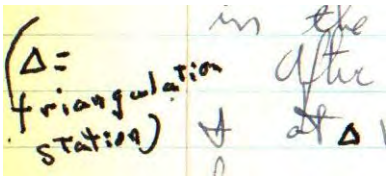
Since then much has gone on. From the Maury made several trips to the island (Faylakah) &

I plus delta party #1 & some of the men from Sound Boat #2 (Paine, Mitner, Stanfield, & Castro) put up a tripod at Niya & centerpole Stu at the Torin. Went over with Eddcaiy who occupied Tomb & Type & erected all along the shore. I still like that island. It must have been the same a thousand years ago. The center of activities at Az Zawar – the only town on the 9 – mile island – is the waterfront. Here the fine white sand slopes off as a long beach separating the town from the blue waters of the Persian Gulf. Off the beach long-shore currents have maintained a good depth of water. High tide gives just under a fathom a mere 10 yards from the shore. Not much water where power craft are concerned, but here where the dhow is king that is plenty of water to assure Az Zwar her lively hood. Several large dhows are usually anchored off shore. With their lateen sails down, they seem awkward & naked, hardly the framework of that graceful sight – a dhow under full sail. On shore a line of boats pulled up bow inland, propped up with sand shoveled in along their keels await a mission or repairs. Net-drying racks are draped with handmade nets bleached by sun & salt. Their Floats the bases of palm rachi. Here & there a triangular sail is spread for drying & the owner shoos away an inquisitive goat. An old man & setting against a sun-baked well holds a peg of twine between his toes & sings softly as he twines it into rope. A chant on the water draws your attention to a bagalla anchored offshore where the nakhoda has his men on lines & the top boom lifts the sail into the wind. The anchor is up & the large dhow drifts aimlessly with the current. As the great sail rises & catches the wind it bellies, collapses briefly, then catches the breeze as she is hauled to the top & the boot moves quietly southward along the coasts. These are hardy men, these sea-going Arabs. They are true sailors & good. They are friendly people too & I must admit would make much better friends than many Americans I know. A smile & “Salaam” always brings a big grin & “Salaam Sahib”.

Behind the town can be seen the welcome given of small walled-in graves. The women- verbal & black – stay out of sight generally & peer from behind heavy wooden doors or around adobe walls.

Came New Year's & I was invited down to Tahil by H. Carroll but never got back to the ship 'till 8 P.M. New Year's Eve- saw a movie in the ward room & sacked in.

After the first we started delta stations.



And at delta Wait got a fair set. Then some humid weather & the boats stayed aboard or in at the jetty. Then came a week's reprieve & I wrangled – I.E. Carrol wrangled – me back aboard the Littlehales & I cut in the 6 30' tripods, & 7 center poles South of Fahahil plus erecting Colt & moving Fahi & occupying Kubbar. Was all work, but I enjoyed working with that outfit. Back aboard I got the cold freeze from Shaw & Cook again and darn near told them what they could do with this job. After Kubbar, the L remedy vessel with the mighty M & the other two AGSc's & we move off for Bahrein for supplies, repairs, & general stagnations. I've managed to stretch the plotting of those signals out over two days, but its almost done now—Hope to get into Manaman this trip. G.

Got a roll (well 6) color shots back & they're pretty good. Also a set of 22 prints from Miss Hoxis & she did a lousy job- really miserable job- She's through, do you hear me? THROUGH. Guess I'm cracking up,

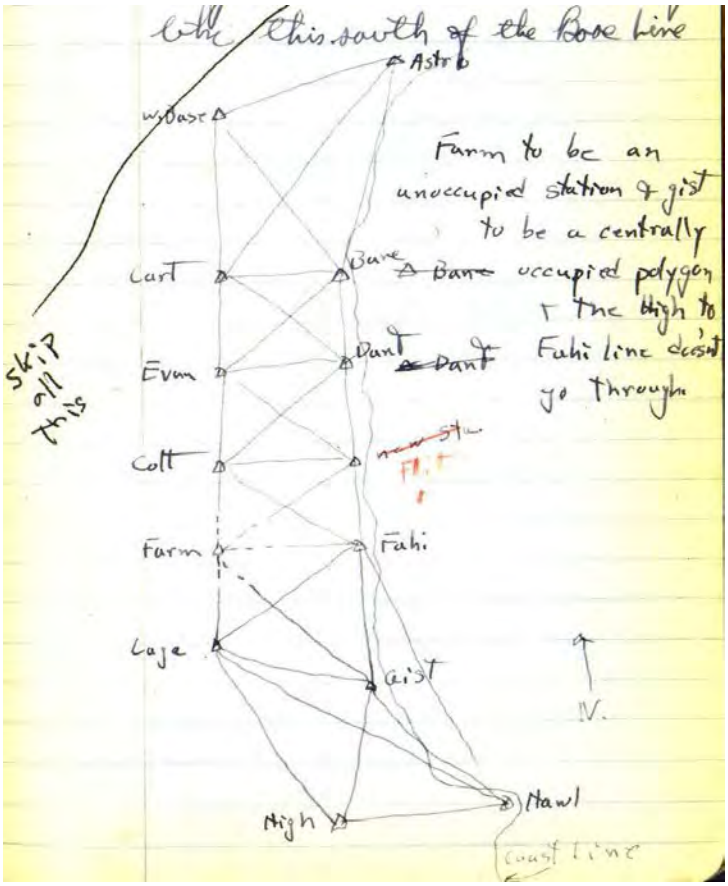
Coming down from Fahahil we hit quite a gale – no one got any sleep or food. Can't sleep when you have to stay awake to hang on to stay in bed- & your cart to eat when the cooks can't stand up in the galley or keep anything on the range. It was that rough. Lasted from Friday night 'till we got here Sunday noon & I was beaten down to a mere shadow of my former self. Last night I bummed a boat-wide crew to the L. (I'd been invited) & had chow movies & 2 nubbins of good bridge with Carroll (titles, & Court) Then caught the boat back to the Maury about 2400. Made a darn nice evening. Tonight was asked over again. But, well you can over do a good thing, so I thought I'd better let 'er ride this trip. Enough for now

Sunday Eve – January 30th

Friday (Jan 30) Ed, Jerry, Frank & I took the day off & went into Manama on Bahrein Island. – wandered around & looked up local color & smells. Roamed the bazars & the Indian stores – lots of nice things in silver & carved wood, but all pretty expensive – I did get a 25 R carved wooden jar filled it with good cigars. Saturday I came up to Fahihil on the Littlehales again – rain Monday. Set up an extension at Dant on Tuesday, but could get only two triangulations sets due to the miserable visibility. Had a real blow on Wednesday! I was hanging on up on the crazily pitching bridge & watched the 30 – foot tripod a Fahi lift-up, twist, and crash to the ground. Thursday we put her back up & I occupied Laya for six sets, but the visibility was pretty poor. Fri we started sounding, but couldn't see the signals for beans. Went alongside the Maury Friday night & anchored off about 500 yds. & tied up about noon. The Maury plans to go to Bahrien on Monday (tomorrow) till the 7th & I planned to come down here today on the Littlehales, but I got in a big squabble with Cook & Shaw on the way this Shaw is being run & had to miss the L. caught the U.S.S. Dutton when she left about 1800 & & got here (Fahihil) about 2035, brought mail for the L which they seemed glad, indeed to get.

Got back but to find a good letter from Sally Bernwell & a mash note from M McNulty plus some more posts. That McGood doesn't know when to quit. I've already told her I'll be here till the spring of "50 to cool her off. Oh well, my morale can use it.

One hitch to this survey is that they sent out no recon. Party in advance to spot locations for their signals, hence they were put up all over & our triangulation net looks like a doodler's nightmare. We went round & round on it & I finally convinced them that another 30' tripod would have to go up between Dant & Fahi- finally to keep out of going into form with a single triangle & secondly to solve the Dant-Fahi non-interuseability enigma. The net will now go like this south of the Base Line



It is good to be back aboard the Littlehales again – though I have lots of angle- shooting to do. Starting tomorrow I'll put up the new signal tomorrow & occupy it if the visibility is OK.

Sunday- plotted signals in drifting ...4 hrs.

Monday – Jan 31

-10 hrs.- occupied Flit-erected 3d Tpd Flit

Re-erected Cab, redressed But

Tuesday – Feb 1- Redressed farm, Blk/re-center marked Colt-re-erected Bar as 30' center pole with red skirts. Redressed Bum with extra swatch of red. Occupied Evan and Colt for six sets each. Put Flit on Littlehales, SB#3 boat sheets. (121/2 hrs.) 9 ½ beach – 3 hrs. aboard)

Wed. Feb 2 Transport all crapped out. Walked to Fahi for 6 sets & computations (9 hrs.) Drivers worked on Dukw & carry-all both in commish. at 200 hrs.

Thurs-Feb 3rd Occupied platform at Dant for 6 sets – redressed Bus – occupied Evan for 4 and Cott for 4 sets each (0730-1800-10 ½ hrs.)

Friday-Feb 4

Moved instrument tower (15') to Bane from Bant & erected the S.O.B. took seven sets – (0700 left ship – returned 1800- 11 hrs.) Put specie tree on L. Bootsheet

Saturday Feb 5

We were going to anchor off Hubar last night, but orders came through in good old Maury tradition that she would be back a week later than she had planned. The Littlehales was ordered to Bahrein to get supplies for the small ships & the two soundboats that are here at Fahihil. I was ordered to the Dutton but I am now aboard the Blish with Ens Jim Ayers & we plan to go ashore in the morning &check my T-2 which is way off in calibration & bubble Evian's. No work today.

Tuesday – Feb 8

Starting Saturday afternoon & still going great guns is a dilly of a sand storm. Jim & I went in to the beach yesterday morning, & though there was too much dust in the air to do any triangulation – so we set our Theodolites up behind the south signal tower on the beach at Fahihil & beat a 45' collimation error down to 07'-09' – much better so maybe I'll get some better results from here on out. We came back out to the Blish on one of the soundboats & are still aboard. No sense in going ashore to shoot angles when the sand is so thick in the air I couldn't even see the beach. Along about noon on Monday the wind shifted & came out of the northwest – directly off-shore. By 1600 it had increased to about 20 knots & was heavily laden with blowing sand. By dark the wind had risen still more & the lights of the Italian tanker overhead a few hundred yards astern of us could barely be seen through the blowing sand. This morning it was nearing gale speed & there was a layer of dull brown sand over everything. The sand penetrates everything- it's in the food, in my clothes, everywhere. The Littlehales somehow managed to get back about noon today, but the seas were running too high for the other AGSc's to go alongside here to transfer the much-needed food. Jocko's sound boat finally got alongside her & much later on got over to us. The sand completely obscured the other ships about us, & we were alone tossing & pitching in our private maelstrom surrounded by a haze of blowing sand that all but obscured the sun. Tonight, though still pretty rough, the wind has slackened some & the amount of airborne sand has decreased & the lights of the tanker & the other AGSC's are visible though haloed as though seen through a heavy fog.

I doubt very much if it will have abated enough by tomorrow to get any work done, just have to wait & see I guess.

Incidentalia- all crossed out

Though Shaw I'm sure thinks we're insane

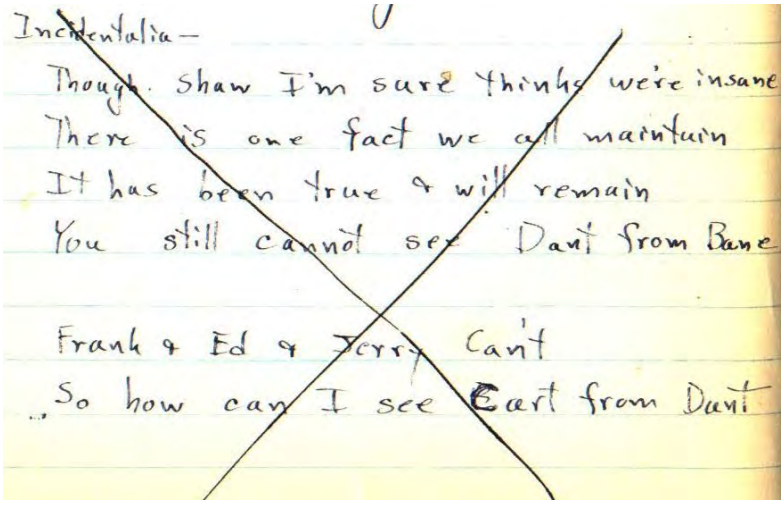
There is one fact we all maintain

It has been true & will remain

You still cannot see Dant from Bane

Frank & Ed & Jerry Can't

So how can I see Cant from Dant



[*actual page crossed out in diary*]

Friday Feb. 11

That was Tuesday – The Maury arrived at Fahihil late Wednesday night & the Blish Dutton went alongside about noon on Thursday. We got underway that night & spent today aboard up in the briefing room getting all my accumulated info. Down in the survey log, abstracts, signal log, etc. & plotting flies species trees on the master charts. A: T Dant were down yesterday when we left but were supposed to be re-created by the Littlehales today. I hope so because I'm scheduled to occupy Cart tomorrow & must be able to see Dant from there. Already I'm fed up with the Maury & am eager to return to my pleasant existence on the AGSC-7.

Tuesday February 15

It's a good thing I didn't have this with me Saturday eve. I was ready to throw it all over & head for Basrah. Sat. A.M. I went south to Cart, but Dant was still down & Evan out of sight. Took seven sets on W. Base, Astra & Bane & finished them just as Norton came screaming up in the jeep to say the Maury was off house tanners immediately. We got to the Shurwaik Jetty as a V.P. came in with some of our gear & the word that we would stay in the beach area. No clothes, no cigarettes, & no way to get in touch with SB32 on which were the 3 other civies. They were just left too. We finally contacted them by radio from the Blish & they came in dead tired & hungry at 2030 The Capt. (Northrop) would 'till his movie was over & then condescended to give them some chow. We were to go- all of u & 4 men left on SB32 – to Fahihil 30 miles South; so left about 1030 & got on the Littlehales just after midnight. Slept Sunday – Monday & went south on the Dutton & occupied Igor for 7 good sets. They had Norman (Ens) & a crew in re-erecting Hawl & Craig was in to shoot angles there. The D's whaleboats is out of commish., so we used a wherry with an outboard that made quite a buckin sea branco. I quit shooting at 1700, built a signal fire at 1815 so they could see where I was & never got back to the ship 'till 1900 or Fahihil & the L. till well after 9 P.M. Today we were to have met the jeep at 8 AM at Fahihil according to Cook's dispatch, but in typical fashion he told the jeep driver to take the camera transit man down towards Fahihil occupying stations so he went & to pick us up <u>if he saw us</u>. We waited & held the DU^W till 0845 – then said to hell with the jeep & went on. (Jeep never did come down for us) I got to Guest for 12 sets – but the heat waves were pretty bad. I could have gotten some good sets from 4 till 5 P.M., but they wanted us at the jetty at 1630 so we had to leave there at 1430 for the 2 hr. ride to Kuwait. We went by the jetty at Fahihil to get the 4 men from Delta put a triangle here #2 & 3 that the L. said she would have on the beach before 1600 - & we waited for them till 1630 & got to Kuwait at 1715 just as the Maury came around the point from sounding She anchored way out, & we were thoroughly drenched after an hrs. boat ride in rough water. Neither Cook nor Shaw had anything to say to us – no "How'd it go" nor anything about just running off & leaving us on Saturday. They are two pretty sad apples & I have no use for either of them. We stay aboard tomorrow. I'm pretty well fed up with the way this whole show is being run & will be glad to dust this job when we get back to New York. I hate to be part of a sloppy outfit like this or to have to take orders from such incompetent dunderheads as Lt's Cook & Shaw.

Had a fruitcake & the record the clan made when I got back & a valentine from the Funnel's young daughter Sally.

Wednesday Feb 16

She really whipped up a doozy today. Best dust storm we've had yet. Fine brown sand was swirling in eddy's along the decks & everything is covered with a thick layer of brown dust – in short, the ship's a mess. The anemometer crapped out at 40 knots this noon & the wind rose even more before it began to slack off some around 700. Even now (2300) the wind is still pretty strong & there is a layer of fine dust over everything. It's in suspension all through the ship & puts a halo around all the lights. Nothing went ashore today at all. The SB's – at least 1 & 2 went in to the beach to get out of the gale & at least one of them went aground. The Dutton was dragging anchor all over the place out here & the L. at Fahihil had to get under way to keep off the beach & was last reported under way "somewhere in the Persian Gulf" with dust so thick they couldn't see the bow from the bridge. I'm afraid we've lost most of our signals again- oh well, so it goes.

Thursday Feb 17

I've had more trouble with Shaw & Cook. Shaw for the first time today – over 3 mos. Since we got here- mentioned that horizon shots had to be taken at each station with our zeniths plus time of shots. It was news to the 4 of us – so all our zenith shots will have to be done over- just plain stupid. Then later on Cook & I were talking about Dant- where I have been struggling with that platform so we could see out to Dane - & he suggested I put up a 37' or 50' Bilby- that is what I first wanted way last month – what I suggested to him as the only way- & what was flatly turned down. I'm out there every day & I know, he sits in the drafting room trying to find excuses to put in his progress reports & never gets on the beach - & yet never takes our suggestions or even tries them out. It was the same story on the north shore, Eddy & Primue said signals could & should be put up on the bluffs & couldn't be seen on the beach. Cook wouldn't listen so we wasted 2 ½ weeks getting Mora up vs a 100' Bilby that can't even be seen from Wait except on a clear day – whereas Luna a 30' Tripod on top can be seen from down near anywhere. When he suggested a turner at Dant as I originally wanted – after my wrestling with that damned extension that didn't work for beans (as he wanted) something snapped inside me. I got so mad, so fed up with the utter incompetence, the supreme stupidity of the man, that I left hoping chow would calm me down. Chow (at $45 a month) was slit weenies, sauergrout, & beans – that did it, so I went over to the Littlehales (she came alongside this AM) to cool down. Didn't go back up to the drafting room at all today – I knew that if I even saw those guys again today, I would flip my lid – so I just stayed over there. I've cooled down some but I'm still disgusted with the whole set – up. To get even Cook sends Primer out on the L. tomorrow. Someone else might as well have the good duty for awhile. In the storm of yesterday. At least Dant & Flit are down, & I'm

scared to think how many more are over. Soundboats 1 & 2 were both blown aground & raised hab with their shafts.

As I glance back through this journal for the last month or so, it seems to have become less & less of a journal & more of a continuous diatribe against C & S. Oh well, when they start wising up & being civil or even showing some since [sense], I'll stop. Why, the astro shock is still up & they haven't any idea what the location is. That Shaw has been over there several nights wasting time getting star shots when he couldn't get a time tick. They are now thinking of tying everything in to the International position of Ard Light which they know to be very off. I just can't fight it all any more & am damned if I'll bust my neck trying to get things done – I'll do what I'm told to & stop there. To hell with them all.---------- ----------

Sunday evening – February 20

That storm left a good deal of destruction in her wake. Three 100' steel towers are down – Type, Napo and Mora and the only tripod still up is Bane - which was well reinforced with the 3 x 3's used to hold the observers platform for the 15' extension. It means a heck of a lot more work.

The following paragraph is crossed out.

Good letters from Jimbo & Rawon came Friday. The Wm's almost expect a baby & Nancy had a confirmations appointment a week or so ago. Still don't know how they made out. Strange even though married they seem to be pretty happy – strange indeed.

Wednesday Feb 23

Monday I lit out in the jeep with Shaffer as driver & Smith & Baker (delta Party #1) for the North Shore. Luna was down & we put up a 30' cp then to the twisted mass of steel that was Mara where I put up another 30' cp & referenced the 3 stakes. Mara was a 100" Bilby with a deep base. After Wait – we found that the cement forms for those towers were too narrow – 2'- They gave me a form & said fill it with concrete & set in the corner posts. So I did. By the time we were building W. Base I had learned to forget the 2' forms & try a 6" hole & then bury the legs with only a few inches out of the ground to attach the 1st corner pieces to. Anyway, Mara was in deep – only 6-8 " of U-242s above the ground. & the wind pulled the SE Ley out – cement & all. Then back to Luna – for 6 sets & reference angles. Near Jaha we found the Dile Geary & Eddy & Dukev out of gas. That thing holds 50 gals & burns a gal every 6 miles. Anyway we put her in tow & pulled it some 15 miles to Shuwark Now Shaffer has had to write a letter telling why his

clutch has burned out & Captain's Mast has been given a mast for it by the old man. He is one of the very few really capable men on the beach & I think he's getting a bum deal. I'm surprised the jeep has stood up this long as it is. It's just such chicken……deals as that that are grieving the enlisted men. They are not alone either – Begg's sound boat hit a lonely sand bar one day last year (i.e. '48) & they made him answer by endorsement. Heck we're out here to survey these waters & they hang a man when he finds a bad sand bar. Hence the S.B. officers are scared to get into water under 6 or 8 ' & it makes long rows for the civilians.

Yesterday was George Birthington's washday & we took the day off. I slept 'till noon & caught up on my letter writing. Cook had all day to get out the plan of the day for today, but as usual it didn't come out 'till after the movie. He had us re-erecting Cart & Bane – hell Bane was the only signal we had left up. They dropped me off at Bane for delta angles & Garu at Evam for ditto & Ed (center – pole) put up 30' cps at Cart, Dant, Colt. & Flit & miraculously found Fahi to be up. I have been arguing for weeks with Cook & Shaw trying to get them to let us stay ashore till boat 1730 as the only time we can see at all. The only time when the heat waves die down & mirages dry up is after 1600 – but no, we have to be at the jetty at 1630, so if we're at Laya or High even South we have to leave at 1500- just before we beat light. I finally got him to see it our way- he had to if he wanted to get his angles shot - & a boat was to come in for us at quarter of six. The Maury got her times crewed up & sent the boat at quarter of five, so they waited 'till 1815 when we showed up. They were sore at our being late- pressure was put on Cook & we will be at the jetty at 1700 from now on – so it goes one damn fool stumbling block after another. They want us to run on no gas tomorrow. We took a drum ashore with us today – hit the oil co. crane, left it out for us & put it in the desks – but none for tomorrow. It will probably cut down on what we can do. Jeep is out – they have it aboard now for repairs – as today – the three of us (Frank is still on Tubbar) will all go in the Dukev plus the Cambia transit mon. Next year they will need more vehicles – Dukw's s best if they can keep it in gas-plus more rank for Senior Hydrographer. He just can't get anything done & has to take orders from everyone down to Powell the stupid supply officer. I think they will save a lot of troubles next year if they get rid of men like Hugo, (Exec.) Smith (1st Lt) Decbber(Navy.) & Powell & try to get a few more like Merrissette, Agnes, & Carroll – you can add Northrup, Norman, & Alexandre to the first list too, while you're at it. Of course a Captain is the first essential. He's a pretty sorry excuse for a man & a sadder one for an officer.

Gee, I'm bitching again, na I'm not. It's just that I'm so appalled by the utter incompetence of the men & equipment sent out to do a big job. It all started when no-one

knew it was going to be cold as Greenland most of the time. There was little or no foul weather gear aboard. Comdr. Kennedy in Hydro in Wash told me personally to take clothes for a warm climate & all the men are in the same boat. They freeze – It's almost midnight again, but I wanted to get this all done – so when they want to know why I'm leaving this outfit – I'll be able to show them in blk & white. –

Saturday Feb 26

Oh Ho brother! Saturday night. We were to have gone out today & were up at 0530 – but the sand was blowing pretty badly & the operation was called off- but they are making up for it. At 2200 tonight the plan of the day comes out & we're off again at 0630 – we leave the ship at 0630 SUNDAY morning. The operations officer – Morrissett informed me that the Captain has decreed that all- hands will work seven days a week – holiday routine will be observed only when the weather is so bad that the field parties can't go ashore, nor the soundboats sound. I'm so fed up with this whole set-up. Cook never mentioned a word about it to us – just waited 'till we saw the plan of the day. There's no other job where a guy has to eat crow like this & I'm leaving when we it the States.

Tuesday March 8

That Sunday the sand was still blowing & continued to do so 'till Thursday March 3rd. That morning I got my gear aboard AGSC-7 the AGSC – 7 went ashore & met her down the coast at Fahihil that eve, having delivered a DUKW load of packing – case wood for firewood to the Limey Political Agent at Kuwait – a snotty bastard who couldn't even say "thanks" – picked up 3 nice Arabian knives in an old Antique shop in Kuwait and erected a 30' tower & 15' instrument extension at Cart in hopes of being able to see Evan & Dant (Cart never should have been put up there in the first place – a little reconnaissance work in November would have saved us a lot of work now. Friday we erected center poles at Laya & Giat – Laya a 30' tripod – had been stolen legs, stakes, & bunting all gone. & Giat was down & striped. Saturday we readied the lights for night triangulation on the AGSc-7 (Maury had left for Bahrain to pick up men for Capt. O'Regan-Comm.persiangulf who is aboard). [Com. Persian Gulf who is aboard]. The sand stopped blowing about noon & Ed & I went to Cart where I set up on that jury rig & got six good sets out of 8 on Evan – Dant still can't be seen from Cart. Sunday we again went ashore – left Ed at FLIT (also stolen in toto) for 6 sets & Busch (Dukw-driver)

*[The **DUKW** (colloquially known as **Duck**) is a six-wheel-drive modification of the 2-ton capacity "deuce" trucks used by the U.S. military in World War II amphibious truck,*

designed by a partnership under military auspices of Sparkman & Stephens and General Motors Corporation (GMC) for transporting goods and troops over land and water, and approaching and crossing beaches in amphibious attacks. Designed only to last long enough to meet the demands of combat, DUKWs were later used as tourist craft in marine environments.]

& I dismantled the delta at Cart & re-erected it at Dant (have to get up to see Bane & Cart as I have told the knuckleheads time & time again) Too much wind to shoot though, so we both went to Fahi & got some angles delta before the sand started to blow again. Monday we again went ashore – but the Maury was back so things were fouled up again. They wanted the Dukw at Kuwait at 0700, so Busch left the L at 0530 to meet a 0700 boat from the M that got there at 0815 – Typical! The L had to rendezvous with the Maury off Al Fantas about 0900 so her whaleboat took Ed & me into the beach near Dant * we jumped off in damn cold water over our hips & waded ashore all the kids in town turned out to follow us up the beach, but on the 1 ½ mile hike inland across the desert to Dant they kind of petered out. And well they did for their fathers & brothers had stolen all the parts that weren't bolted together, & we had a hell of a time getting an already bad rig to hold my weight. Still too windy to shoot from there as the steel, even though turn buckled dam tight, still vibrated a good deal. The DUKW came about 1030 & took us to Colt. Flit had been stolen again!, so I sent Ed & Dukw down there to put up a signal & sit with it 'till I had 6 sets. The sand was really whipping up on that ridge too. I spent ½ the time trying to get sand out of my eyes, so I could see. I finished & dropped the 30' center pole as a signal & the Dukw came back up. We re-erected Colt & went into Fahi where we dropped Ed & Dukw & I went back to set up & guard F lit while he shot it from Fahi. The Maury was to have sent in a boot for us at 1700 but at 1630 she was hull-down & headed East, so the ASPC-7 sent in a boat at 1745 & we had supper out there & were just settled down & enjoying a good movie when the Maury sent over a VP for us. Stayed aboard today & checked abstracts against field books & broke out parts for a 26' windmill tower to go up at Cart so Dant will be visible. Those signals never should have been erected there, & may the men responsible (Cook & Shaw) be damned to eternal perdition. It's one hell of a way to try to run a survey. The Maury & 3 AGSC-s are running sand lines daily now, so that will be something done, anyway. That Dant-Cart business still has to be fixed up. Have shot from Fahi some shots at High & Stch & all shots at Jake & Zane & then we're done with the triangulation. The word now is we leave within 60 days, so there is a lot still to be done. – esp. if they plan to put in another base line & astro shack.

Saturday March 12

Since 2200 last night (it's now 2100) I have logged 18 hours in bed – I was that tired. Today is the first day off I have had in two weeks & the last two days were especially hectic

Thursday A.M. Primer & I went aboard #1 sound boat with food for 3 days & headed 30 miles down the coast to Ras Al Zawar in the neutral territory between Kuwait & Saudi Arabia. The little 42-foot boat pitched & rolled in the swells & a strong southeast wind kept a heavy spray blowing across the top of the cabin were Ras (Ena Rasmussen) & I were hanging on, bundled to the ears, & I giving him a geology lesion. We cut wide to miss the long arcuate [arcuate bowlike band of living coral reefs] reef off Ras al qualiya & cut back in toward shore.

Hawl had been re-erected Wednesday by Primoe while & had occupied High-DUKW had to take Commodore O'Ryan from Kuwait to Fahihil so never came for me 'til 1805 – made it 1930 before I got back to the ship & jacob's laddered aboard. Hawl then was a 30' C.P. Craig re erected Igor as a C.P. & I could see that Jake & Zane were both down - all were 40' tripods & all were down! We anchored in a heavy sea off Jake – at the base of Ras al Zane & Primer & I & Taylor – a seaman- went in by wherry. By 1400 the wind had risen a good deal & the sand had begun to blow again. Ras had said the tide was ebbing, but when we found our wherry ½ mile down the beach swamped & missing an oarlock we figured he had been pretty wrong. It was quite a stunt for 3 men to get up that 30 cp signal in a high wind & to have to haul that wherry ½ mile up the beach topple it all. I took off my trousers &jacket & waded in. I held the stern to keep her bow out to prevent her broaching & copaiying while the other two took the long bow painter & coolie – fashion pulled along the shore. The surf was really pounding in on that sand beach, the water was cold, the wind more so & the driving sand made seeing almost impossible. We emptied her out again , & rigged a jury oarlock with wire - & we shoved off into the surf in hopes of making the sand boat – enclosed a hundred or so yards off. Frank & I rowed & each wave threatened to dump us all into the sea. We made it after quite a row, but the S.B. was little better. She was really getting tossed around. It was then about 1700 & we shoved off for Zane. Got there by 1800 but the wind & seas were too high & we too wet & tired to try to go ashore. Chow, I must admit, didn't appeal to me. We had a drop table rigged forward between the two bottom bunks in the small cabin, but nothing would stay on it – so badly were we rolling. Had rolled up in my blanket by 2000, but there was no sleep to be had. The air was filled with sand & the boat with a fine dust, the bell was ringing constantly due to the roll, and about 0100 we all had to fight our way out into the bow to hove in our 225 – lb. anchor that was dragging – we were pretty close to the beach. Got under way & fought our way back

toward Jake looking for smoother water that wasn't to be had. I think I fell asleep about 0300, but was awake by 0600 again. The wind had died a good deal & the sand settled – the boat was a dusky brown color & we headed on south to Zane. Frank & I went in in the wherry & I set up the Theodolite over the center mark & shot angles to Jake, Stch, Igor, & Havel. Then rowed back for two seamen

To help put up a 30' cp. Where the tripod had been. We got back to the sound boat about 1330 & upped anchor for Jake again where Frank & I went ashore & shot triangulations. Finished about 1730, tried to straighten up the CP in a good wind again but had to shove off to get back to the SB before dark. We were finished in two days & headed back to the Maury & got alongside it 2130 & up a Jacob's ladder over the port side. I'd gotten no sleep the night before, had eaten sand for two days, & not much else & we had done all the triangulation angles & erected cp's at Jake & Zane & never a word from Cook & Shaw except " why didn't you shoot Anna from Zane?" that we couldn't see for blowing sand. So it goes- it's no fun working for a bastard & he is a bastard. Slept all day today & plan to do likewise tomorrow.

The 3 AGSc's alongside & Carol had arranged over 3 wks ago with the Captain to send shopping parties ashore tomorrow- had IBI or ITOC busses all arranged & everything, but the Old Man has his mind set on Tubbar- so all hands will go ashore on that barren stretch of 2 sandy acres of island & Carrol has to cancel the busses. I should think he would know enough by now not to try & do anything for this damned outfit.

