

V-610

**DISCHARGE OIL TRAP / COALESCER**

Quality Control Documentation



AUTHORIZED INSPECTOR TO BE GIVEN TRAVEL SHEET PRIOR TO CONSTRUCTION  
SO THAT HE CAN INDICATE HOLD POINTS. HOLD POINTS ESTABLISHED

(A) NUMBER

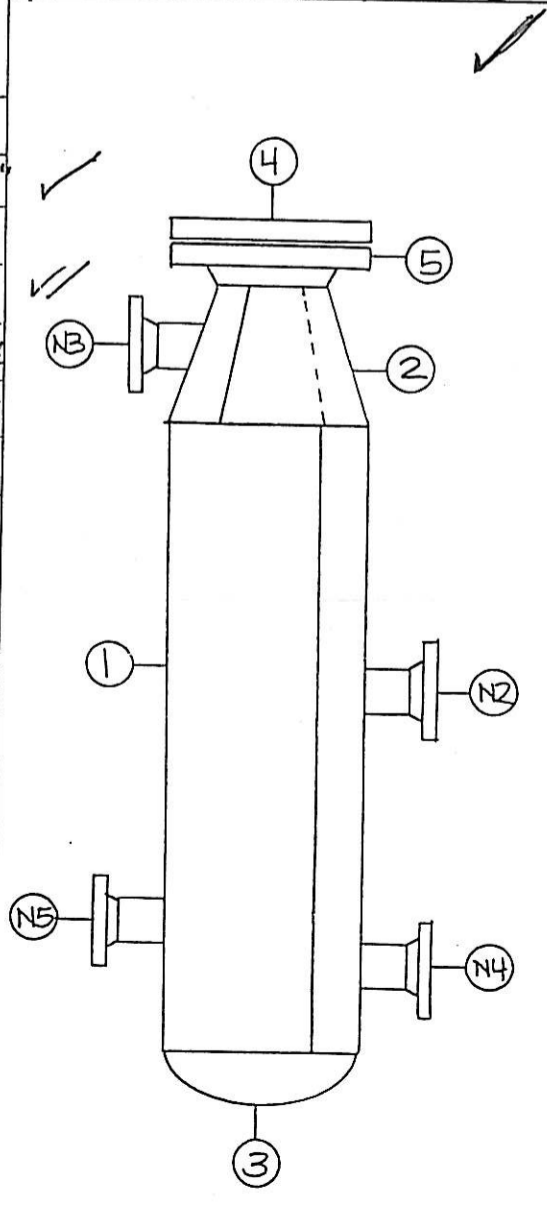
*LH 97-12-19*

VESSEL TITLE		SERIAL NUMBER	TAG NO.	A.I. HOLD POINTS	C.R. NUMBER	JOB CODE
30" ODX 7'-6" S/S DISCHARGE OILTRAP/COALESCER		#1617	V-610		DATE, FUNCTION COMPLETED AND INSPECTORS INITIALS	CTC
NO.	FUNCTION	COMMENTS		T. D. E.	AUTHORIZED INSPECTOR	
1	APPROVED DRAWINGS			Dec 16, 97	RH 98-3-23	
2	MAT. CHECKED AGAINST DWG.			Dec 16, 97	RH 98-1-26	
3	MILL TEST CHECKED			Dec 16, 97	RH 98-3-23	
4	IMPACT TESTS			-		
5	VESSEL LAYOUT			98.01.08		
6	FIT UP	SHELL & HEADS		98.01.15		
7		NOZZL'S & FITTINGS		98.01.14		
8	INTERNAL INSPECTION	<i>Partial LH 98-1-15</i>		98.01.15	RH 98-1-15	
9	WELD SIZE	<i>partial LH 98-1-14</i>		98.01.25		
10	WELDERS I.D.			98.01.25		
11	RADIOGRAPHS	LG=FULL CS=SPOT		98.01.25	RH 98-1-26	
12	OTHER N.D.E.			98.01.25	RH 98-1-21	
13	RELEASE FOR P.W.H.T.	NONE		-		
14	P.W.H.T. CHART CHECKED			-		
15	EXTERNAL INSPECTION			98.01.25	RH 98-1-26	
16	HYDROSTATIC TEST	390 PSIG.		98.01.25	RH 98-1-26	
17	HYDRO GAUGES	T4-122/123		98.01.25	RH 98-1-26	
18	DATA REPORT			98.03.23	RH 98-3-23	
19	NAME PLATES			98.03.23	RH 98-3-23	

