

Advancements in large scale application of ultrasonic cleaning in removal of refinery fouling

Tom McCartney^{a,*}, Shawn Smith^b

^a Woodrising Resources Ltd.#2 321 37 Ave NE Calgary AB (* corresponding author tmccartney@paratene.com)

^b Tech Sonic Services LP 8308 Fraser Avenue Fort McMurray, AB Canada T9H 1X1

Ultrasonic Cleaning has been used in the past for the cleaning of sensitive surfaces and small to intermediate sized objects[1]. Advancements in Ultrasonic cleaning and cleaning chemistry have allowed the technique to be applied to larger and larger systems. The experiences developed over the past several years as well as the results of operation cleaning at major refinery shutdowns this spring are discussed. This is the first time large scale ultrasonic cleaning has been employed on refinery exchangers so the results will reveal the relative successes or failures compared to conventional water blasting treatments.



Figure 1 Test heat exchanger bundle prior to cleaning



Figure 2 Ultrasonic cleaning tank



Figure 3 Test exchanger after 6 hours immersion in ultrasonic tank.

References

- [1] Fuchs, F.John (1995) Precision Cleaning 95 proceeding, pp 334-346