The word now is that we leave about April 30th with stops at Aden, Malta, & Gibraltor Three pretty miserable stops when there are places like Rome, Naples, Florence, Cannes, Marseilles, & Lisbon on the same route.-

Monday March 14th

Sunday rec. parties went ashore for their baseball, beer & fights, & Ed & I went ashore in the first wave & retreated up the 100' Bilby to shoot a few quiet angles – got Hawl, High, Laya, & Evan had a few beers & a hot day – got a bit sunburned, had some good laughes with Rep. –Bosin Chief from the AGSC-7 & came back about 1400 – aboard today Ed & I drew up the figure & made sheet for a 1:110,000 scale polyconic of the net & Ed will plot stations on it – tomorrow while I go to Cart to put up that windmill tower – with my old standby's Tower parties 2 & 4.

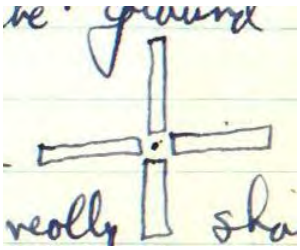
I have a new pastime now. I do Notes on the Arab in our weekly ship's paper. One last week on the camel & the one for next week on dhows – with pictures, yet. I rather enjoy it. It's fun visualizing it all, & then trying to put it all down on paper so it makes sense.

Saturday, March 14th

Tuesday I went ashore with tower parties 2 & 4 & erected a 30' steel windmill tower at Cart to get through to Dant. Wed. we dropped Ed off at Astro, met at Cart, & Jerry at Dant. I got 6 sets to Dant, but Cart still not visible fron Dant. Blowing sand & haze every day now. Thurs. all stayed aboard in bad weather & Friday back ashore. Ed to West Base & Gerry & I to Dant, but the haze hazed & sand blew all day & no shots were gotten at Dant, we dressed Cant & put a skirt on top – should be able to see it now. The wheels realize that the time for departure is drawing near & they are working our butts off.! Put in a goodly eight hours in the drafting room today & am scheduled to go ashore again tomorrow- Sunday again. Sat. The 13th was my last day off & before that Sunday Feb 20, Since tomorrow is the 20th – that's one day off a month-brother!

Wednesday March 23 – Fahihil

Monday was the big day. I put a center pole onto of the 30 tower at Cart & Gerry got six good sets on it around 1730. Ed & I finished reshooting Cart & Bane & Frank got some shots at Fahi. Good aerial photos were taken at 10,000'& came out darn well. Our systems of putting out 2 100' strips of bunting on the ground works out pretty well. From 10,000 feet they are about this size, but really show up.



& locate stations we'd never locate otherwise. Tuesday Gerry went to measure eccentricity at West Base & to get the height of Wait. On board I figured out what stations still needed to be referenced, measured, described, etc. Today Frank went ashore to do some referencing & to move the extension at Dant down to High so we can see Igor. Again today I stayed aboard. This time computing the eccentric reduction for the eccentric tower at W. Base. Tedious, exacting & not a little bit confusing. I'm afraid it is an acrid fore smell of what the trip back will be like.

Sunday March 27th

Well, I wanted to get away from the Maury & I really am, we're camped – the base-line & Astro parties – down in the neutral zone between Kuwait & Saudi Arabia. We left the Maury with our gear in two VP's in a heavy sea & pitched & rolled our way into the

small boat harbor where we off loaded the staff onto the a floating pier that IBI had moved next to their breakwater Bob Howard (IBI) was there & got us a big Peter Built that they use for hauling rocks from the quarry near horizon. The crane unloaded our cement & baseline stakes into it & we piled the rest of our gear on top. Knocked off for chow at IBI & a goodly chow it was. Ed & I – Carnell (QM1), Redman, Matthews, & Garman lit out in the peter built & the others were going to get H,O and come on in the DUKW & jeep The driver took a wrong turn on the sand track running south from Fahihil & we got trapped in some loose sand. We pushed & dug & laid stakes but had to wait for the DUKW to pull us out, She helped us out twice more 'till we got to the swampy area between Gist & Goli & there we really bogged down. The DUKW came back to get us & she really bogged down, the surface of the salt-flat was only a thin crust & she went through into the white clay beneath – all the way to the hull – she was really in too. Shaw & the jeep & driver went back to Fahihil for a cat. About 1600 at the Bay with cat on her came up & the cat got us out with no trouble. Only one more did the P6 get stuck & the Dukw got her out O.K. The wide salt flats south of High we expected to be pretty bad but we bounced & ground our way through in a slight drizzle & arrived behind Jake about 1800. Gear unloaded & tents set-up in a good drizzle & chow by 2000.

We have one pyramidal tent & two 8' wall tents set up in a fairly decent spot – as spots go in Arabia. The Persian Gulf is about 300 yards away, we're separated from it by the high drive line, but can hear it rumbling over there as the big combers [*a long curling sea wave*] come crashing in on the long sand beach. Around us rising sharply to about 50' out of the flat desert floor are sharp sandstone ridges of bare rock. They have been badly weathered & great blocks lie in jumbled disorder. There is usually a falcon or two sitting on the topmost rock keeping his eyes open for game.

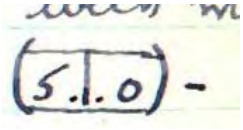
It has been over cast & breezy ever since we came & had rained on & off, not much but just enough to keep everything pretty damp. The flies have found us too, just to make things complete.

Shaw & the DUKW lit out for the Old Astro shack today to bring down the shack & a cook tent. Ed & I were going to put up the Astro pier, but after we started found that the only pipe-head is at the old shack so had to hold off. We did run around & try to location station check. Found a good spot for it & put in a countermark & short center pole. We are now waiting chow for the others who should be back pretty soon.

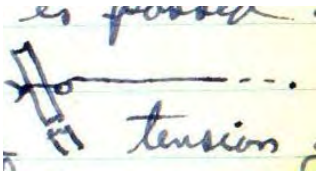
It's good to get out in the field again & should be a good week or so. I only hope the Sun comes out to dry things out a lot.

Tuesday, March 29th

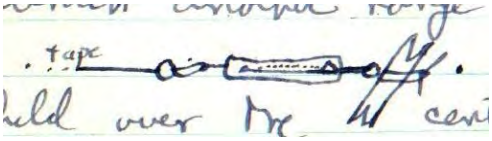
Yesterday we awoke to find bright sun & it promised to be pretty hot. We were in the field by 0830 & started at Jake. Shaw, Massey, Redmond, & the Duke crew of Busch & Walker went to work on powering the pier for Astro & getting the shack put up. Ed & I set out driving stakes. Ed was on the inst. & I on the tape marking & generally acting as expeditor to keep the thing moving. Technique: Instrument – preferably T-2 wild Theodolite because it has optical plumbing– is set up over the station-centered-and sight on signal set up at opposite end of proposed base. This signal to be centered over center mark set in concrete. A 16' center pole dressed with black bunting we found to be adequate for a 2-mile base. This is sighted on, lined in, & the horizontal motion clamped. A 50 meter tape is used – Lovar tap standardized by the U.S. Bureau of Stands – with marks at 0. 25m & 50 m



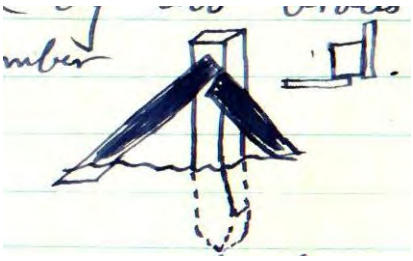
At the 0 end a leather thong is passed through the end loop 7 through the thong is passed a 9' range pole



At 50 m. mark end a tension gauge reading up to 15 kilograms is attached to this a leather thong through which another range pole is passed.

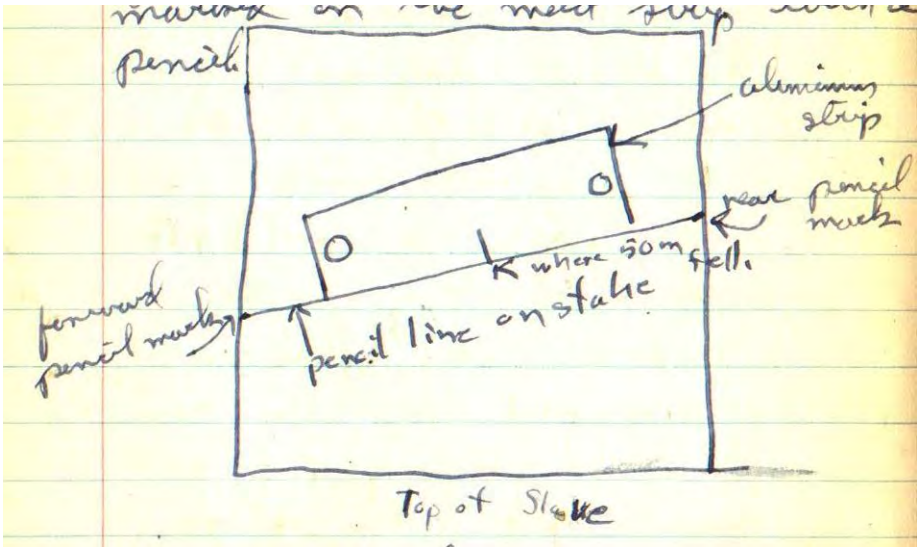


The 0 mark is held over the center mark beneath the instrument & the tape stretched out in the direction of the other signal. The inst. man guides the 50m range pole into line with hand signals. When this in line the pole man shouts "on the mark" the man on the other end puts 0 over the cm & the 50m man takes up 15 k strains. Another man marks the ground under the 50m mark & a stake (3"x3"x36") is driven in. This stake is lined in by hand signals from Inst. Another "on the mark" & 15K strain & stake head is moved forward or backward so that the 50 m mark falls in the stake head. The stake is then braced by two braced made of ½" lumber while one



Strain is on the tape – a group of 2 men at the 25 m mark drive in a d' stake of 1" lumber on the line & ….i.e. one edge on the line ---& a nail is driven into the edge to hold the tape – at a height on the line between the tops of the two end stakes

Then a pencil is held on forward edge of 3 x 3 stake & lined up by inst. again on back edge & then joined by a pencil line – This is the line where it crosses that stake. A 2" strip of aluminum 1" wide is tacked along the line on the stake head, The tape again stretched & the 50 m position marked on the metal strip with a pencil



The tape is then moved forward & the (my pen just gave up the ghost) [all the following written in pencil]: zero mark is placed over the pencil line of where the 50 m mark fell. The next forward stake is positioned with the range pole, dye, centered, braced, lined & marked & the 25'm stake put in & the nail set. The inst. can be left in the same set-up 'till the pencil held for lining is indistinct, hand signals can't be seen, or the line goes over a hill. In this case the inst. is brought forward & centered over the last marked stake. If at this new set-up the distant signal at the other end of the base is not visible, then go back to the last stake at which it can be seen, set up & line signal INS. Then send

man out with a range pole to the intervening hill & line him in on the signal. Then move up raising the range pole instead of the signal. Where dip is too sudden, or a rise between 50 m stakes makes next stake invisible – the 25 m stake can be made of 3 x 3 & the inst moved up on the last base line. They set 10 stakes the first day & about 20 per day from then on. We put in twenty – one stakes on Monday & put in 47 today. Mr. Shaw said a mile a day could be done & we did one stake less than 1 ½ miles today. The sun was pretty hot, & we had the Dukw & jeep to keep us supplied with stakes & water. Carnell was on forward range pole, Glawend on near, Matthews on sledge, German on hammer, Snow on 25 stake, Ed on Inst & H.B. marking, lining in, putting all strips on & generally keeping things moving on the tape. We also number them as we go along. First support stake (with nail) is 00 + 25 & first 3 x 3 is #4; next support is 1 + 25 & so on.

The sun was really hot yesterday & we all got a good doe of it. Knocked off at 1700 & had a good swim in the gulf. Today there were some clouds & it was quite cool when we put in the last stake (#68) at 1650. Back for our C rations – that's all we've had since Saturday - & the others are sitting around a small fire telling dirty jokes while I'm in the tent getting caught up on this by lantern light.

I killed a scorpion last night & the crew didn't get much sleep last night thinking about it. We also have lots of large beetles that are always making Kamikaze attacks – they're big devils too.

Tomorrow we'll run a line of levels along stake tops – double Okayed it probably & run up & back measuring the line.

Thursday – 31 March-

The last two days have been full but fun. Wednesday Ed double rodded a line of levels down the base line & Correl AM1st ran a crew up & back on the line. I measured the Astro pier at Jake & finished the stations description there. Shot Itch Igor & Jake from Chek for triangulation angles & went jeeping up to Igor & shot Jake & Check, described it & measured the top of the skirt – it was a goof off day actually – just doing things that had to be done. Shaw went to Fahihil for water & took German, Massey, & Matthews all of whom were to take exams on the Dutton today. Today we had to remeasure the base line. Carnell & his crew had a difference up & back of 5 Cm - ??? 5 centimeters over a distance of 3400 meters or 1 in 68,000 off. Doesn't sound like much, but it's too much for this sort of a job. Today I was forward marker & recorder with Ed on the rear mark, Redmonds, Walker on range poles, Rizzi & Glascos on the thermometers. We started at Jake at 0750 & covered the 2 miles to Chek by 1100, then

back to stake 45 by 12, back at 1250 & got to Jake just ahead of a dust storm that we raced for an hour & ¾ . In the P.M. Rizzi was out with the same bug – upset stomach & bad headache –that floored Snow & Carnell the day before, & I then was marking, recording, measuring set-ups & setbacks, & reading the forward thermometer. We check our own figures & came out .01292 m off in our up & back or one part in 342,500-not bad. We got back here (to our camp) & Shaw had the pyramidal tent down & DUKW loaded & took all the men but Ed & me back to Fahihil. 3 were pretty sick & the rest of the work Ed & Shaw & Massey & I can finish up. OK. After they left Ed rodded & I used the weld level to run a line of levels from Jake down to the water level. Using 5 turning pts. I measured the 50 odd feet down & back with a difference of 0.00 3 feet. Again not bad.

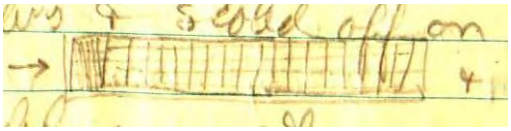
We had a good chow of C-rations beans & frankfurters, cocoa, toast, jam & apricots & sat around going over our field bks. Till 1930 & are now catching up in our respective logs.

There is a nice Bedau [Beduoin] that lives in a tent behind the dunes near Jake, & he has been over several times to say hello & swim in water. He holds great arm waving & bedau conversations with me of which I understand nothing & we have become fast friends. He was over here when we ate this A.M. about 0600 & I had crackers & jam & coffee with him. He's quite a boy – has a really ancient muzzle-loading precision rifle fully as long as he is, & there are two decent fox pelts drying outside his tent to attest to his ability to use it.

Shaw is a different man in the field- really pleasant & very nice – a welcome change from his ship-board silence.

Techniques:

Base Line measurement. It's done the same way as described for laying out the stakes, except that a mark is scratched in on the al strip & it is done twice at each station – i.e. Mark & mark to get the spot, and then ease off the 15 kilos extension, & take up the strain again to check the 1st measurements. Then it's off do it till it falls on the same spot. If the 0 mark falls short of the al. strip the distance forward or back from an arbitrary line on the strip is measured with dividers & scored? Off on a 20 cm bar



& the offset near as is set-up or set back depending on whether the line has to be set forward or back to the line

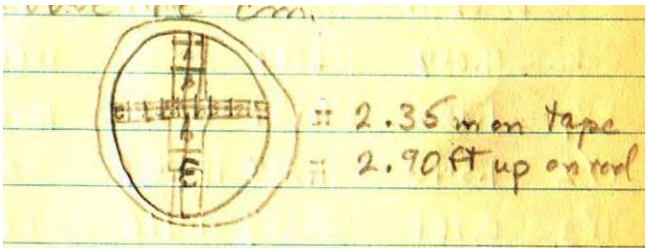
Also thermometers are attached to the tape calibrated in degrees C. & reading & degrees & tenths. (25.0, 25.5) These are places one at each end of the tape & read at every mach. Sample of Fled notes:

Sample of Fld. notes:

From	To	Temp Fwd.	Rear	set up	Set Back	no. of supports
00 +25	1+25	22.5	22.5			3
1 +25	2	22.5	23.0	.03752		2
2	3	23.0	23.0			3
3	4	23.5	23.6		.03332	3
		etc.				

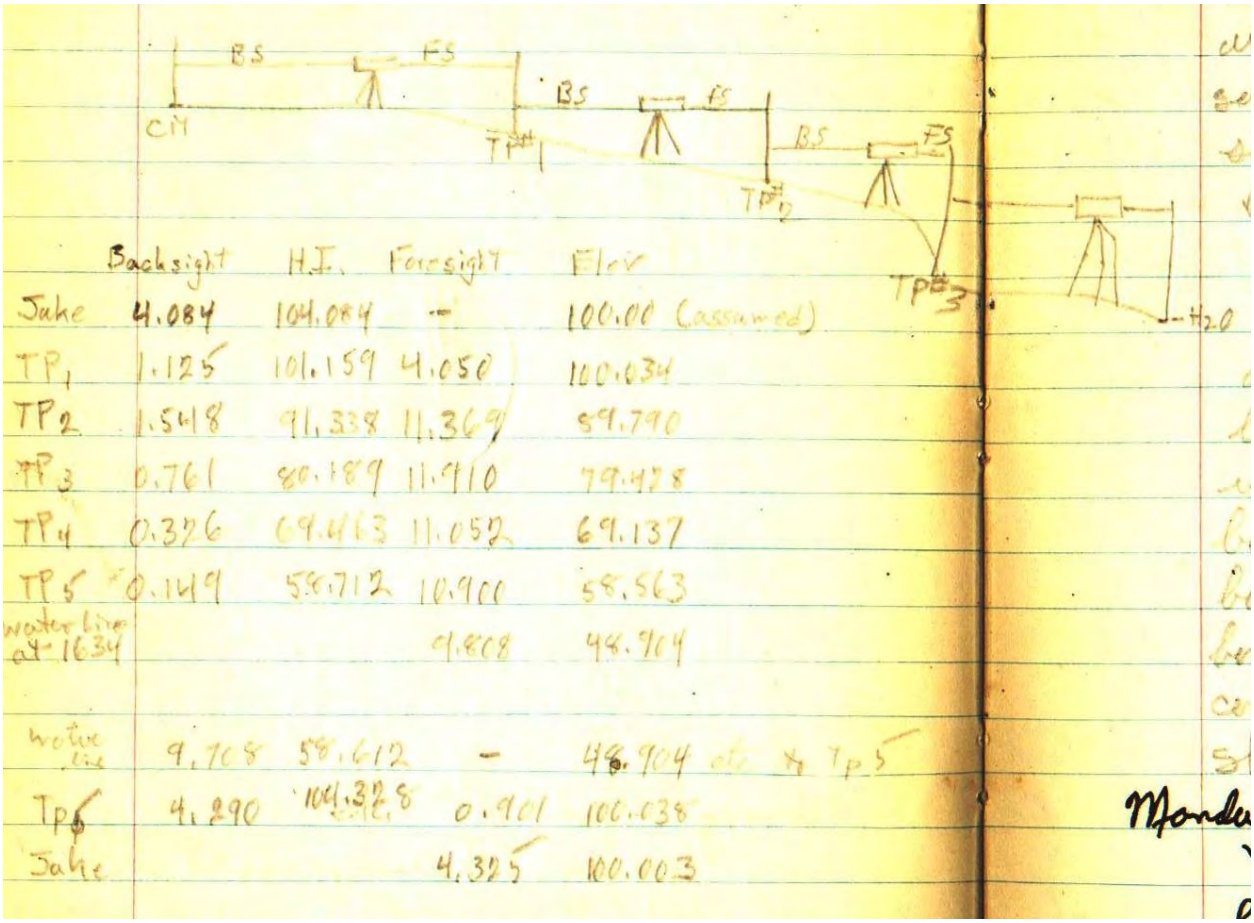
At end of line. Stake #68 fell approx 20 m short of Chek, so we put in 68 +25 & measured back from it to cm & then subtracted.

To get the distance from 68 + 25 back to the center mark 23 stretched out a metric tape (K & E Whyteface) & measured the distance from 68 + 25 back to the spot directly above the cm as determined by a thread able. The thread able I set up over the cm. turned off 90 degrees from the BL, spotted it with a pencil & then set-up over the pencil sighted back to the cm. This gave me a line of sight 90 degrees to the BL. Then I raised the having hair to the tape, read the tape where the vertical hair crossed it & then put a stable rod behind & read the dist. above the cm.



As for the leveling: the Inst (Wild level) was set-up so I could look through the door of the Astro Shack & I read the stable rod at the level line , then Ed moved down toward the beach & I read it again. Assuming 100' as Jake's elev. That plus my first sight (back) gave me AHI My HI minus the next sight (foresight) gave me the elev of the pt under me rod (turning pt #1) & then

Moved down & shot back (backsight) on the rod in some place & then be moved up & we leaptfrogged down to the water.



I've had a heck of a lot of fun in the field this past week. The food has been monotonous- e meals a day for five days (so far) of a combination of all the wets from a

case of C rations, bread & jam, coffee, & apricots – same thing every meal except tonight when we got our dinner & some food, but sun, blowing sand, glare, heat waves, mirages, scorpions & kamikaze Beatles, but I enjoy it withal.

Have been writing here in the tent with the breeze flapping thru door of the tent & the Coleman lantern hissing continually, with a cup of coffee on the board in use as a table. It's a board between two instrument boxes – makes a good table but you can't lean on it – Boy do I need a shower!!

Monday April 4th

Thursday night Shaw brought Smitty – an IBI surveyor down from Fahihil & took him up to shoot stars. So Friday Ed & I were going north to work on the High-Gist-Howl Triangle

But the visibility was so bad, we went right on to Fahihil & took Smitty back & had ourselves a good shower & shave & a good meal – all of which were needed. The haze was bad so we jeeped on up to Colt to measure the skirt & to describe it & Evan. Then to Tat where we picked up the 30' cp & re-erected it at Gist. The visibility never did clear & our event on back to camp –getting there about 1800. That eve we all went up to the astro shack & got checked out on the astrolabe. (10 ½ hrs.).

Saturday a.m. Ed & I lit our in the jeep for Itch where Ed got 6 sets on the Chek. We had a hellova time getting there for the swamp road was in pretty bad shape. The center mark at High had been pretty well beaten up so I went back the PM with Varten & some cement & we re-centermarked it & I shot 6 more sets to all sta by dark. That night Ed & I both were at the Astro shack I 'till 0300 Sunday & Ed all night. (Saturday 14 hrs)

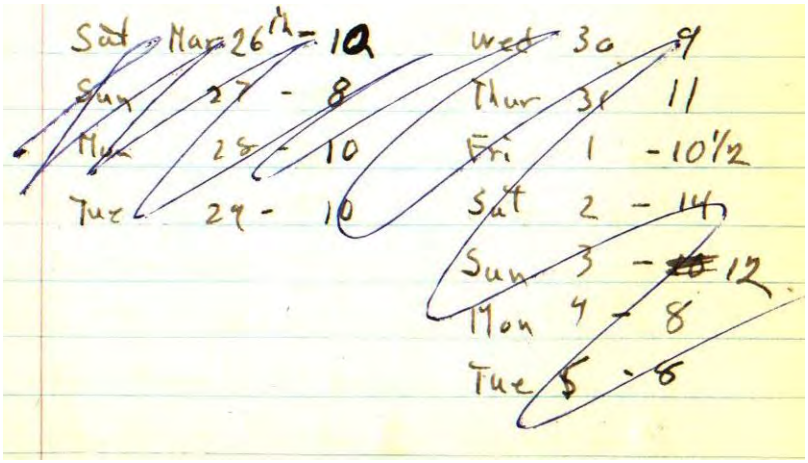
Sunday we were up bright & early to break camp & get to Fahihil by about 1100 – Shaw showed up about 1300 & we had another shower & I slept in the DUKW for awhile though the flies were pretty bad we discovered that the pretty little pink snake that Buach had killed on Wed. was the sand viper or sand asp – deadly poison – the kind that old Cleo put to her maidenly breast when she drop-kicked the bucket lo these many centuries ago. Johnny Madder asked Ed & me to chow, so we had a few welcome martinis in Bob Larensen's room, a gin & it in Johnies, good turkey chow & a few more with Johnny in Jerry Hunter's room – still lined with the pornography of the 6 continents – for a few more. About 2200 the sea had calmed down enough for the Littlhales to send a boat in – but only one trip – so we put all the instruments & our personal gear aboard & headed out – after parking the Dukw & jeep in the IBI maintenance compound. I talked Shaw into letting me go down on the L. in hopes I could make a trip ashore to pick up the rest of the

gear. The seas have been pretty rough though, & if Shaw thought it OK to leave it 'till the M. came back, I should worry. (Sunday 12 hrs.) – Monday 8 hrs.)

Today I slept most of the day trying to get caught up from all I lost last week.

We ran into quite a guy down there in the Neutral zone. A Bedouin who lives alone behind the dunes. He was over again Sat. AM & we had a long chat about trapping falcons.

It's good to be aboard the L. again. She's a good ship. Cault. Has some damn good shots of Bilby tower putting up in type & I hope to get some of them from him. Must write the clan. If has been some time.



Tuesday April 5th – Under way Fahihil-Ras Tanura *[**Ras Tanura** (more accurately Ra's Tannūrah, Arabic: □□□ □□□□□ meaning "cape oven, cape brazier" presumably due to the unusual heat prevalent at the cape that projects into the sea) is a city in the Eastern Province of Saudi Arabia located on a peninsula extending into the Persian Gulf.]*

Slept till noon – connected field data in my skivees atop the canvas bridge cover in the sun & then joined the fishing party on the fantail to catch a nice tuna. They landed several goodly too. Rep got the biggest – a little over 19 lbs. & had the con from 4-8 this eve. They even have me broken in on under-way watches. It's a rough life – sleep 'till noon, sun-bathing, tuna fishing, mavis & bridge. Ho hum!

Wednesday, April 13th

That, alas was on the AGSc 7 & I came aboard the 17 at Ras Tanura the following day. We lay there for a day & then moved in a storm to Bahrein. There we serviced the AGSC's & headed S.E. for the Strait of Hormuz where ever since we have been running sounding lines four abreast, while I spend 8 hrs. a day computing. 1st on geodesic

positions & now the baseline. We have been for four days streaming back & forth through the Strait that separates the Gulf of Oman from the Persian Gulf. To the East the high peaks of West Persia coming down to the azure of the Gulf. To the west the steep cliffs & barren peaks of Ras Musandam, the easternmost tip of the Arabian "island". Though completely devoid of any vegetations the change in topography is a welcome relief from the sameness of the northern deserts I have come to know so well. The waters here teem with marine life. Schools of graceful gamboling porpoise; black fish & tuna, have been in sight almost constantly. Water snakes, orange algae of some sort that make the water look as though orange sea dye had been dumped in, and thousands of small fish that ripple the surface, with their violent swimming. We'll be in Bahrein probably Friday & I must get ashore & try to buy some backsheesh for the clan.

April 14 Enroute to Bahrein

Well, the AGSC's shoved off this Noon & we are headed again for Bahrein, having headed back south in a storm & anchored in the lee of the Persian Peaks off Jazurat & just N of Hormuz to give the little ships time to come alongside for provisions etc.

I have thoroughly enjoyed this Arabian jaunt; & though it will be good to get back & see the family again, I feel that I have barely scratched the surface of one very small corner of the Levant. It is a fascinating place and leaving now is like putting aside what promises to be a good book having read only the publishers squib on the back of the dust jacket. I have met some of the characters - & like them – I have a general knowledge of the setting – that too I have found to my liking – but I haven't even begun to read the book. This is really a fascinating place – it has its flies, its heat & its sand, but it also has it's splendor and happiness, a contentment at once intangible & indescribable – as though the Arab, unlike the American, had met Time & Fate face to face in the arena of the ages and through the centuries came to an understanding as to just where he stands in relation to his cosmos & his Allah, his god. It is an envious position and one that makes the urgent immediacy of our souped-up American living seem indeed futile. As Descartes said, I want to avoid the shallowness of the merely disillusioned skeptic. Though I sound a bit cynical, it is the cynicism of close scientific investigations coupled with a tacit refusal to accept per se the status quo (if I may mix my international idioms), and to fall without even taking or questioning into a set pattern so many of my generation are doing. Where I am looking, even searching, before I leap. They don't even have the personal integrity to leap but are pushed along into the foreordained ??? patterns laid out for them by someone else or lead as lambs to the slaughter by the Judas goat of their own selfish smallness –etc. Etc. Hell its 1200 & I must have diarrhea of the brain. All I want is to be

given the power to decide what I want to do with my life & the tenacity & will to do it – easy enough, isn't it?

Sunday May 1st. Straits of Hurmuz

We headed back to Fahihil & spent two days on the beach & fortunately got our required closures on the triangle, picked up the vehicles & towers & took off for Ras Al Mishab where we met the Annistan City [S.S. Anniston City cargo ship] & procured from her a mere dribble of supplies. Then to Bahrien where we sat for a week awaiting the seaplane tender Duxbury Bay [*USS* Duxbury Bay *(AVP-38) was a United States Navy Barnegat-class small* seaplane tender *in commission from 1944 to 1966.*] to whom we were to transfer Capt. O'Regan & his Com Persian Gulf staff – also Dr. Ford – a good Doc. She came in yesterday & we left for the States yesterday afternoon about 1500. Back in the drafting room topside, we have been busying ourselves with computing Geodetic Positions & adjustment of goods, getting ready for the smooth plotting that will occupy our time most of the way back.

It was only this afternoon, though that I first felt that we were really headed home. For it was about 1550 that we rounded the tip of R'as Musandam, passed by at little Quain Island [al-Quwain] & entered the Gulf of Oman. I've always liked the Straits of Hormus ever since last Oct when we went through going the other way. I don't know if it is the welcome change of scenery – high steep sided islands & towering cliff scarps – or just the idea of their being the doorway to the Persian Gulf, kind of a Golden Gate Bridge or a Statue of Liberty for the Gulf. Whatever it may be, it was only as those now-familiar landmarks slipped astern that I felt we indeed were headed home. Gib[Gibraltar] around the 15th then Norfolk for a few days & N.Y.C.

Thursday, May 19th Two days West of Gibraltar-

It has been an uneventful trip. Hot as Hades through the Arabian & Red Seas. While waiting for the South-bound traffic to get into Great-Bitter Lake in the Suez Canal we knocked off for a good swim. It turned pretty cool once we left Port Said & headed west through the Red. Two days out of Gib we ran into some rough seas that slowed us down some, & got into Gibraltar on Monday the 16th – most of the 6th fleet was in at the time. The Carrier Coral Sea, cruisers Columbus & Fargo & the anti-aircraft (5' guns?) cruiser Juneau plus a convoy of cans, a sub, the supply ship Yellowstone, & the HOG that refueled us. The three AGSC's made it O.K. & the crew of the Littlehales had some wild tails to tell of Algiers & her fleshpots. What a time they had! I had dinner on the AGSC-7 & Carrol & I ended up at the Embassy Club in Gibraltar with two of its Spanish

hostesses and between the 4 of us & what Maury officers that wandered in went through some $30 worth of poor champagne. At 2400 the girls had to catch their bus to get over the border into Spain & we sang our way down to Jumper's Bastien where I slept it off on the Littlehales & was aboard her when she came alongside the Maury the next A.M. We left Gibraltar that evening & have been rolling home (& I do mean rolling) ever since.

It's a nice lazy pitch & roll of a quartering sea- long swells a Little wind, but still quite cool.