RT-PROGRESS

*XL-1 XS-1  
XL-2*

PART	SPECIFICATION	HEAT NO.	THK.
SHELL ✓	SA 516-70N	24692-051892-1	0.375"
CONE ✓	SA 516-70N	36710	0.375"
HEAD ✓	SA 516-70N	033237-810602-2	0.345"
BLD-FLG ✓	SA 105	BLIND	12"-150#
FLANGE ✓	SA 105	RFWN	12"-150#
NOZZLES	N2 SA 106 B	4793 E	4" SCH 80
	N3 SA 106 B	4793 E	4" SCH 80
	N4 SA 106 B	9621 W	3" SCH 80
	N5 SA 106 B	4793 E	4" SCH 80





MANUFACTURED AND CERTIFIED BY  
**THERMO DESIGN**  
**ENGINEERING LTD.**

EDMONTON ALBERTA CANADA

UNIT NAME		TAG NUMBER	
DISCHARGE OIL TRAP / COIL / PIPE		V-610	
CR. NUMBER	SERIAL NUMBER	Ⓐ NUMBER	
N-8389-21	1017	A	
M.A.W.P.	AT TEMP.	M.D.M.T.	AT PRESSURE
260 PSI	200	-	260 PSI
YEAR BUILT	CORR. ALL.	DRAWING NUMBER	
1998	0.0625	0097-0850-204	
DIAMETER	LENGTH	CAPACITY	WEIGHT
30 IN OD	7'-6 3/8	41 CU FT	2100 LBS
SHELL MATL.	HEAD MATL.	TBSHT. MATL.	COIL MATL.
SA-516-70N	SA-106-N SA-516-70N		
SHELL THK.	HEAD MIN. THK.	TBSHT. THK.	COIL THK.
0.375 IN	0.50 BLK 0.375 IN		

CTC

W  
RT-2

MANUFACTURED AND CERTIFIED BY  
**TDE**  
THERMO DESIGN  
ENGINEERING LTD.  
EDMONTON ALBERTA CANADA

UNIT NAME TAG NUMBER  
DISCHARGE OIL TRAP/COALESCER V-610

CR. NUMBER SERIAL NUMBER (A) NUMBER  
N-8389.21 # 1617

M.A.W.P. AT TEMP. M.D.M.T. AT PRESSURE  
260 PSIG 200°F -20°F 260 PSIG

YEAR BUILT CORR. ALL DRAWING NUMBER  
1998 0.0625 IN 9097-0850-204

DIAMETER LENGTH CAPACITY WEIGHT  
30 IN OD 7-6 S/S 41 CU FT 2100 LBS

SHELL MATL. HEAD MATL. TBSHT. MATL. COIL MATL.  
SA-516-70N SA-105N  
SA-516-70N

SHELL THK. HEAD MIN. THK. TBSHT. THK. COIL THK.  
0.375 IN 150# BLD. FLG  
0.345 IN





TO: THERMO DESIGN ENGINEERING LTD  
 BOX 5557 STATION L  
 EDMONTON ALTA  
 T6C 4E9

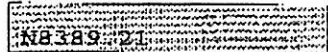
Account # 19971

Date: 98/03/12  
 Journal # 18736

Attn: JOHN HARGREAVES  
 Re: THERMO DESIGN ENGINEERING LTD

DESIGN REGISTRATION

C.R.N.



