



customer benefit study

chevron marine lubricants | asia maritime pacific shanghai

FAST and DOT.FAST annual review highlights hidden savings

Dry bulk ship operator Asia Maritime Pacific identified new opportunities to help optimise operations across its fleet, using Chevron's annual oil analysis reports to spot long-term trends in lubricant performance and equipment condition.

Situation

Asia Maritime Pacific operates a fleet of bulk carriers. The company has worked closely with Chevron Marine Lubricants for several years and is a regular user of Chevron's FAST™ and DOT.FAST® oil analysis services.

Following the shift to using very low sulfur fuel oil (VLSFO) in 2020, some of Asia Maritime Pacific's vessels encountered abnormal main engine liner wear, accompanied by distinctive red deposits on piston crowns and top edges.

Monitoring for recurrence of the issue across multiple vessels would have been a complex and time-consuming task using individual oil analysis reports. To effectively monitor for this and other opportunities to improve their operations, Asia Maritime Pacific required a more long-term perspective offering a consolidated overview of the entire fleet, and covering not just the main engine but all lubricated onboard equipment.



The Solution

Chevron Marine Lubricants recommended FAST and DOT.FAST Annual Reviews, an added service for Chevron's oil analysis customers that compiles yearly information from multiple individual reports in an easy-to-read format. Visibility of historical analysis helps operators to spot opportunities to help optimise oil use and equipment condition.

Regular FAST and DOT.FAST oil analysis reports contain vital information about how a lubricant is performing in combination with the particular equipment with which the lubricant is being used. The equipment can range from winches, to compressor valves and main engines. When any of these fail, operators can incur losses that build up over the life of a vessel, as well as stoppages that can unnecessarily impact individual voyages.

For those responsible for managing multiple vessels — such as a fleet managers and superintendents — individual reports can be time consuming to analyse, potentially resulting in a delay to corrective action being taken to resolve issues. While isolated problems are easy to spot in single reports, it can be challenging to build a big picture of any issues evolving across the fleet.

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Michael Gu Xinjun, Fleet Manager,
Asia Maritime Pacific Shanghai



Chevron's FAST™ and DOT.FAST® Annual Review provides an overview of the condition of the lubricant and machinery involved. It also summarizes the overall severity of issues discovered during the analysis. Other elements of the reports include:

- ✓ Summary of fleet analysis condition
- ✓ Results by vessel, product and application
- ✓ Analysis of issues and identification of the root cause
- ✓ Recommendations
- ✓ Vessel management advice for improvement

Allied with close support from Chevron's Technical Specialists, the Annual Review is a valuable tool that can provide deeper insight on vessel, machinery and oil performance.

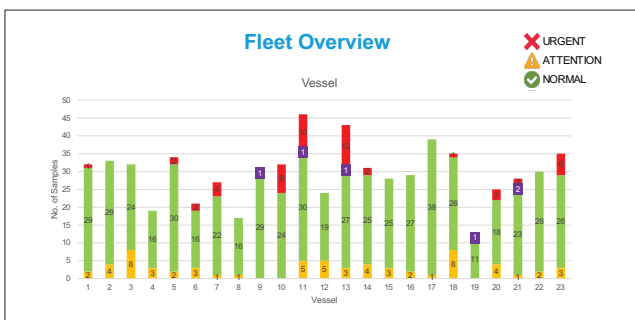
The Result

The benefits that Asia Maritime Pacific gained from the annual review go well beyond watching out for the recurrence of red deposits (although this issue was successfully avoided). Michael Gu Xinjun, Fleet Manager, Asia Maritime Pacific Shanghai, explained that the level of detail in the review — and the ability to compare across vessels and time periods — offered other opportunities for optimization.

First, the compilation of analysis reports means that Asia Maritime Pacific can spot potentially problematic trends before they turn into fully fledged problems. For example, marginally increasing wear on a specific piece of equipment could suggest that an early intervention is needed. The company is also able to use the reports to gain

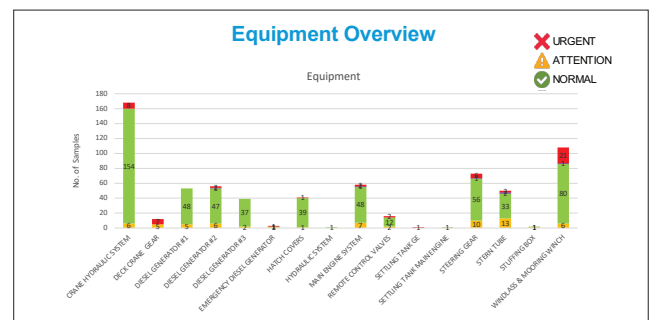
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Figure 1



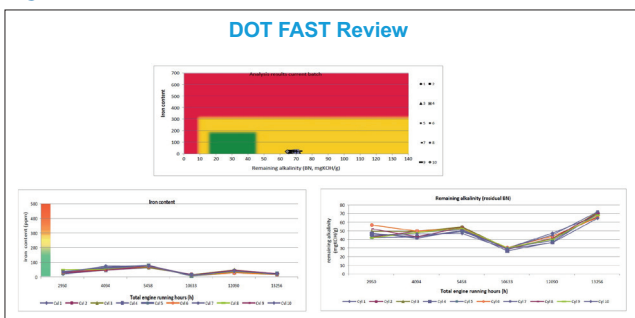
The number of samples received and the traffic light rating for each sample. The majority are green, suggesting the equipment is in good condition and being lubricated correctly. Blue indicates incomplete samples. Some vessels needed urgent attention, for example 11 and 13 may require further investigation.

Figure 2



This indicates the number of samples received across the fleet, with the blue line highlighting the equipment that has been tested the most. The traffic light system demonstrates the equipment that may merit further investigation.

