



**Visual Seal Analysis # 400**

Thursday, April 29, 2004

1.375" 585-2 (200I22A-01AA8S)  
316SS, CA/SC, Aflas

Received 4/22/04  
Originally Shipped 3/8/00

**Observations:**

The assembly cams were not in place to secure the seal during shipping. There was a heavy dark brown crusty film built up on both the inboard and outboard side of the seal.

Stationary Face (Carbon) was moderately worn from abrasives between the seal faces. There were thin slivers of hard product between the faces which were polished on both sides, indicating that they were between the face while the seal was in service. There was a heavy build up of hard product around the ID and OD of the face and holder. There was about .005" of axial wear on the drive lugs, likely from product flashing. The dynamic o-ring was severely compression set, but did not appear to have failed.

Inboard Rotary Face (Silicon Carbide) wear track was concentric but was mildly grooved and radial scored from abrasives between the seal faces. There was a build up of very hard product around the ID of the face. The o-ring was severely compression set, but did not appear to have failed.

Sleeve appeared to be good. There was a heavy build up of the same hardened product around the OD of the sleeve. There was no ID or OD scoring. The shaft o-ring was severely compression set, but did not appear to have failed.

**Conclusion:**

Failure was a result of heavy abrasive in the process liquid. The stationary face drive lug wear and compression set o-rings indicate periods of high temperatures, most likely generated by the seal faces due to periods of insufficient lubrication resulting from marginal dry run conditions.