Drawings / Documents	Description		
DISCHG OIL TRAP/COALSCR 9097-0850-204 REV 1	MDMT	MAWT	MAWP
	----	----	----
Vessel	-20 F	200 F	260 psi
Htg coil	-20 F	350 F	150 psi
Code of Compliance: ASME Sec VIII Div 1, 95 Ed., A96.			

**REGISTERED**

Remarks: This design has been registered as noted above. An invoice for survey will follow in the amount of \$ 225.00

CRN issued in accordance with the ACI Policies on Reciprocal Recognition of Design Review for Registration. Alberta issued CRN N8389.2 on Sept. 5, 1997 for Dwg. # 9037-0220-205 Rev 2 which has same design conditions as above Dwg. # 9097-0850-204 Rev 1.

cb  
 Encl:  
 cc:

Yours truly,

R. TUAZON  
 Design Surveyor

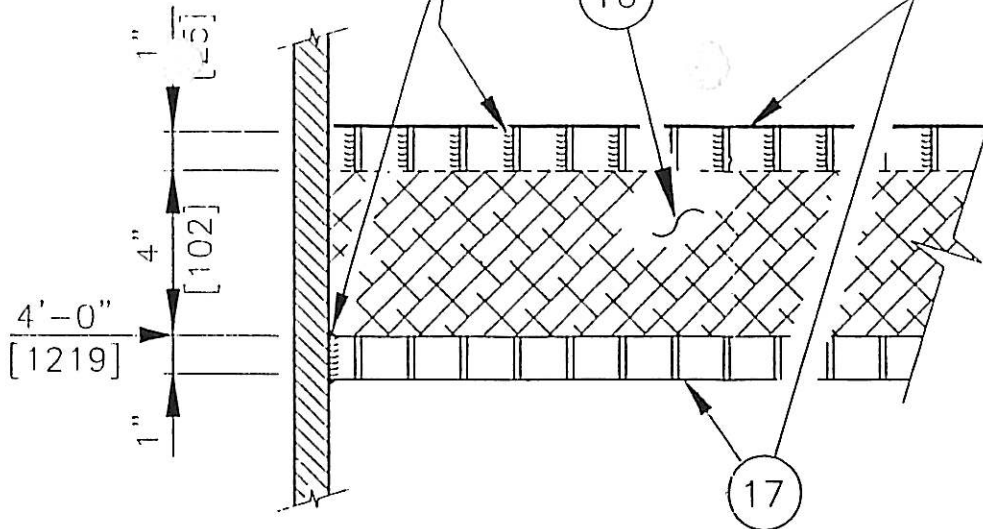
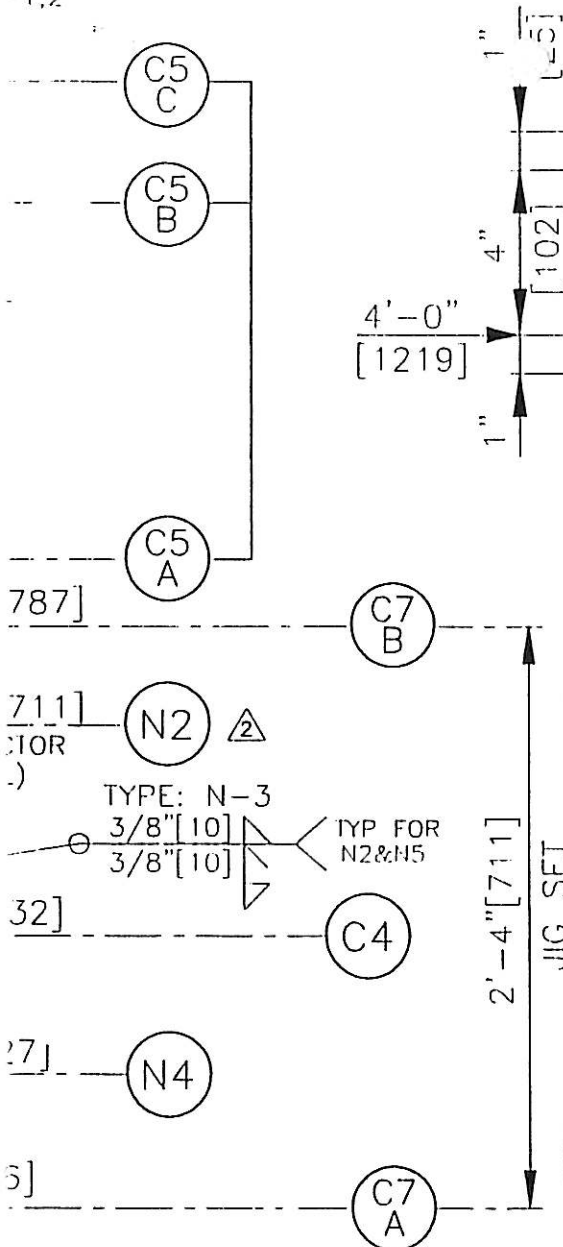
Ministry of  
 Municipal Affairs  
 and Housing