Figure 3



The DOT.FAST drip oil analysis report provides insight into main engine wear and performance.

Figure 4

**Vessel 1
Analysis Results — Overview**

Component	Product	Sampling Interval	Attention/Urgent Reports	Date of Last Report	Last Report
DECK CRANE #1	RANDI HDZ 68	Every 12 months	0	9/3/2020	Normal
DECK CRANE #2	RANDI HDZ 68	Every 12 months	0	9/3/2020	Normal
DECK CRANE #3	RANDI HDZ 68	Every 12 months	0	9/3/2020	Normal
DECK CRANE #4	RANDI HDZ 68	Every 12 months	0	9/3/2020	Normal
DIESEL GENERATOR #1	TARCO 40 XL 40	Every 12 months	1	9/3/2020	Urgent
DIESEL GENERATOR #2	TARCO 40 XL 40	Every 12 months	0	9/3/2020	Normal
DIESEL GENERATOR #3	TARCO 40 XL 40	Every 12 months	0	9/3/2020	Normal
WINDLASS	RANDI HDZ 100	Every 12 months	0	9/3/2020	Normal
MAIN ENGINE BEFORE FINE FILTER	VERTAS 800 MARINE 30	Every 12 months	0	9/3/2020	Normal
MOORING WINCH	RANDI HDZ 100	Every 12 months	1	9/3/2020	Urgent
STEERING GEAR	RANDI HDZ 68	Every 12 months	0	9/3/2020	Normal
STEER TUBE	CLARITY SYNTHETIC HYDRAULIC OIL 100	Every 12 months	0	9/3/2020	Normal
WINDLASS	RANDI HDZ 100	Every 12 months	0	9/3/2020	Normal

Component	Product	Date Sampled	Condition	WATER CONT. %	KIN. VISCOSITY @40C cSt
DIESEL GENERATOR #1	TARCO 40 XL 40	9/3/2020	Urgent	0	216.79
MOORING WINCH	RANDI HDZ 100	9/3/2020	Urgent	2.71	99.5

Detailed FAST analyses for individual vessels reveal hidden issues and provide practical solutions.

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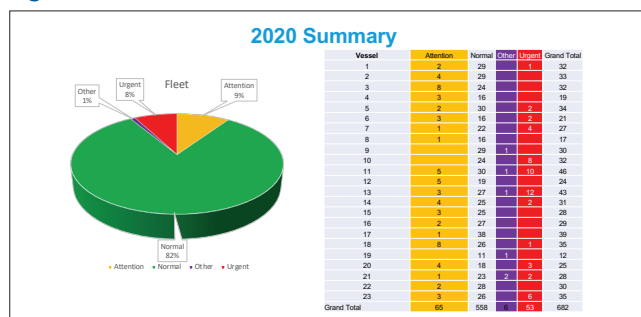
Michael Gu Xinjun, Fleet Manager, Asia Maritime Pacific Shanghai



insight into new practices, examining the performance of environmentally acceptable lubricants and particular stern tube systems, for example. Finally, the reviews provide an objective means of measuring performance so that the advantages of any changes in practice or equipment can be gauged accurately.

“By performing an annual review of the fleet oil analysis data we have found a real opportunity to reveal hidden issues,” says Michael Gu Xinjun. “The actions required are simple and often inexpensive to perform, while helping us to improve ship management reduces costs across the fleet.” ■

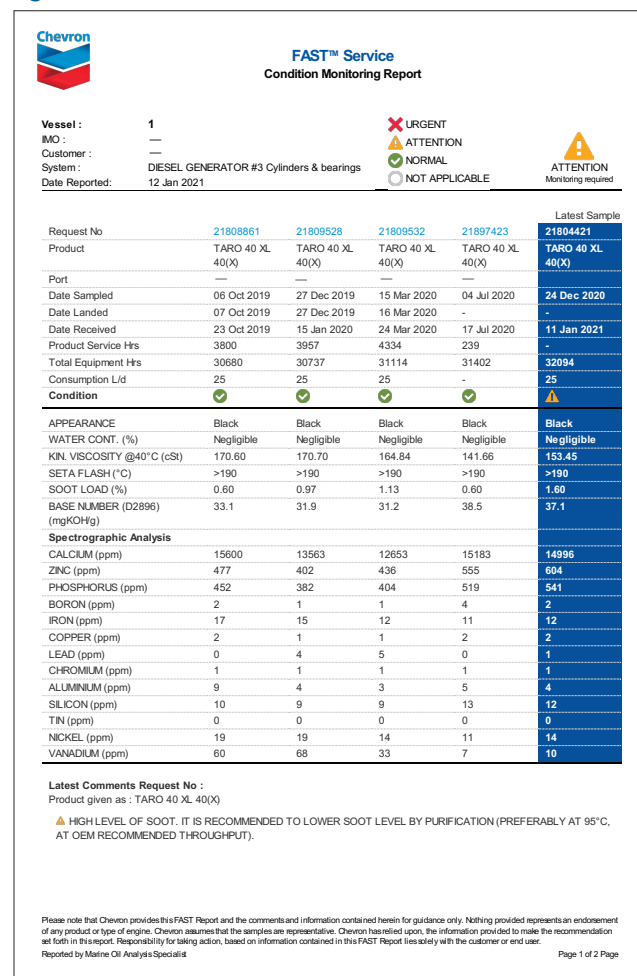
Figure 5



The annual fleet summary can reveal larger trends – both positive trends that could be reinforced, and negative trends which may warrant further investigation.

The FAST and DOT.FAST annual review is a valuable tool that can provide deeper insight on vessel, machinery and oil performance.

Figure 6



The FAST Service Condition Monitoring Report provides comprehensive laboratory analysis of important equipment indicators, enabling intervention before breakdown can occur.