



PRESSURE VESSEL DATA:

COMPANY: BP CANADA ENERGY COMPANY LOCATION BP CHINCHAGA GAS PLANT

FACILITY: _____ LSD: 01-24-096-05W6M

VESSEL NAME: DE-ETHANIZER REBOILER(NIS)

FACILITY VESSEL IDENTIFICATION: _____ MAINTENANCE NO. (Maximo): _____

IS VESSEL ASSOCIATED WITH A COMPRESSOR? Yes No

ORIENTATION: Horizontal Vertical Sphere

SEPARATOR TYPE (if applicable): 2 Phase 3 Phase N/A

STATUS: In Service

DIRECT FIRED VESSEL: Yes No MANWAY: _____

THERMAL INSULATION: _____ Internal Access Through: _____

NAME PLATE:

JURISDICTION NUMBER : A0144872 CRN NUMBER: D3460.2

BP TAG NUMBER: E-1404 N. BOARD NUMBER: _____

VESSEL SERIAL NUMBER: 790830 CAPACITY (Volume): _____ NS

DRAWING NUMBER: _____ NS CHANNEL MATERIAL: _____ in. NS N/A

CHANNEL THICKNESS: _____ in. NS N/A HEAT TREATMENT: _____

CODE PARAMETERS: U, UW, UM NS JOINT EFFICIENCY (J.E.): _____ NS

MANUFACTURER: EXCHANGER SALES YEAR BUILT: 1979

INSULATION / COATING

DESCRIPTION	INTERNAL COATING			EXTERNAL COATING			INSULATION			
	COATED?	THK	TYPE	DATE	COATED?	THK	TYPE	DATE	INSULATED?	DENSITY
	N				N				N	

SHELL STATIC

SHELL	MATERIAL	H.T.	NOMINAL	DIAMETER	LENGTH	C.A.	RT LEVEL
SHELL SIDE 1	SA-106B	Y	0.601 in.	in / mm	in / mm	0.0620 in.	SPOT

HEAD STATIC

HEAD	MATERIAL	H.T.	NOMINAL	DIAMETER	C.A.	RT LEVEL
SHELL SIDE 1	SA-106B, SA-516-70, SA-53B, SA-516-70N, SA-515-70, Other	Y	in / mm	in / mm	0.0620 in.	SPOT

DESIGN / OPERATING

DESIGN DESCRIPTION	DESIGN PRESS.	DESIGN TEMP.	OPERATING PRESS.	OPERATING TEMP.	SERVICE
SHELL SIDE 1	510 PSI	°F / °C	PSI / KPa	350 °F	
TUBE SIDE 1	385 PSI	°F / °C	PSI / KPa	675 °F	



PSV NAME PLATE DATA:

	PSV. 1	PSV. 2	PSV. 3	PSV. 4
Tag Number:				
Serial Number:	CE-38164-A10	CE-41825-A10		
Inlet Size - (Rating/Type):	1.5 in RF	3.0 in RF		
Outlet Size - (Rating/Type):	2.5 in RF	4.0 in RF		
Capacity (SCFM) Or	3998 SCFM	9304 SCFM		
Model Number:	26GA12-120	26KA12-120		
Manufacturer:	FARRIS	FARRIS		
Set Pressure:	400 PSI	250 PSI		
Set Date:				
Location:				
CRN:				
Service Interval:				
Service Company:				

POTENTIAL DAMAGE TYPE AND LOCATION:

Fabrication Defects: Thinning (general, localized and pitting): Shell, heads and nozzles. Blistering: Possible at the liquid/gas interface. High Stress Areas: Subject to under deposit corrosion, water composition around nozzles, tee joints, attachment and closing welds.

POTENTIAL DAMAGE MECHANISMS:

Fabrication Defects: Nothing Unusual Expected
Corrosion: Produced Water, Microbiological, Oxygen, Chlorides, CUI, Cooling Water, Water Vapor, Atmospheric, Crevice/under deposit, Boiler water/condensate, Suspended Solids, Solvent, pH, Velocity, Galvanic Glycol (oxygen).
Hydrogen Effects: Blistering, Stress corrosion cracking
Mechanical Effects: Erosion (thinning), Cavitation (thinning), Sliding wear (thinning), Fatigue (surface connected cracking, subsurface cracking), Corrosion Fatigue (surface connected cracking), Thermal fatigue (surface connected cracking), Overload (dimensional changes, thinning), Brittle fracture (metallurgical changes, thinning), Vibration (surface connected cracking)
Metallurgical & environmental Effects: N/A

PREVIOUS INSPECTION REPORTS:

INTERNAL CONDITION:EXTERNAL SHELL CONDITION:- THE ACCESSIBLE EXTERNAL SURFACE OF THIS BOILER WAS NOTED IN GOOD CONDITION. THE EXTERNAL CLADDING WAS NOTED IN GOOD CONDITION. THERE WAS NO SIGN OF CORROSION., INSULATION CONDITION:- THE INSULATION WAS NOTED TO BE IN GOOD CONDITION., FLANGE CONDITION:- THE NPT CONNECTIONS WERE NOTED IN GOOD CONDITION. NO EVIDENCE OF EXTERNAL CORROSION. THE NPT, BOLTING AND GASKETS WERE IN PLACE AND APPEARED TO BE TIGHT. ALL COMPONENTS WERE INTACT AND SHOWED NO SIGNS OF, EXTERNAL PIPING CONDITION:- THE PIPING WAS PAINTED. THE PAINT WAS NOTED IN GOOD CONDITION, NO EVIDENCE OF EXTERNAL CORROSION. THE ASSOCIATED BOLTING AND GASKETS WERE IN PLACE AND APPEARED TO BE TIGHT. THE ASSOCIATED WELDS WERE, PIPE SUPPORT CONDITION:- THE PIPE SUPPORTS WERE NOTED IN GOOD CONDITION., INSTRUMENTATION:- NOT APPLICABLE, FIRE TUBE & STACK:- THE FIRE TUBE AND STACK WERE NOTED IN GOOD CONDITION WITH NO SIGNS OF CORROSION., DEMISTER CONDITION:- NOT APPLICABLE, FOUNDATION CONDITION:- THE BOILER IS SECURELY BOLTED DOWN. THE BASE WAS NOTED IN GOOD CONDITION. THE VESSEL STRUCTURE IS ON PILES., NDE / CORROSION SURVEY STATUS:- UNKNOWN,

INSPECTION METHODS:

(Shell Side): UT: Pre-turnaround survey of all TML's identified on the UT drawings. Also thickness readings in areas of corrosion. VISUAL: Total exchanger and associated piping. DIMENSIONAL MEASUREMENTS: If blistering, buckling or deformation found. RT, UT, SWUT, MT, VISUAL, METALLURGY, DIMENSIONAL MEASUREMENTS (include percentage). (Tube Side): UT: Pre-turnaround survey of all TML's identified on the UT drawings. Also thickness readings in areas of corrosion. VISUAL: Total exchanger and associated piping. DIMENSIONAL MEASUREMENTS: If blistering, buckling or deformation found. RT, UT, SWUT, MT, VISUAL, EDDY CURRENT, METALLURGY, DIMENSIONAL MEASUREMENTS (include percentage).



INSPECTION NOTES:

2005:
INTERNAL:
THE INTERNAL SURFACE WAS NOT EVALUATED DURING THE VISUAL INSPECTION.
PSV:
THE SEALS ON THE PSV ARE INTACT.
THE DISCHARGE PIPING IS PROPERLY VENTED TO THE FLARE.

EXTERNAL:
SHELL CONDITION:
THE EXTERNAL SURFACE OF THIS EXCHANGER IS IN GOOD MECHANICAL CONDITION WITH NO EVIDENCE OF CORROSION.
THE COATING IS IN GOOD CONDITION WITH NO EVIDENCE OF FAILURE.
INSULATION CONDITION:
THE VESSEL CLADDING AND INSULATION ARE IN GOOD CONDITION.
FLANGE CONDITION:
ALL ASSOCIATED FLANGES AND BOLTING ARE INTACT AND SHOW NO EVIDENCE OF MECHANICAL DAMAGE, DETERIORATION, VISIBLE CRACKING, PROCESS LEAKS OR CORROSION.
THE FLANGES AND NPT CONNECTIONS ARE IN GOOD MECHANICAL CONDITION WITH NO EVIDENCE OF MEASURABLE CORROSION.
PIPING CONDITION:
THE PIPING IS BOLTED.
THE PIPING IS IN GOOD MECHANICAL CONDITION WITH NO MEASURABLE CORROSION.
THE ASSOCIATED PRESSURE WELDS ARE INTACT AND SHOW NO SIGNS OF DETERIORATION OR VISIBLE CRACKING.
PIPE SUPPORT CONDITION:
THE ASSOCIATED PIPE SUPPORTS ARE IN GOOD MECHANICAL CONDITION WITH NO EVIDENCE OF ANY MECHANICAL DAMAGE OR DEGRADATION.
BOLTED PIPE FLANGE CONNECTIONS:
THE ASSOCIATED PIPING FLANGE BOLTING AND GASKETS ARE IN PLACE AND TIGHT.
THE BOLTS ARE THE CORRECT LENGTH AND DIAMETER.
FOUNDATION CONDITION:
THE BOILER IS SECURELY BOLTED DOWN.
THE BASE IS IN GOOD CONDITION.
THE VESSEL STRUCTURE IS ON PILES.

RECOMMENDED INSPECTION INTERVALS:

Next UT Creep Wave:	_____	Years:	_____
Next UT Corrosion Survey:	_____	Years:	_____
Next Internal Inspection:	09/26/2009	Years:	6 YEARS
Next External Inspection:	05/10/2005	Years:	5 YEARS
Next PSV Service:	PSV ID:	Bench Test Due:	
	SN CE-38164-A10	04/25/2011	
	SN CE41825-A10	04/25/2011	