Boiler and Elevator  
 Safety Branch

3rd Floor  
 750 Pacific Boulevard South - Unit 300  
 Vancouver BC V6B 6E7

Telephone: (604) 660-6254  
 Facsimile: (604) 775-2345

TYP.



**MIST EXTRACTOR DET.**  
N.T.S.

ALBERTA BOILERS SAFETY ASSOCIATION  
PROVINCE OF ALBERTA  
SAFETY CODES ACT

REG. No. **N-8389.2**

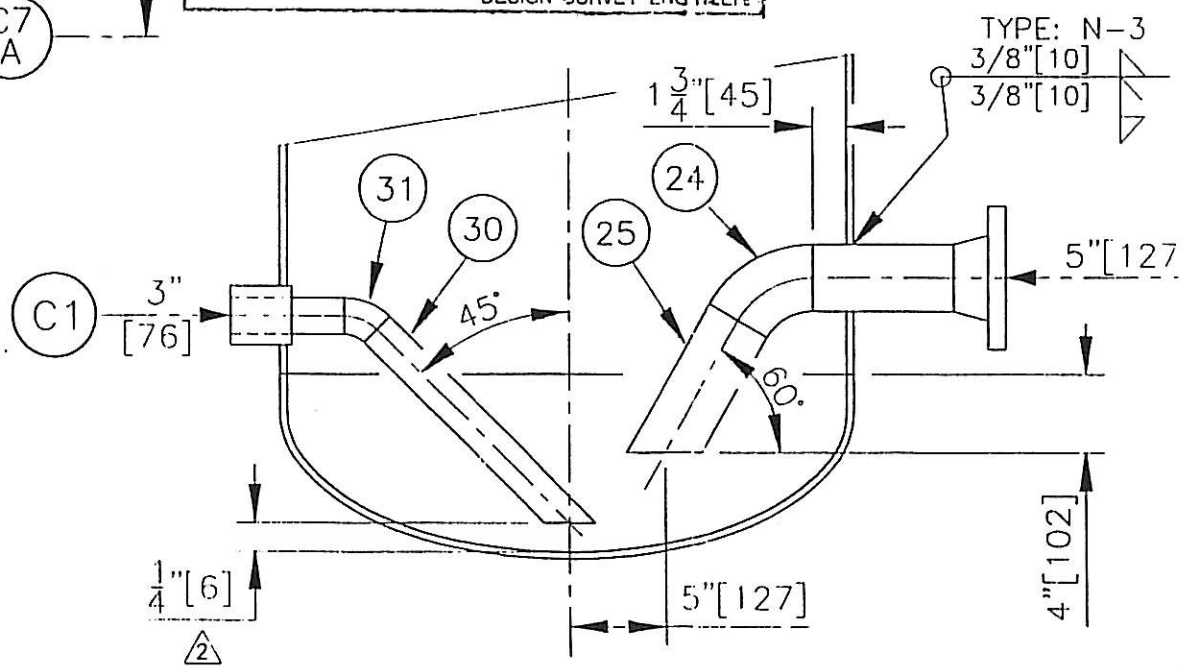
DWG. No. **9037-0220-205 Rev 2 AS NOTED**

