

Santiago, 2nd. July 1941

Mr. H. D. Humpstone
West India Oil Co. Chile SAC

Dear Mr. Humpstone,

Following upon my inspection of the Ethyl Mixing Plant at San Antonio, I have the following recommendations and suggestions to make:-

EQUIPMENT: All the equipment which is now used is in good condition with the exception of the facepiece of one of the masks which should be replaced and the rubber aprons which are too flimsy.

TANKAGE: During the past five months the maximum number of six blends per month has been reached once and exceeded on one occasion. It would appear that if there is any increase in your aviation business, or if you have any emergency call for increased supplies, you will be unable to keep to the minimum of six blends per month. This is due to the fact that your two blending tanks are too small.

In order to overcome the above difficulty and to provide more flexibility in operations, I would recommend that one of the 5,900 bbl. tanks which are now used for storage of 74 Octane unleaded aviation gasoline, be used as a mixing tank in preference to the two small tanks of respectively 276 and 951 barrel capacity which are now in service. Since the base stock of all the different grades of aviation gasoline marketed in Chile is the same, I would further recommend that you blend all gasoline to 90 octane and that the other products, i.e. 80 Octane and 87 Octane be prepared by blending down the 90 Octane Gasoline by the addition of the necessary quantity of base stock. This operation can be effected as required in the two above mentioned small tanks which are now used for blending. One, or both of these two small tanks, can also be used for preparing the 90 Octane gasoline which you supply to Panagra and to which you have to add the Intava Oxidation Inhibitor.

I discussed the above suggestion with your Superintendent at San Antonio and the only objection which he had to make was that it might happen that the quantity of base stock imported in bulk would exceed the capacity of the other 5,900 bbl. tank, which would be reserved for the storage of the base stock. I think this objection can be overcome, as, should such an eventuality arise, the excess could be pumped into the 90 Octane gasoline in the other 5,900 bbl. tank and Ethyl Fluid could be added to bring the stock up to 90 Octane level. Care should be taken, if such an operation were carried out, to fill the 90 Octane gasoline tank first so that the water used to clear the lines would be pumped into the storage tank of the base stock and not into the 90 Octane gasoline tank.

The above suggestion, if adopted, would necessitate the following alterations at San Antonio:-

- 1) The lines leading from the two small blending tanks to the Mixing Plant would have to be disconnected.
- 2) Lines would have to be run from one of the 5,900 bbl. tanks to the Ethyl Plant.
- 3) Since the pump installed at the Ethyl Plant has not sufficient capacity to turn over the contents of a 5,900 bbl. tank one and one-half times within a reasonable period of time, it would be necessary to instal a low pressure

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4) The 5,900 bbl. tank to be used for blending would have to be provided with a swing line so that the discharge of gasoline would be made immediately below the level of gasoline in the tank.

The above suggestion would have the following advantages:-

a) Your blending operations would be reduced to a maximum of one to two a month, for the purpose of preparing 90 Octane gasoline. All other products would be prepared by transferring the required quantities of 90 Octane gasoline and base stock to the small tanks.

b) It would be possible for you to use 55 gals. drums of Ethyl Fluid containing 130,000 c.c. of Tetraethyl Lead instead of 10 gals. drums containing 20,000 c.c.

Since, generally speaking, freight on large drums is proportionally cheaper than that on small drums, this would result in a saving of freight. As a matter of interest a deposit of U.S.D. \$10.- per drum is also necessary irrespective of the size of the drum, so that for the amount of Fluid contained in a large drum a deposit of U.S.D. \$65.- is necessary if the importation is effected in small drums as against U.S.D. \$10.- for large drums.

c) You would be in a position to meet any increased demand for aviation gasoline whilst keeping within our regulations.

MEDICAL EXAMINATIONS:- I wish to confirm that before any change is made in the personnel working in the Ethyl Plant, I should be advised in order that I may arrange with our Doctor for any new man to be examined before he commences work in the Plant.

REPAIRS TO TANKS:- The question has arisen as to whether or not you may carry out repairs in blending tanks without prior reference to us. Such repairs may be carried out provided you observe the instructions contained in Section 5 on Page No 15 of the Blue Booklet of Regulations for Handling and Mixing Ethyl Fluid.

Yours very truly,

Charles L. Risso-Gill

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