



111, 4808 - 87 Street, Edmonton, Alberta T6E 5W3  
Phone: (780) 469-2401 Fax: (780) 468-2422

Report No: 0263

<b>Client</b>	Harvest Operations Corporation	<b>Inspection Date</b>	Jun 14, 2006		
<b>Prov. Reg. #</b>	AB 3055474	<b>Inspection Type</b>	VE / VI		
<b>Equipment Type</b>	FWKO	<b>LSD</b>	AB 12-15-040-08W4		
<b>Tag/Equip.</b>	V-130	<b>Location</b>	Amisk		
<b>Status</b>	In Service	<b>Area</b>	Hardisty East		
<b>Manufacturer</b>	PROCESS INDUSTRIES INC.	<b>Year Built</b>	1994		
<b>Serial Number</b>	94-C2883-3000	<b>Service</b>	Sour		
<b>CRN #</b>	M6442.2	<b>Manway</b>	None		
<b>Comp/Unit Id</b>		<b>Coating</b>	No		
<b>Nat.Board #</b>		<b>Owned By</b>	Harvest Operations Corp.		
<b>Interim Insp'n</b>		<b>Interim Type</b>			
<b>Next Inspection</b>	2008	<b>Next Insp Type</b>	INSTALLATION		
<b>Length</b>	480 in	<b>Height</b>			
<b>Volume</b>		<b>RT</b>	1	<b>HT</b>	No
<b>Job No.</b>	06-169	<b>Client Reference</b>			
<b>Foreman</b>	Darren Olofson				
<b>ABSA</b>	<b>Plant:</b> H <b>Vessel:</b> K <b>Process:</b> W <b>Special:</b> B			<b>ASME</b>	Sec. VIII div. 1
<b>History Log</b>	AB-10 submitted April 6, 2009 - Vessel owned by Harvest				

<b>Component</b>	Vessel Shell				
<b>MAWP</b>	100.0 PSI @ 140 °F		<b>MDMT</b>	-20 °F @ 100.0 PSI	
<b>Material</b>	SA-516-70		<b>Material Thickness</b>	0.375 in	
<b>Diameter</b>	144 in		<b>Length</b>		
<b>Corrosion Allowance</b>	0 in				



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<b>Valve Tag No</b>	PSV130	<b>Relief Type</b>	Pressure Safety Valve
<b>Manufacturer</b>	Farris	<b>Set Pressure</b>	100 PSI
<b>Serial Number</b>	CE40565A14	<b>Capacity</b>	3186 USGPM
<b>Model</b>	26GA10L12056SP	<b>Last Service</b>	Jun 14, 2006
<b>CRN</b>	OG2369.5C	<b>Next Service</b>	2008
<b>Service Co.</b>	Bee Gee Valve	<b>Service Interval</b>	24 Months
<b>Service Co. Tag</b>		<b>Inlet Size</b>	6 in
<b>ASME Stamp</b>	UV	<b>Outlet Size</b>	8 in
<b>NB Stamp</b>	YES	<b>Connection</b>	Flanged
<b>Relief Dest.</b>	To Close Drain Header	<b>Valve Loc.</b>	On Piping
<b>Comments</b>			

<b>Component</b>	Heads of Vessel		
<b>Material</b>	SA-516-70	<b>Material Thickness</b>	0.43 in
<b>Corrosion Allowance</b>	0 in		

**General Observations****External**

PSV was removed for service by Bee Gee. The vessel was opened and cleaned for inspection. The west half of the shell was located inside a building, the rest of the vessel was outside the building. The shell inside the building was painted. The paint had a few small scratches and product runs around the instrumentation piping. The attached gauges were in good condition. Attached piping was painted a designated color for the service. The piping appeared to be in good condition and securely attached to the vessel and the piping supports. The bottom shell water drain nozzles have been replaced and stainless steel SA182 316L elbows have been attached using an isolation kit. No indication of cracking or corrosion on nozzles or elbows. The studs used to connect the stainless elbow should be one size longer as there are no threads protruding and the stud is just flush on both ends. The shell and head outside the building were insulated and clad. Some damage to the north head above the manway was observed. Two anode nozzles were on the east side of the shell. The anode wires were secure. The manway on the east side of the shell was not opened. The vessel is welded onto a steel saddle with a stitch welded pedestal that is bolted securely to a steel skid.

**Internal**

The north manway has some previous repairs. Four of these repairs have chipped to the base steel. The internals are 100% coated and the coating is generally in good condition. The north head was in good condition. 3 ladder bars were mounted below the manway and one bar was mounted above. The bars were secure and in good condition. The oil gas interface was at approximately the eight foot level. The oil water interface appeared to be at the two foot level. A stainless inlet box was mounted to the top of the shell below the inlet nozzle. The box and nuts appeared to be in good condition. The north level line nozzles were plugged with product and could not be assessed. A skim line nozzle flange was very short bolted. The first four baffles have been removed. A second skim line has fallen from the nozzles and mounting brackets. Some coating damage has resulted below the nozzle. The fifth baffle remained. Significant corrosion damage has occurred to the baffle platelets. The right hand mid spacer on the bottom section has pulled from position. The attaching bracket has corrosion on the bottom right and left space. Some corrosion to the bottom of the platelets on the middle and top rows of the baffles as well. The desand lines appear to be stainless - not magnetic. These lines have been connected to the shell nozzles without an isolation kit, using stainless bolts and nuts. The desand piping is connected to the shell brackets using stainless u-brackets. The nozzle bolts, u-brackets and carbon steel connection points are secure and in good condition. The desand lines have a moderate scale on them but no indications of corrosion or visible cracking. The coating was in good condition throughout with only two visible locations of damage located below the south anode. The anodes were 100% consumed including the carbon steel holding rod. The wood rolling blocks are seized.

South End - internal piping is 8 and 10 inch diameter stainless steel piping. Flanged connections are double nutted with stainless bolts and nuts. The oil box was securely welded to the shell and the coating was in good condition. The shell and head coating was in good condition. The manway nozzle was in good condition. One ladder bar was welded above the manway. The bar was coated and in good condition. The oil box manway plate was stainless steel and the attachment bolts and nuts were secure and in good condition. The baffle was securely bolted to the shell attachment brackets.

**Recommendations**

1. Repair coating damage.
2. Replace/repair loose bolting on skim lines.
3. Repair cladding damage on north end.
4. Replace anodes every two years.
5. Installation of rubber gasket material between the desand line and the carbon steel bracket would prevent galvanic corrosion from developing.



RAE Engineering and Inspection Ltd.

## Field Inspection Report

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Trevor Paananen  
IBPV INSPECTOR  
BSA Certificate # 167

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**Inspector:** Trevor Paananen