	Design Press kPa	Design Temp. °C
RESER.	1793	-29/9.3
HEATING COIL	1034	-29/177

ACCEPTED  
SEP 05 1997  
Date Signed *[Signature]*  
DJORDJE STANIC  
DESIGN SURVEY ENGINEER

NOTE:  
BILL OF MATERIAL ITC  
SHALL BE JOINED WITH FG  
PENETRATION BUT WELD  
Sep. 05, 1997  
*[Signature]*

1] ØVENT HOLES  
APART  
ES



**OIL OUTLET/DRAIN DET.**  
1:10



TAQA NORTH DATA					
EQUIP NO.: 603VS011		RAMS ID TAG NO.: NEW		PRN: N/A	
PLANT/FIELD: CHINCHAGA GAS PLANT			LSD: C-032-H / 094-H-08		LOCATION: GAS PLANT
EQUIP. NAME : DISCHARGE OIL TRAP/COALESCER			CLASS : VS		TYPE: COALESCER
SERVICE: <input checked="" type="checkbox"/> Sweet <input type="checkbox"/> Sour		H2S: N/A PPM		FLUID: OIL	
OPERATING PRESSURE: 965 <input checked="" type="checkbox"/> kPa <input type="checkbox"/> PSI		S/D REQT.: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Partial			
OPERATING TEMPERATURE: N/A <input type="checkbox"/> °C <input type="checkbox"/> °F		OPERATING STATUS: <input checked="" type="checkbox"/> IN SERVICE <input type="checkbox"/> Not In Service			
M/WAY(16"AND ABOVE): <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		SIZE: 16"			

MANUFACTURING DATA					
MFG.: THERMO ENG.		DWG. NO.: 90970850204		SERIAL NO.: 1617	
YR. BUILT: 1998		STAMP: U,W			
CRN: N8389.21		CODE/DIV.: ASME VIII DIV 1		PARA.: N/A	
SUPPORT: <input checked="" type="checkbox"/> Skirt <input type="checkbox"/> Saddles <input type="checkbox"/> Nozzles <input type="checkbox"/> N/A					
MAWP: 1793 <input checked="" type="checkbox"/> kPa <input type="checkbox"/> PSI		@ TEMP: 93 <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F		MDMT: -29 <input checked="" type="checkbox"/> °C <input type="checkbox"/> °F	
VOLUME: 41 <input type="checkbox"/> M <sup>3</sup> <input checked="" type="checkbox"/> FT <sup>3</sup>					
FLANGE RATING: 150		PWHT: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		RADIOGRAPHY: <input type="checkbox"/> RT1 <input checked="" type="checkbox"/> RT2 <input type="checkbox"/> RT3 <input type="checkbox"/> RT4 <input type="checkbox"/> Spot <input type="checkbox"/> Full <input type="checkbox"/> N/A	
SIZE : 762 <input checked="" type="checkbox"/> mm. <input type="checkbox"/> inch. <input type="checkbox"/> ID <input checked="" type="checkbox"/> OD		LENGTH: N/A <input type="checkbox"/> mm. <input type="checkbox"/> inch.		HEIGHT: 2286 <input checked="" type="checkbox"/> mm. <input type="checkbox"/> inch.	
INSULATION TYPE: <input type="checkbox"/> Fiberglass <input type="checkbox"/> Wool <input type="checkbox"/> Low Temp <input type="checkbox"/> Asbestos Other: NONE		INSULATION THK: N/A <input type="checkbox"/> mm. <input type="checkbox"/> inch.			
SECTION	MATERIAL	NOMINAL mm	C.A. mm		
SHELL	SA-516-70N	9.5 MM	1.6 MM		
TOP HEAD	SA-105-N	8.8 MM	1.6 MM		
BOTTOM HEAD	SA-516-70N	8.8 MM	1.6 MM		
COMMENTS:					