We have been scaling fathograms ever since the 3rd of May 'till I'm ready to scream like a raped ape. We will probably stay aboard in N.Y.C. 'till all the smooth plotting is done - & it will be a damn long job!

Well, I've learned a lot on this trip, but where from here? I don't want to go back to Arabia on the Maury Maru, but will ship over for some other job is there is one in the offing. Still like to travel.

There has been an awful lot of water over the damn since then.

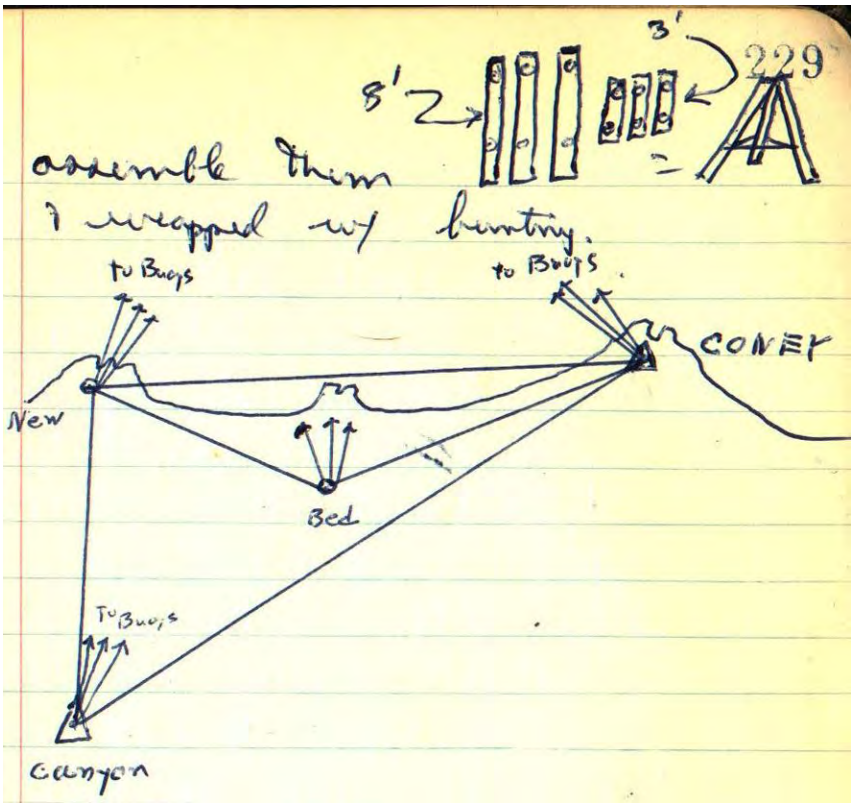
I started teaching at Hotchkiss that fall ('49) & stayed there 'till five of '51 when I came to La Jolla & the Scripps Institution of Oceanography. That Summer I went to Alaska & back on the Horizon, & the Fall of 52 (Nov) saw me headed for the South Pacific on Expedition Capricorn. Honolulu, It Wolgalins Ocean I. Rotumah, Viti Levu (Fiji), Tongatubu & (Tonga Is), Pango Pango (Samoa), Tahiti(wow!) & Nuka Hiva (Marquesas).

July 13, 1953

Just back from a one-week trip to San Nicolas Island with Bill Menard, Ed Hamilton, Bob Hill, George Shumway, & Dave Moore on the E.W. Scripps (Newgien, Frank Vaughn, Jonsey, Joe Keeney, John & Buddy Itrang & Max Silverman.

The job was for NOTS [Naval Ordnance Test Stations] Inyokern of the Navy, [California] & we were to plot stiles & drps & retrieve samples from 2 mile-diameter circles off the North side of San Nicolas. Bill, Hamilton, Moore & Ting did the diving, Max & I the shore control & Menard & I acted as boat recorders & angle shooters. It worked like this.

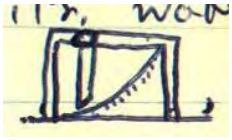
Upon arrival Max & I went ashore to set up the net shown on next page. We had Transit & tripod signals with the wire & bunting to assemble them



It was originally hoped that we could occupy Triangulation Coney – a USGS benchmark, & put a range-pole target on Triangulation Coney but not occupy it. Then locate new stations Bord & New by angles to Coney & Canyon. Then out on the buoys from Coney, Bed & New. As it turned out, Coney & Bed were not irresistible so I had to occupy Canyon too, & Bed was kept in as a 2nd signal for locations from Seaward, & buoys were out in from Coney, Bed, New, & canyon.

The Coney, New, Bed, Triange closed 180 degrees 2' & the Coney-Canyon & New Triangle closed 180 degrees 1'. Not bad after four years. While we were doing this, four big dan buoys with flags for visibility counterweights for verticality were set at the outer of the one mile circle, with the Scripps near the center.

(Our buoy locations came out damn well too!). Then diving stations were plotted across the area (12 of them) – with 4 of the 12 at the Dans & one at The Scripps. 2 divers went out in a skiff with an outboard & a recorder (main-type). We would set a magnetic course (Branton) from the E.W. Scripps, & continue out in that until a pre-determined horizontal sextant angle came up. Then a light, red, float with line & anchor was put over a depth made with lead line, & the divers sent over with water-tight compass, dip meter



crow bar & hammer, and burlap sack for samples. After dip & strike measurements had been made, sample & loose gear was put in sack & sack secured to line attached to float anchor for retrieving. While divers were down recorder took horizontal sextant angles for 3-point fixes – at least 2 sets on different points, to obviate swinger troubles, we had 3 buoys, & three shore signals, other prominent objects on beach if not cut in an original survey can be located by horizontal 1' cuts from the three buoys. Also recorded were stroke dip, & diver's descriptions at bottom plus time down & up. Kelp was used as anchor for the boat. Recorder too must keep an eye on the divers, & they should observe the standard divers rules & regulations on lung procedures.

Back aboard the ship. Samples are logged & tagged, angles plotted & oppositions of stations noted on the chart with strike & dip. Underwater cameras also used.

Equipment:

Aqualungs, complete

Compressors w storage tanks & valves & gauges

Wrench

Swim fins

Face plate

Rubber suits & hats if cold

Weights and belts

Crowbars

Heary hammers

Many gunny sacks

Drp meters

Water tight compasses

Depth gauges

Knife

Skiffs with outboard gas & oil & oars

(Barrel to Flush outboards)

U/2 cameras & fil

Small – 18” – plastic floats

Lots of light line for buoys

Cement buoy anchors

Dan Buoys with poles, flags, counterweights, & line

Charts with blowups

Cigs Stations descriptions

Transit & tripod complete

Centerpole or tripod signals

Field notebooks for shore & skiffs

Studio Tables & H.O. #143

Three –arm protractors, (Metal & plastic)

Masking tape – always need-

Wire for signals & bunting

Wire-cutters

Protracter for plotting strike

Pencils

Electricians tape

Jackknives

Lead lines w/weights (can be made)

Sextants (in adjustment)

Lots of dry socks & tennis shoes

Marlin rolls for trapping bags, etc.

We found that asking the diving buoys was a big help for two reasons

1) They located spots where dives had been made & best if buoys are numbered - & to avoid too close spacing of dives or missed positions, and 2) If buoys are plated first, it means less time for divers to get cold between dives – an important thing when air & water are as cold as they were then. Too, if a swinger is made an area can be re-cut, water varied from 25 to 80 feet in depth Dives averages 10-15 minutes, & divers made 3 dives in the morning & 3 in the afternoon, so 12 stations per day was the way it ran. We

left Monday at 4:00 & got to San Nicolas Tuesday A.M. early. I had found Coney & Canyon & set up Bed & New by 10:30 & all dive angles were shot

by 1500. We finished Wed. A.M. & waited till Thursday to find out that they wanted a second area done. There we merely set up signals on prominent shore features & were able to locate them pretty well in the charts occupying them only with a Brampton to get inter-bearings No dans were used here,

[A small buoy, sometimes made of cork with a small flag, used to temporarily mark a position at sea, normally to mark a fishing ground, a minesweeping area, or a man overboard.]

as it was a rush job, & we found that we had poor station positions where we didn't use diver buoys to locate done stations or the dans for general locations too the Brampton is hard to use "en bateau". [in boat]

Divers should give strike & dip immediately on surfacing or it is soon forgotten. Accurate checks of the time on each tank should be kept. & no extra full tanks in each boat help in case dives are too long.

[*See scanned diary pages on following pages*]

August 23rd - Brooklyn Navy Yard -

It's been almost 2 weeks since I reported aboard on the 10th & here we sit. It's pretty noisy around here in the evenings now - 3 shifts of Navy Yard men, on the day & night. I just looked in topside & they are almost finished welding the forward gun-tub & a flat-car of 20 & 40 millimeters is sitting out under the crane on the dock. Night welding makes weird neurotic shadows and silhouettes the hunched & helmeted form of the welder - the light suddenly goes out, & in the glow of hot metal he lifts his mask & wipes his arm across his meeting hot forehead - a word with the man beside him, a drag on a butt cigarette - then down comes the helmet &

the neurotic shadows start their jumping again as the blinding light & wrecking sparks resume.

The fan in my quarters blows a 3-second breeze over my neck every 11 seconds - I timed it - & the turning fan groans at the end of every ~~arc~~ arc.

Still nothing definite as to when we leave or where we are going. Had a good talk with Harry Hess in Princeton Sunday. Got some good pointers on what to look & look out for on running the fathometer. Saw John Maxwell for a while - they may come up to look over the ship before we sail. Hess seems to think the trip is pretty hot & all the ~~priorities~~ priorities we're getting here in the yard seem to bear him out.

We're still working down in #3 hold trying to get our gear

squared away. It seems that anything that anyone wants to get rid of is stenciled "ATA's Oceanographer" & is shoved in there. We've found pipe insulation, asbestos, & cement today. Heaven's knows what will turn up tomorrow -

Rowan & Nancy were married Saturday the 21st of August. It was a good wedding & it was glad to be his ushers were Jay Madaera & John Imbrie. Nancy's pa felt no pain by 2000 hrs, Mrs Wms. had a stroke just before the bride & groom left but we kept them from knowing it, & I spent the night till 01:30 trying to keep John Wms. from going to Princeton & generally raising cain for his mother who was too sick to see him. In the course of

all this he got pretty well loaded, & had a headache but had a good talk with Anne Sutton; & drove him home. Hope to go to Mystic to see John & Bobbie on Friday. Tony Thompson (Smith, South Orange, and At 4-2696) may come along too — hope so.

I find it hard to realize that college is over for a while & that I'm to be at sea for 6 mos. What then? I don't know. I've got to think ahead & plan it all out. I want marriage when I find her, but can't do much fruitful looking in the Gulf of Oman.

Aug 25, 26 & 27 Temp over 100°F. & the Navy Yard is no place to be.

September 8th Wednesday

Had a weeks leave & got to the Zellers, Burns, & Howe. Maury was in Bayonne, N.J. when I got back Sept 7th. She has added a plane & pilot while I was away. They loaded 100 octaine gas & fresh food aboard 'till late evening & we sailed at 1230 for Leonardo, N.J. where we today have been taking 20 mm & 40 mm ammunition aboard ~~all day~~ all that's here is a mile-& -a-half pier where they run their explosives out from shore. The smoking lamp has been out since we docked, & I guess will be 'till we shove off again in the A.M. The crew seems to be in better shape &. when we were in Bklyn & I think will taut up O.K. Weather much cooler & very pleasant. Too hazy for any departure photos.

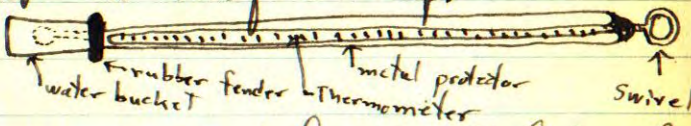
Saturday Sept. 11th - at sea -

We left Leonardo Thursday Sept 9th at 1730 in a calm sea that has become less & less calm ever since. That afternoon we got the specifications for this job. I had thought it was to be the Gulf of Oman but we'll be doing the Persian Gulf - NW part from Kuwait harbor South along the eastern coast of Saudi Arabia to Manifa. The job calls for all the way to Bahrein, but we'll be lucky to get as far as Manifa. The State Dept. still hasn't cleared us in yet, so we may just turn around & come home. Our first port is Gibraltar & they say we'll get there about the 26th. I'm not sure quite how, as it seems to me we are doing more rolling & pitching than we are going forward.

at noon yesterday the three PC's (or GSC's as they are called now) broke out of Hatteras & we now have one 5 mi off to starboard & two off to port - one at 5 mi & one at 10 mi. This gives us a 15 mile wide spread with 4 fathometer paths at 5 mile intervals. This way we'll get pretty good coverage of the bottom. At midnight last night I started the first 4 hrs shift of a continuous watch that takes bathytheromgraph observations every hour on the hour. We have a BT winch & boom arranged thusly!

a smoked glass slide is inserted in the B.T., the sliding sleeve slid aft to on bare the stylus & the slide &

The BT is lowered by releasing the winch brake & hanging on to the haul-in line. Once in trail the brake is set & the BT stays just below the surface. A thermometer in a bucket-bottomed case with rubber fender is then lowered to get the surface temp.



The bridge is then called to ask permission to lower BT & to get speed in knots, & depth in fathoms plus the barometric pressure every 4th hr.

BT Log Sheet

Obs No	Date	Hr	BT #	Speed	Depth	Surface temp	wet Bulb	Dry Bulb	Baro metric P.	Weather Poop (wind, waves, clouds etc)	obs error Name

The BT is then lowered to the desired depth as determined by a graph of speed & wire to let out to get desired depth. Brake @ desired depth, turn on winch power, engage clutch & haul her up. Remove slide, dip in lacquer after having noted on slide the obs No., hr, date, & BT no & put in slide box - take out a new

slide & prepare for next lowering. A running chart is kept on which the 0800, 1200, & 1800 positions are plotted & the positions of the ship during the intermediate hours are interpolated & the slide number recorded in its proper location. (my damn chair just left the desk, slid over & with me still in it fetched up against the bulkhead - they can have their Navy!)

Had 4 Typhus & cholera booster shots this afternoon. I'll take all the shots they have to offer. My bout with dengue in the Philippines convinced me on that score.

Still not seasick, but I'm afraid it won't last much longer - this is really rolling.

Tuesday - Sept 14 - At Sea -

The three AGSC's - Dutton, Blish, & Littlehales came along side to take on fuel & water. The excessive rolling & pitching of a few days ago has abated to a good easy-to-maneuver-under roll; but it proved to be enough to make the refueling something to watch. We were doing about 10 knots as the John Blish crept up along our port side about 30 yards off. She eased in to about 20 yds. & the line gun sent a light line arching between the two rolling ships to land on the after part of the Blish's cabin space. Her crew began to haul in the line that was attached to the shot line & that in turn was attached to a large hawser bound to the fuel line. It was a real pull to get it all aboard. The slack in the fuel line was held by the forward crane, and as the ships rolled towards each other the crane would lift the line to keep it clear of the water. The Blish for two days now has had engine trouble that made the whole "convoy" reduce to a paltry 6 knots. So when she was through fueling, a heavy hawser was taken aboard - & an all-hands job it was - & she was taken in ignominious tow.

We ~~Dutton~~ Littlehales then came along for her short sniffle of a diesel oiling, but first had to send a sick sailor over to us for hospitalization in our sick bay. No breeches buoy was available, so he came over in a ~~&~~ canvas bag slung by our crane - & his

replacement returned by the same method. It was a tricky job, & well done.

The pulley ~~little holes~~ came up next & darn near rammed us when a swell brought her heeling over to within a few feet of our port beam. Oaths were loud & lusty, the exec. turned red & bellowed across to the helmsman, but she cleared us OK. The Bligh is still in tow, the other two are 5 mi aft on either beam & we have resumed BT observations after our 8-hr break. The evenings at sea are lovely. One has an unimpaired 360° horizon & last night there were about 20 of us gathered on the foretank watching in silence as the eastern sky changed from light pink to almost blood-red. Off to the north an occasional flash of lightning behind a cloud bank would throw into sharp ~~relief~~ silhouette a majestic rank of towering anvil-topped thunderheads. Today it was clear as a bell & continued cool. We are still following the axis of the gulf stream & the water is a deep turquoise blue with many small clumps of ~~seaw~~ delicate seaweed floating on the surface.

Had my hair brush-cut this morning by Scotch, our ships barber. It should look somewhat decent by the time we hit Gibraltar. Found out today our ports are Gib, Agusta on Sicily, the Piraeus in Greece, Port Said, Aden, & Bahrein - all new to me, & should be most interesting.

Started to plot polyconic projections today - we are

just doing the computations for them now, & will make the noted charts when we get closer to the area.

Sunday AM - Sept 19th - my 26th birthday. Our progress seems intolerably slow. Each morning I awake to see the Dutton still riding off to port half way to the horizon - never advancing, never retreating - always just where her lights showed her to be the night before. The only sensation of motion is the raw gentle roll & only a look over the side of the waterline reassures me that we actually are moving. The roll, the hum of the ventilators, the creak of gear at the end of each roll - ~~steady like~~ regular like a giant metronome - all combine to make me ever able to sleep. The food

continues plentiful & good & the weather 'till today has been ~~cool~~ clear, the nights cool. I awoke this morning to a gray day with the great flat watery disc that has become the limits of my world lying quietly under a low overcast.

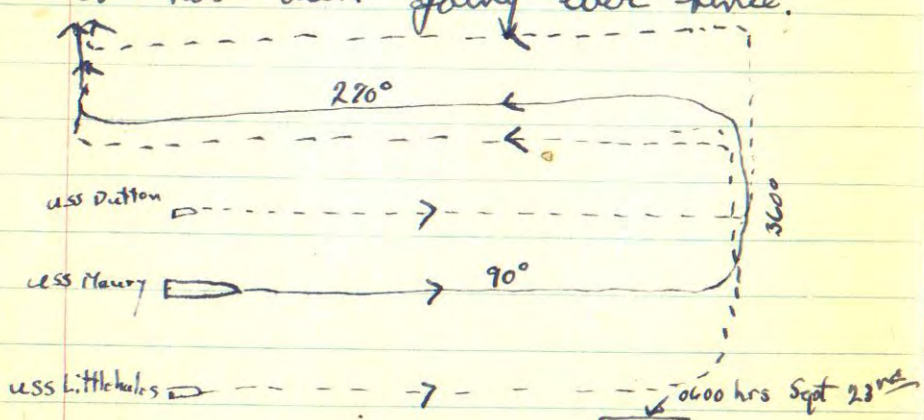
Tuesday 2200 - 21 Sept. '48

There is a beautiful moon tonight - a golden ballerina dancing in & out among great white columns of cumulous clouds. Her wake on the water is a great band of silver spatter - printed on black velvet. The prow of the ship ~~th~~ turns back that velvet & shows it to be lined with white foam that falls away from the ship in great symmetrical folds.

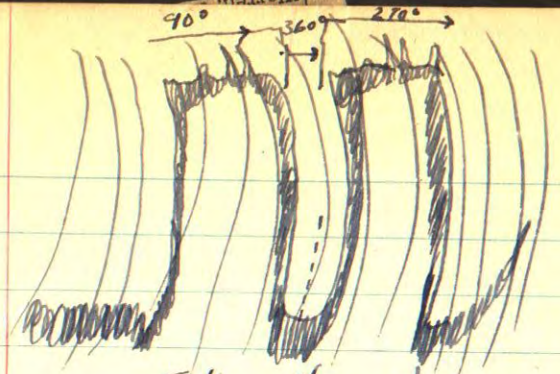
Thursday Sept 23rd 0530 (on 0400-0800 watch)

Sin writing on the fantail by the light of a gorgeous sunrise. &

About 1000 hrs yesterday the fathometer began to show a shallowing out that got down as low as 500f in an area shown to be 2000-2100f on the charts. We are north of Madeira I. & about 50 miles SW of Josephene Banks (80f.). Realizing that this was the sort of thing this expedition is supposed to snoop out. Walverton (Cdr. The Old Man) ordered a reconnaissance of the shoal area & it has been going ever since.



Pattern of Investigation



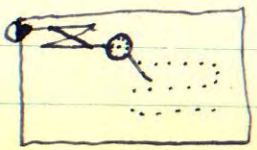
Fathometer Log

By making a continuous UV pattern with the 2 AGSc's at 2000 yards off each beam, we cover 4000 yards, ~~about~~ at each crossing. If the depth is over 1000f we continue north a mile or so, so there is 4000 yds between the last most northerly course & the most southerly course on the next leg & continue back. The shoal area showed up first with a depth of 840f at 1023 hrs Sept 22 & by 1042 was down to 497f. At 1121 we were back at 1180f, & down to 530f at 1228, & back to 1600f at 1430 hrs. The minimums from then on were 560f at 1600, & above 1000f from then on. We started out taking continuous BT lowerings over the shoal, then knocked it down to every 15 min &

now every ½ hour when we are under 1000f, otherwise every hour. This gives us a damn fine coverage of depth & temp. curves over the relatively small area of our search & the strength of any one slide can be checked against the whole.

I have spent a good deal of time in the chart room & on the bridge during the night & yesterday & have a pretty good idea of how they plot this thing up & coordinate our movements with those of the USS Dutton & Littlehales (the Blish is still in tow).

They have a glass topped table with a plain sheet over it & the position & track of the Savoy is projected upward by a pinpoint of light. Every 5 min the plotter pencils in this position & takes bearings on the Dutton & Littlehales with the radar an attached arm with a bearing circle & rule

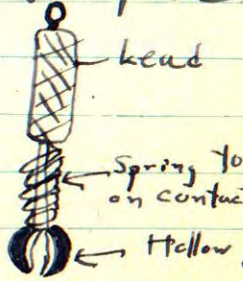


2000 yds

scaled off to to the inch

bearing & range

is used to plot in the positions of these ships as shown in the radar scope. This gives a continuous record (5 minute points joined by dashed lines to last pts) of the movements of the three ships. When our true position is plotted from an astro-fix the distance & bearing to Josephine Bank was computed graphically on the main chart & this in turn laid off with the bearing arm on the bearing sheet. This gives the relative position of the bank & we'll be able to tell when we are over her. Hope to get a bottom sample with the snapper sampler on the BT winch.

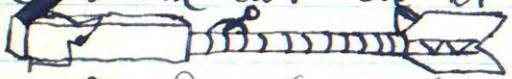


Voice radio with the Dutton & ~~Blish~~ Littlehales keeps us in touch with the depth that

Their fathometers are recording & also tips them off as to course & speed changes. The search has been conducted at 6 knots.

1915 hrs –

We continued on with the three-ship coverage; and just after lunch on 2 consecutive passes the depth read as shallow as 96 f & 98 f. The third pass we have too & were dead in the water over a pt. 95 f of water where the chart showed 1400 f. We broke out the BT Bottom Sampler



& sent her down to see what was there. She came up streaming water & even the Old Man came down to see what had been gotten. In it was a 2-tablespoon load of a white sandy substance that on a closer inspection seemed to be an organic sediment made up mostly of shell parts, teeth, bone, etc. (Later we have too again & sent down the snapper sampler & brought up a

better sample that appeared to be much the same stuff.) The first lowering with the B.T. was somewhat disasterous - she must have hit a rock, for the leading edge had a good dent in it that prevented the trap door from closing tightly - probably in raising, water streamed through this opening & washed out all but the little bit that was left in it when we got it on board.

I hope to get the Doctor interested in this business of bottom sampling, so I can use his microscope to go over the stuff we brought up today.

Sunday Sept 26th

Pulled into Gibraltar on a nice warm Mediterranean day. Had a good 1½ days liberty in town which I laboriously wrote up in toto in my 7 page letter

1£ = $4.07

to Mother & Dad. (2 seven-page letters, in fact)

Tuesday Sept 28th

Off again & I have the mid-watch tonight. Had all day Monday in town - got to Spain in the afternoon after causing Franco's border guards no little concern by showing them the required photo. for identification - one taken by Johnny Jones of me in barb & cowboy hat in Wyo. Again all described in letter to the clan of Oct 1st - La Linea de la Conception. We should be in Augusta Sicily by Sunday Oct 3rd. 1 Pesita = ca. 5¢

Friday - Oct 1st

Still clear, calm, & cool. We have been skirting the north coast of Africa all day. I looked it over with the classes & it seemed to have a low range of hills close to the coast that looked inviting, but the sand that the off-shore breeze left on

our decks bore silent witness as to what was behind those hills. We should pass Pantelleria - or what's left of it after the 8th & 15th Air Forces had their pattern bombing on it a few years back - sometime during the night.

The BT has been handed over to the Boss's mate of the watch & I for one am glad to be rid of it. I was loosing too much sleep. In the drafting room topside we have been laying out the limits of our boat sheets. From the coast out to the 12 f mark will be 1:40,000, from there to approx the 20 f. mark at 1:60,000 & from there to the center of the Persian Gulf at 1:110,000 - all charts to overlap adjacent ones & all to have ~~po~~ as much of the shore as possible so our shore stations

can be used to establish sound boat ~~their~~ positions. We secured at 1500 so Massey & Carnel could get the place ready for the Captain's inspection tomorrow. Wrote another 7 pages to the clan tonight - mainly Spainly.

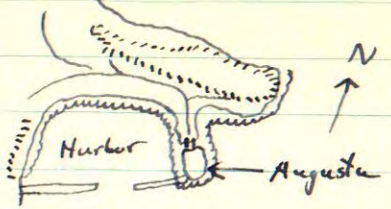
(A 1947 issue of the Military Engineer has an article by Charlie Bates & Dr. Fleming of Oceanography in Hydro on the Navy & her survey duties)

Sunday Oct 3rd

Pulled into Augusta, Sicily, this morning & tied to a buoy in the harbor. The carrier F.D.R., cruisers Little Rock, & two others, plus the supply ship Grand Canyon all were here again. No liberty 'till the supplies had come aboard about 1300.

The four hydrographic engineers were in the first boat ~~again~~ ashore & climbed the small hill to the town. One look at the narrow streets, & dirt, & one smell were

enough for Frank & me, & we headed for the mainland.



Had a good trump back in the Sicilian farm country. 93% of Sicily is under cultivation & it's not hard to believe. Grapes & olives grew in neat patchwork farms. Dusty roads, a dog barking in the distance, the sweet totale of granadas (pomegranates), a flock of goats driven by a bent & mustachioed Sicilian, a farmer plowing with a wooden plough, broken walls & bent iron gates as the only reminders that the tide of war swept this way, dust clouds behind a honking speeding english car, two wheeled carts with farmers & four wheeled carriages

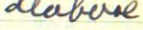
with sailors, a nice sunset, a good view of Mt. Etna from a distance, & of Augusta & the harbor, tired feet & dusty shoes - that was Sicily. - Got three rock samples - 2 Tuff & 1 diabase (?).

We had no dinner, & when we got back to town it was teeming with Sicilians & sailors. We had a few cognac with some of the men from the Navy & got the 10 o'clock boat back to the ship. Many bumboats swarmed around the Navy & little ships all day selling everything from vino to cheap-looking tapestries.

Due to leave tomorrow morning.

Wednesday Oct 6th

Awoke this morning to see the coast of the Peloponnesus off to port. About 1000 we passed Kalamis & made good our mooring in one of the 4 harbors of the Piraeus about 1130. Here

we used the Mediterranean mooring. The hook is dropped & played out as the ship backs toward the ~~pier~~ pier. A stern hawser is taken ashore & the ship secured thusly: 

The harbor was jam-packed - everything from american TMS's going to greece & small fishing boats to Swedish lumber ships & American freighters. 10-15 ships that had been badly damaged during the war were being worked on by a few greeks - it seemed a hopeless job. Next to the Navy was the Sarah Orne Jewett from N.Y. of the Prudential Line, her decks crammed with olive drab 6x6 trucks & hungry cranes kept dipping into her holds & coming out with great loads of white flour bags. Across the small basin Piraeus lay spread out over two low hills &

came right down to the harbor.
We caught the first liberty boat again & were dumped off at the fleet landing. We had to beat off a swarm of peddlers, guides, taxi drivers & urchins, but finally gained the sidewalk on the other side. We decided to see Paeraeus first & walked for over an hour. Got to the top of one of the hills & there before us to the NW lay Athens (ΑΘΝΝΑΙ) dominated by the Acropolis & the higher but smaller hill crowned by the church of St. George. The whole surrounded by Mts. A lovely sight. We finally latched onto George - a greek who learned English in the British army - & took a cab (30,000 dr) to Athens. The ship gave us 10,000 drachma to the $1, George 12,000 dr. on the blk. market.
We saw Athens pretty completely all but the Acropolis which we plan to see tomorrow. The Kings George & The Grand Bretagne are the two big hotels. The bar of the

former sums to be the meeting place for Americans in Athens.
For the record the Flirt Bar must be mentioned! Prostitution is legalized in Greece & the Flirt Bar on constitution square has about a dozen that use that place as their headquarters. They are a rough bunch of females & two or three of them were not bad looking even by U.S. standards. We met them all - Veronica, short & well built, peroxide hair & too much make-up, a little vitamin pill with legs. She just couldn't sit still - a rhumba numbah by the tinny band would have her up & dancing alone among the tables. I say dancing - actually it was a conglomeration of all the motions enticing & lascivious that have come down through the ages as the sure formulae for making the blood tingle in men's veins. Her english was picked up from all the

sailors who conc into others & contained of all the worst profanity & obscenity of the seven seas. "Kiss me quick I'm coming, Kiss my ass, I'm going" is the only one it is my misfortune to recall. Then there was Luna with the tragically beautiful face. She was 5 mos pregnant & had the saddest face & have ever seen, & couldn't keep from staring at her. Poppy with the tight red sweater - & an Italian look about her. Nora who looked as though she might be the girl next door & had a hip motion when she danced that I haven't seen since that "sing - sing" at Port Marsby in New Guinea. They would go from table to table turning on the heat for each man in turn, & many went out with them to return later shame-faced & $100,000 dr poorer. The ~~bar~~ place could have been any bar in the U.S. - a bar at one end, a small band on a recessed dias at the other & in between were small

Dimitri Constantine owned it. Later learned the Germans had broken the man who sold peanuts by 7 yrs in concnt. camp. was formerly 1 of most infl. men in Greece

tables with ~~metal chairs~~. white cloths & metal chairs. Occasionally an old toothless dumb Greek man would go from table to table trying to sell the bags of nuts he carried in a basket on his arm. He would stand ~~dum~~ before you & dumbly hold out a bag of nuts, when you asked "how much" he would just part his toothless gums in an attempt to smile. The girls would tease him a little now & then - tempt him to do things he no longer could. At first I got a sick out of the place - I'd never seen anything like it before - then it revolted me. I had no pity for the women. They probably are the best-fed women in Greece today. They raised no sexual desire in me, for any such desire was more than conceited out by the revulsion of the whole thing. ~~[illegible]~~ Frank & I left about 11 o'clock, as we

climbed the stairs ~~we could~~ to the street we could still hear the rise & swell of the tinny band punctuated by the high-pitched laughter of one of the girls. We stepped out into the cool night & the fresh air of Athens smelled good.

Saturday Oct 9th

We left Paeraeus about 1000 this morning & it looked clean & white in the brilliant Mediterranean ~~sun~~ sun. A whiteness that belied the dusty streets & fowl-smelling alleys, the poverty-stricken people, & the bombed out homes of that ancient sea-port.

Thursday we picked up George & went to the Acropolis, we climbed the steep hill, entered the gates below the propylea & immediately were back in the 4th century before Christ. The Magnificent temple of Athene Nike, the awesome Parthenon, & Erectheum. I took some pictures - some of which I hope come out. Then down to the theatre of Dionysus & the temple of Jupiter, the botanical gardens & the tomb of the unknown soldier. That evening I kept my distance from the flirt bar. The others were there, I guess, but I couldn't see it. Friday we slept in the afternoon after work, had dinner aboard & while the others toured to Athens & that bordello again Frank & I walked to the station & took the train to AMONIA square in Athens & walked to the King George. He bought a Time & I a copy of the Paris addition of the Herald Tribune; & we sat in the wide-windowed lounge overlooking the sidewalk tables under the large blue & white awning of the King George & sipped cool Greek Cangor.

