

# Witco

## Lubricants Business Unit

Witco Corporation, 77 North Kendall Ave., Bradford, PA 16701 Telephone 814-368-6111

Mr. Paul Rosenbaum  
SWR Corporation  
127 E. Washtenaw  
Lansing, MI 48933

SUBJECT: Analysis of SWR One for Silicon Content per Dave Mahan

RE: NB 644, DMK, pg. 107-108

Dear Mr. Rosenbaum:

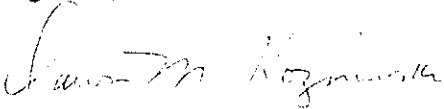
I received a sample of your product, SWR One, with your request to confirm that the material is suitable for refinery applications per Dave Mahan.

The only property analyzed by the Witco Lab was Silicon content. Analysis using ICP was performed on the sample which showed the material to contain a considerable amount of Silicon (107 ppm). The instrument is not calibrated for a detergent matrix such as the SWR One compound, however, ICP is a suitable analysis to determine qualitatively whether Silicon is in the material or not.

A sample of 0 ppm Si crude oil was mixed with SWR One, separated and washed with water. This step is similar to what theoretically would happen in a refinery desalter process. The crude oil was analyzed for Si content after the water wash and shown to contain 0 ppm Si.

Based only on the above laboratory analysis performed and the theory that any Si maintained in the crude from the use of SWR One would be removed at the desalter process at the Crude Unit, I feel that the use of SWR One as a crude oil yield enhancer would not pose any unnecessary problems to refinery operations.

Regards,



DAWN M. KOZMINSKI, Manager  
Analytical Services

DMK/em

c: Dave Mahan - OH Oil Gathering  
G. Cornelius  
J. R. Stewart