TUBING DATA					
MAWP: N/A <input type="checkbox"/> kPa <input type="checkbox"/> PSI		@ TEMP: N/A <input type="checkbox"/> °C <input type="checkbox"/> °F		TEMA CLASS: N/A	
TYPE: N/A					
TUBE SIZE: N/A mm. <input type="checkbox"/> ID <input type="checkbox"/> OD		NUMBER (QTY OF TUBES): N/A		GAUGE (BWG): N/A	
JOINT: <input type="checkbox"/> Welded <input type="checkbox"/> Rolled					
SECTION	MATERIAL	NOMINAL mm	C.A. mm		
N/A	N/A	N/A	N/A		
N/A	N/A	N/A	N/A		
N/A	N/A	N/A	N/A		

TRAY/PACKING DATA			
TRAY TYPE: N/A		NUMBER (# OF TRAYS): N/A	
PACKING TYPE: N/A			
MATERIAL: N/A		MANUFACTURER: N/A	

COATING/LINING/CLADDING DATA			
AREA	TYPE	MATERIAL	YR. APPLIED
EXTERNAL:	EPOXY	N/A	N/A
INTERNAL:	N/A	N/A	N/A
LINING:	N/A	N/A	N/A
CLADDING:	N/A	N/A	N/A

PRESSURE RELIEF DEVICES DATA					
			<input type="checkbox"/> PSV not located		<input type="checkbox"/> No PSV
EQUIP. NO.	TAG NO.	SET	CAPACITY	CAP UNITS/OTHER	
603SVVS011	N/A	1793 <input checked="" type="checkbox"/> kPa <input type="checkbox"/> PSI	3451	<input checked="" type="checkbox"/> SCFM <input type="checkbox"/> LB/hr. <input type="checkbox"/> GAL/min.	
N/A	N/A	N/A <input type="checkbox"/> kPa <input type="checkbox"/> PSI	N/A	<input type="checkbox"/> SCFM <input type="checkbox"/> LB/hr. <input type="checkbox"/> GAL/min.	
N/A	N/A	N/A <input type="checkbox"/> kPa <input type="checkbox"/> PSI	N/A	<input type="checkbox"/> SCFM <input type="checkbox"/> LB/hr. <input type="checkbox"/> GAL/min.	

**FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS**  
 (Alternative Form for Single Chamber, Completely Shop-Fabricated Vessels Only)  
 As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

Manufactured and certified by THERMO DESIGN ENGINEERING LTD., 1624 - 70 AVENUE, EDMONTON, ALBERTA CANADA T6P 1P5  
(Name and address of manufacturer)

Manufactured for Chauvco Res. Ltd. c/o Tartan Eng. Ltd., 1700, 800 - 6th Avenue S.W., Calgary, AB T2P 3G3  
(Name and address of purchaser)

Location of installation Chinchaga Gas Plant, British Columbia, LSD: C-32-H/94-H-8  
(Name and address)

Type Vertical #1617 N-8389.21 9097-0850-204/Rev.1 1998  
(Horiz. or vert. tank) (Mfg's serial No.) (CRN) (Drawing no.) (Nat'l Bd. No.) (Year built)

The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1 1995  
Year

to 1996  
Addenda (Date)

Shell: SA-516-70N 0.375" 0.0625" 29.25/12"ID 7'-6"S/S  
Mat'l. (Spec. No., Grade) Nom. Thk. (in.) Corr. Allow. (in.) Diam. I.D. (ft. & in.) Length (overall) (ft. & in.)

Seams: Dbl"V" Full 100 N/A N/A Sgl"V" CS:Spot 2  
Long. (Welded, Dbl., Sngl., Lap, Butt) R.T. (Spot or Full) Eff. (%) H.T. Temp (F) Time (hr) Girth (welded, Dbl., Sngl., Lap, Butt) R.T. (Spot, Partial, or Full) No. of Courses

Heads: (a) Matl. SA-105N (b) Matl. SA-516-70N  
(Spec No., Grade) (Spec No., Grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Top			12"Dia. -	150#Bld.	Flg.				
(b)	Bottom	0.345"	0.0625"			2:1				Concave

If removable, bolts used (describe other fastenings) Top: SA-193-B7, 7/8" Diameter, (12)  
(Matl., Spec. No., Gr., Size, No.)

