



## Problem

Brand new #2 Diesel Fuel arriving in bulk loads via barge, rail, or tanker truck typically has high levels of particulate contamination. The problem of dirty diesel fuel is particularly noticeable in overseas markets, where the fuel is handled multiple times before it ever reaches the point of end use. The newer generation of large diesel engines all have very tight tolerances in the fuel injectors, and with much tighter onboard fuel filters that will otherwise plug prematurely, it is increasingly important to pre-filter the bulk diesel fuel to meet or exceed stringent OEM fuel cleanliness specifications.

In this Fuel Depot serving several large open pit mining operations, the #2 Diesel Fuel delivered by barge to their 3.2-million-gallon bulk tank ranges can be as high as ISO 24/23/18. By contract, they must deliver fuel to their customers which meets or exceeds an ISO 18/16/13 cleanliness level.

## Solution

This Fuel Depot installed a Duplex 2-Stage Fuel Filter Housing Assembly on their dispensing line from the 3.2-million-gallon bulk tank to the loading rack, where tanker trucks are filled with #2 Diesel Fuel at an 880 GPM flow rate. The first stage of filtration consists of 1-Micron nominally rated polyester felt bag filters, which are a very cost-effective way to pre-filter the fuel and remove most of the large contaminants. The second stage then consists of high efficiency 2.5 Micron pleated microglass filter elements rated Beta>1000 per ISO 16889, which “polish” the fuel and give outstanding single-pass particle count reduction.



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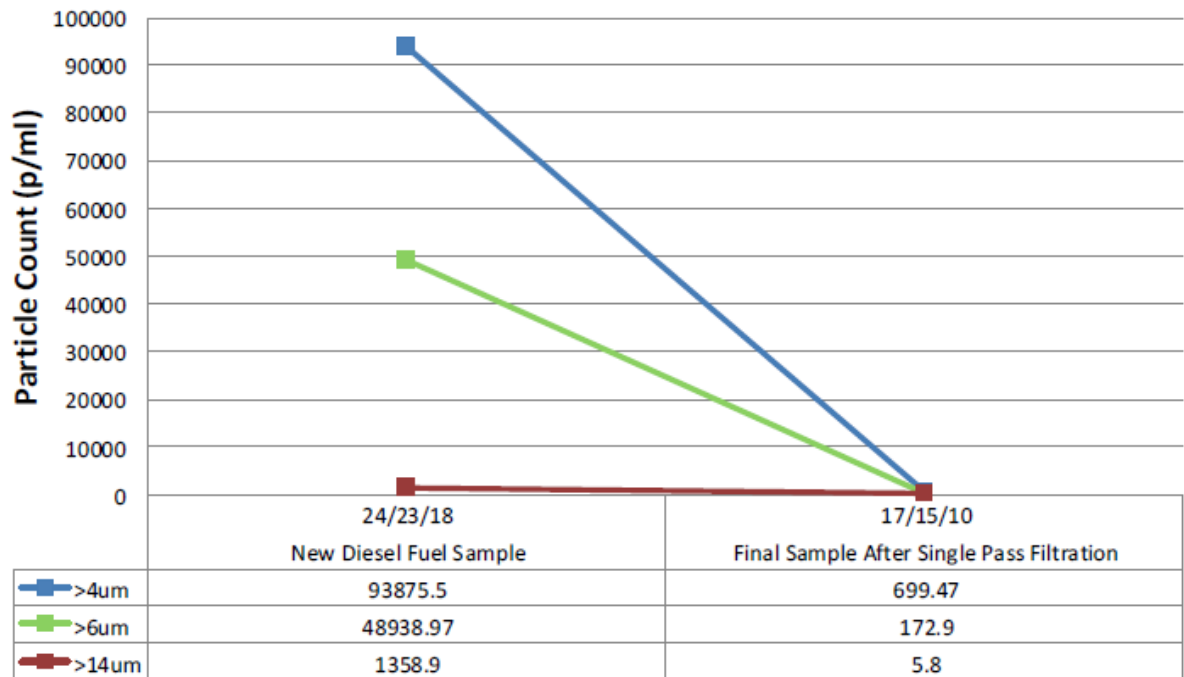


## Results

Samples taken from the 3.2-million-gallon Bulk Tank reveal particle counts as high as ISO 24/23/18.