Even now as we pass the Island of Salamis an our way out, I can see the Acropolis & hill of St George in the distance.

Thursday - Oct 12th

Just at sunset yesterday the lighthouse of Port Said became visible off our starboard bow. It was dark by the time we reached the coast & we lay hove to in a good ground swell watching the beacon slice the night & the lights of Port Said clustered along the shore. A small tug came out rolling in the swell & deposited our Egyptian pilot. We circled around & about 2200 made the entrance of the canal where we, along with several other ships, lay moored to buoys 'till 0700 today when we were cleared through the one-way stretch to Great Bitter Lake.

Awoke this morning just as we entered Lake Timsâh. The canal is quite narrow & in most places the banks are faced with a slanting stone wall. Above the wall rise 15-20 foot

banks of sand dredged from the canal & beyond these is desert. The Port Said - Suez R.R. runs inland a mile or so to the west & in many places the intervening land has been somewhat irrigated & patches of corn grow among date palms & palmettoes. To the east was desert - hot dry endless desert. There was little wind, but the occasional breeze was little relief for it was heavy & laden with desert heat. In the Great Bitter Lake we hove to & dropped the hook while the others behind us came out & those going in the other direction passed us & steamed northward. Moored next us was the Cilicia out of Glasgow & a beautiful pleasure ship she was. The decks swarmed with tourists & à la "Mr Roberts," the current favorite on Broadway, we

manned every binocular, range-finder & telescope on the ship. They were mostly tankers going the other way. A tyroco tanker of Panamanian registry, British French & Greek tankers, all loaded to the gunwhales. Then about 1400 we were cleared on. Through Little Bitter Lake & the last stretch down to Suez. This was even drier than the first stretch. A fairly good wind had come up by then & the blowing sand obscured the canal ahead. Occasionally along the banks was piled the twisted rusted wreckage of luckless ships caught in the canal & bombed during the war. We knocked off work in the drafting room off & all manned binoculars atop the flying bridge. A road now was paralleling the canal on the west bank & an occasional British lorry sped by or an

ancient green bus bearing the green crescent & stars design of Egypt. Here & there along the road a hardy farmer tried to eke an existance out of the land waging a never ending fight against the drought & encroaching sand. Some had goats that their women - veiled & in black - tended. All seemed to have a camel or two, that would sit ~~with~~ sphinx-like with their knoby forelegs doubled under them & their heads held high. A cry from Avery - ~~radio~~ radarman 3rd - & we all swung our glasses to port to watch a drama probably often repeated in this country but startling when you see it for the first time. A camel had fallen about ½ mile east of the canal. He could not have been there long for the drifting sand had not begun to cover him.

On his body & around him where he lay were 12 or 16 turkey vultures - great ugly fat birds - that would peck at the still-warm ~~carcass~~ animal & tear away great ribbands of flesh. Even as they ate more vultures were circling above, circling in ever-decreasing ~~[illegible]~~ circles until they alighted screaming on the dead animal to add more pecking beaks to those already at work in reducing the carcass to bones that in time would whiten in that ~~stiffling~~ blistering sun. Past the great split obelisk (N of L. Tiny sun) commemorating the first world war & the canal's part in't, past folorn canal stations, past more irrigated land, more wrecks of ships & buildings & finally off to starboard showed the buildings - homes & minarettes of Suez - southern terminus of the canal at the head of the

Gulf of Suez.

It is now 2030 & we are ploughing southward toward the Red Sea. We are still actually in Egyptian waters, with the Arabian desert to the west & the Sinai Peninsula to the east. Another beautiful night but quite cool.

Friday Oct 15th

Since Tuesday we have been plowing steadily, boreingly, uninterestedly southward in the Gulf of Suez & the Red Sea. It's not red; but it is indeed a sea. We might as well be midway between New York & Gibraltar for all the land we see - were it not for the heat. It has become quite warm, the drafting room with its defective air-conditioning would be better with none; for the steady hum of that big box with the grilled front is a constant re-

minder that we should be enjoying a coolness that the crescents of sweat at the armpits of our shirts & the stickiness of our hands shows to be quite non-existent. We are due in at Aden probably Monday morning. The theory behind the location establishing of geographic positions on the earth's surface using the 60° astrolabe & the celestial triangle has led me in mental contortions for two days now. Its still a mad bubbling boiling confusion of Zenith distance, declination, right-ascension, hour angles, & star lists. This afternoon in welcome relief from the mental tedium of trying to assimilate the celestial sphere into my own somewhat oblate spheroidal, I fell to willingly in No 2 hold in helping assemble the top section of one of Mr Belbp's

steel towers. It was like an iron dawn there, & even though stripped down to my shorts, my body soon was streaming with trickling rivulets of salty perspiration. It soon developed that I was chief die stamper & proceeded to stamp the numbers on the various steel parts ~~with a nail~~ by smashing the small ~~steel~~ numbered dies with a ball-pein hammer. My left thumb is quite sore this evening. I seem to be keeping this journal up to date ~~this month~~ to a much greater extent than I thought possible when I bought it in Auburn last July. I just hope that my ardor does not die, for it will make a good record of events & feelings that might otherwise be forgotten were I to trust all to memory.

Sunday, October 17th

Still steaming southward in this heat. It's a hot that presses in around you, sops your strength & leaves you weak & limp. About 1030 this morning we passed between Jabal Zugar & Quoin I at 14° North. Zugar is a great mass of basaltic volcanic rock with two peaks rising over 900' above the Red Sea. There is scrub vegitation along the shore, but it rapidly gives way to the red-brown volcanics that make up the peaks. The bluff just south of North Point has a well-defined vertical joint system that breaks the cliff face up into great vertical columns. Between it and the water is a vast scree slope of great cubical boulders broken off the cliffs above. Quoin Island is merely a small remnant of rock again the brown

scoriaceous volcanic type & it & Pile I. next to it both rise to about 60-80' straight out of the sea. Quoin has a lighthouse on it with living quarters in the base. I don't envy the poor bloke who has that for his niche. We now are passing Little Hanish I. on our starboard & should be off Great Hanish before long. Maybe I'll try to get some sleep this afternoon. Frank broke a rod out of #3 hold & is now asleep on it out on the fo'castle. Jerry & Ed are back sweating over a hot bridge table with Starseth & the Major in the wardroom & the ship is fairly quiet. Spent last evening & part of this morning at the point of the bow on the fo'castle. It's nice up there. The air is clean, & if there is any breeze at all that's where it is. They string an awning up there

yesterday from just aft of the anchor chain winch aft to the paint locker & all the way across. It covers both of our forward 40 mm's, but they ain't much good anyway I guess.

Tomorrow Aden - (16 annas to the rupee, 3 R 2 a = $1 (U.S.C) 1 R = ca. 30¢)

It's now 2200 & I've been at my favorite spot up at the peak of the bow again. A good breeze has come up & many of the crew have brought their bedding topside to take advantage of the breeze. The moon is full & lay directly ahead so that the ship headed directly into the wake - a lovely sight. The wind rippled the shirt on my back & I could feel it in my hair. The ship made a steady swish as it cut through the water & each wave was divided & thrown aside in a fury of white dancing spray. As I leaned over to watch, I could see the gray streaks of two porpoise

Tonight sometime we pass through Bab-el-Mandeb, out of the Red Sea & into the Gulf of Aden. Through that strait for years have gone dhows & baggalas for Gizan & Suez, pilgrim vessels for Jiddah, the port for Mecca where all people of Islam try to go once before they go to the garden of Allah.

that leapt just ahead of the bow. Occasionally they would break water in an arching jump, moonlight would glisten briefly on a sleek back & they would be gone again in a patch of foam. Looking up the great silver-flecked highway ahead I could not make out the horizon - it was lost in a great dazzle of moonlight & mist where the flecks of light were so jammed together. I stood & watched & thought & was awed. The wind caught the halyard on the bow flag-pole & began slapping it against the pole in an even rhythm. I turned & saw that more men had come up from below & were sprawled crazily on their blankets spread on the deck. The ship looked different in the moonlight. The anchor winch seemed to merge with the

spray shield & the pantlocker. The forward 40's huddled under the new awning & were almost invisible. The superstructure of the bridge was a gray mass rising above me. The moonlight was reflected as gold from the burnished brass on the bridge-wings & the ~~red~~ ~~green~~ running lights turned to have a red & green halo around them. I turned back toward the sea & found that the moon had shifted - or perhaps a small change of course had done it; but at any rate the ship was heading to the left of that silver wake & it seemed wrong. I turned & left. Stepping carefully over sleeping men & took my way aft to our quarters. It seems strange not to have a girl to write to when I feel as I do tonight. In the army overseas when moonlight turned the palm fronds to silver I would feel the same

way & then go back to my tent in the jungle & write a long letter to Margery Dodds. Now she is married, & Stevie too, even Barney Burns. I will probably always regret that I did not know the girl I marry sooner. She'll know all nothing of Princeton, of the army, & now of this trip. They will all be things I'll have to tell her. I'll share her my pictures & my letters & she'll try to understand how I felt, but can never really know. On a night like tonight I would have written about the moonlight & all, but did have written it to her, & the experience would have been richer for me because of her. I must find her soon after I get back. Either "her" or something else to which I can refer myself. I'm no Larry Darrell (Razor's Edge) but ~~I'm~~ in a way I am searching for something. I ~~was~~ am like a ship drifting &

need a pier to tie to or a ~~course~~
course to run - a port to aim for.
This present trip is actually a cowardly
thing for me to do. It is just stalling
'till I can put on what I really
want to do. It's escape from having to
force the decision that must be made
sooner or later. I could turn into a
poor man's Richard Halliburton with no
trouble at all. I do like to travel, &
there is still a good deal of the world
I want to see; but if I find what
I'm looking for - whatever it may
be -, I'll be willing to confine my
wandering to the tourist folders. I've
just got to bottle the thing and
find out, be sure then settle &
stick to it. First though, I must
find that "je ne sais quoi" to which I
can refer my experience & by which
I can set my course. Maybe religion,
maybe the love & loving of a woman.
I don't know, but I don't think I'll
find it behind a transit between
Kuwait & Manifah in Saudi Arabia.

Tuesday, October 19th

Aden has come & gone, & we are
at sea again - heading eastward out
of the Gulf of Aden toward the
Arabian Sea. The familiar roll of the
ship makes it hard to realize that
all that I saw yesterday was
not a fantasy fabricated out of
moon mist & salt spray.

When I awoke yesterday, a hasty
glance out the porthole showed
that we were just outside the
port. ~~of Aden~~. By the time I had
shaved & eaten, the pilot was
aboard & we were just passing
the mole protecting the outer harbor.
With the help of two panting tugs
we were swung this way &
that 'till the pilot - British I think -
felt it was ok to heave the lines.
A small boat rowed by two
dusky be-turbaned boys took
the hawsers over to the buoys &
made them fast. Since liberty
didn't commence until one o'clock,

I had time to look over the town from the harbor.

Aden presents a striking picture as it hangs on as best it can to the low ground around the steep volcanic peaks that make up the peninsula. Along the shore shores of all sizes were pulled up out of the water & rested on their sides, their masts pointing in all directions & making the shore look like a giant pile of jack straws. Nearer the town the long L shaped Past pier on high pilings had a small tug moored in the crook of its arm & looked as though it had just made a survey of the harbor & caught just the one small, dirty, tug. A sea wall runs from there north to the Prince of Wales Pier and keeps the dividing line between water & mountains nice & straight & neat looking. A road follows parallels the wall & follows every turn of the keeps the foot of the peaks. Beyond the Prince of Wales pier the road

rounds a shoulder of volcanic rocks & deposits the traveler right in the main part of the town of Aden. A row of two story buildings fronts on a crescent-shaped park that for sure holds the only trees on the peninsula. It was just after noon when we got there & in true eastern fashion nothing was open. A few goats loitered about the sidewalk, dirty goats that would rummage in the gutter, some had their great swinging udders protected by a 4 inch calico sack tied close to their belly. An occasional Arab could be seen sleeping in a doorway or rolled close to a building. A few dark-skinned children were kicking a gray tennis ball around & stopped to watch us as we passed. We walked to the end of the crescent & were about to investigate the interesting streets that radiate out from it when one

The road

of the chiefs from the ship shouted
at us from a ~~cap~~ cab. We went over
& in answer to his request agreed
to pay our share of the fare over
to Crater. I had read of the town
built in the crater of an extinct volcano
& wanted to see it. We piled in
& were off in a cloud of dust. As in
Athens (& N.Y.C.) the cab drivers rely
mostly on the horn. This ~~cap~~ cab - a
1935 convertable ford - had a hand
operated bulb horn that sounded like
a duck & he drove with one hand
on the wheel & the other on that
horn working it constantly. We
~~so~~ careened around the other shoulder
of rocks that encloses Aden - I'll never
get used to driving on the left side
of the road - scattered a herd of goats
& scared an old man, passed the
dhow shipyards along the flat plain
that borders the shallow ~~[illegible]~~ Ma'alla
Bay ~~harbor~~ & started up the narrow
switch-back road that crosses the
rim of the old volcano. As we

labored up the steep grade with
much knocking of the engine at
every revolution & much honking
of the horn at nothing, I turned
around & saw the whole of the
harbor laid out at my feet. Right
Below us was a large cemetary,
beyond that the dhow yards with
many boats in various stages of
construction. To the left over a
spur of the peak was Aden
its ~~white~~ cubical white houses
~~looking~~ bare & bright in the blazing
Arabian sun & beyond was the green
of the harbor. I could see that the
Hawy was just putting out a 2-foot
boat ~~load of white clad~~ loaded
with one-inch white-clad sailors.
A cargo ship was just passing
the mole on her way to sea,
and several more were still at
anchor. A great triangular white
sail moved effortlessly in & out
among the larger ships, & the
2-foot liberty launch reached the 12' pier.

By now our cab was approaching the straight-sided narrow defile that carries the road through the mountain. It suddenly grew almost dark as we entered the pass. The steep walls of sheer rock towered above us & seemed ~~to meet~~ almost to meet high ~~up~~ above ~~the road~~ our heads. The sky was a narrow ribbon between two walls of rock. The sun burst upon us as we left the pass & there before us at the foot of another steep grade was Crater. From that height it looked much like Aden but for the lack of trees and the precipitous cliffs that surrounded it. It indeed was built in an extinct crater. As we entered the town we passed through a large section that had been completely burned out. Roofless buildings with empty staring windows & blackened walls. Great piles of rubble flocked the sidewalks & heat-twisted girders hung from an unsupported wall. It looked much

like parts of Tokyo or Manila-like parts of so many of our big cities today. But the war had not gotten down here so I asked the driver. Without turning around he said "Jews" & the way he said it left no doubt in our minds as to what his stand was on the Arab-Jewish question. Though Aden is actually an Indian protectorate with a British ~~re~~ residency the population is predominantly Arab. We later learned that Aden had been the scene of a short & bloody riot. Arabs had joined together & burned, killed & looted until no ~~Jewish~~ owned Jewish building or home was left & the Jews themselves were either killed or driven ~~out~~ from the peninsula. The feeling still runs high. As we sat later on in a cafe drinking warm beer we mentioned the word 'Jew' in our conversation

& 6 or 8 arabs turned & stared questioningly at us. They didn't look friendly. We passed through the gutted ghetto & paid off our share of the cab fare (4 Rupees) at the edge of the bazar & started to walk through this ~~nerve center~~ market-place — the nerve center of every town in the middle east.

The bazar is a living thing, a ~~throbb~~ throbing pulsating entity, its veins are ~~narrow crowded~~ dirty narrow streets, its blood the ~~streams of~~ jostling multitude ~~of~~ dark skinned arabs their burnouses fluttering about their shoulders brushed past jet-black Somalies from E Africa, tall stately blacks who wore ~~no head cover~~ dirty white wrap-around skirts & an undershirt — women of Islam veiled & in ~~black~~ ~~[illegible]~~ loose black garments that trailed on the ground — an occasional Indian merchant with his ~~[illegible]~~ shiney black hair, & ~~[illegible]~~ sharp

Low two-story ~~[illegible]~~ buildings all white & all almost cubical in shape were packed ~~together~~ along both sides of the narrow streets. The flat roofs of differing ~~[illegible]~~ levels made the whole & very lovely like a fantasy in child's blocks, light cloth awnings with shirts not brushed your shoulders, hung before all the shops.

features, his white robes gathered in front & raised to keep them out of the dirt — old beggars in filthy turbans and only a breechclout would hold themselves up on a cane & extend a deformed hand crying "baksish" — an ~~the~~ old man, ~~their~~ his legs gathered under him, ~~[illegible]~~ sitting against a wall staring blankly off into space with ~~sh~~ sightless eyes, wearing only a breechcloth & trying to keep from being stepped on — children of indeterminate parentage throwing stones at a camel pulling a water cart & the driver shouting invectives at them in an unknown tongue — unveiled Somali women in long red calico dresses — a sweating man laboring under a great bale of green hay pushing his way through the surging crowd his body bent low & his eyes on the ground — a hunch-~~[illegible]~~ backed boy in shorts asking for alms — three veiled women ~~[illegible]~~ looking over bolts of gaudy

print — an Egyptian in western dress & a red fez — more Arabs more Somolies — more beggers — more kids — camels — goats — mules — dogs — this was the surging life blood of the bazar. The air was heavy with the odors of humans & camels. Like the sounds of an angry torrent were the combined voices of man & beast. A goat urinating on the sidewalk was backed by one of the throng & it disappeared through an open doorway urinating as it went. A fat Indian on a rope pallet drew smoke thru his hubba & exhaled a long thin stream of blue-gray smoke. A sweating arab tinsmith worked a bellows with his feet & sparks flew from the pile of coals on the dirt floor. A carpenter in a shop littered with sawdust & shavings was fitting the wooden share into a plow & stopped & thought of

another carpenter in a shop probably much like this. We walked on, ducking under low awnings, stepping around prostrate beggars, waiting for a cursing driver to get his mule off the sidewalk, stopping to let pass a camel cart loaded with great bales bound in burlap; we walked & looked & marveled & wished we were less conspicuous. Somewhere along the way we picked up "Curley" & dubbed him Curley for his head was shaved bare and glistened with drops of perspiration. He was about 12, black as midnight, with a ready smile & a mouthful of gleaming white teeth. Curley wore a red print skirt & a blue shirt. First he tried asking "whiskey?" — we said no, "fuckey?" we said definitely no, so he gave up & just tagged along. He asked for a cigarette & I always eager to contribute to the delinquency of a juvenile, gave him a Lekesey. The bazar after an hour

or so became less exotic as the ~~beggars~~ smells became more penetrating, the dust thicker, & the beggars more pitiful & insistant. We left ~~the beggars~~ & even ~~one~~ two blocks away could still hear the ~~babble~~ sound of the torrent. Curley was still with us. In an open field - perhaps 'field' is not the word for "field" to me connotes cool green grass or waving grain & this was hard packed earth & dusty - two teams of boys were playing soccer, & we stopped to watch. The low wall around the playing field was lined with grandstand quarterbacks sitting jackknife fashion ~~on~~ on their haunches with their knees locked underneath their chins. We watched for a while & then I crossed the street to a doorway under a large B.O.A.C. sign to pick up a British Overseas Airways folder just in case. As I came out, the other three were shouting at me to come over quickly. At first it

looked as though they were besieged. The three of them were standing on the low wall & were surrounded by a ~~single~~ crowd - must have been 15 or 20 of them & more were arriving all the time. I pushed my way through & had visions of the three musketeers (or ten, 4 in this case) against the world, the thin red line, the hollow square at Khartoum, & the Black Hole of Calcutta all rolled into one. But then I realized that they were all kids & all smiling. Ed had taken his shoe laces out for cat's cradles but he had run out of tricks before a demanding & eager house. This was just my meat. I did two string tricks on my hands, but what really got them was the loop through the neck one. & in true thespian style was carried on by my audience & even went as far as to "chew up & swallow" a lighted cigarette. We all ran out of tricks then &

tried to leave. after two blocks we still had about a dozen of them with us. It was growing late by then so Curly got us a cab from somewhere, we gave him two rupees, he shook hands very solemly all around & we left ~~with~~ with much ~~mad~~ mad honking. Around the outside of the bozar, through the burned-out ghetto, up to & through the pass & down into Aden. Ed & Jerry went back to the ship for chow while Frank & I looked in some of the stores. I picked up a nice set of notched ivory napkin rings & a couple of small sandlewood animals. Had a small steak, french fries, bread & cold cream, & good coffee at the Blue Bay on the Crescent. Met a couple of the AGSC officers & Ens. Rasmussen from the Navy & went over to the Excelsior Hotel. Had a beer with them & then left for to stay would have been only to drink & that's a heck of a way to spend a whole evening & fortune, so we traipsed on back to the Navy Navee & the movie.

Thursday October 21st

So far this book sounds as though I spend most of my time on the beach, but for every hour spent ashore there are days spent in that drafting room topside.

After getting up the top sections of a Billy Tower in #2 hold, we proceeded to draw up plans for the wooden observers platforms, the templates for laying out the bases of various height towers, & I drew up plans for a wooden framework in which the cement is to be poured for the pier for the astrolabe. There were

drawn in pencil & then traced

in ink on cloth paper & taken down to the carpentry shop. A radiogram the other day suggested we chart Shah Alam Shoal in the Persian Gulf on our way into Bahrien. It is on the present chart of the Gulf but believed to be poorly located & poorly sounded. The buoy has been carried away & three barbers have gone aground on her in the past two years. As near as we can tell from the available charts, Shah Alam lies at approx 52° 31' E, 26° 25' N. I figured out the limits & polyconic projection distances & ed & I drew up a master sheet with an 18° E-W & 10° N-S spread in the shoal area. We'll prick through the coordinates onto sheets to be used as ~~smooth sheets~~ boat sheets & use this one for our smooth plot.

Cooler tonight with a good

breeze from the southeast. The moon slowly lights its arching course through a layer of stratocumulus. I'm reading Allmon's "White Water" - a good book that recalls vivid pictures of the summers of '46 & 47 in the Wind River Range in Wyoming & makes me want to take the same trails again & marvel at the same views - this time I'd like to do it with Butch - maybe if this jaunt is over by June I can pick him up in Cairo & we can do some climbing there & I want him to know the incomparable joy of high freedom.

-Notes-

zarooh - Dhaws - booms - baggalas - sambuks
Lateen rigged. Nakhodah = Captain of Dhaw
Ramadhan - Moslem fast month
Aghal = black lambs-wool head rope of desert Arabs.
Basra dates - Twisted wood from Yemen & logs from the Malabar Coast - dhaws built with adz & Indian drills. Taiyib = good
Swahili = Lingua Franca of Persian Gulf.

Tuesday October 26th

Since we left Aden we have followed the coast north & east. Past the Hadhramaut, past the ports of Mukalla, Saihut & Salala, past the Kuria Muria Is (the British Quarantine station for Mecca pilgrims coming from the east) up the coast of Oman, around Ras al Hadd and into the Gulf of Oman. Today we steamed almost due north up the western side of the Gulf towards the Straits of Ormuz (or Hormuz). Late this afternoon we passed close to Ras al Musandum - the easternmost tip of Arabia - through the Straits of Hormuz & into the Persian Gulf at last. The sun was low & made the water between the ship & the shore a deep turquoise. A big sea-going dhow sped southward hugging the coast. Her triangular lateen sail well-filled by the fresh wind & very

white in the low sunlight. High naked cliffs rise straight out of the water. I got a glass on them & they were a great thickness of sedimentary beds slightly folded & faulted, and arranged like an tier up & back to the peaks of Musandam. Their tops were hidden in clouds that spilled downward through the barren valleys. Higher up, great towering cumulo nimbus clouds with their flat anvils streaming southward were starting to turn pink. To the east I could just make out the mountains (Iran) of Persia. I climbed to the top of the flying bridge & watched the water change from pink to blood-red & then drain from the sky leaving dirty grey clouds against a light blue background. I felt strange as we went through the Straits of Ormuz. Actually it was not

much different from Gibraltar or Bab el Mandeb; but where they linked Ocean to Sea & Sea to Gulf, Ormuz seemed to be a strait between the present & the past. Sounds a bit carny, I know; but we were entering the Persian Gulf where men live much as they did in the days of Christ, they sail their booms & ~~bagallas~~ baggalas - ships much like ~~& descended from~~ those of the Phoenecians ~~[illegible]~~ in the 3rd (?) century B.C. ~~before Christ~~. The gulf is believed by many to be the place where man first ~~was~~ started ~~[illegible]~~ in this vale of tears. Here (Hormuz) Marco Polo ended his return voyage, here Nearctus sailed in 325 B.C. here the African slave traders brought their black ivory for the slave marts of Baghdad & Hawait -- and it is still much as it was then.. The same

~~ship~~ boats, the somehouses, the same clothes. I'll be most interested to see what lies ahead. Lots of work, I know, long hours in the boiling sun of the day, & weary hours over our charts & computations in the heat of evening. It will be work, but I also plan to keep my eyes, ears, & mind open & thereby learn a lot. Tomorrow we get to Shah Allum Shoal.

Wednesday, Oct 27th —

I in my naïvté thought that snafu operations were limited to the army. It is indeed a consoling thought, yea, a golden revelation, to know that the navy can - when the right circumstances present themselves - present a* fouled up ~~a~~ situation that almost reaches the peaks ~~reached by~~ attained by the army units to which it was my dubious honor to

be attached during the late international altercation. The AGS is went ahead of the Maury about noon. It was a nice formation. Their fathometers pinged away madly as they swept the bottom looking for the shoaling that would indicate our approach to Shoh Allum Shoal. As we drew nearer to the area where it was reputed to lie, we reduced our speed to 4 knots. The sound boats seemed to be ready. Their crews lolled about on their decks & the boom was attached to the sling on #4 sound boat - port side just aft of the drafting room. We slowed down even more & looking through the davits above the captain's gig I could see the AGS c's ~~[illegible]~~ had have too. Then the order came over the speaker system "~~Boat~~" Sound

boat crews man your sound boats - on the double." Well, I was impressed. This was nothing like the army. Then the old system went into operation. ~~someone threw in the wrench.~~ Men standing ready with lines slaked their grips & looked toward the bridge as though they expected to see a big neon sign up there saying "~~Sorry there may be a slight delay~~" "Hold on, I'll be right there". The man in the hull of #4 ready to kick over the two engines stuck his head out of the hatch & ~~the~~ looked toward the loudspeaker ~~on~~ on the after mast as though seeing him it would explain the delay. Osborn - ~~bosun mate~~ cox'n of #4 cocked an eye toward the bridge then leaned back & lit a cigarette as though he was to sit there all

day — Osborn's been in the
navy 7 years. The cooks that
had come out of their holes to
watch, took a last look at the sky
& ducked below, again — they are old navy men, even Bonzo (the
dog) went back to sleep under
the lip of #2 hatch cover — Bonzo
has been in the navy 3 years.
I leaned over the rail along the
drafting room ~~to~~ looked forward
expecting them to start lowering
away any second now — &
have been with the navy two
months. We waited — & waited —
& waited. Bonzo was asleep & dreaming
of the ~~light~~ lamp posts on 5th avenue,
Osborn's cigarette was out long
ago & he & the man ~~fo~~ from
the bowels of #4 ~~were~~ had both
removed their shirts & were
sun-bathing on the sloping
deck of the sound boat. The
whole operation had bagged down,
fizzled out. It was good to be
back in a familiar situation. I

bit up a weed & sauntered
off to the drafting room again
& was back at cleaning meter-
bars when the others came in.
It. Shaw ~~then~~ soon arrived ~~came in~~ looking
like the cat that ate the canary
& herded us all down to the
bottom of #3 hold. What for? ---
To get out the generators that
supply the power for the radar
equipment on the sound boats. We
were going to plot the positions
of the sound boats by radar —
radar equipment was on the
soundboats all polished & ready
to go — but the power for these
ingenious machines? — roped
against the bulkhead under
10 boxes of Helmets, sun, tropical
at the bottom of #3 hold aboard
the Navy. Yes indeedie it is
good to get back on ground
& know so well. It is now
2200 & everything is as expected.
We are still oncored, the 3

AGS c's are still ancored (2 of them anyway), the Dutton has gone to Bohrien for mail -- for additional food too & hope if this keeps up) The sound boats are still in their cradles right where they were when we left New York. Everything quit for chow & then quit again (or rather - stayed quitted) while all hands went to the movie & now everyone is in the rack. We'll try again in the morning & guess. That "Sound boat crews man your sound boats on the double" really had me sold on this navy efficiency for awhile - until I learned it was just like the army's "Hurry up & wait - on the double.

Friday Oct 29th

Between the full day of yesterday, & the arrival of mail & 3 Sat. Eve. Posts today I have kept fairly busy.

Yesterday & today both were

fairly warm. The air-conditioning in the drafting room purrs contentedly but doesn't do a damn bit of good. We finally opened all the parts today when the temp. in there got up to 92° but got little relief. I spent yesterday slaving over hot fathometer rolls from the N5-9 & NMC-2 sets aboard. Checked the soundings from Gibraltar to Augusta to Piraeus to Port Said all but for some NMC-2 missing on the 11th. The work entails interpolating time intervals on the rolls between ~~marked~~ 1/2 hr. marks & checking the depths of these derived times against the depth as recorded in the sound books. I have climbed every peak in the Mediterranean Sea using a pair of 11-point dividers as a climbing stick. About 1630 the combination of heat, glare from the sun on the water, too many cigarettes, &

too much close work gave me a splitting headache & I checked out for my rack. One sound-boat (#) with ens. (Yenke) had been put in order & had mark a good pattern over the shoal area &

his boat sheet ↑ showed the shoal to be just where & the shape that the charts showed it to be. The boat was tracked on the VF radar set on the bridge & the range & bearings plotted on a boat sheet up there. During the morning that ens. & made up my hours & a half tracing & plotting in the drafting room. Today they managed somehow to get 3 of the 4 sound boats working & filled in the holes where they had no soundings. I spent the day plotting polyconic projections for the 1:2,0000 smooth sheets to be used in Iwuit Harbor.

We weighed anchor about 1800 & are now en route to Bahrien. Should be there about 1000 tomorrow.

Picked up some strong green clay on our anchor just south of Shoh Allam Shoal - a sample is with my other one - it looks much like a glauconitic clay such as might be found on the Cretaceous coastal plains of the Atlantic Coast. The waters abound in strange life. Just ave. one of the millions of fishing lines over the side hooked a shark. He broke water only once - a big 7 or 8 footer - & then sounded. They had only a light line on him so just played him till he took a few turns around our starboard anchor chain & they had to cut the line. There are lots of water

snakes - yellow & brown - up to 4 feet in length that slither along the side of the ship & looked especially eerie as they were picked up by the battle lanterns ~~used~~ being used to light up the battle with the shark an especially strange critter is a light orange fish that I have seen up to 10" in length. Looks something like this:

They at first seemed to be hunching along by pushing with their tails but a closer look showed that they had flippers of some sort mounted on their bulbous looking heads that they used. They would paddle once & then glide, then paddle again & so on. I watched one for some time. He would seem to attack the hull of the Nawy

coming partway out of the water & then fall back with a splash-turn & by his flip & glide method of locomotion get over to the sandboat tied alongside & attack her seeming to thrust along the water level of the hull thrust himself out, fall back & return for another crack at the Nawy. A good deal of flourescence was in the water too, the anchor chains seemed to be coated with an incandescent mist below the surface & occasional blue-green globules (?) of colonial protozoans would be carried by in the current lighting about every 5-10 seconds. They were noticable only along the hull where evidently a turbulance of some kind causes them to luminesce. To quote from Sverdrup P 834

"The light rays produced by organisms are wholly within the range of human

vision and may at times be sufficiently brilliant to make the crests of breaking waves, the wake of a ship, or other mechanically agitated water glow with a general greenish light of sufficient intensity to enable one to read ... caused by innumerable micro-scopic organisms mainly dinoflagellates (dinoflagellates) such as Noctiluca"

Saturday, October 30th

Again we worked 8 hrs. over-time on a Saturday. Spent the entire day helping the small boat officers to get their boat sheets squared away & the soundings in their log books checked against the fathometer rolls. It was menial labor & not too interesting to do.

