

Positive Indications for Hilcorp Offshore Cook Inlet Exploration Based on AHS VAS Analyses of 62 Legacy Cuttings Samples from 3 Offshore Cook Inlet Wells.

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20 December 2020

62 legacy cuttings samples from three, decades-old, offshore Cook Inlet wells were analyzed as an initial survey to document any cuttings oil and gas shows. Two of the wells, Falcon and Raven, have a small number of samples exhibiting significant cuttings oil and gas shows (Figures 1 and 2). The Cost well has no samples with significant cuttings oil shows (Figure 3). These initial survey data are encouraging for continued exploration of oil and gas resources in this offshore region of the Cook Inlet.

1) Evidence of Oil Migration in Falcon 1 OCS Y-0243

The most convincing evidence of significant cuttings oil shows is observed in 1 of the 62 samples, from 2250' in the Falcon well (Figure 1). 2 different cuttings samples were submitted for 2250', both show cuttings Total Oil greater than 30ppm for Sum All data. The stronger 2250' sample shows strong oil and gas indications in both Aliquots 1 (20 millibar extraction) and Aliquot 2 (2 millibar extraction). These data show strong oil and gas components throughout the entire C1-C10 region analyzed by VAS, for all hydrocarbon classes (paraffins, naphthenes, and aromatics), and in both analytical Aliquots. There is no doubt that this analytical data is correct, and that significant amounts of oil and gas occur in the 2250' samples from Falcon.

Also, in Falcon lesser but still significant indications of cuttings' oil and gas are seen in the 3 samples from 2790 to 3270'. And lesser but still above background oil and gas shows are found in 6 of the other cuttings samples.

Optimism for continued exploration for oil and gas in this area Offshore Cook Inlet is indicated by these two observations on the Falcon cuttings samples:

- 1) Significant cuttings oil show at 2250' and in the 3 samples from 2790 to 3270'. All these samples have greater than 30ppm Sum All Total Oil by Rock Volume. One sample from 2250' has a strong cuttings oil show.
- 2) Low but analyzable amounts of cuttings oil between 20 and 30ppm for at least 6 samples from 1110 to 4440'. Our analyses of these data indicate values in excess of 20ppm by rock volume of Sum All Total Oil are above the background for cuttings oil shows.

Dry holes in basins with significant oil and gas production often have these 2 attributes displayed in Falcon.

2) Evidence of Oil Migration in Raven 1 OCS Y-0097

Raven also shows significant amounts of cuttings oil and gas in the 1770' sample, the shallowest sample analyzed (Figure 2). Also, the sample at 2130' shows lesser but still an elevated cuttings oil show.

Optimism for continued exploration for oil and gas in this area Offshore Cook Inlet is indicated by this observation on the Raven cuttings samples:

- 1) Significant cuttings oil show at 1770' and lesser but still significant cuttings oil show in the sample from 2130'.

3) Recommendation for More Targeted VAS Analyses

This initial survey of 61 offshore Cook Inlet samples from 3 wells was a successful and excellent first pass to document any cuttings oil and gas shows. 5 samples in Falcon, and 2 samples in Raven show significant cuttings oil shows. One of the 2250' samples from Falcon shows a strong cuttings oil show.. Additionally, 6 more samples in Falcon show cuttings oil that are clearly above background levels. Therefore, 13 samples, more than 20% of the 61 samples submitted for analyses, show strong, significant or above background cuttings oil shows. These initial results prove the existence of a significant petroleum system operating in this offshore area of the Cook Inlet.

To better aid Hilcorp's Cook Inlet exploration we recommend analyses of as many cuttings samples as are available from Falcon. The best results would come from a continuous sampling of Falcon from the shallowest depths sampled on the well to TD at a density of 1 sample every 10', or more a frequent sampling density if cuttings for that are available. This detailed study of Falcon will provide the information required to provide a petroleum geohistory this offshore area in the Cook Inlet and provide recommendations as to possible exploration targets.

This strategy in our opinion will provide the best chance of using VAS to help locate oil and gas resources in this area. If additional wells are available, they should also be considered for analyses. Depending on the results from a more complete analyses of Falcon, additional work may be indicated for Raven and Cost using a denser sampling protocol.

Please let us know if you wish to discuss these results more, and if you have any other questions as to this study. We look forward to continued discussion on these data.