Upon dispensing the fuel and loading the tankers through the 2-Stage Filter Housing Assembly, samples are pulled for every load, and they range from ISO 18/16/10 to ISO 17/15/10 after filtration.

### Load 11: Single Pass Filtration Results



Sample	Initial Sample	Load 7	Load 8	Load 9	Load 10	Load 11	Load 12
ISO Count	24/23/18	17/15/10	17/15/11	17/15/10	18/16/10	17/15/10	18/15/10
>4um	93875.5	1034.37	988.67	810	1391.77	699.47	1500.27
>6um	48938.97	271.33	262.1	212.6	368.43	172.9	309.97
>14um	1358.9	9.13	12.83	6.53	8.07	5.8	6
>21um	97.2	4.27	3.57	2.27	2.37	1.9	1.03
>38um	2.1	0.93	0.6	0.2	0.3	0.5	0
>68um	0	0	0	0	0	0.2	0

\*Shaded columns represented above in graph.

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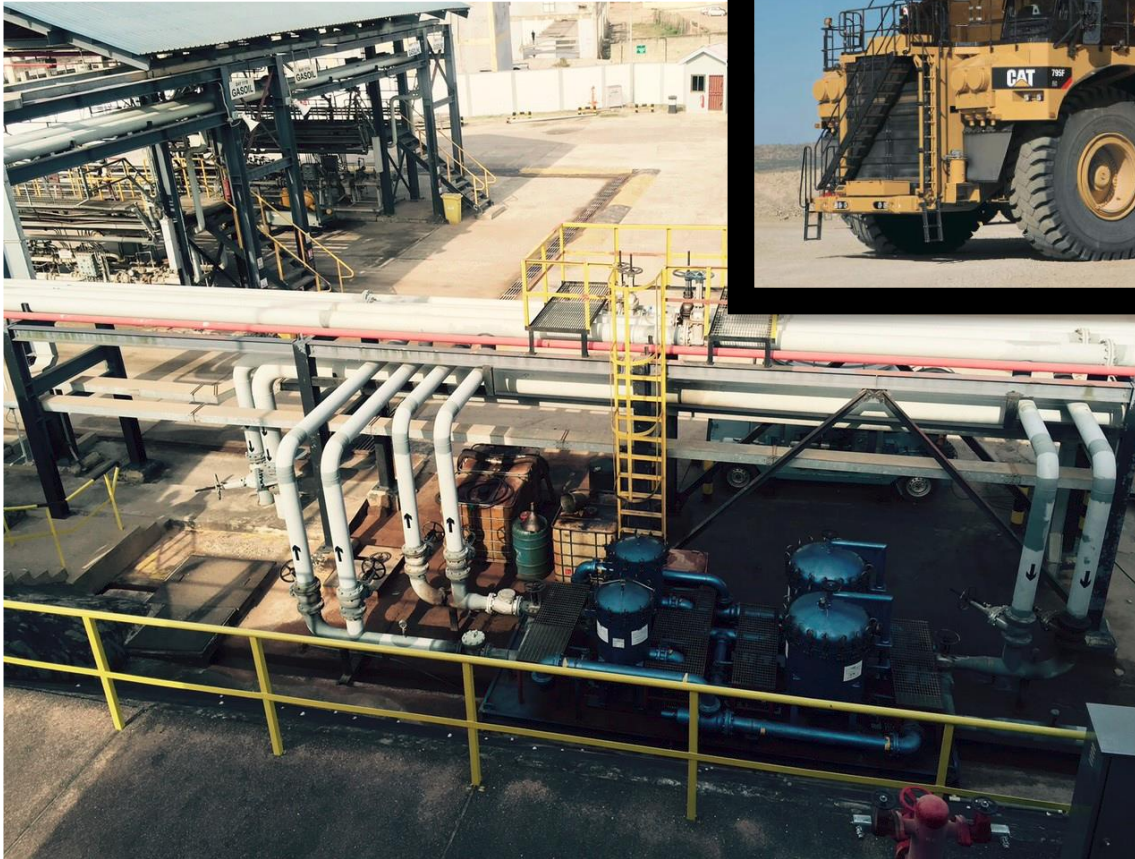
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## Conclusion

Even in the most difficult and demanding applications, Oil Filtration Systems® can help you meet or exceed stringent OEM fuel cleanliness specifications by properly sizing and configuring high efficiency filtration equipment.



Fuel Depot shown left with Duplex 2-Stage Fuel Filter Housing Assembly.

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