We had the curtains drawn over the ports all day to keep out the glare off the water & about 1100 when all came below for coffee I found we had anchored & that the 3 AGS's were again

tied up side by side along our port beam. We are anchored still - about 2 miles off Bahrein Island. Unlike Gibraltar, or Piraeus or Aden which had mountains or at least hills, there is here very little to show where the water stops & the land begins. Our horizon is still very very flat. In the distance off our stern I could make out one lone flat-topped hill & it is hard to realize that the Island spare isn't away back there. Off our port bow a long low line of flat white buildings that seem to lie right on the water is Manama. On to the left, again right at water level, is a long horizon of storage tanks and the refinery towers of the Bahrein Oil Company. Farther to the left with binoculars you

can just make out a cluster of bandy-legged oil well rigs at the base of that one lonely hill that somehow got misplaced. The world from here seems to be unidimensional - no up or down, just horizontal distances on a vast plain. From the ship, the island looks like a white pencil line on a big blue sphere. There is not a cloud in the sky - a sky only a shade lighter than the wide stretch of blue water between here & the shore. From somewhere along that pencil line three dhows had put out & now catching a light breeze from the northwest crept along toward the open gulf. The sun dropped lower down in the sky & approached the horizon without the softening effect of a sunset. Still at noon brightness it plunged

below the horizon and you seemed to feel that when it rose out of the sea in the morning it would not be preceeded by a gentle pre-dawn glow, but would rise suddenly screaming & hard again. It grew dark rapidly and a million lights came on along the island making a sparkling belt of diamonds to girdle the Arabian night. (colorful, but would be better for a woman's scream on a quiet night) A dog barked on one of the ships tied alongside & the thin silence shattered & fell in a million tinkling slivers. A sailor flipped a glowing cigarette butt over the side & it fell in a wide arc and died as it hit the water - As though nature were mimicking him a shooting star fell in a lazy arc & seemed to be snuffed out as it

fell below the horizon. On one of the little ships a harmonica was playing Hey ho my Heart [illegible] it fouled up the beginning of the second chorus and somebody laughed. Rope bumpers groaned as the Sutton rubbed shoulders with the Navy & somewhere behind me someone bumped into a cable in the dark & cursed. It is much cooler now & should be a good night for sleeping.

Sunday, October 31st.

The other three went ashore today - don't know why I didn't. The crew were allowed to go only to a British recreation area & they took off in the PL with about 40 cases of beer. I couldn't quite see that rode jeep for at beer in a fenced-in recreation area. Well, as it turned out, the others picked up a cab & went over to Manama. They seemed to have had a good time & saw lots of the local color - even bought 3 burnooses (bernice?). I was sorry I hadn't gone, for I could have sent off my last roll of color film. As it was I spent the time while they were ashore reading all the decent articles in my 3 Sat Eve Posts up on the deck above the drafting room. I wore only my Australian shorts & got some good color on my front.

Got a really nice letter from Bobbie Ambrie w. notations & corrections by Turbo, one from Mrs S. & a brief epistle from Charlotte McNulty the lounge-lizard of Wells '50 — she gives me a pain where pills can't reach. She is a spoiled brat who will soon mature into a full-blown, cultured,

(fine way to start a new page)

bitch.

Monday, dies 1st Novembre

It's 2120 and we are tied up to the ~~Tan~~ Tec of the end of the long fueling pier that stretches ~~out into the bay~~ from Bohrin Island far out into the bay. The pier is flush against our hull to starboard & across the 100 feet of black oil-stained planking of the pier the American tanker Canas Meadows is moored close along side. She rises & falls with the swell and is a ~~huge~~ big black monster breathing heavily as she sucks nourishment from the great black hose that rises from the pier & disappears over the gunwhales with its head thrust deep into the ships entrails. Ahead of the Canas Meadows is the U.S. Navy tanker Guadalupe also taking on fuel. The Navy two has all day had a sleek black flexible hose disgorging hundreds of gallons of black diesel oil into her tanks. The action of a pump somewhere beneath the surface of the pier causes the hose to pulsate like a loaded artery. Now it is night and the pier between the walls of hull on either side is lighted by the lamps of the end of curved arms atop the 30' lamp-posts that line the middle of the pier. The light is absorbed by the dark planking of the pier but picks out every bit of bright work & white on the ships alongside. The overall effect is one of

unreality as though the whole thing were a set for the first act of Eugenene O'Neills The Long Voyage Home. A few arabs that work as laborans for BAPCO (British-American Petroleum Company) tend the cranes that haist the hoses & the valves that control the flow of oil. The hoses come from large trap doors in the pier that are now thrown back beside the dark holes filled with control valves & pipes. One dark-skinned arab wears a light red turban and what looks like an army overcoat - for the nights are cool - but he is barefooted. ~~His shadow is a~~ Leaning against one of the lamp posts he seems to be contemplating the small black spot at his feet that is his shadow. In the small booth

turn

in the middle of the pier a telephone jangles demandingly & the arab looks up from his shadow toward the booth & then toward the gangplong leading up to the deck of the Camas Meadows. Down it hurries a white man in khaki shirt & shorts. His arms & bare legs look very white & he has a good sized paunch that sways as he hurries across toward the shed & makes his attempt at running look ludicris (sp?). He dissapears inside, the jangling of the telephone stops & silence closes in around the shed. The Mawry rises on a swell, hawsers strain in their bits and rope fenders groan as they are crushed against the oily pier. The fat man waddles across the pier toward the Mawry, his shadow getting shorter &

shorter as he nears ~~the~~ a lamp post, ~~she~~ gets mixed up in his feet as he passes & reaches out in front of him as he comes toward the ~~Navy~~ ship. The drab goes back to watching his own shadow, the ~~pla~~ black pythons still pulsate & the loud speaker system aboard tells us again that the smoking lamp is out throughout the ship.

Spent the day in the drafting room trying to unscramble the Sound Books & fathograms from the sound boats over Shah Allum Shoal. The fathometer in Beggs sound boat (#2) was on the fritz & he had used a portable set (NK-6). The hitch is that they had voltage troubles for 1/2 a day 'till they put in fresh batteries; & so positions that should be evenly spaced at three minute intervals

along the roll are spread all over. On Menke's rolls from S.B #1 ~~the~~ there are 15-20 minute stretches with no time or position locations - stretches while his fathometer man was hanging over the side sick as a day. Thus we had to go along till we found a place where they had changed from feet to fathoms on the roll, try to find the break in the book & then figure ahead & back from that break assuming that the roll kept moving at a continuous rate past the stylus arm. It made a lot of finageling, but we came out O.K.

We should pull out of here early in the morning & arrive at Kuwait Wednesday some time. Then our real work begins. I have been assigned as head of triangulation party #1 &

(That's "Jazirat Faylakah")

hope to set up stations Tomb & Tip on Jasirat Falakah the island between Ras Al Ardh & Shatt-al-Arab (the mouths of the Tigris & Euphrates). It is an interesting looking island from the map & her position makes her an island that was probably one of the first known to man. I want to see that tomb & to sweep along her shores.

Got today in the mail my first roll of color film back from Eastman. My face & good shots of Athuna. They exceeded my wildest hopes. Must get some more color film.

Wednesday, November 3rd -

1230 - Well we're here, anchored about an hour ago between Ras-al-Ardh & Jasirat Falakah. Yesterday we left Bahrein about 0800 & I spent the day working over the fathometer rolls from the

run off
Maury & while we were anchored over Shoh Allum. Any fluctuations should have been attributable to tide & we hoped to get a tidal correction & to apply to the sound heights from the sound boats, but the joker on fathometer watch on the bridge had goofed off & fudged in the times in such a way that Nov 2nd just isn't in the book at all. I spent the better part of the day trying to figure out what had gone on. That afternoon our assignments were confirmed & I am indeed to go to Falakah tomorrow with M.R. Smith & C.D. Taylor (apprentice seamen) as assistants to reconaiter the island, try to find good locations for triangulation stations Tomb, Niya, & Tip (now T. pc), take a solar shot & determine visibility along the horizon, getting magnetic azimuths to all blind spots & natural

features. Today - or at least so far, today - Ed Craig & I have laid out & inked three boat sheets (1.002, 1.003, & 1.005) of the harbor - still have one to go. Last eve. after the movie, & at the risk of being thought "eager" by the others & I put one of the photostatic copies of HO 3654 (Tuwait Harbor) in the Saltzman projector & traced off a large map of the islands, laying off & measuring the magnetic azimuths of the lines of sight to the other proposed stations in the net which are supposed to be visable from Taglabok.

1900 - "Welcome Stranger" is the movie tonight, but since we had it a few weeks ago (minus one reel), I think I'll skip it & get caught up in here & with my letter writing.

Our survey operations will not get underway tomorrow after all, as

the captain wasn't able to make all his shore calls today. We were all set through - our stateroom already ~~close~~ crowded ~~too~~ now ~~taken on the appearance of a~~ looks like a phone booth holding the gear for a marine division before Tarawa. Between the desk where I'm writing & the door, the bulkhead is ~~the~~ festooned with map cases & sun helmets. Charts ~~of~~ of Tuwait harbor are on both desks & binoculars, whyteforce tapes, pads, colored pencils, protractors are all stowed & ready to go. Now it's postponed - at least for a day. I was ready but will be glad of the chance to brush up on solar observations with a transit. I think we all felt & still feel much ~~the same~~ relieved that the two-month trip to Tuwait is over & that we are about to start. We already know the area as thoroughly as we had been here. We

could reproduce most of these charts by memory now. As the ship pulled ever closer to land yesterday we began calling off "familiar" landmarks as though we were coming into an area we all know well. We picked up the headland of Ras al Ardh & identified the land to starboard as Jazirat Faylakah, recognized the muddy water as the effluvium from Shatt al Arab, & Kuwait from the sea looked much as we had imagined it. A great expanse of low white flat-topped adobe-looking buildings with one or two minarettes rising haughtily above the irregular levels of the houses around them. Nearer the waterfront are several larger buildings with two tiers of arched ~~[illegible]~~ the balconies along the front — they look almost like Italian Renaissance bldgs from a distance. Along the water-

front dhows ~~[illegible]~~ with their sails down look like skeletons ~~[illegible]~~ as they cluster close against the shoreline. There must be several hundred of them moored & tied-up over there. The entire city is surrounded by a turreted wall ~~[illegible]~~ that reaches to the harbor at both ends as though to seal ~~keep~~ the ~~houses~~ people off ~~away~~ from the land to the south & keep ~~force~~ them ~~[illegible]~~ ~~[illegible]~~ at the water from which comes their livelihood. A few ~~[illegible]~~ though seem to have broken out and ~~a~~ several deltas of houses extend out from the wall onto the hot dry plains. From where we are anchored there is not one tree in sight. The shore of the harbor streaches off beyond the town barren & flat to dissapear in the distance. It comes back into view on the other side

of Hawaiit harbor but ~~this~~ here it is backed by a low sandy bluff ~~ridge~~ still dry-looking & without vegitation. About 1700 the dhaw flut returned from whether dhaws go during the day & it was lovely to see. There must have been 50 or 60 of them - all sized - There wasn't much wind. Streaks of wind-nipples ~~[illegible]~~ on the smooth surface of the harbor looked like greasy finger streaks on a gray-green mirror. By the time supper was over (& our mess bill jumped to $47 monthly) it had begun to get dark. It's strange the way it gets dark out here. The grayness seems to spread up from the land & out from the shore. The land is invisible while the sky & water ~~are~~ still ~~retain~~ seem to be hanging on to the last traces of the day. A little fingernail moon has come up & the wake is a very narrow band of

gold from the shore straight to the ship. A cool breeze has come up - a welcome relief from the glaring heat of the day - and the ship is getting ready to retire for the night. Though it is 7 in the evening here, it is only 7AM ~~[illegible]~~ ~~of the~~ in Frisco on the day after a presidential election. We still don't know who won, but the last report - heard about noon by short wave from England said Truman was way ahead - that would have been just after midnight sometime in the States. We ~~really~~ don't seem to have gotten too worked up over the election over here. Our being so out of touch with the states renders us quite immune to the virus of ~~public~~ newspaper propaganda, hence we don't know quite what goes on nor are our

stands influenced by the current whim of the nation's editors. I cannot help but feel, however, that if Mr Truman is re-elected & his democratic senators returned to their seats & additional seats going to D's over R's that our country is in for four hard years. He is a weak man. I pray God ~~to~~ to give him the strength of character & the awareness of night to keep this country behind the principles we know to be good. It is hopeless to try to form a government stronger than the people who make it up, to ~~try to~~ aspire to political ideals higher than those ideals of the men assigned to perpetrate them, it is sheer folly to even hope for a Christian settlement of world affairs when the men in whose hands the power of war or peace may lie are Godless, self-centered, money-mad, power-crazy hypocrites, again - the ethics of a social or political

system can be no better than the personal ethics of the people who make up that society or that government.

Thursday, Nov 4th - 2130

Fathograms most of the day today - had my boys at work painting 1 foot black & white stripes on the 16' 2x2's used on the signals. Lts Shaw & Cook went ashore to see oil Co. men & the Old man to see the Shiek. Evidently the word didn't get through & not a soul ashore knew we were coming; so we won't be going ashore at least 'till Monday. - so it goes.

His Highness Sir Ahmed ibn Jaber al-Sabah - his rt. hand man Ali Kalifa whose nephew Fahad was at Beirut

Sheikh ~~[illegible]~~ Ahmed Jabah his subjects call him

Friday, November 5th

Cooke & Shaw went to the Oil Co again today & down to Cahil for the tide gauge records. We worked topside on following runs again. All caught up to T. Harbor but for one NJ-4 roll (hot) missing & the NMC-2 roll still in the machine.

Yesterday & today were both clear & hot - also the flies have discovered us. They are persistent little devils that get into your nose & ears - & bite 'em.

Beautiful sunset tonight. No harsh colors - all pastels pink & yellow against a baby blue sky & reflected in the light green mirror of the bay. A big boom with both sails rigged for the slightest wisp of moving air sat motionless on its reflected image in the water & was silhouetted just as the orange sun slipped behind the low sand hills west of the harbor.

The nights are really quite cool & make for darn nice sleeping.

Tuesday, November 9th

1130- The word finally came through - we're to start tomorrow as previously planned for last Thursday.

Sunday we went ashore to the oil company's area & recreated. - baseball, beer, & blazing hot sun - over & back in launch Boats. It was good to get on terra firma again but it irked me that we couldn't get into the town. Still hope to see Kenway. In the drafting room we have made tidal plot from the Navy's rolls over Shoh Allum & have applied the corrections by time to the second both sound books. Set up 0.201 smooth plot 1:40,000 & are now working

0202

Thursday Evening November ~~2210~~ 12th

I'm really tired tonight - left the ship at 0730 this a.m. & got back in the dark at 1920 tonight. Yesterday was another long one too. Holiday routine tomorrow & work Sunday. I had Sunday School last Sunday - we got a miserable attendance - maybe 25 out of 300 men & 3 out of 28 officers. 15th Chapter of St. John - I am the vine & ye are the branches - Hope to get caught up in here when I woke up tomorrow afternoon. Doc Colin - a wonderful guy has picked up Jaundice & is being flown to Dahran for shipment back to the States. Tough break for him & us.

Friday eve November 12th

I find it most difficult to write of yesterday when tomorrow looms so big. Daily I am faced with tasks the enormity of which staggers me; but each eve.

& somehow seem to have ~~me~~ muddled my way through. The difficulty stems from my own inadequate knowledge of this type of work, a knowledge that should be gained from those laying out the jobs for us; but they are of no help & I learn only by trial & error while doing.

Tuesday evening the plan of the day came out with "0700 Mr Stewart & triangulation party #1 away in LCVP #5 to reconnoitre Jazirat ~~Tafo~~ Taylakah stations Tomb Tipe & Niya" It's funny that no one ever tells us where we go or what we do - its always that impersonal Plan of the Day - a mimeographed sheet tacked up amoung other papers on the bulletin board in the wardroom. By the time I sacked in that evening I had all our gear - transit, tripod, stadia rod, my

map case, hotchet, sheeting, torchs, maps everything - cum feed & water arranged for - & knew not where & was going - Faylokoh, and what & was to do - locate sites for stations & take 1 minute cuts to natural objects, check horizon visibility & take three sets of sun shots at each station. I should have rested well, but as & lay there staring through the darkness at the overhead & was assailed by a thousand doubts, small details that never rated the plan of the day, little problems that couldn't be prepared for & would have to be sized up & dealt with as they were met. How close could we get with the VP? Was the existing chart accurate enough so we could trust the depth? What if we ran aground? Were the Arabs on Falakoh going to resent our landing on their island. & had read of the Arabs

castrating British fliers & sewing their testicles in their mouths. They cut off a man's hands for stealing - their regard for life is small here where it is so cheap - only the strong survive & death is no novelty. Would they resent my setting up a transit on top of a tomb? These things & did not know - would not know 'till tomorrow.

It was dark at 0600 when & was awakened. Ed & Jerry & Frank each had slept with his own problems & we were quiet as we washed & dressed. Breakfast was hurried & by 0630 & was below where our gear had been stowed the night before. Smith & Taylor had not shown up so & had the word passed for them. By 0650 we had all our gear piled at the head of the gangway & were awaiting the

LCVP to come along side. At five of seven she came around the stern of the Maury her broad nose door spanking the waves & the american flag slapping smartly in the dawn breeze. We toted our gear down the gangway, handed it over into the rocking boat & went back for more. The boat was loaded & we hopped aboard & jumped down into the great space forward. The Maury loomed high above us. At Stoerseth was OD & he was standing on the grilled platform at the head of the gangway directly above me. I recall thinking that if a woman were standing there ~~the~~ I could see everything. It's strange the thoughts that rush unchecked through one's mind. "Cocks'n shove off - take your orders from Mr Stewart." Nolan a husky black slipped the bow line, Fade hauled in the stern line & Powers, standing at the high wheel turned the spade-

handle throttle for power & eased it forward. We were off. I looked up & could see men & officers standing along the rails watching us leave. I saw Frank & Ferry had paused in ~~p~~ their own preparations to watch me go. What were they thinking as they watched? I had an urge to wave but checked it. It would have seemed silly I guess. Must appear business-like. ~~Hy~~ We went around to the part side of the Maury where a 10' wherry dangled ~~on a~~ in mid-air from a boom cable. Powers eased in alongside, pulled back on the ~~sh~~ spade handle to reverse our engine & stop us. We nudged the great hull & the boom lowered the wherry twisting lazily toward us. We guided here into the U.P. & unhooked the cable. Looking

wherry →

standing at the rail. He up, I could see the hulk of Boris Robertson shouted an order to someone I couldn't see & the dangling empty cable rose up ~~out of~~ toward the deck high above us. I asked Powers if he knew where we were going, when he said no, I told him to keep the boat into the sun & we were off. I gave him ~~an~~ ~~to~~ my extra chart for he had none, showed him the island & our position & started arranging our gear. The sun was only a few feet above the horizon & had not yet taken the night chill out of the air. We plowed along with a good sea coming from astern & slightly to port. The ungainly LCVP would rise at the stern as a wave overtook us veer crazily as the coxn cranked the wheel to get her back on course & straighten out again as the stern went down

in the trough. Thus our course was a constant zig zag one — the sharp veer to port as a wave swung our stern and the return to course as the helmsman corrected. This plus the steady pitch & slight roll made our ~~[illegible]~~ small world haunted by the ~~sharp~~ sides of the landing craft, a crazily swaying drunken microcosmos. This was the type of craft that took the marines ashore at Tarawa & Iwo only a few short years ago. I ~~sat in the~~ lurched forward to the steel door at the bow & thought of the many men that had watched Betio & Suribachi draw closer through ~~similar~~ identical slits in identical LCVP's & wondered what they had thought. The Navy was fast disappearing to stern & Hawaii was sliding past to

starboard. The low morning sun made the ~~[illegible]~~ adobe bldgs of the town stand out clearly, & together with their shadows that ~~[illegible]~~ would disappear as the sun rose higher made a ~~[illegible]~~ black & white pattern of ~~[illegible]~~ ~~[illegible]~~ bare rectangular blocks. I broke out the glasses & identified the black ~~diamond~~ pyramid-shaped lighthouse of Ras al Arab. Then that too slipped behind us & we were alone but for a lone seagull that circled screaming above us. We ploughed onward & the sun grew warm & then hot. The two marines were asleep - I ~~had~~ would have plenty of time to get to know them. I climbed up to the top of the bow door & scanned the horizon - with the binoculars for the first sight of what I had come to call "my Island." My field of vision rose & fell with the boat &

I could see only a few big ~~[illegible]~~ dhows hull-down on the horizon. At seemed hours that we plowed along, the ~~water~~ waves were higher now that we were past the point & out into the Persian gulf & the man at the wheel was fighting it continually. That wheel is not vertical as you expect boat wheels to be but rather is horizontal like the steering wheel of a truck or big bus. He now had extended the steering column upwards & stood with one foot on the gunwhale & the other on the box that housed the gyro & controls & he too was ~~[illegible]~~ peering intently ahead his ~~[illegible]~~ white sailor cap ~~[illegible]~~ low over ~~[illegible]~~ eyes squinted against the sun. His sleeves were rolled up over powerful forearms tatooed. His left arm had a petty girl in a bathing suit & a

big sunflower hat & I remember wondering why the artist had pricked in pink coloring for her flesh when he could have left it plain & had it flesh-colored. His night arm had a shield & eagle with US Navy underneath in block letters.

The light at Ras al Ardh was still visible on the horizon behind us. I swung the binoculars through 180 degrees & dead ahead on the opposite horizon was a small gray rectangle - a different shape ~~th~~ from the pointed dhow sails that I had been seeing & I knew it was the tomb. Even as I watched, the ~~tops~~ ~~block~~ ~~to~~ ~~shapes~~ horizon north of the tomb sprouted trees, then more rectangular bldgs & then the low land that was the western end of Faylakah rose beneath

them. We altered course to hit just north of the tomb, between it & the town & waited as it all drew nearer. The marines were awake now & I jumped down from the ramp where I had been perched to have a conference with S/Sgt. Fifield (John F, from Montana near Billings). I pulled out a dirty creased map & pointed out where I planned to land. We would take the landing craft in as far as possible & then put out the whirley. I planned to set-up the transit on the tomb if possible & then move down by boat to Tipe on the other end of the island. John & S/Sgt Brenham planned to walk down to meet us there. We were close now & the end of the island seemed completely deserted - I couldn't see a soul. At first I thought that was a

good sign - no arabs no trouble, but then I began to remember Villiers comment about visitors being welcomed with a shot from behind a ~~corner~~ wall & I wished I could see a few arabs - had visions of dark eyes peering over ancient rifle barrels from every corner. We slowed down to half speed & felt our way towards the beach. 100 yards then 75, & 50, then a bump under the stern. We all turned & saw ~~our wake was~~ ~~a coffee - colored~~ right astern of ~~behind~~ us a coffee - colored turbulence in our wake & knew we had run aground. Powers quickly reversed the engine & we began to ease back & off the bottom. As we backed we bumped again - & again - not hard ~~but~~ jolting bumps, but just enough to let us know the bottom was still there.

We backed & turned & headed out again - the coffee colored water & occasional scraping continued till we were back at least 100 yds from the shore. ~~We~~ The tide must have been ebbing fast, for we had hit none of it going in. Once back in deep water - & say 'deep' here at the delta of shatt al Arab 5' is deep water - we have to & tossed out the hook. With much pushing & cranking the ramp cranked down & a few brave wavelets came in between the ramp & the bottom of the boat. We piled our gear in the wherry & headed for shore. I suppose we could have put her out when we were in closer, but all our efforts at the time were concentrated on getting water between hull & bottom again. Even the wherry drawing less than a foot went aground & we all piled out, our equipment

on our backs & waded ashore pulling the wherry with us. It was a 20 yard splash through the foot-deep water to the shiny mud-flat that the water had so recently quitted. There must be a good deal of organic material in that mud for it had an odor of putrefaction & decay. We beached the wherry, waved the marines on their way & turned toward the tomb. The building ~~loomed above us~~ was only 20 or 30 yds away now & seemed quite deserted. We crossed the mud flat that sucked at our feet & watched our footprints fill with water, crossed the high water mark - a long thin line of shells - & stopped & picked up 3 or four nice tarpon scales - then onto the dry sand. Water sloshed in my shoes & the wet bottoms of my trousers clung to my legs The tomb loomed above us now & we paused to look

it over. It had looked

grey when we first saw it on the horizon, had seemed pure white from the beach, & now as we stood facing it, it was a washed-out blue color & seemed to be made of adobe - sand, straw & mud baked together into blocks & plastered with more mud & sand. ~~A doorway in the middle was~~ a latticed doorway of palm ~~fro~~ sachi hung badly open & four ~~small~~ ~~empty~~ ~~open~~ bare openings for windows stared at us like empty eye sockets. The roof was low & flat & rimmed by ~~there~~ a low wall around it. A small windowless cubicle ~~was~~ ~~pitched~~ at one

corner broke the rectangular symmetry of the building. The ground around the entrance was well beaten down & I could make out bare foot prints & The deeper prints of ~~a~~ clown hoofs that probably were made by a camel. We walked completely around it and saw no one. Back at the broken doorway I peered in & risked a ~~hellow~~ "hello" that I tried to make sound authoritative but friendly - try it. ~~There was no answer~~ ~~the~~ I was startled by the ~~sam~~ ~~sound~~ hollow & dead tone that the building imparted to the sound of my voice. There was no answer & I went in. The door opened onto a corridor that ran the full length ~~width~~ of the building to another ~~a similar~~ door at the other end & intersected a ~~other~~ similar ~~like~~ corridor in the middle - thus dividing the ~~bldg~~ building into four separate

rooms about 25 feet on a side. These rooms each had a door & a window ~~cut~~ giving onto one of the corridors, so in effect it was four separate one-roomed houses under the same roof. We peered in each room in turn & all were empty. One had the remains of a small cook fire in the middle of the dirt floor, but aside from this they were all devoid of any evidence of human habitation. I might easily have been a house set aside for flies for they were legion. They buzzed continually in the starting ray of sunlight that came in thru one of the doorways & soon we were covered with them. At the corner ~~that~~ ~~of~~ to which the small annex was attached, a stairway led ~~of~~ upward from the main corridor. The steps were so filled with sand that it looked more like

an uneven ramp leading upward. There was one turn in the stairs where a small window had been cut & was now hung with a tattered piece of burlap that flapped in the breeze. There were no footprints on the stairs, so I felt sure no one was up there waiting for me to put my head out of the opening that gave onto the roof. I climbed up & came out on the flat roof as a small rat scurried to the other side & disappeared down a hole. The sun & air felt good after the dusk & dust & flies of the interior. I went over to the low parapet around the roof & peered over - I was about 15' above the ground & had a fine view of the surrounding area. To the west the shore lay just below the low mound on which the

tomb was built - if it is a tomb - & I could see that even during the short time since we had left it, the whery had been left high & dry by the receding tide - off shore the LCVP bobbed reassuringly in the gentle swell. To the north lay the town of Az-Zawr huddled close to the shore. Between the tomb & the town were several low sand mounds, probably dunes, & over them ranged a small head of goats - what they found there to eat I don't know for it looked like bare sand from where I stood. Nothing there was what I assumed to be a woman. It was a person shrouded from head to foot in a black shawl - the first person I had yet seen on the island. Beyond lay the town naked in the glaring Arabian sun - more

of the some flat-roofed rectangular buildings with one lone white minarette ~~tower~~ pointing up into the blue. Behind a wall I could see the tops of a small **grove** - probably 15 or 20 - of date palms. ~~The~~ Many dhows of all sizes were drawn up on the stretch of ~~sheep~~ narrow sand beach between the town & the water. The shore-side of the town seemed to be walled and before the wall I could discern several moving dots that were more people. Above & below the town arrow-shaped fish traps painted out into the water & a ~~dhow~~ bagalla that had been approaching the ~~the~~ town, under full sail ~~for~~ dropped her lateen rig & coasted on ~~toward~~ the shore as the dots converged toward the place where she ~~was~~

Touched shore

~~beached~~. Looking through the binoculars I seemed to be viewing a ~~a~~ silent movie. I was watching people moving & a boat landing but could hear none of the chattering & singsong chanting that I ~~have~~ learned ~~hear~~ accompanies any group activity by the dhow sailors. It was very quiet - all I could hear was the buzzing of the flies & ~~the~~ a nearby curse as Taylor blew a fly out of his mouth. It was quite hot by now & I took off my shirt to absorb some of that warmth.

I took my one minute cuts & my set of three sun-shots & entered the flies myself. They crawl → aren't bad when they crawl ← on your hands & backs & neck, because you know where they are; but once on your face, they get into your eyes & nose, walk ~~to~~ into the corner

of your eyes and across your lips. They are persistent & seem determined to give you just as much trouble as they can. We finished up on the roof, drove a stake with a strip of bunting on it into the S W corner of the adobe rampart, & packed up the gear & ducked back down into the tomb & on out onto the sand again. The roof is too unstable to be used as a station for a theodolite, but it was lucky in that the rise of ground is high enough above the water so that we can see light without having to set up a tower. Back across the shell line, the mud flat - now dry & beginning to shrivel up into hexagonal blocks, & down to the whaleboat now a good 10 yards from the water. The LCVP came in part way to meet us, we loaded the gear aboard, climbed on

ourselves & put the whaleboat in tow.

Nov 14th Sunday eve - I'm tired of trying to keep up in this stuff - each day's task seems bigger than the last - and the interesting details of the mesh are neglected when my mind is filled with the size of the cloth (That's a weird & confusing metaphor if ever I've seen one) Anyway we got back Wednesday eve tired & sunburned to find that Lts. Shaw & Cook were ashore on a party & that & the next day was to circumnavigate Tipe Tomb & Niya - hell & hadn't even gotten to Tomb & Niya & had never mixed concrete in my life. The other three all had pblms. two. We socked in about midnight after 3 hrs of study trying to puzzle out how to do what was expected of us. We were all pretty P.O'ed. How in hell do they expect

to run a survey from their
damn parties? I left Thursday
morning (yes, Memorial day) before
they had shaken off hangovers
that I hoped made them feel
miserable all day. We ran into
a lot of trouble getting the LCVP
in at Tipe & I ended up
carrying a 100 lb can of cement
in through the surf & mud
on my shoulder. Taylor is a
big help but dumb & Smith
is a persecuted intellectual &
no earthly help whatsoever. I
think him a bit effeminate too.
Somehow I got the concrete
mixed & poured & the upper &
lower station marks in. Then
back to the whereey & out to
the U.P. Tried to go around the
End of Foylakoh to Niya where
we were to pick up the
Lyrenes, but kept running
aground - so had to go the
long way back past Tomb

to get them. I ended up rowing
in for each of them because
it turned out that I, the
only civilian among 5 sailors,
was also the only man that
could row a boat. They were
willing to try & I let them,
but bare ~~oars~~ oars & open ~~oar~~ oar-
locks got the best of them &
if we ~~ever~~ wanted ever to
see the Mawry Marie again
I just had to do it myself.
Saturday - yesterday I spent
breaking out a 90' Bilby Tower
from #2 hold & had the boom
load ~~it~~ all the parts on
the USS Little-holes - I was to
have left today on her to
erect the tower at Tipe. At
noon the Littleholes was sent
to Bohnien for mail (a 2-day trip)
so we had to unload all
that steel - it is still lying
up on the boat deck together
with the 2 103' Towers I

spent today breaking out. The Doc has ~~gone~~ been flown back to the States with jaundice & Cook might as well go too. I have never seen a less capable officer in a position of equal responsibility. He has been griping for two days now & has accomplished almost nothing tonight I hold the briefing while he goes ashore to another party. Says he doesn't want to, but no ~~body~~ body but MM Cook accepts for him. Since then I made out tomorrow's plan of the day, & put myself on Jocko's second boat going down the coast tomorrow. I'm damned if I'll stay aboard in this madhouse another day. Everyone is P.O.'ed at everyone else & Cook who is supposed to be running the show doesn't know which way to turn. Shaw is ashore with the astro-party as is Craig. Shaw knows his

stuff pretty well, but is a completely negative personality - a strange duck. Either I'm the only sane or the only crazy one aboard & tonight I think maybe it's the latter.

