BP CANADA ENERGY COMPANY

Pressure Equipment Inspection Report

PRESSURE VESSEL DATA:

COMPANY:	BP CANADA ENERGY COMPANY	LOCATION	BP CHINCHAGA GAS PLANT
FACILITY:		LSD:	01-24-096-05W6M
VESSEL NAME:	DE-ETHANIZER REBOILER		
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 :	A0179816	CRN NUMBER:	E5734.2
BP TAG NUMBER:	E-315	N. BOARD NUMBER:	
VESSEL SERIAL NUMBER:	821164	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 INDUSTRIES	YEAR BUILT:	1982

INSULATION / COATING

	INTERNAL COATING				EXTERNAL COATING				INSULATION	
DESCRIPTION	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-51670	N	0.625 in.	in / mm	in / mm	0.0620 in.	NONE

HEAD STATIC

HEAD	MATERIAL	H.T.	NOMINAL	DIAMETER	C.A.	RT LEVEL
SHELL SIDE 1	SA-51670	N	0.562 in.	in / mm	0.0620 in.	NONE

DESIGN / OPERATING

DESIGN DESCRIPTION	DESIGN PRESS.	DESIGN TEMP.	OPERATING PRESS.	OPERATING TEMP.	SERVICE
SHELL SIDE 1	500 PSI	°F / °C	PSI / KPa	500 °F	
TUBE SIDE 1	150 PSI	°F / °C	PSI / KPa	500 °F	

PSV NAME PLATE DATA:

	PSV. 1	PSV. 2	PSV. 3	PSV. 4
Tag Number:				
Serial Number:				
Inlet Size - (Rating/Type):				
Outlet Size - (Rating/Type):				
Capacity (SCFM) Or				
Model Number:				
Manufacturer:	Consolidated - Mercer - Crosby - Farris - Kensington - Taylor - Kunkle - Baird - Hydro Seal - Anderson - Greenwood			
Set Pressure:	PSI KPa			
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:

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.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:
PSV'S WERE OUT FOR SERVICING.
2005 - EXTERNAL:
SHELL CONDITION:
ALL WELDS ARE INTACT AND THERE WERE NO SIGNS OF DETERIORATION OR VISIBLE CRACKING.
INSULATED CHANNEL EXPOSED (RUSTED).
INSULATION CONDITION:
THE INSULATION IS IN GOOD CONDITION.
FLANGE CONDITION:
THE NOZZLE ASSEMBLIES ARE PAINTED.
THE PAINT ON THE NOZZLES IS IN POOR CONDITION, NO SIGNS OF CORROSION.
THE ASSOCIATED BOLTING AND GASKETS ARE IN PLACE AND TIGHT.
ALL WELDS ARE INTACT AND SHOW NO SIGNS OF DETERIORATION OR VISIBLE CRACKING.
PIPING CONDITION:
INSULATED.
THE ASSOCIATED BOLTING AND GASKETS ARE IN PLACE AND IN GOOD CONDITION.
ALL ASSOCIATED WELDS ARE INTACT AND SHOW NO SIGNS OF DETERIORATION OR VISIBLE CRACKING.
PIPE SUPPORT CONDITION:
THE PIPE SUPPORTS ARE IN GOOD CONDITION.
INSTRUMENTATION:
THE ASSOCIATED INSTRUMENTATION IS IN GOOD WORKING CONDITION.
TEMPERATURE GAUGES ONLY.
FOUNDATION CONDITION:
THE VESSEL IS SECURELY BOLTED DOWN.
THE SADDLES ARE RESTING ON 4 PILES AND ARE IN GOOD CONDITION.
THE VESSEL IS PROPERLY GROUNDED AT THE SKIRT.

RECOMMENDED INSPECTION INTERVALS:

Next UT Creep Wave:		**Years:**	
Next UT Corrosion Survey:		**Years:**	
Next Internal Inspection:	05/12/2006	**Years:**	6 YEARS
Next External Inspection:	05/11/2005	**Years:**	5 YEARS
Next PSV Service:	**PSV ID:**	**Bench Test Due:**	