9. MAWP 260 psi at max. temp. 200 ° F  
 Min. design metal temp. -20 ° F at 260 psi. Hydro., pneu., or comb. test pressure 390 psi.

10. Nozzles, inspection and safety valve openings:

Purpose (Inlet, Outlet, Drain)	No.	Diam. or Size	Type	Mat'l.	Nom. Thk.	Reinforcement Mat'l.	How Attached	Location
N2	1	4"	RFWN	SA-106-B	150#Sch.80	N/A	UW-16.1(c)	Shell
N3	1	4"	RFWN	SA-106-B	150#Sch.80	N/A	UW-16.1(c)	Cone
N4	1	3"	RFWN	SA-106-B	150#Sch.80	N/A	UW-16.1(c)	Shell
N5	1	4"	RFWN	SA-106-B	150#Sch.80	N/A	UW-16.1(c)	Shell

11. Supports: Skirt Yes Lugs (No.) Legs (No.) Other (Describe) Attached (Where and how) Welded (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of this report:

(Name of part, item number, Mfg's name and identifying stamp)

30"OD x 7'-6" S/S, Discharge Oil Trap / Coalescer "V-610"

Capacity: 41 Cu Ft.

Impact Test: Exempt Per UG-20 (F) See Attached U-4 Form

**CERTIFICATE OF SHOP COMPLIANCE**

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1. "U" Certificate of Authorization No. 22,145 expires August 22, 19 99.

Date 28-03-23 Co. Name THERMO DESIGN ENGINEERING LTD. Signed Billhara  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP INSPECTION**

Vessel constructed by THERMO DESIGN ENGINEERING LTD. at EDMONTON, ALBERTA CANADA T6P 1P5

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of AB and employed by Alberta Boilers' Safety Association in Edmonton have inspected the component described in this Manufacturer's Data Report on March 23, 19 98, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

D. 28-3-23 Signed L. Hajia Commissions 39R  
(Authorized Inspector) (Nat'l Board (incl. endorsements) State, Prov. and No.)



**FORM U-4 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET**  
 As Required by the provisions of the ASME Code Rules, Section II, Division 1

CTC, PG. 2 OF 2

Manufactured and certified by THERMO DESIGN ENGINEERING LTD., 1624 - 70 AVENUE, EDMONTON, ALBERTA CANADA T6P 1P5

(Name and address of Manufacturer)

Manufactured for Chauvco Res. Ltd. c/o Tartan Eng. Ltd., 1700, 800 - 6th Avenue S.W., Calgary, AB T2P 3G3

(Name and address of Purchaser)

Location of Installation Chinchaga Gas Plant, British Columbia, LSD: C-32-H/94-H-8

(Name and address)

Type: Vertical

(Horiz., vert., or sphere)

Trap / Coalescer

(Tank separator, heat exh., etc)

#1617

(Mfg's serial No.)

N-8389.21

(CRN)

9097-0850-204/Rev.1

(Drawing No.)

(Nat'l. Bd. No.)

1998

(Year built)

Data Report Item Number	Remarks								
L0 - Nozzles	C1	1	1 1/2"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell
	C2A/B	2	3/4"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell
	C3	1	1 1/2"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell
	C4	1	3/4"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell
	C5A-C	3	1"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell
	C6A/B	2	1/2"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell
	C7A/B	2	3/4"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell
	C8	1	3/4"	CPLG	SA-105	6000#	N/A	UW-16.1(c)	Shell

L2 - Remarks

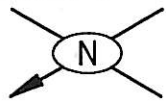
Registered Drawing No.: 9037-0220-205/Rev.2 For Alberta Registration  
9097-0850-204/Rev.1 For B.C. Registration

