CASE STUDY

CUSTOMER
OCEAN EDGE SERVICES

LOCATION
HOUSTON, TX USA / OCT 2014 - FEB 2015

EQUIPMENT
HPU ON SUBSEA WELL POD

APPLICATION
WATER BASED GLYCOL HYDRAULIC FLUID

ROI

$

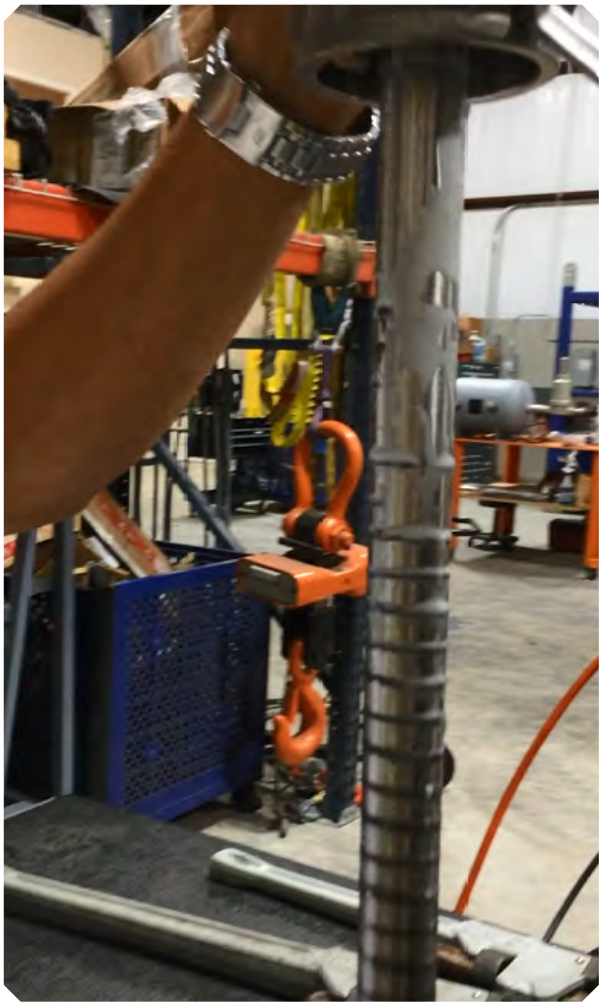
PREVENTED MILLIONS IN POD REPAIRS

> *"This is probably one of the best filtration technologies I've ever seen. The fact that I don't have to buy any more traditional filters is going to greatly improve my profit margins"*
>
> **- Chili Santiago Gomez, President**

CHALLENGE

Traditional filtration was allowing wear contamination under 4 microns to degrade the water-based-glycol hydraulic fluid that is used to operate Ocean Edge's subsea HPU. This contamination damages the DC valves which have 1 micron tolerances. In these systems, if any contamination is present, the effects can cost millions of dollars to resurface the pods for repairs.

A cleanliness level of NAS 6 (ISO 18/16/13) is the standard for subsea control systems. When conducting fluid treatment, traditional filtration takes 10 to 12 hours to achieve a NAS 6 and that still leaves the system vulnerable to valve failure.



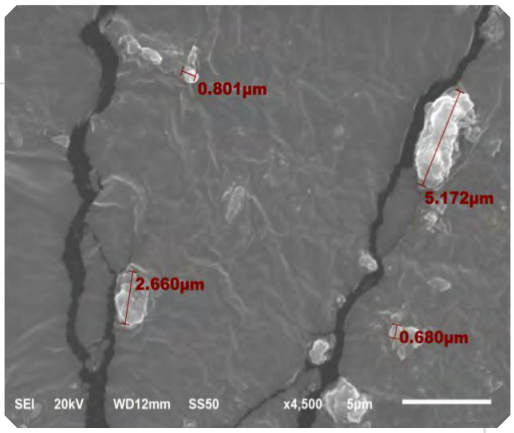
SOLUTION

Install an OEI magnetic filter element on the flush units to remove the ferrous and non-ferrous contamination down to and below 4 microns.

RESULTS

After a 4 hour cleaning interval, the magnetic filter element filtered the glycol to a NAS 3 for contaminants 5 microns and higher. Analysis of the contamination trapped on the magnetic filters identified that both ferrous and non-ferrous contamination were captured down to and below 1 micron. The hydraulic fluid was left cleaner than ever previously recorded, the cleaning cycles were reduced by 2/3^{rds}, and the HPU reliability was improved significantly.

During this test the particles removed from the magnetic filters consisted of 79.4% non-ferrous and 20.6% ferrous contamination. If left in the stream, wear contamination like this can cost up to $3.4 million in POD replairs.



Quantitative Results for: VB3345(3)

Element Line	Net Counts	Weight %	Atom %
C K	25402	42.89	69.27
O K	15583	8.37	10.15
Mg K	340	0.24	0.19
Al K	521	0.37	0.27
Si K	7987	5.58	3.85
Cl K	5067	3.80	2.08
K K	657	0.52	0.26
Ca K	7070	5.66	2.74
Ti K	465	0.45	0.18
Cr K	2712	3.04	1.13
Mn K	183	0.23	0.08
Fe K	17851	23.67	8.22
Ni K	524	0.84	0.28
Cu K	1101	2.07	0.63
Zn K	1073	2.28	0.68
Total		100.00	100.00