Monday eve - Nov 15th

The Littlehales came back about noon & the five boys of mail on her fo'castle looked good. In the ~~after~~ morning Nelson & Tower Parties 3 & 4 broke out the rest of that 3rd 103' Bitby & loaded all three aboard the USS Littlehales in the afternoon. Our Cook went ashore again to try to see the Political agent about putting the base line through the city wall & erecting a Bitby near the Sheiks palace on that low hill. About 1900 the wind began to rize & ~~by~~ by 1900 had lashed the waters of the harbor into a molten sea of heaving green topped with wind-whipped spume

a heavy fog developed & eddys of mist swirled around the ship & were blown sternward. By Movie call at 1915 the wind was carrying sand that gritted underfoot on the decks. It got into ~~your~~ my hair, ~~you~~ I could feel ~~it~~ ~~you~~ the grit in ~~your~~ my mouth, & smell the dust, ~~in your eyes~~ it ~~irritated~~ collected in ~~the corners of~~ my ~~eyes~~ ears & I was constantly trying to alleviate the pain of grains in my eyes. They moved the Littlehobs out from the port side & hauled the VP's & soundboats up out of the water. Cook is still on the beach & it doesn't look now as if the tower parties will get away in the morning.

Mail = letter from Sis & Scotty, 2 Loteveports & my book on Saudi Arabia from the Clan Sin afraid my 3 rolls of pictures were among the mail that was jettisoned somewhere between

Tripoli & Dhaharan.

Thursday Nov 25th — Thanksgiving — Ten days since my last entry, & they were ten hectic ones. Every day from Monday till ~~Saturday~~ Friday of last week I expected to move onto the Littlehobs with tower parties 3 & 4 and each day the weather was a bit worse. The harbor each morning was a churning green & white fury — no kin to the mirror-like tranquility that I first new as Kuwayt Harbor. Saturday matchead decided that things had been held up too long & we would go as scheduled — weather be dammed. We all loaded our gear into LCVP #5 as she tossed crazily at the foot of the jacobs ladder off the port side. The lines were cast off & we headed forward

along the great hull of the Maury. Once out past the bow in whose lee we had loaded we were lashed by the full strength of the wind & waves. The bow of the landing craft would raise high out of the water, & crash down with a sickening jolt as great sheets of water rose above the gunwhales & were driven back on ~~the~~ us. By the time we had covered the few hundred yards to the Littlehales we were all thoroughly soaked. We came alongside & the lines were thrown over. Getting onto the heaving ship from the tossing VP developed into quite an undertaking. We would climb up onto the VP's gunwhales, & toss our gear to one of the sailors aboard the Littlehales as her deck came flush with us in the middle of one of her violent rolls. Then the

next time her rolling our tossing brought the decks parallel again & jumped, caught the line that serves as a railing on her after deck & was hauled aboard by two young husks before the VP ~~came~~ was thrown violently into the ships side - a crash that shook the ship & left a great splintered scar in her part ~~beading~~ rubbing stroke. & had the VP put in tow & we were off. The Capt. is Lt jg. Carroll, Ens. Hetchens her exec, & Ens. Coulter is the handy man. We anchored about 4 mi south of the Eastern tip of Jazirat Faylakah in 15 feet of muddy water. We had lunch aboard & loaded the parts of a 90-foot steel tower into the V.P. I could go on for page after page about the troubles we ran into getting that damn tower up. We

Died 27 Nov 1951 in crash of PBM off La Jolla. I had seen him in San Diego just the week before

could get the V? no closer than 3 or 4 hundred yards to the beach & even then we heard her aground several times. From her we ferried all the steel ashore in a rubber life-raft & then carried it all on our backs ~~over~~ 300 yards of mud & coral tidal flats to the high water mark where I had got in the ~~the~~ cement & stolen mark the week before. Sat. we got all the bolts for the footings dug & one corner part got in. Sunday we poured the rest of the cement & got more parts ashore. Monday we had all the parts - some hundred & twenty-odd pieces of steel - ashore by noon & had the first 2 sections up by the time we left that night when we got back to the V.P. about 1800 she had lit the tide go out from under her & was

hung up on a coral head. I got the Littlehols on the Walkie Talkie & they sent out her motor whaleboat for us. It was dark when she arrived & we safely transferred all personnel to her in a lifecraft that now leaked badly. The crew of the V? stayed with her & brought her back when the tide returned about ~~11~~ 2300. That night it was really ~~rought~~ rough. I ~~was~~ was hunkered down on the ~~deck~~ chart table & by 0100 the roll was so bad that I had to hang on to keep from being thrown to the deck. A chair, charts, & a wastebasket crashed around in the chartroom & I could hear the gear in the galley below ~~sliding on the deck~~ crashing to the deck. I couldn't sleep, it was all

I could do to hang on. The books in a rack with a baffle board around it were thrown out, bounced off me & joined the mess on the deck. A door was banging somewhere below & a radio set in the radio shack just off the chart house broke loose & was thrown across the room & smashed against the opposite bulkhead. I sat up for sometime during the course of the night & smoked my nose on the book shelf above me. It has since gotten infected as do all small cuts out here & is pretty sore even now. Had 30,000 units of penicillin yesterday & the same today. It's still swollen. The night morning the sea had not abated. A man couldn't stand up & maneuver about the ship was from handhold to handhold. I held off staring off the

VP & tower parties till 1000. By then the seas had gone down some & the VP came alongside to take us aboard. Again it was jump as the deck heaved by & we were off - & soon drenched again by the walls of water that were continually thrown over us. If the sea was this bad when we got to Tinian & had planned to return, but we were in the lee of the island & the swell wasn't too bad. That day we got the tower up to about 60'. The VP had developed a bad leak from the beating she had taken while loading alongside the AG-Sc-7 & had sent her back. I got on the walkie talkie & contacted Carroll. Another VP - #7 had been sent from the Navy. The Major - Major Pala (USMC) & 4 marines had been ashore since Sunday up near Agana. The VP was to

pick them up & then come for us. Well, it was 1915 before we saw their light - we lit a fire as a beacon for them. There are no trees at all - only sand - so we chopped up one of our wooden forms for the concrete for firewood. They sent in a whaley for 4 of us & five others went off in the life raft. It was quite dark, the wind had come up again, the raft looked badly - the water sloshed around our feet, it was quite chilly & the sea was fairly rough. We all got back OK, but all our dry clothes had gone in VP#5 so we had to stay wet. I ~~was~~ told to the Navy by radio that night to tell them the tower would be done by 1600 the next day. We left the Hillchobs by 0730 & I bolted in the last piece on top myself at 1525. We got all our gear packed up to the VP by 1620 & there

back at the Hillchobs shortly after 1700. Reached the Navy by 2100 & I was in the rack & asleep after a good hot shower by 2200.

This no construction engrs, but I must admit I'm proud of the job we did. We ferried in over 2 tons of steel ~~&~~ on a rubber life-raft - carried it on our backs over 300 yards of mud & coral & put it all up from the blueprint.

Mail had come when we got back & I had one postcard that the others had opened & no letters. This navy has P. poor mail service. & having heard from home since Oct 22nd - pretty miserable service.

The Navy leaves for Bahrain on Saturday & I guess will stay here & put up more towers. So it goes.

Tuesday December 7th

The Maury did indeed leave for Bahrain on Saturday & was due to return the following Sat. (Dec 4th). I moved over onto the Littlehales again but this time with tower parties 2 & 4, 3 having been sent with Eddy & Primer on the Blish to erect towers on the North Shore. A Show is SOPA of the powerful units of the U.S. Fleet now holding Kuwait Harbor — 3 136' AGSC's, 2 52' sound boats and good old UP#5.

Saturday afternoon (that was Nov 27th) we were lucky. We loaded all the parts for a 103' steel tower in Jacka's (Ens. Joccodine from Hoboken) Sound Boat (#3) & moved into the oil jetty. We'd been there but 3 minutes when I ran into Mr Peiper of ~~the~~ Bectol & scrounged a truck & rag-head driver who took all of it over to the Sheikhs Gate & dut onto

the sand outside the wall. It was hard digging but we got the holes in OK & poured some concrete. Sunday Mr. Kitchens & Carroll & I & ~~Co~~ GMC Bellar went over & poured the rest of them. Mon Tue Wed & Till 1500 Thurs we worked on the bloody steel. The wind was quite strong tues & wed AM's ~~&~~ & I had the men knock off for & wanted no one working on that platform in such a gale. We all expected the Maury back on Sat the 4th & got a message Fri that she'd be back on the 7th. Then last night another that she'd be back on the 10th. Started another 103' on at West Base but are missing 284 parts which are the corner posts of the first section. We planted the footings in concrete Friday & listed all missing parts. I took 30 cuts with a transit from the top of Wait tower Sat. & knocked off on Sunday. That P.M. I went into Kuwait with Eddy Primer Craig & Chief Whit-

rock to look, shop, & take pictures. Lots of looking - all of which will written up when & feel up to't. Got a nice set of six silver napkin rings for 45 Rupees - $(11.25) Took some pictures along the waterfront (also to be described) & got four more rolls of film in town. Don't know how or why they have 828 film over here, but I'm glad they do. The ship is way low on provisions & fuel - the food has slipped pretty badly - weevils in our flour & no mail add up to a rough kick in the morale but the men seem to be holding out O.K. I got a carton of Chesterfields from Ens. Carpenter on the Dutton & passed them out to my tower parties. Today I took the day off - to hell with them. I was tired. Had a swimming party after lunch & we had a fine old time diving from the bridge. Water pretty cold, though & the cool breeze

didn't help any. Shot a couple of clips of carbine shells with the skipper from atop the canvas sun shade over the bridge. Nellie (P.G. Nelson BM 2) threw some tin cans over & we blazed away at them. All good sport. First time I've had a carbine to my shoulder since my army days.

Message last night from the Mawy said - "High Winds & loading troubles make New ETA 10 Dec. Report Progress & Condition" Carroll wanted to wire back. No Progress No Conditions, no fuel, no food, no water, no kidding. We bummed water from the ~~Fochera~~ Forreria a limey water barge down from Basra & the Skipper goes ashore to try & bum some food from IBI in the morning. Our operation has completely bogged down, & I guess will remain so 'till the Mawy gets back. Should have a goodly chunk of mail by

then.

December 26th Sunday —

Time indeed does fly. The night after this was written in last, the local wind really came up & Thursday A.M. looking from the Littlehole we could see no tower at Wait. We went over the next A.M. to find a twisted mess of steel. Since then I moved to the ACSc-7 again we parties 2+4 we built West Base & re-built Wait towers; the Navy returned & Ed Craig & I have been cutting in Signals in the Harbor & south to Fahil All work was suspended there ex. Dec 23rd & I was invited aboard the L. for Xmas at Fahahil. The message came by blinker at 2400 & I got out of the rack to ~~see~~ blink back an answer, left the

next AM at 0600. It was good to get away from that damn ship again & back with the skipper, Mitch & Carol. That first night the skipper & I went in to a real whing-ding at the I.B.I. - (Beckel) camp at Fahahil. Got back to the ship about 0200 & sat drinking champaigne till 0330. It was quite an evening. Johnny Madder & some other jokers ~~were~~ (Joe Lang) came out for lunch & that eve Jerry Irby, Chuck Metcalf, & Wally Jones came out for the movie & we finished off 5 more bots. of champaigne. It was the stuff getting in Cathens & good! Tonight Carol & I go in with our movie projector to give them a double feature. They are a good outfit in there, but all they have to do in off time is drink & they really do! They have a nice area in there with air-conditioned barracks, nice rec-hall

with Indians to wait on table & do their housekeeping.

Sorry I haven't done better in keeping this up, but I leave the ship at 0700 in the morning & it is usually 6 P.M. before I get back. I go to a movie & then I'm ready for bed. There is no time at all for this or even letters, & I haven't read a book since we started survey operations. The family has sent lots of film & I have been taking pictures like mad. Hope they come out.

International Bectel Inc. at Fahahil,

Del Jarvis & Margaret Doughtry (Dotree)
Jerry Hunter — Ralph Stinson —
Johnny Madder — Bob Lorenson —
Jerry Irby — Mike Gromangin (Schlumberger) —
Chuck Metcalf — Joe Lang
Wally Jones — Jim Balderson
Bob Eckerd — Leo Ash —
Bob Howard —
Al Cottier & Jack Rock

Tuesday — January 18th at Bahrien

Since then much has gone on. From the Maury made several trips to the island (Faylakah) & I plus Δ party #1 & some of the men from Sound Boat #2 (Paine, Mitner, Stanfield, & Castro) put up a tripod at Niya & centerpole STU at the town. Went over with Eddraig who occupied Tomb & Type & erected Edd along the shore. I still like that island. It must have been the same a thousand years ago. The center of activities at Az Zwar — the only town on the 4-mile island — is the ~~sho~~ waterfront. Here the fine white sand slopes off as a ~~fine~~ long ~~wide~~ beach separating the town from the blue waters of the Persian Gulf. Off the beach long-shore currents have ~~kept~~ maintained a good depth of water — high tide gives just under a fotham a mere 10 yards from the shore. Not much water where power craft

are concerned, but here where the dhaw ~~rolls~~ is king ~~it is the and wide no tidal mud flats are the accepted shore line~~ that is plenty of water to assure az Ewar her lively hood. Several large dhaws are usually anchored off shore. With their ~~sa~~ ~~&~~ lateen sails down, they seem awkward & naked, hardly the framework of that graceful sight - a dhaw under full sail. On shore a line of boats pulled up bow inland, propped up with sand shoveled in along their keels await a mission or repairs. Net-drying racks are draped with hand ~~maid~~ made, ~~sun & salt bleached~~ nets bleached by sun & salt. their floats the bases of palm rachi. Here & there a triangular sail is spread for drying & the owner shoos away ~~be go~~ an inquisitive goat. An old man ~~s~~ sitting against a sun-baked wall holds a peg of twine between his toes & sings softly as he twines it into rope. A chant on

the water draws your attention to a bagalla anchored offshore where the nakhoda has his men on the lines & ~~creakingly~~ the top boom lifts the sail into the wind. The ~~bo~~ anchor is up & the large dhaw drifts aimlessly with the current. As the great sail rizes & catches the wind ~~she~~ it bellies, collapses briefly, then catches the breeze as she is hauled to the top & the boat moves quietly southward along the coast. These are hardy men, these sea-going Arabs. They are true sailors & good. They are friendly people too & I must admit would make much better friends than many Americans I know. A smile & "Salaam" always brings a big grin & "Salaam Sahib". Behind the town can be seen the welcome green of ~~the~~ small walled-in date groves. The women - veiled & in black - stay out of sight generally & peer from behind heavy wooden

downs or around adobe walls.

Came New Years & I was invited down to Tahil by H Carroll but never got back to the ship 'till 8 P.M. New Year's Eve - saw a movie in the ward room & sacked in.

(Δ = triangulation station)

After the first we started Δulation - I at Δ Wait got a fair set. Then some hum weather & the boats stayed aboard or in at the jetty. Then came a week's reprieve & I wrangled - i.e. Carroll wrangled - me back aboard the Littlehales & I eat in the 6 30' tripods, & 7 centerpoles South of Fahahil plus erecting Colt & moving Fahi & occupying Hubbar. It was all work, but I enjoying working with that outfit. Back aboard I got the cold freeze from Shaw & Cook again & darn near told them what they could do with this job. After Hubbar, the L. rendezvoused with the mighty M & the other two QGSc's & we were off for Bohrian for supplies,

managed

repairs, & general stagnation. I've managed to stretch the plotting of those signals out over two days, but it's almost done now - Hope to get into Manaman this trip. G

Got a roll (well 6) color shots back, & they're pretty good. Also a set of 22 prints from Miss Hopis & she did a lousey job - really miserable job - She's through, do you hear me? THROUGH. Guess I'm cracking up.

Coming down from Fahahil we hit quite a gale - no one got any sleep or food - can't sleep when you have to stay awake to hang on to stay in bed - & you can't eat when the cooks can't stand up in the galley or keep anything on the range. It was that rough. Lasted from Friday night 'till we got here Sunday noon & I was beaten down to a mere shadow of my farmer self. Last night I bummed a boat-ride over to the L. (I'd been invited) &

had chow movies & 2 rubbers of good bridge with Carroll, Hitch, & Coult. - then caught the boat back to the Maury about 2400. Made a darn nice evening. Tonight I was asked over again, but, well you can overdo a good thing, so I thought I'd better let 'er ride this trip. Enough for now!

Sunday Eve - January 30th

Friday (Jan 28) Ed, Jerry, Frank & I took the day off & went into Manama on Bahrein Is. - wandered around & soaked up local color & smells. Roamed the bazzars & the Indian stores - lots of nice things in silver & carved wood, but all pretty expensive - I did get a 25 R carved wooden jar & filled it with good cigars. ~~So~~ Saturday I came up to Fahikil on the Littleholes again - rain monday. set up on extension of Dant on Tuesday, but could

get only two triangulation sets due to the miserable visibility. Had a real blow on Wednesday! I was hanging on up on the crazily pitching bridge & watched the 30-foot tripod a Fahi lift-up, twist, and crash to the ground. Thursday we put her back up & I occupied Laya for six sets, but the visibility was pretty poor. Fri we started sounding, but couldn't see the signals for beans. Went along side the Maury Friday night & anchored off about 500 yds & tied up about noon. The Maury planns to go to Bahrein on Monday (tomorrow) till the 7th & I planned to come down here today on the Littleholes, but I got in a big squabble with Cook & Shaw on the way this show is being run & had to miss the L. Caught the U.S.S. Dutton

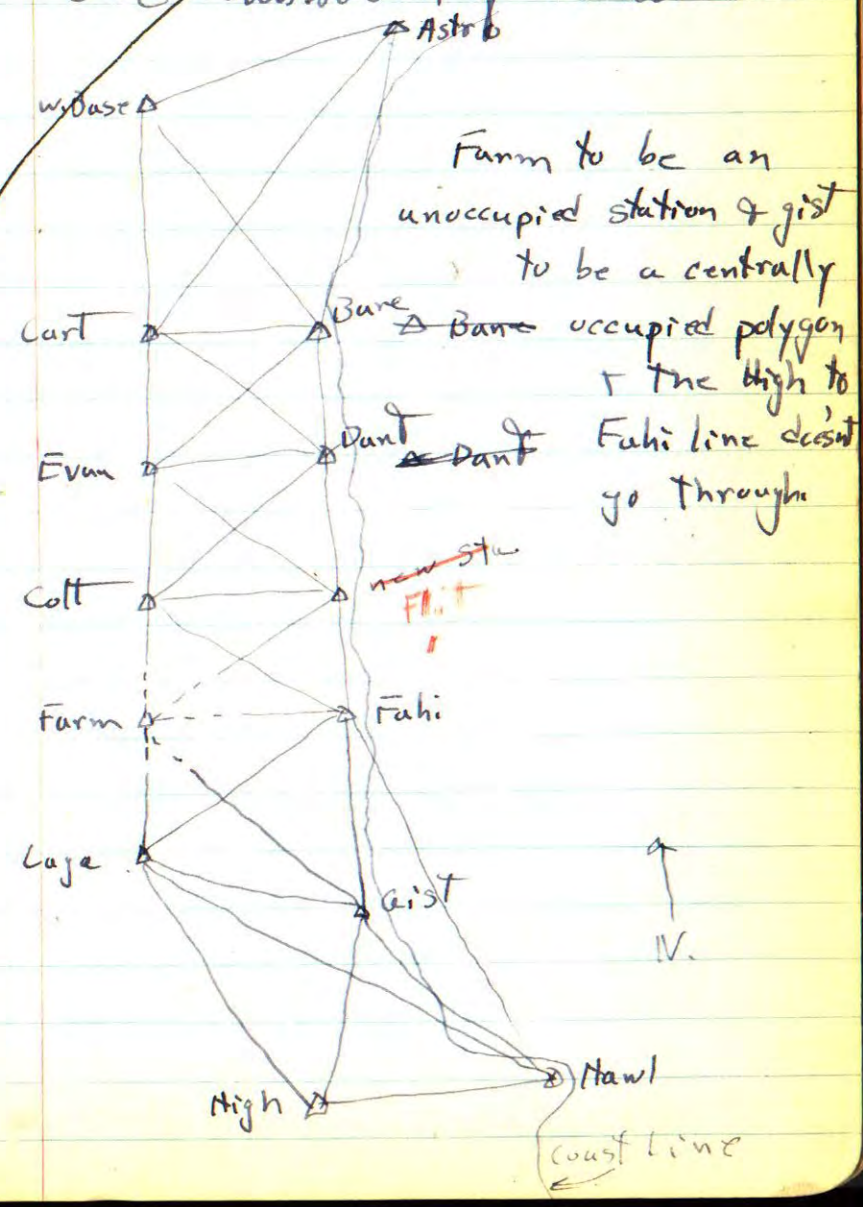
when she left about 1800 & got here (Fahihil) about 2035, brough mail for the L which they sured glad, indeed to get.

Got back ~~[illegible]~~ Lot to find a good letter from Solley Burwell & a mash note from Mr Nutty. plus some more posts. that Mr Goods doesn't know when to quit. I've already told here I'll be here till the spring of '50 to cool her off. Oh well, my morale can use it.

One hitch to this survey is that they sent out no recon. party in advance to spot locations for their signals; hence they were put up all over & our triangulation net looks like a doodler's nightmare. We went round & round on it & I finally convinced them that another 30' Tripod would have to go up between Dant & Fahi - firstly to keep out of going into

farm with a single triangle & secondly to solve the Dant - Fahi non-intervisibility enigma. The net will now go like this south of the Base Line

skip all this



Farm to be an unoccupied station & gist to be a centrally occupied polygon & the High to Fahi line doesn't go through.

It's good to be back aboard the Littlehales again - though I have lots of angle-shooting to do. Starting tomorrow I'll put up the new signal tomorrow & occupy it if the visibility is O.K.

Monday - Jan 31st - 10 hrs - occupied Flit - erected 30' Tpd Flit, re erected Cub, redressed Bat.

Tuesday - Feb 1st - Redressed farm, Blk/re-centermarked Colt - re-erected Bar as 30' centerpole with Red shirts. Redressed Bum with extra swatch of red. Occupied Evan and Colt for six sets each. Put Flit (~~Spicie tree~~) on Littlehales, SB#3 boat sheets. (12½ hrs) (9½ on beach - 3 hrs aboard)

Wed - Feb 2nd Transport all crapped out. Worked to Fahi for 6 sets & computation (9½ hrs). Drivers worked on Duck & carry-all both in commish at 2000 hrs.

Thurs - Feb 3rd Occupied platform at Dant for 6 sets - redressed Bus - occupied Evan for 4 and Colt for 4 sets each (0730 - 1800 - 10½ hrs)

Friday - Feb 4th

Moved instrument & tower (15') to Base from Dant & erected the S.B. Took Seven sets - (0700 left ship - returned 1800 = 11 hrs) Put Spicie tree on L. boatsheet

Saturday Feb 5th We were going to anchor off Tubai last night, but orders came through in good old Navy tradition that she would be back a week later than she had planned. The Littlehales was ordered to Bora Bora to get supplies for the small ships & the two sound boats that are here at Tahiti. I was ordered to the Dutton but am now aboard the Bligh with Ens Jim Ayres & we plan to go ashore in the morning & check up T-2 which is way off in calibration & bubble errors. No work today.

Tuesday - Feb 8th Starting Saturday afternoon & still going great guns is a dilly of a sand storm. Jim & I went in to the beach yesterday morning, & though there was too much dust in the air to do any triangulation: so we set our theodolites up behind the south signal tower on the beach at Fahikil & beat a 45" colimation error down to 07"-09"- much better, so maybe I'll get some better results from here on out. We came back out to the Blish on one of the sound boats & are still aboard. No sense in going ashore to shoot angles when the sand is so thick in the air & couldn't even see the beach. Along about noon on Monday the wind shifted to come out of the northwest - directly off-shore. By 1600 it had increased to about 20 knots & was heavily laden with blowing

sand. By dark the wind had risen still more & the lights of the Italian tanker anchored a few hundred yards astern of us ~~could~~ could barely be seen through the blowing sand. This morning it was blowing gale speed & there was a layer of dull brown sand over everything. That sand penetrates everything- it's in the food, in my clothes, everywhere. The Kettleholes somehow managed to get back about noon today, but the seas were running too high for the other C&GSc's to go alongside her to transfer the much-needed food. Jocko's sound boat finally got alongside her & much later on got over to us. The sand completely ~~blocked~~ ~~blocked~~ obscured the other ships about us, & we were alone tossing & pitching

in our private maelstrom surrounded ~~on all sides~~ ~~fo~~ by a haze of blowing sand that all but obscured the sun. Tonight, though still pretty rough, the wind has slackened some & the amount of airborn sand has decreased & the lights of the tanker & the other Agsc's are visible though holded as though seen through a heavy fog.

I doubt very much if it will have abated enough by tomorrow to get any work done, just have to wait & see I guess.

Incidentalia—

Though Shaw I'm sure thinks we're insane
There is one fact we all maintain
It has been true & will remain
You still cannot see Dant from Bane

Frank & Ed & Jerry Can't
So how can I see Cart from Dant

Friday Feb-11th

That was Tuesday - The Maury arrived at Fahihil Late Wednesday night & the Blish ~~Dutton~~ went alongside about noon on Thursday. We got underway that night & spent today aboard up in the drafting room getting all my accumulated info. down in the survey log, abstracts, signal log, etc & plotting Flit & Specie tree on the master charts. Flit & Dant were down yesterday when we left, but were supposed to be re-erected by the Littlehobs today. I hope so because I'm scheduled to occupy Cart tomorrow & must be able to see Dant from there. Already I'm fed up with the Maury & am eager to return to my pleasant existance on the Agsc-7.

Tuesday February 15th

Its a good thing I didn't have this with me Saturday eve. I was ready to throw it all over & head for Basrah. Sat. A.M. I went south to Cart, but Dant was still down & Evan out of sight. Took seven sets on W. Base, Astro & Bane & finished them just as Norton came screeming up in the jeep to say the Maury was off for R'as Tannura immediately. We got to the Shuwaik jetty as a V.P. came in with some of our gear & the word that we would stay in the ~~beach~~ area. No clothes, no cigarettes, & no way to get in touch with SB# 2 on which were the 3 other civies. They were just left too. We finally contacted them by radio from the Blish & they came in dead tired & hungary at 2030 The Capt. (Northrop) waited 'till his movie was over & then

condescended to give them some chow. We were to go - all of us + 4 men left on SB# 2 - to Fohihil 30 miles south; so left about 1030 & got on the littleheals just after midnight. Slept Sunday - monday I went south on the Dutton & occupied Igor for 7 good sets. They had Norman (Ens.) & a crew in re-erecting hawl & Craig was in to shoot angles there. The D's whaleboat is out of commish, so we used a whereup with an outboard that made quite a buckin sea bronco. I quit shooting at 1700, built a signal fire at 1815 so they could see where I was & never got back to the ship 'till 1900 or Fohihil & the L till well after 9 P.M. Today we were to have met the jeep at 8AM at Fahihil according to Cook's dispatch, but

in typical fashion he told the jeep driver to take the camera transit man down towards Fohikel occupying stations as he went & to pick us up if he saw us. We waited & held the DUTW 'till 0845 - then said to hell with the jeep & went on. (Jeep never did come down for us.) & got to Gist for 12 sets - but the head waves were pretty bad. & could have gotten some good sets from 4 till 5 P.M., but they wanted us at the jetty at 1630 so we had to leave there at 1430 for the 2 hr. ride to Tennit. We went by the jetty at Fohikel to get the 4 men from △ # 273 that the L. said she would have on the beach before 1600 - & we waited for them till 1630 & got to Tennit at 1715 just as the Navy came around the point from sounding. She anchored

very out, & we were thoroughly drenched after an hrs. boat ride in rough water. Neither Cook nor Shaw had anything to say to us - no "Have to go" nor anything about just running off & leaving us on Saturday. They are two pretty sad apples & I have no use for either of them. We sleep aboard tomorrow. I'm pretty well fed up with the way this whole show is being run & will be glad to dust this job when we get back to New York. & hate to be part of a sloppy outfit like this or to have to take orders from such incompetent dunderheads as Lt's Cook & Shaw.

fruitcake → Had a → fruitcake & the record the clam made when I got back & a valentine from the Bunnells' young daughter Sally.

Wednesday Feb 16th

She really whipped up a doozy today. Best dust storm we've had yet. Fine brown sand was swirling in eddys along the decks & everything is covered with a thick layer of brown dust - in short, the ship's a mess. The annemometer crapped out at 40 knots this noon & the wind rose even more before it began to slack off some around 1700. Even now (2300) the wind is still pretty strong & there is a layer of fine dust over everything. It's in suspension all through the ship & puts a halo around all the lights. Nothing went ashore today at all. ~~so~~ The SB's - at least 1&2 - went in to the beach to get out of the gale & at least one of them went aground. The Dutton was dragging anchor all over the place out here & the L. of Fahihil had to get under way to keep off the beach & was last reported

under way "somewhere in the Persian Gulf" with dust so thick they couldn't see the bow from the bridge. I'm afraid we've lost most of our signals again - Oh well, so it goes.

Thursday Feb 17th

I've had more trouble with Shaw & Cook. Shaw for the first time today - over 3 mos. since we got here - mentioned that horizon shots had to be taken at each station with our zeniths plus time of shots. It was news to the 4 of us - so all our zenith shots will have to be done over - just plain stupid. Then later on Cook & I were talking about Dant - where I have been struggling with that platform so we could see out to Bane - & he suggested I put up a 37' or 50' Billy - That is what I first wanted way

last month - what I suggested to him as the only way - & what was flatly turned down. Jim out there every day & I know, he sits in the drafting room trying to find excuses to put in his progress reports & never gets on the beach - & yet never takes our suggestions or even tries them out. It was the same story on the north shore. Eddy & Primer said signals could & should be put up on the bluffs & couldn't be seen on the beach - Cook wouldn't listen so we wasted 2½ weeks getting Mora up as a 100' Billy that can't even be seen from Wait except on a clear day - whereas Luna a 30'- Tripod on top can be seen from darn near anywhere. When he suggested a tower at dont as I originally

wanted - after my wrestling with that damned extension that didn't work for beans (as he wanted) something snapped inside me. I got so mad, so fed up with the utter incompetence, the supreme stupidity of the man, that I left hoping chow would cool me down. Chow (at $45 a month) was slit weenies, sauergrout & beans - That did it, so I went over to the Littlehales (she came alongside this AM) to cool down. Didn't go back up to the drafting room at all today - I knew that if I even saw those guys again today I would flip my lid - so I just stayed over there. I've cooled down some but Jim still disgusted with the whole set-up. To get even Cook sends Primer out on the L. tomorrow. Someone else might as well have the good duty for

a while. In the storm of yesterday. At Least Dart & Flit are down, & I'm scared to think how many more are over. Sound boats 1 & 2 were both blown aground & raised hob with their shafts.

As I glance back through this journal for the last month or so, it seems to have become less & less of a journal & more of a continuous diatribe against C&S. Oh well, when they start wising up & being civil or even showing some sense, I'll stop. Why, the astro shock is still up & they haven't any idea what the location is. That show has been over there several nights wasting time getting star shots when ~~his chronograph~~ he couldn't get a time tick. They are now thinking of tying everything in to the International position of Ard Light which

they know to be way off. I just can't fight it all any more & am damned if I'll bust my neck trying to get things done - I'll do what I'm told to & stop there. To hell with them all. — —

Sunday evening - February 20th

That storm left a good deal of destruction in her wake. Three 100' steel towers are down - Type, Napa, & Mora and the only ~~centerpole~~ tripod still up is Bane - which was well reinforced with the 3x3's used to hold the observers platform for the 15' extension. It means a heck of a lot more work.

Good letters from Imbo & Kawan came Friday. The Wms' almost expect a baby - Nancy had a confirmation appointment a week or so ago. Still don't know how they made out. Strange, even though married they seem to be pretty happy - strange indeed.

Wednesday Feb 23rd

Monday I lit out in the jeep with shoffer as driver & Smith & Baker (△ Party #1) for the North Shore. Luna was down & we put up a 30' cp then to the twisted mass of steel that was Mona where I put up another 30' cp. & referenced the 3 stakes. Mona was a 100' Bilby with a deep base. After wait - we found that the cement forms for those towers were too narrow - 2'. They gave me a form & said fill it with concrete & set in the corner posts. So I did. By the time we were building W. Base I had learned to ~~use~~ forget the 2' forms & dig a 6' hole & then bury the legs with only a few inches out of the ground to attach the 1st corner pieces to. Anyway, Mona was in deep - only 6-8" of U-2423 above the ground, & the wind pulled the SE leg out - cement & all. Then back to Luna - for

6 sets & reference angles. Near Jahra we found the Dukw & Craig & Eddy & the Dukw out of gas. That thing holds 50 gals & burns a gal every 6 miles. Anyway we put her in tow & pulled it some 15 miles to Shuwaik. Now shoffer has had to write a letter telling why his clutch has burned out & has been given a mast for it by the old man. He is one of the very few really capable men on the beach & I think he's getting a bum deal. I'm surprized the jeep has stood up this long as it is. It's just such chicken --- deals as that that are queering the enlisted men. They are not alone either - Beggs's sound boat hit a lonely sand bar one day last year (i.e. '48) & they made him answer by endorsement. Heck we're out here to survey these waters & they hang a man when he finds a bad sand bar. Hence the SB.

Captain's mast →

officers are scared to ~~&~~ get into water under 6 or 8' & it makes long rows for the civilians.

Yesterday was George Birthington's washday & we took the day off. I slept 'till noon & caught up on my letter writing. Cook had all day to get out the plan of the day for today, but as usual it didn't come out 'till after the movie. He had us re-erecting cart & Bone - well, Bone was the only signal we had left up. They dropped me off at Bone for Δ angles & Gerry at Evan for ditto & Ed put up 30' cps at Cart, Dart, Colt, & Flit & miraculously found Fahi to be up. I have been arguing for weeks with Cook & Shaw trying to get them to let us stay ashore till at least 1730 as the only time we can see at all, the only time when the heat waves die down & mirages dry up

center-pole signal →

mirages

is after 1600 - but no, we have to be at the jetty at 1630, so if we're at Laya or High even ~~out~~ we have to leave at 1500 - just before our best light. I finally got him to see it our way - he had to if he wanted to get his angles shot - & a boat was to come in for us at quarter of six. The mauvy got her times screwed up & sent the boat at quarter of five, so they waited 'till 1815 when we showed up. They were sore at our being late - pressure was put on Cook & we will be at the jetty at 1700 from now on - so it goes one damn fool stumbling block after another. They want us to run on no gas tomorrow. We took a drum ashore with us today - but the oil co. crane, lift it out for us & put it in the dukew - but none for tomorrow. It will probably cut down on

south →

what we can do. Jeep is out - they have it aboard now for repairs - so - as today - the three of us (Frank is still on Tubbar) will all go in the Dukw plus the camera transit man. Next year they will need more vehicles - DUKW is best if they can keep it in gas - plus more rank for Senior Hydrography He just can't get anything done, & has to take orders from anyone down to Powell the stupid supply officer. I think they will save a lot of troubles next year if they get rid of men (?) like Hugo, (Capt.) Smith (1st Lt) Decker (Navy.) & Powell & try to get a few more like Merriweather, Carroll - you can add Northrop, Norman, & Alexander to the first list two, while you're at it. Of course a Captain is the first essential. He's a pretty seedy specimen for a man, &

a soldier one for an officer.

Gee, I'm bitching again, no I'm not. It's just that I'm so appalled by the utter incompetence of the men & equipment sent out to do a big job. It all started when no-one knew it was going to be cold as Greenland most of the time. There was little or no foul weather gear aboard. Comdr. Kennedy in Hydro in Wash said told me personally to take clothes for a warm climate & all the men are in the same boat. They freeze - It's almost midnight again, but I wanted to get this all down - so when they want to know why I'm leaving this outfit - I'll be able to show them in black & white. —

Saturday Feb 26.

Oh ho brother! Saturday night. We were to have gone out today & were up at 0530 - but the sand was blowing pretty badly & the operation was called

of - but they are making up for it. At 2200 tonight the plan of the day comes out & we're off again at 0630 - we leave the ship at 0630 SUNDAY morning. The operations officer - Marrisette informed me that the Captain has decreed that all-hands will work seven days a week - holiday routine will be observed only when the weather is so bad that the field parties can't go ashore, nor the sound boats sound. I'm so fed up with this whole set-up. Cook never mentioned a word about it to us - just waited 'till we saw the plan of the day. There's no other job where a guy has to eat crow like this & I'm leaving when we hit the States.

Tuesday March 8th

That Sunday the sand was still blowing & continued to do so 'till Thursday March 3rd That morning I put my gear

AGSC-7 → aboard the Agsc-7 went ashore & met her down the coast at Fahihil that eve, having delivered

DUKW- → a dukw- load of packing-case wood for firewood to the Limey Political Agent at Hawait - a snotty bastard who couldn't even say "thanks" - Picked up 3 nice Arabian knives in an old Antique shop in Hawait and

instrument → erected a 30' tower & 15' inst. extension at Cart in hopes of being able to see Evon & Dant (Cart never should have been put up there in the first place - a little reconnaissance work in November would have saved us a lot of work now. Friday we erected centerpoles at Laya & Gist - Laya - a 30' tripod - had

been stolen legs, stakes, & bunting - all gone - & Gist was down & stripped. Saturday we readied the lights for night triangulation on the AGS c-7 (Maury had left for Bohrium to pick up men for Capt. O'Regan - Compersiangulf who is aboard). The sand stopped blowing about noon & Ed & I went to cart where I set up on that jury rig & got six good sets out of 8 on Evan - Dant still can't be seen from Cart. Sunday we again went ashore - left Ed, at Flit (also stolen in toto) for 6 sets & Busch (duku-driver) & I dismantled the A* of Cart & re-erected it at Dant (have to get up to see Bone & Cart as I have told the Knuckelheads time & time again) too much wind to shoot though, so we both went to Fahi & got some* angles's before the sand started to blow again. Monday we again went ashore - but the M. was

Maury

back so things were fouled up again. They wanted the lukuo at Huwait at 0700, so Busch left the L at 0530 to meet a 0700 boat from the M that got there at 0815 - Typical! The L had to rendezvous with the Maury off Al Fantas about 0900 so her whaleboat took Ed & me into the beach near Dant & we jumped off in damn cold water over our hips & waded ashore. All the kids in town turned out to follow us up the beach, but on the 1½ mile hike inland across the desert to Dant they kind of petered out. And well they did, for their fathers & brothers had stolen all the parts that weren't bolted together, & we had a hell of a time getting on already bad rig to hold my weight. Still too windy to shoot from there as the steel, even though turnbuckled down tight, still

DUKW

vibrated a good deal. The dukw came about 1030 & took us to Colt. Flt had been stolen again!, so I sent Ed & dukw down there to put up a signal & sit with it 'till I had 6 sets. The sand was really whipping up on that ridge too. I spent ½ the time trying to get sand out of my eyes, so I could see. I finished & dropped the 30' centerpole as a signal & the dukw came back up. We re-erected Colt & went on to Fohi where we dropped Ed & dukw & I went back to set up & guard Flt while he shot it from Fohi. The Mawry was to have sent in a boat for us at 1700 but at 1630 she was hull-down & headed ~~north~~ East, so the Apc-7 sent in a boat at 1745 & we had supper out there & were just settled down & enjoying a good movie when the Mawry sent over a VP. for us. Stayed aboard today &

books

checked abstracts against field bks. & broke out parts for a 26' windmill tower to go up at Cart so Dant will be visible. Those signals never should have been erected there, & may the men responsible (Cook & Shea) be damned to eternal perdition. It's one hell of a way to try to run a survey. The Mawry & 3 Apc-s are running sound lines daily now, so that will be something done, anyway. That Dant-Cart business still has to be fixed up, Howl shot from Fohi, some shots at High & Itch & all shots at Joke & Zone & then we're done with the triangulation. The word now is we leave within 60 days, so there is a lot still to be done. — esp. if they plan to put in another base line & astro shack

shack

Saturday, March 12th — Since 2200 last night (it's now 2100) I have logged 18

hours in bed - I was that tired. today is the first day off I have had in two weeks & the last two days were especially hectic ~~Wednesday we all stayed aboard~~ Thursday A.M. Primer & I went aboard #1 Sound Boat with food for 3 days & headed 30 miles down the coast to Ras al Zour in the neutral territory between Kuwait & Saudi Arabia. The little 42-foot boat pitched & rolled in the swells & a heavy southeast wind kept a heavy spray blowing across the top of the cabin were Ras (Ens Rasmussen) & I were hanging on, bundled to the ears, & I giving him a geology lesson we cut wide to miss the long arcuate reef off Ras al Qualiya & cut back in toward shore. Hawl had been re-erected Wednesday by Primer while I had occupied High - Duke had to take Commodore O'Regan from Kuwait to Fahihil so never came for me 'til 1800-

made it 1930 before I got back to the ship & Jacob's bobbered oboard. ~~Hey~~ Hawl then was a 30' C.P. Craig recruited Lyon as a C.P. & I could see that Jake & Zone were both down - all were 30' tripods & all were down! We anchored in a heavy sea off Jake - Of the base of Ras al Zour & Primer & I & Taylor - a seaman - went in by whaley. By 1400 the wind had risen a good deal & the sand had begun to blow again. Ras had said the tide was ebbing, but when we found our whaley 1/2 mile down the beach swamped & missing an oarlock, we figured he had been pretty wrong. It was quite a start for 3 men to get up that 30 cp signal in a high wind driving stinging sand, but then to have to haul that whaley 1/2 mile up the beach topped it all. I took off my trousers &

jacket & worked in. I held the stern to keep her bow out to prevent her broaching & capsizing while the other two took the long bow painter & coolie-fashion pulled along the shore. The surf was really pounding in on that sand beach, the water was cold, the wind more so & the driving sand made seeing almost impossible. We emptied her out again, & rigged a jury oarlock with wire - & we shoved off into the surf in hopes of making the sand boat - anchored a hundred or so yards off shore & I rowed & each ~~wave~~ wave threatened to dump us all into the sea. We made it after quite a row, but the S.B. was little better. She was really getting tossed around. It was then about 1700 & we shoved off for Zone, got there by 1800 but the wind & seas were too high & we too

coolie-fashion →

wire →

wind →

wet & tired to try to go ashore. Chow, I must admit, didn't appeal to me. We had a drop-table rigged forward between the two bottom bunks in the small cabin, but nothing would stay on it - so badly were we rolling. Had rolled up in my blanket by 2000, but there was no sleep to be had. The air was filled with sand, & the boat with a fine dust, the bell was ringing constantly due to the roll, and about 0100 we all had to fight our way out into the bow to haul in our 225-lb anchor that was dragging - we were pretty close to the beach. Got under way & fought our way back toward Jake looking for smoother water that wasn't to be had. I think I fell asleep about 0300, but was awake by 0600 again. The

wind had died a good deal &
the sand settled - the ~~ship~~ boat was
a duskey brown color - & we
headed on South to Zone. Frank
& I went in in the wherry &
I set up the theodolite over
centermark → the centermark & shot angles to
Joke, Itch, Igor, & Howl, then
rowed back for two seamen to
help put up a 30' cp. where
the tripod had been. We got back
to the sound boat about 1330 &
upped anchor for Joke again where
Frank & I went ashore & shot Δ4's
Finished about 1730, tried to straighten
up the CP in a good wind again
but had to shove off to get back
to the SB before dark. We were
finished in two days & headed back
to the Mowry - got alongside at
2130 & up a Jacob's ladder over
the port side. I'd gotten no sleep
the night before, had eaten sand
for two days, & not much else
& we had done all the tri-

angulation angles & erected cp's
at Joke & Zone & never a word
from Cook & Shaw except "why
didn't you shoot Amma from
Zone?" that we couldn't see for
blowing sand. So it goes - It's
no fun working for a
bastard & he is a bastard.
Slept all day today & plan to
do likewise tomorrow.

The 3 AGSc's are alongside
& Carrol had arranged over 3 wks
ago with the Captain to send
shopping parties ~~home lands~~ ashore
tomorrow - had IBI or ITOC
busses all arranged & everything,
but the Old Men has his mind
set on Tubbar - so all hands
will go ashore on that barren
stretch of 2 sandy acres of
Island & Carrol has to cancel
the busses. I should think he
would know enough by now
not to try & do anything for
this damned outfit.

The word now is that

we leave about april 30th with stops at Aden, Malta, & Gibraltar three pretty miserable stops when there are places like Rome, Naples, Florence, Cannes, Marseilles, & Lisbon on the home route: —

Rome →

Monday - March - 14th

Sunday rec. parties went ashore for their baseball, beer, & fights, & Ed & I went ashore in the first wave & retreated up the 100' Bilby to shoot a few quiet angles - got Hawl, High, Lagia, & Evans had a few beers & a hot day - got a bit sunburned, had some good laughs with Rep. - Basis chief from the Agsc - 7 - & came back about 1400 - aboard today Ed & I drew up the figures, & made sheet for a 1:110,000 scale polyconic of the net & Ed will plot stations on it tomorrow while I go to Cart to put up that windmill tower - with my old stand-by's Tower parties 2+4.

retreated →

I have a new part time race. I do Notes on the Arab in our weekly ship's paper. One last week on the camel & the one for next week on Dhows - with pictures, yet. & rather enjoy it. It's fun researching it all, & then trying to put it all down on paper so it makes sense.

Saturday, March 14th

Tuesday I went ashore with tower parties 2+4 & erected a 30' steel windmill tower at cart to get through to Dart. Wed. We dropped Ed off at Dobro, me at Cart, & Jerry at Dart. I got 6 sets to Dart, but Cart still not visible from Dart. Blowing sand & haze every day now. Thurs. all stayed aboard in bad weather & Friday back ashore - Ed to W.B. & Jerry & I to Dart, but the haze hazed & sand blew all day & no shots were gotten at Dart, we dressed cart & got a shot on top - should be able to see it now. The whole realize that the time for departure

West Base →

is drawing nearer & they are working our butts off.! Put in a goodly eight hours in the drafting room today & am scheduled to go ashore again tomorrow - Sunday again. Sat. the 13th was my last day off & before that Sunday Feb 20. Since tomorrow is the 20th - That's one day off a month - brother!

Wednesday March 23rd - Fahiki

Monday was the big day. I put a centerpole on top of the 30' tower at Card & Terry got six good sets on it around 1730. Ed & I finished re-shooting Card & Bone & Frank got some shots at Fahi. Good aerial photos were taken @10,000' & came out darn well. Our system of putting out 2 100' strips of bunting on the ground works but pretty well. From 10,000 feet they are about this + size, but really show up, & locate stations we'd never locate otherwise. Tuesday Terry went to

measure eccentricity at West Base & to get the height of Wait. on board & figured out what stations still needed to be referenced, measured, described, etc. Today Frank went ashore to do some referencing & to move the extension at Dant down to High so we can see Igor. Again today I stayed aboard. This time computing the eccentric reduction for the eccentric tower at W. Base. Tedious as, exacting, & not a little bit confusing. I'm afraid it is an acrid foresmell of what the trip back will be like

Sunday March 27th -

Well, I wanted to get away from the Harry & I really am, We've camped - the base-line & As two parties - down in the neutral zone between Kuwait & Saudi Arabia. We left the Harry with our gear in two VP's in a heavy sea &

pitched & rolled our way into the small boat harbor where we off loaded the stuff onto the ~~p~~ a floating pier that

IBI → IBI had moored next to their breakwater. Bob Howard (IBI) was there & got us a big Peter built that they use for hauling rock from the quarry near Burgan.

baseline → The crane unloaded our cement & BL stakes into it & we piled the rest of our gear on top. Knocked off for chow at IBI & a goodly chow it was. Ed & I - Carmel (QM 1), Redmon, Matthews, & Garman lit out on the peter built & the others were going to get H_2O & come

DUKW → on in the Dukw & jeep. The driver took a wrong turn on the sand track running south from Fohikil & we got trapped in some loose sand. We pushed & dug & laid stakes but had to wait for the dukw to pull us out, she helped us out twice more 'till we got to the swampy area between Gist & Goli & there we really bogged down. The dukw came back to get us & she really bogged down, the

surface of the salt-flat was only a thin crust & she went through into the white clay beneath - all the way to the hull - she was really in too. Shaw & the jeep & driver went back to Fohikil for a cat. About 1600 th a low-boy with cat on her came up & the cat got us out with no trouble. Only once more did the Pb get stuck & the dukw got her out O.K. The wide salt flats south of High we expected to be pretty bad but we bounced & ground our way through in a slight drizzle & arrived behind Jake about 1800. Gear unloaded & tents set-up in a good drizzle & chow by 2000.

We have one pyramidal tent & two 8' wall tents set up in a fairly decent spot - as spots go in Arabia. The Persian Gulf is about 300 yards away, we're separated ~~by~~ from it by the high dune line, but can hear it rumbling over there as the

big combers come crashing in on the long sand beach. Around us rising sharply to about 50' out of the flat desert floor are sharp sandstone ridges of bare rock. They have been ~~highly~~ badly weathered & great blocks lie ~~lay~~ in jumbled disorder. There is usually a falcon or two sitting on the ~~po~~ topmost rock keeping his eyes open for game.

It has been overcast & breezy ever since we came & had rained on & off, not much but just enough to keep everything pretty damp. The flies ~~too~~ have found us too, just to make things complete.

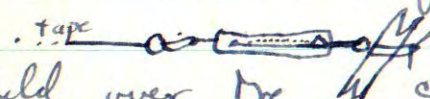
Shaw & the deckw lit out for the old Astro shack today to bring down the shack & a cooktent. Ed & I were going to put up the Astro pier, but after we started found that the only pipe-head is at the old shack so had to hold off. We did run around & try to locate station check. Found a good spot for it & put

in a centermark & short centerpole cp. We are now waiting chow for the others who should be back pretty soon.

It's good to get out in the field again & should be a good week or so. I only hope the sun comes out to dry things out a bit.

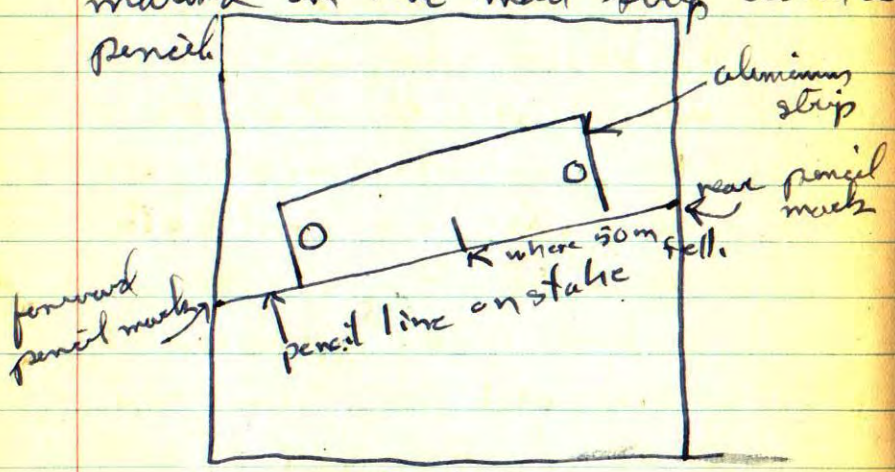
Tuesday, March 29th

Yesterday we awoke to find bright sun & it promised to be pretty hot. We were in the field by 0830 & started at Jake. Shaw, Massey, Redmond, & the Deckw crew of Busch & Walker went to work on pouring the pier for ~~the~~ astro & getting the shack put up. Ed & I set out driving stakes. Ed was on the inst. & I on the tape marking & generally acting as expeditor to keep the thing moving. Technique: Instrument - preferably T-2 Wild Theodolite because it has optical plumbing - is set up over the station - centered - and ~~a set~~ sight on signal set up at opposite end

of proposed base. This signal to be centered over centermark set in concrete. A 16' centerpole dressed with black bunting we found to be adequate for a 2-mile base. This is sighted on, lined in, & the horizontal motion clamped. A 50 meter tape is used - Lovar tape standardized by the U.S. Bureau of Standards - with marks at 0, 25 m & 50 m (5.1.0) - at the 0 end a leather thong is passed through the end loop & ~~the tho~~ through the thong is passed a 9' range pole ... At the 50 m.. mark end a tension gauge reading up to 15 kilograms is attached & to this a leather thong through which another range pole is passed.  . The 0 mark is held over the centermark beneath the instrument & the tape stretched out in the direction of the other signal. The inst. man guides the 50 m range pole into line with hand signals. When she's in line

the pole man shouts "on the mark" the man on the other end puts 0 over the cm. & the 50-m man takes up 15 k strain. Another man marks the ground under the 50 m mark & a stake (3"x3"x36") is driven in. This stake is lined in by hand signals from inst. Another "on the mark" & 15 k strain & the stake head is moved forward or backward so that the 50 m mark falls on the stake head. The stake is then braced by two braces made of 1/2" lumber . While the strain is on the tape - a group of 2 men at the 25 m mark drive in a 3' 3' stake of 1" lumber on the line & - i.e. one edge on the line - & a nail is driven into the edge to hold the tape - at a height ~~equal to~~ on the line between the tops of the two end stakes

Then a pencil is held on forward ~~end~~ edge of 3x3 stake & lined up by inst. again on back edge & then joined by a pencil line — this is the line where it crosses that stake. A 2" strip of aluminum 1" wide is tacked along the line on the stake head, the tape again stretched & the 50 m position marked on the metal strip with a pencil.



Top of Stake

The tape is then moved forward & the ~~O mark is the~~ ~~[illegible]~~ (my pen just gave up the ghost,) zero mark is placed over the pencil line of where the 50 m mark fell. The next forward stake is positioned with the range pole, dup, centred,

braced, lined & marked & the 25' m stake put in & the nail set. The inst. can be left in the same set-up 'till the pencil held for lining is indistinct, hand signals can't be seen, or the line goes over a hill. In this case the inst. is brought forward & centred over the last marked stake. If at this new set-up the distant signal at the other end of the base is not visible, then go back to the last stake at which it can be seen, set up & line signal in. Then send man out with a range pole to the intervening hill & line him in on the signal. Then move up using the range pole instead of the signal. Where dip is too sudden, or a rise between 50m stakes makes next stake invisible - the 25 m stake can be made of 3x3 & the inst moved up. On the last base line

they set 10 stakes the first day & about 20 per day from there on. We put in twenty-one stakes on monday & put in 47 today. Mr. Shaw said a mile a day could be done, & we did one stake less than 1½ miles today. The sun was pretty hot, & we had the dukw & jeep to keep us supplied with stakes & water. Carnell was on forward range pole, Flowers on rear, Matthews on sledge, German on hammer, Snow on 25m stake, Ed on trot & H.B. marking, lining in, putting al steps on, & generally keeping things moving on the tape. We also number them as we go along. First support stake (w. nail) is 00 + 25 & first 3x3 is #1, next support is 1+25 & so on.

The sun was really hot yesterday & we all got a good dose of it. Knocked off at 1700 & had a good swim in the

Gulf. Today there were some clouds & it was quite cool when we put in the last stake (#68) at 1650. Back for our C rations - that's all we've had since Saturday - & the others are sitting around a small fire telling dirty jokes while I'm in the tent getting caught up on this by lantern light.

I killed a scorpion last night & the crew didn't get much sleep last night thinking about it. We also have lots of large beetles that are always making Kamikaze attacks. They're big devils too.

Tomorrow will ~~to~~ run a line of levels along stake tops - double rod it probably & run up & back measuring the line.

Thursday - 31 March -

The last two days have been full but fun. Wednesday Ed double rodded a line of levels down the base line & Carnell Q.M. 1st ran a crew up &

back on the line. I measured the astro pier at Joke & finished the station description there. Shot Itch Igor & ~~Chek~~ of Joke from Chek for triangulation angles & went jeeping up to ~~itch~~ Igor & shot Joke & Chek, described it & measured the top of the skirt - it was a goof-off day actually - just doing things that had to be done. Shaw went to Fohihil for water & took German, Massey, & Matthews all of whom were to take evans on the Dutton today.

Today we had to remeasure the base line. Carnell & his crew had a difference up & back of 5 cm - that's 5 centimeters over a distance of 3400 meters or 1 in ~~340000~~ 680 68,000 off. Doesn't sound like much, but it's too much for this sort of a job. Today I was forward marker & recorder with Ed on the rear mark, Redmond & Walker on range poles, Rizzi & Glowers on the thermometers. We started at Joke at

0750 & covered the 2 miles to Chek by 1100, then back to stake 45 by 12, back at 1250 & got to Joke just ahead of a dust storm that we raced for an hour & 3/4 hrs. In the P.M. Rizzi was out with the same bug - upset stomach & bad headache - the floored Snow & Carnell the day before, & I then was marking, recording, measuring set-ups & set backs, & reading the forward thermometer. We checked over our figures & came out .01292 m off in our up & back or one part in 342,500 - not bad. We got back here (to our camp) & Shaw had the pyramidal tent down & Dukw loaded & took all the men but Ed & me back to Fohihil. 3 were pretty sick, & the rest of the work Ed & Shaw & Massey & I can finish up OK. After they left Ed rodded & I used the Wild level to run a line of levels from Joke down to the water level. Using 5 turning pts. I measured the 50 odd

feet down & back with a difference of 0.003 feet. Again not bad.

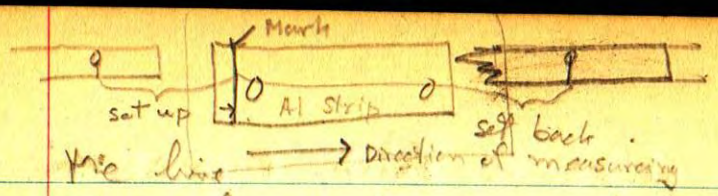
We had a good chow of C-rations beans & frankfurters, cocoa, toast, jam, & apricots & sat around going over our field bks. till 1930 & are now catching up in our respective logs.

There is a nice bedouin that lives in a tent behind the dunes near Joke, & he has been over several times to say hellow & burn water. He holds great armwaving & bedouin conversations with me of which I understand nothing, & we have become fast friends. He was over here when we ate this AM about 0600 & I had crackers & jam & coffee with him. He's quite a boy - has an really ancient muzzle-loading precision cy rifle fully as long as he is, & there are two desert fox pelts drying outside his tent to attest to his ability to use it.

Shaw is a different man in the field - really pleasant & very nice - a welcome change from his ship-board silence.

Tegunigua:

Base Line measurement: It's done the same way as described for laying out the stakes, except that a mark is scratched on the al. strip & it is done twice at each station - i.e. Mark & mark to get the spot, then ease off the 15 kilos tension, & take up the strain again to check the 1st measurement. If it's off do it till two fall on the same spot. If the 0 mark falls short of the al. strip the distance forward or back from an arbitrary line on the strip is measured with dividers & scaled off on a 20cm bar → & the offset recorded as a set-up or set back depending on whether the lape has to be set forward or back to



the line

also thermometers are attached to the tape calibrated in degrees C. & reading to degrees & tenths. (25.0, 25.5) These are places one at each end of the tape & read at every mark.

Sample of Fld. notes:

From	To	Temp Fwd.	Rear	Set up	Set Back	No. of supports
00 +25	1+25	22.5	22.5			3
1 +25	2	22.5	23.0	.03752		2
2	3	23.0	23.0			3
3	4	23.5	23.6		.03332	3

etc.

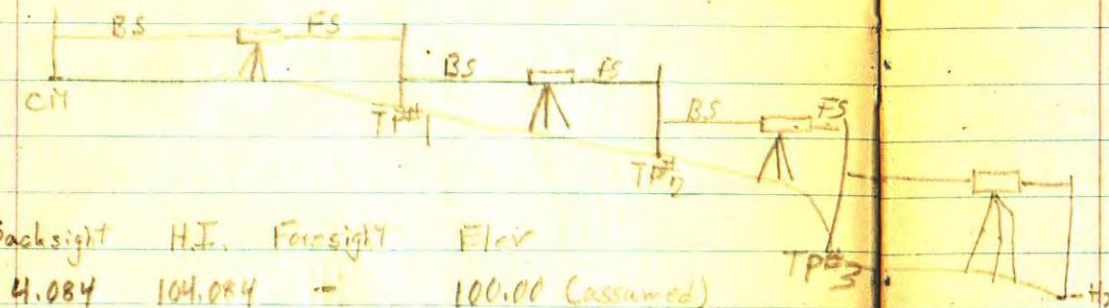
at end of line. Stake #68 fell approx 20m short of check, so we put in 68+25 & measured back from it to cm & then subtracted. 68 68+25 CM 68+25. To get the distance from 68+25 back to the centermark we stretched out a meter tape (M&E whyteface) & measured the distance from 68+25 back to the spot directly above the cm as determined by a theodolite. The theodolite I set up over the cm. Turned off 90° from the B6, spotted it with a

pencil & then set-up over the pencil sighted back to the cm. This gave me a line of sight 90° to the B6. Then I raised the horiz hair to the tape, read the tape where the vertical hair crossed it & then put a stadia rod behind & read the dist above the cm.

= 2.35 m on tape
= 2.90 ft up on rod

As for the leveling: the Inst (Wild level) was set-up so I could look through the door of the astro shack & I read the stadia rod at the level line. Then Ed moved down toward the beach & I read it again. Assuming 100' as Jobe's elev. Not plus my first sight (back sight) gave me a HI. My HI minus the next sight (foresight) gave me the elev. of the pt. under the rod (turning pt #1) & then

moved down & shot back (Backsight) on the rod in some place & then he moved up & we leapfrogged down to the water.



	Backsight	H.I.	Foresight	Elev
Jake	4.084	104.084	–	100.00 (assumed)
TP1	1.125	101.159	4.050	100.034
TP2	1.548	91.338	11.369	89.790
TP3	0.761	80.189	11.910	79.428
TP4	0.326	69.463	11.052	69.137
TP5	0.149	58.712	10.900	58.563
water line at 1634			9.808	48.904
water line	9.708	58.612	–	48.904 etc. to TP5
TP6	4.290	104.328 etc.	0.901	100.038
Jake			4.325	100.003

We had a heck of a lot of fun in the field this past week. The food has been monotonous - 3 meals a day for five days (so far) of a combination of all

the wets from a case of C rations, bread & jam, coffee, & apricots - same thing every meal except tonight when we got our own - some food, but sun, blowing sand, glare, heat waves, mirages, scarpions & kamikaze beetles, but I enjoy it withall.

Have been writing here in the tent with the breeze flapping the door of the tent & the Coleman lantern ~~spoke~~ hissing contentedly with a cup of coffee on the board we use as a table. It's a board between two instrument boxes - makes a good table but you can't lean on it - Boy, do I need a shower !!

Monday April 4th

~~Friday~~ Thursday night Shaw fraught Smitty - an IBI surveyor down from Fahihil & took him up to shoot stars. So Friday Ed & I were going north to work on the High Girt - Hawl triangle

but the visibility was so bad, we went right on to Fahihil & took Smitty back & had ourselves a good shower & shave & a good meal - all of which were needed. The haze was bad so we jeeped on up to Colt to measure the skirt & to describe it & Evan. Then to Tat where we picked up the 30' cp & re-erected it at Gist. The visibility never did clear & we went on back to camp - getting there about 1800. That eve we all went up to the astro shack & got checked out on the astrolabe. (10½ hrs.)

Saturday a.m. Ed & I lit out in the jeep for Itch where Ed got 6 sets on Chek. We had a hellava time getting there for the swamp road was in pretty bad shape. The centermark → cm. of High had been pretty well beaten up so I went back that PM

with Norton & some cement & we re-centermarked it & I shot 6 more sets to all Sta. by dark. That night Ed & I both were at the astro shack I 'till 0300 Sunday & Ed all night. (~~Friday~~ Saturday 14 hrs)

Sunday we were up bright & Early to break camp & got to Fahihil by about 1100 - Shaw showed up about 1300 & we had another shower & I slept in the → pukk → I ukw for a while though the flies were pretty bad. We discovered that the pretty little pink snake that Buach had killed on Wed. was the sand viper or sand asp - deadly poison - the kind that old Cleo put to her maidenly breast when she drop - kicked the bucket to these many centuries ago.

Johnny Madder asked Ed & me to show, so we had a few

welcome martinis in Bof Lawrenson's room, a gin & it in Johnnies, good turkey chow, & a few more with Johnny in Jerry Hunter's room - still lived with the pornography of the 6 continents - for a few more. about 2200 the sea had calmed down enough for the Littlehales to send a boat in - but only one trip - so we got all the instruments & our personal gear aboard & headed out - after parking the duke & jeep in the Bd maintainance compound. I told Shaw into letting we go down on the L. in hopes I could make a trip ashore to pick up the rest of that gear. The seas have been pretty rough enough, & if Shaw thought it OK to leave it till the M. came back, I should marry. (Sunday 12 hrs) - (Monday 8 hrs) Today I slept most of the

day trying to get caught up from all I lost last week.

We ran into quite a guy down there in the Neutral Zone. A bedouin who lives alone behind the dunes. He was over again Sat. aft. & we had a long chat about trapping falcons. falcons →

It's good to be aboard the L. again. This a good ship. Capt. has some damn good shots of Billy Tanner putting up in type & I hope to get some of them from him. Must write the Adm. It has been some time.

Sat	Mar 26th	12	Wed	30	9
Sun	27	8	Thur	31	11
Mon	28	10	Fri	1	10½
Tue	29	10	Sat	2	14
			Sun	3	12.
			Mon	4	8
			Tue	5	6

Tuesday April 5th - under way Fahihil - Ras Tanura.
Slept till noon - corrected field bks in my skivies atop the canvas bridge cover in the sun & then joined the fishing party on the fantail to catch a nice tuna. They landed several goodies too. Rep got the biggest - a little over 19 lbs. I had the con from 4-8 this eve. They even have me broken in on under-way watches. Its a rough life - sleep till noon, sun-bathing, tuna fishing, movies & bridge. Ho hum!

Wednesday, April 13th
That, alas, was on the AGSc 7. & I came aboard the 14. at Ras Tannura the following day. We lay there for a day & then moved in a storm to Bahrein. There we serviced the AGSc's & headed SE for the strait of Harmuz where ever since we have been running

sounding lines fewer abreast, while I spend 8 hrs a day computing. 1st on geodedic positions & now the baseline. We have been for four days steaming back & forth through the Strait that separates the Gulf of Oman from the Persian Gulf. To the East the high peaks of West Persia coming down to the azure of the Gulf. To the west the steep cliffs & barren peaks of Ras Musandum, the easternmost tip of the Arabian "island". Though, completely devoid of any vegetation the change in topography is a welcome relief from the sameness of the northern deserts & have come to know so well. The waters here teem with marine life. ~~Tuna~~, Schools of graceful gamboling porpoise, blackfish, & tuna, have been in sight almost constantly. Water snakes, orange algae of some sort that make the water look as though orange sea dye had been dumped in, and thousands of small fish that ripple the surface with their violent swimming. We'll be in

Bahrain probably Friday & I must get ashore & try to buy some backsheesh for the clan.

April 14th Enroute to Bahrain

Well, the AGSc's shoved off this Noon, & we are headed again for Bahrain, having headed back south in a storm & anchored in the lee of the Persian Peaks off Jazirat Tamil just N of Hormuz to give the little ships time to come alongside for provisions etc.

I have thoroughly enjoyed this Arabian jaunt; & though it will be good to get back & see the family again, I feel that I have barely scratched the surface of one very small corner of the Levant. It is a fascinating place and leaving now is like putting aside what promises to be a good book having read only the publishers squib on the back of the dust jacket. I have met some of the characters — & like them — I have a general knowledge of the setting — that too I have found to my liking — but I haven't even begun to read the book. This is really a fascinating place — it has its flies, its heat & its sand, but it also has amid squalor

& want a happiness, a contentment at once intangible & indescribable — as though the Arab, unlike the American, had met Time & Fate ~~in the arena of~~ face to face in the arena of the ~~centuries~~ ages a through the centuries come to an understanding as to just where he stands in relation to his cosmos & his Allah, his god. It is an envious position and one that makes the urgent immediacy of our souped-up american living seem indeed futile. As Des Cartes said, I want to avoid the shallowness of the merely dissoluchioned skeptic. Though I sound a bit cynical, it is the cynicism of close ~~[illegible]~~ scientific investigation ~~and~~ coupled with a tacit refusal to accept per sé the status quo (if I may mix my international idioms), and to fall without even looking or questioning into a set pattern as so many of my generation are doing. Where I am looking, even searching, before I leap, they don't even have the personal integrity to leap but are pushed along into the foreordained patterns laid out for them

by someone else or lead as lambs to the slaughter by the fuders goat of their own selfish smallness – etc etc. hell it's 1200 & I must have diarhea of the brain. all I want is to be given the power to decide what I want to do with my life & the tenacity & will to do it – easy enough, isn't it?

Sunday May 1st. Straits of Hormuz

We headed back to Fahahil & spent two days on the beach & fortunately got our required closures on the triangles, picked up the vehicles & towers & took off for Ra's al Kishab where we met the Anniston City & procured from her a mere dribble of supplies. Then to Bahrein where we sat for a week awaiting the seaplane Tender Duxbury Bay to whom we were to transfer Capt. O'Regan & his Comp Persian Gulf staff – also Dr. Ford – a good Doc. She came in yesterday & we

left for the Straits yesterday afternoon about 1500. Back in the drafting room topside, we have been busying ourselves with computing Geodetic Positions & adjustment of guards, getting ready for the smooth plotting that will occupy our time most of the way back.

It was only this afternoon, though that I first felt that we were really headed home. For it was about 1530 that we rounded the tip of Ra's Musandam, passed by a little Persian Islands & entered the Gulf of Oman. We always liked the Straits of Hormuz ever since last Oct when we went through going the other way. I don't know if it is the welcome change of scenery – high steep-sided islands & towering cliff-seas – or just the idea of their being the doorway to the Persian Gulf, kind of a Golden Gate or

bridge or a statue of Liberty for the Gulf. Whatever it may be, it was only as those new familiar landmarks slipped astern that I felt we indeed were headed home. Gib around the 15th then Norfolk for a few days & N.Y.C.

Thursday, May 14th Two days West of Gibraltar

It has been an uneventful trip. Not as hedges through the Arabian & Red Seas. While waiting for the south-bound traffic to get into Med - Better Close in the Suez Canal we knocked off for a good swim. It turned pretty cool once we left Port Said & headed west through the Med. Two days out of Gib we ran into some rough seas that slowed us down some, & got into Gibraltar on Monday the 16th - Most of the 6th fleet was in at the time. The carrier Coral Sea, cruisers

Columbus & Fargo & the anti-aircraft (5" guns) cruiser Juneau plus a DD screen of 4 cans, a sub, the supply ship Yellowstone, & the HOG that rebelled us. The three DGSC's made it a.s. & the crew of the Littlehole had some wild tails to tell of Algiers & her floorpots. What a time they had! I had dinner on the CA DLG-7 & Carroll & I ended up at the Embassy Club in Gibraltar with two of its Spanish hostesses & between the 4 of us & what Navy officers that wandered in went through some $30 worth of poor champagne. At 2400 the girls had to catch their bus to get over the border into Spain & we sang our way down to Jumpers Boston where I slept it off on the Littlehole & was aboard her when she came alongside the Nancy the next A.M. We

left Gibraltar that evening & have been rolling home (& I do mean rolling) ever since.

It's the nice lazy pitch & roll of a quartering sea - long swells & little wind, but still quite cool.

We have been scaling fathoms ever since the 3rd of May till I'm ready to scream like a roped ape. We will probably stay aboard in N.Y.C. till all the smooth-plotting is done - & it will be a damn long job.

Well, I've learned a lot on this trip, but where from here? I don't want to go back to Arabia on the Maury Maru, but will ship over for some other job if there is one in the offing. Still like to travel.

There has been an awful lot of water over the damn since then.

I started teaching at Hotchkiss that fall ('49) & stayed there till June of '51 when I came to La Jolla & the Scripps Institution of Oceanography. That summer I went to Alaska & back on the Horizon, & the fall of 52 (Nov) saw me headed for the south Pacific on ~~of~~ Expedition Capricorn. - Honolulu, Iwojalin, Ocean I. Rotumah, Viti Levu (Fiji), Tongatabu & (Tonga Is), Pango Pango (Samoa), Tahiti (wow!) & Nukua Hiru (Marquesas).

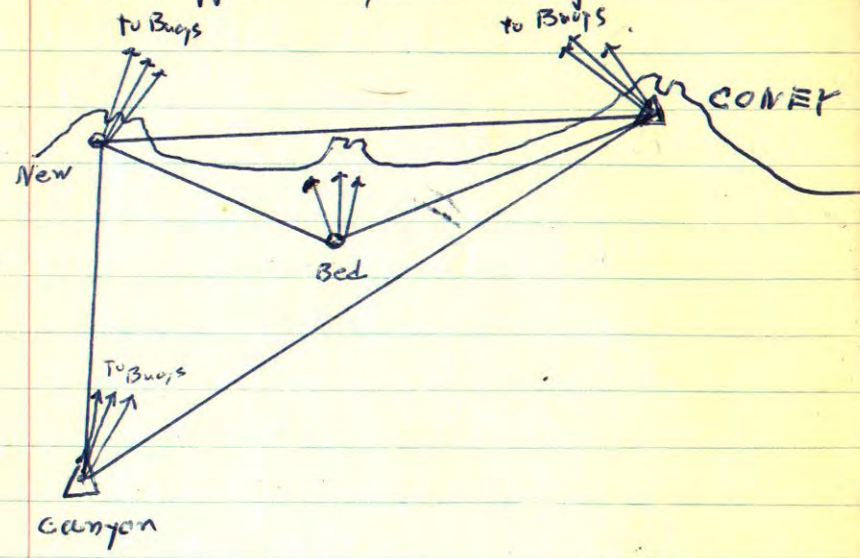
July 13, 1953 –

Just back from a one-week trip to San Nicolas Island with Bill Menard, Ed Hamilton, Bob Bill, Geo Shumway, & Dave Moore on the E.W. Scripps (Newbigen, Frank Vaughn, Jonsey, Joe, Tom Meeney, John, & Buddy Ming). & Max Silverman.

The job was for NOTS, Inyokern of the Navy, & we were to plot strikes & dips & retrieve samples from 2 mile-diameter circles off the North side of San Nicolas. Bill, Hamilton, Moore, & Ming did the diving, Max & I the shore control, & Menard & I acted as boat recorders & angle shooters. It worked like this.

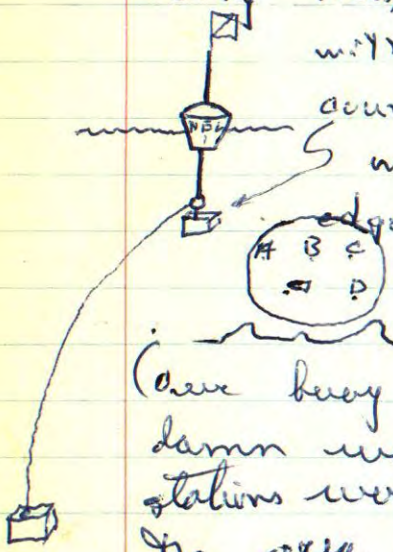
Upon arrival Max & I went ashore to set up the net shown on next page. We had transit & tripod, range-pole target, 3 - small tripod signals, with the wire & hunting to

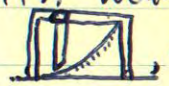
assemble them & wrapped w/ hunting.



It was originally hoped that we could occupy Δ Coney - a USGS bench mark, & put a range-pole target on Δ Coney but not occupy it. Then locate new stations Bed & New by angles to Coney & Canyon, then cut in the buoys from Coney, Bed, & New. As it turned out, Coney & Bed were not interrisible, so I had to occupy Canyon too, & Bed was kept in as a 2nd ary signal for locations from seaward, & buoys were cut in from Coney, Bed, New, & Canyon.

The Coney, New, Bcd, triangle closed 180° 2', & the Coney-Canyon-New triangle closed 180° 1'. Not bad after four years. While we were doing this, Four big dan buoys with flags for visibility & counterweights for verticality were set at the outer edge of the one mile circle, with the Scripps near the center.



(Our buoy locations came out damn well too!). Then diving stations were plotted across the area (12 of them) - with 4 of the 12 of the Dons & one of the Scripps. 2 divers went out in a skiff with an outboard & a recorder (man-type) we would set a magnetic course (Branton) from the E.W. Scripps, & continue out on that, until a pre-determined horizontal sextant angle came up. Then a light, red, float with line & anchor was put over, a depth made with lead line, & the divers sent over with, water-tight compass, dip meter  , crow bar & hammer, and burlap sack for samples. After dip & strike measurements had been made, sample & loose gear were put in sack & sack secured to line attached to float anchor for retrieving. While divers were down recorder took horizontal sextant angles for 3-point fixes - at least 2 sets on different points, to obviate swing-er troubles. We had 3 buoys, & three shore signals, other prominent objects on beach if not out in an original survey can be located by horizontal fixes from the three buoys. Also recorded were strike, dip, & divers descriptions of bottom plus time down & up. Kelp was used as anchor for the boat. Recorder too must keep an eye on the divers, & they should observe the standard divers rules & regulations on lung procedures.

Back aboard the ship. Samples are bagged & tagged, angles plotted & positions of stations noted on the chart with strike & dip ~~etc~~
Underwater cameras also used.

Equipment:

Aqualungs, complete
- Compressor w/ storage tanks, & valves & gagues
- Wrench
- Swim fins
- Face Plate
- Rubber suits & hats if cold
- Weight belts

Crow bars
Heavy hammers
Many gunney sacks
Dip meters
Water-tight compasses
Depth gagues
Knife
Skiffs with outboard gas & oil & oars.
(Bennell to flush outboards)
U/w cameras & film
Small - 18" - plastic floats
Lots of light line for buoys

Cement buoy anchors 2#
Dan Buoys with poles, flags, counterweights, & line
Charts with blowups
C & GS sailing descriptions
Transit & tripod complete
Centurpole or tripod signals
Field note books for shore & skiffs
Nautical Tables & H.O. # 143
Three-arm protractors, (metal & plastic)
Masking tape - always needed -
Wire for signals & bunting
Wire-cutters
Protractor for plotting station
Pencils.
Electrician's tape
Jackknives
Lead lines w/ weights (can be made)
Sextants (in adjustment)
Lots of dry socks & tennis shoes.
Marlin roll for spiny boys, etc.

We found that using the diving buoys

was a big help for two reasons 1) They located spots where dives had been made + best if buoys are numbered - to avoid too close spacing of dives or missed positions, and 2) If buoys are planted first, it means less time for divers to get cold between dives - an important thing when air & water are as cold as they were then. Too, if a swinger is made, area can be re-cut. Water varied from 25 to 80 feet in depth. Dives averages 10-15 minutes, & divers made 3 dives in the morning & 3 in the afternoon, so 12 stations per day was the way it ran. We left monday at 4:00 & got to San Nicholas Tues. A.M. early & had found Coney & Canyon & set up bed & New by 10:30 & all our angles were shot by 1500. We finished Wed. A.M. & waited till thursday to find out that they wanted

a second area done. There we merely set up signals on prominent shore features & were able to locate them pretty well on the charts occupying them only with a brunton to get inter-bearings. No dans were used here, as it was a rush job, & we found that we had poor station positions where we didn't use diver buoys to locate done stations or the dans for general location too the brunton is hard to use "en bateau".

Divers should give strike & dip immediately on surfacing or it is soon forgotten. Accurate checks of the time on each tank should be kept, & two extra full tanks in each boat help in case dives are too long.

Dany Southgate
3710 S.E. Henry St.
Portland, Oregon

(Mr & Mrs H.H.) Holly & Annie Bet Smith
RD#2 Phoenixville, Pa.

Cohe-
167 Pine St
Lockport, N.Y.

John & Julie Harrison
5 Pickman St
Salem, Mass.

Scotty - c/o R B Child, RD#5 Ithaca, N.Y.

Terry Thompson - 17 E 22nd N.Y.

Mc Bellor - Linwood, Mich
c/o Mrs Fred B

Arch & Herk

Mr & Mrs. Wm. Archbold
Apt 6-G (Styvesant Town)
523 E 14th St.

Mr & Mrs J. P. Madeira
39 James St.
Morristown, N.J.

Mr & Mrs. John Imbrie
~~c/o CNI, Box 66 Montauk, L.I., N.Y.~~
9 Fitch St. New Haven.

Mr & Mrs Rowan A. Williams
1253 North 52nd St
Philadelphia, 31 Pa.

Mr & Mrs. George R. Luckie
~~3585 14th St.~~ Mission auto Court
Price, Utah
~~Riverside~~
~~California~~

Mr & Mrs John C. Ausland
417-A Devereux St.
Princeton, N.J.

Butch - Hagerman House, Colo. Col.

The following were loose leaf items included in the pages of the diary

...d, a truck
...45 Santa Cruz Ave.,
Beach, witnessed the

Names Listed Of Men Dead In Navy Plane

Names of the 11 airmen killed in the crash of a Navy PBM off the coast of San Diego yesterday were released by Pacific Fleet Air Force headquarters today. They were:

Lt. Comdr. Harold S. Wilson, a pilot, of 618 I Ave., Coronado.

Lt. Ralph C. Janes, a pilot, who lived at the bachelor officers' quarters, Naval Air Station.

Lt. (jg) Charles C. Kitchen, of 4463 Euclid Ave.

Warren V. South, airman, of Gainesville, Tex.

Julian R. Morris, airman apprentice, of Cheraw, S.C.

Roy W. Sheppard Jr., airman, of Manchester, Ia.

Larry C. Jones, airman apprentice, of Calhoun, Ga.

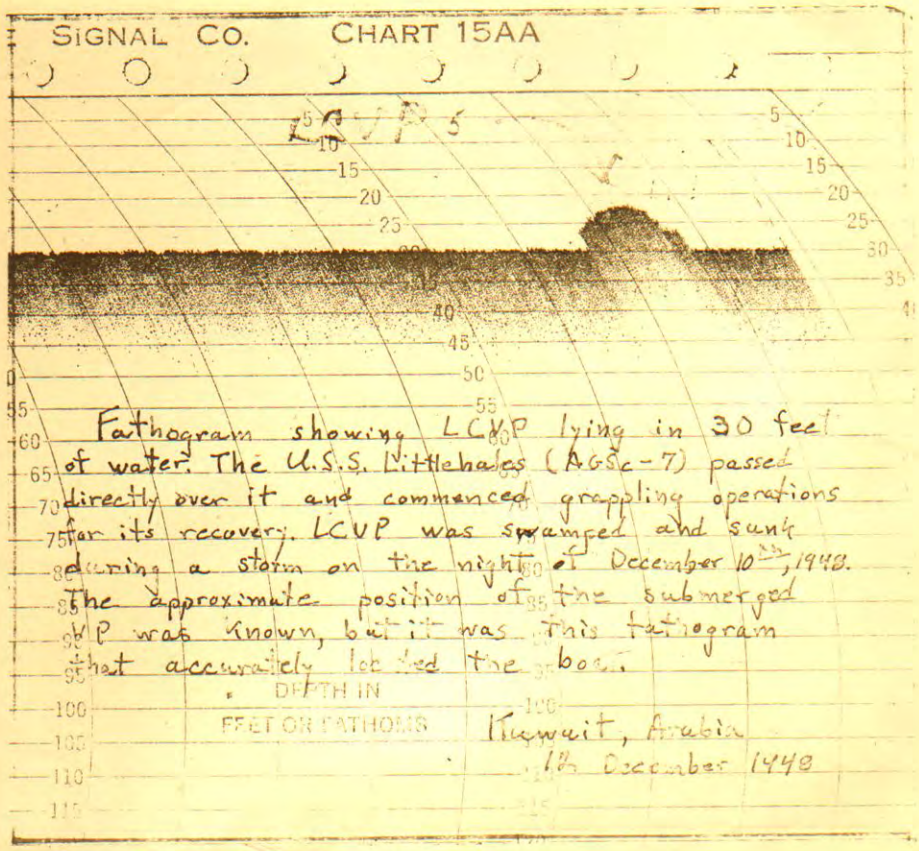
Eugene H. Radtke, airman, of San Antonio, Tex.

Harold E. Huffman, aviation machinists mate 1/c, husband of Mrs. Elsie C. Huffman, of 512 Highland St., El Cajon.

John A. Johnson, aviation electronics man 2/c, of Hubbard, Tex.

Bruce H. Thompson, aviation ordnance man 3/c, of Detroit.

Three of the recovered bodies were identified as those of Janes, Kitchen and Johnson. The fourth was not identified.



Fathogram showing LCVP lying in 30 feet of water. The U.S.S. Littlehales (AGSc-7) passed directly over it and commenced grappling operations for its recovery. LCVP was swamped and sunk during a storm on the night of December 10th, 1948. The approximate position of the submerged LCVP was known, but it was this fathogram that accurately located the boat.

Kuwait, Arabia
18th December 1948

LOADING TANKER on the Persian Gulf, whence Europe is obtaining an increasingly large part of its oil requirements.

Stewart

SHORE CONTROL FOR OFFSHORE GEOLOGICAL SURVEYS USING THE AQUALUNG

Since the data obtained by diving are of limited use unless the location of the diving stations relative to each other and to the land are known, some control is necessary in order that the surveyed area can be represented on a chart in its correct position. Because aqualung geological surveys are limited to areas of relativly ahallow water and will be most usefull in extending seaward geological surveys of coastal areas, diving stations will almost always be within sight of land. Thus the problem of position determination becomes essentially the problem of locating positions offshore in reference to known positions on land. Adams (1942)* covers the subject of nearshore survey techniques in great detail, but a brief summary here of the more pertinent aspects will serve to show the application of the methods to this type of offshore work, with special reference to the control used for the San Nicolas survey.

Obviously, the desired accuracy of the location of the diving stations determins the degree of accuracy necessary for the control net. The most practical method of location from offshore is by the use of horizontal sextant angles between predetermined and well located positions on land. Thus it is on the location of these land points that the accuracy of the survey depends.

A knowledge of the existing control in the area is necessary before planning the new control for any specific survey. The coasts of the United States have been thoroughly covered by various federal and state agencies, and information on the location of previously established stations will greatly facilitate the survey. A reconnaissance of the area prior to the survey is necessary to the planning of the control, and the control net should be worked out in as much detail as possible before starting the actual survey. Where possible, triangulation stations such as those of the U.S.Coast and Geodetic Survey that are or can be located on the chart being used should be recovered. If three or more recoverable triangulation stations with known and charted positions are available along the coast in the area of the survey, then these should be marked with signals, occupied with a transit and used to cut in the additional shore signals or prominent topographic and cultural features to be used as signals for location from offshore. If two such stations are recovered in the area and are located on the chart, the need for establishing a base line is obviated. However, a third station should be established by triangulation from the two others and used in conjunction with them to locate the secondary signals with lines of position from

* Adams,K.T.(1942) Hydrographic Manual, Special Pub. No 143, U.S.Dept.of Commerce,Coast and Geodetic Survey.

Copies sent to Menard + May, 21 July '53

each of the three stations. If only one such station is available, some sort of base line establishment will be necessary; and if none is available, control will have to be carried into the area from the nearest known positions. Other methods of control may be possible and practicable in specific areas or in areas where less accuracy is demanded. It is well to bear in mind during the reconnaissance and planning that the shore signals and features will be used only from seaward and that the control net is not an end in itself but is useful only insofar as it makes possible the determination of positions from boats operating offshore.

Once the positions of the secondary signals are plotted on the chart to be used, position location from seaward consists of obtaining the position of the boat tending the divers in relation to these signals of known location. This can be done by using azimuths, or directions, to or from the known stations or by using horizontal sextant angles measured at the boat between the known stations or by a combination of these two methods. Adams (op.cit.) suggests many such combinations, and a familiarity with all the possibilities will greatly facilitate this phase of the operation.

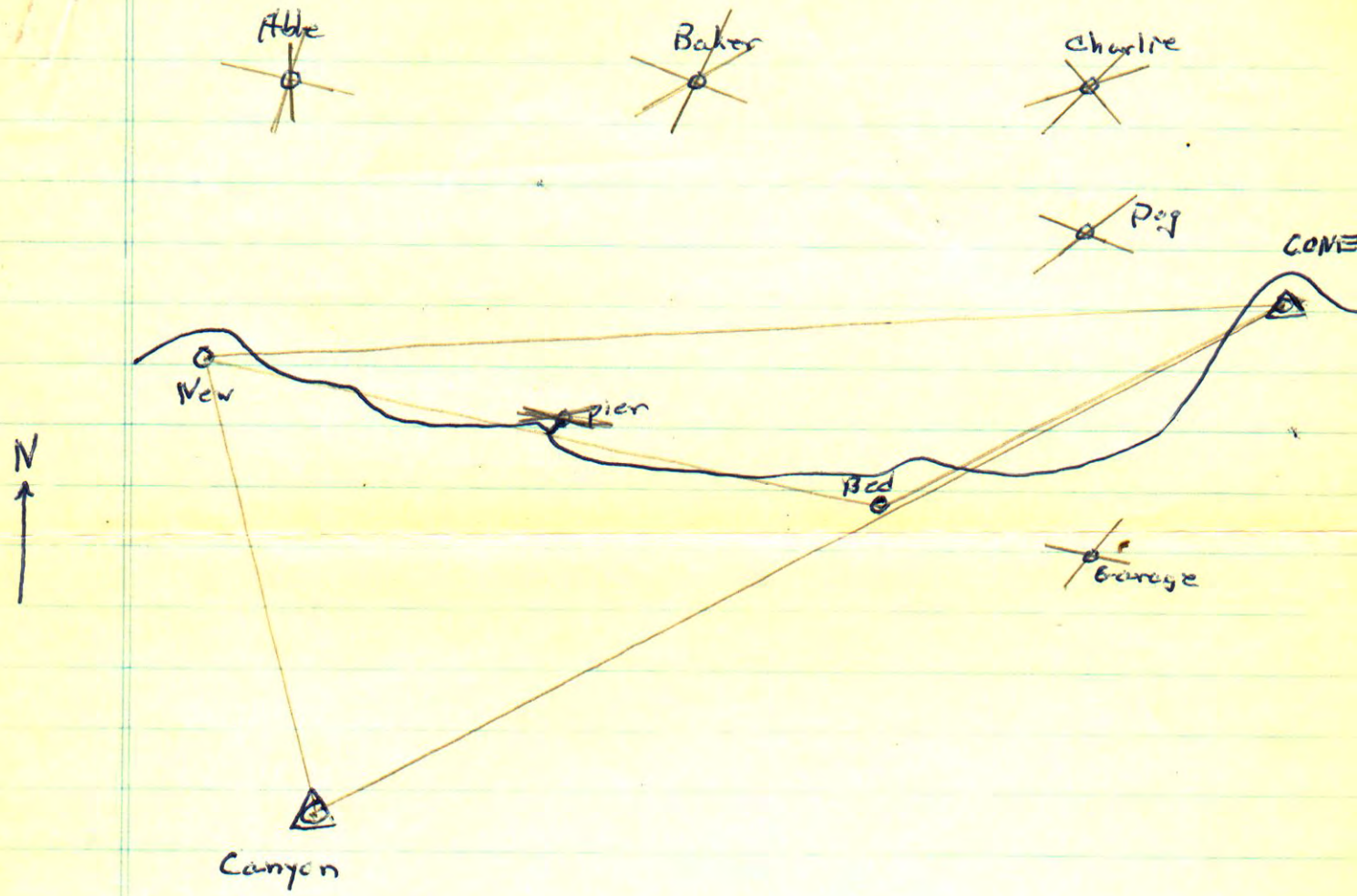
For the San Nicolas survey, the station descriptions of triangulation stations within the area together with charts showing their locations were obtained from the U.S.Coast and Geodetic Survey. A brief reconnaissance prior to the survey located one of the two triangulation stations with no difficulty, and ~~ixxxxxxbxxixxxxd~~ though time did not permit an attempt to locate the second one, it was believed that it could be recovered with equal ease. It was felt at the time of the reconnaissance that visibility conditions might preclude the use at all times of secondary signals on shore, so it was planned that four flagged dan buoys be planted offshore and located by the same method and at the same time as the shore signals.

CANYON and CONEY (see Fig.....) were the two U.S.C.& G.S. triangulation stations recoverable in the area. At these stations the shore party set up signals and occupied the stations with a transit to locate station New and to take one-minute cuts on the four dan buoys (Able, Baker, Charlie, and Dog), secondary station Bed, and prominent cultural features Garage and Pier, both of which had been marked with white paint by the reconnaissance party. Station New was occupied to give the third line of position to the buoys and to check its location by closing triangle CONEY-CANYON-New. Stations Bed and CANYON were not intervisible, so Bed had to be occupied to check its position by closing triangle New-CONEY-Bed and to give the third position line to Pier and Garage, neither of which was visible from CANYON.

Tripod signals of light lumber wired together and bearing flags were erected at CONEY, Bed and New for use from seaward. These three signals plus the painted marks at Pier and Garage and the four dan buoys were all plotted on the charts as soon as the shore party returned to the ship with their observed angles. Using a three arm protractor, the locations of dives already made were then plotted from the sextant angles observed from the small boats tending the divers. With the position of the dives known and the divers' information plotted, plans for the next day's diving could be formulated and finder angles determined to facilitate finding the proper locations for future dives.

In the second ~~xxxxx~~ area surveyed, there were no pre-existing

triangulation stations, and time precluded extending control into the area from the nearest ones. However, an accurate chart of the area was available, and three secondary signals were erected on prominent headlands and located merely by magnetic bearings and by judging their location by reference to the topography. Later fixes from seaward using these signals and prominent topographic features that were shown on the chart indicated that the positions of these three tripod signals were accurate within the requirements of the survey.



CANYON & CONEY are ~~recovered~~ USCGS △ stations.
Able, Baker, Charlie, & Dog ar flagged dan buoys.
New, ~~Pier~~, Bed, ~~Garage~~, & Coney are tripods.
Pier & Garage are marked w/ white paint.