PSV: On Piping

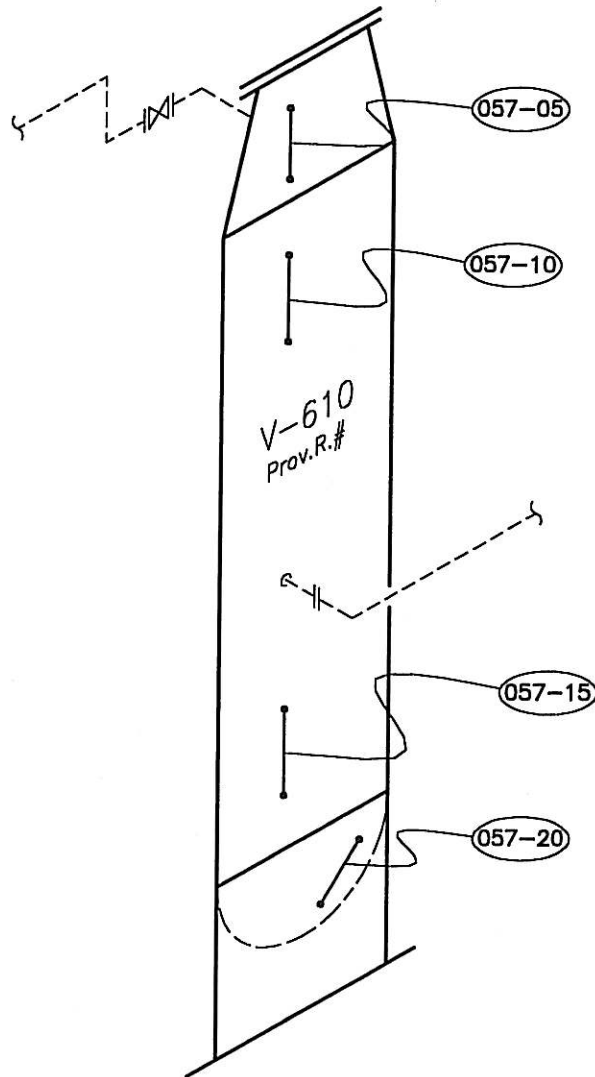
Certificate of Authorization: Type U No. 22,145 Expires August 22, 19 99

Date 98.03.23 Name THERMO DESIGN ENGINEERING LTD. Signed Billson  
(Manufacturer) (Representative)

Da. 18.3.23 Name L. Hajas Commission 39R.  
(Authorized Inspector) (Nat'l Board (incl. endorsements) State, Province and No.)



P&ID. # \_\_\_\_\_  
REF. # \_\_\_\_\_



### VESSEL DATA

P.E. No. V-610 Serial No. 1617 Prov. Reg. No. A C.R.N. NB389.21  
MFR. THERMO DESIGN Code/Div. \_\_\_\_\_ Para \_\_\_\_\_ Code Stamp U  
Yr. Bld. 1998 Yr. Inst. \_\_\_\_\_ Size 30"Ø x 7'6" Service \_\_\_\_\_ PWHT \_\_\_\_\_  
RT RT-2 Insulated NO

### Nominal Thickness & Material

Head: 150# FLG. Mat'l: SA 105 N C.A.: .06251"  
Head: .345" (8.8mm) SA 516 70N  
Shell: .375" (9.5mm) SA 516 70N  
Shell: \_\_\_\_\_  
Chan Hd: \_\_\_\_\_  
Chan Sh: \_\_\_\_\_  
Boot Hd: \_\_\_\_\_  
Boot Sh: \_\_\_\_\_

Repairs \_\_\_\_\_  
Reason \_\_\_\_\_  
Reason \_\_\_\_\_

PIONEER NATURAL RESOURCES CANADA INC.  
CHINCHAGA GAS PLANT  
LSD C-32-H / 94-H-8

### DISCHARGE OIL TRAP / COALESSER

MAWP Shell Side 260PSI @ Temp. -20/200°F  
MAWP Tube Side \_\_\_\_\_ @ Temp. \_\_\_\_\_

COMMENTS: \_\_\_\_\_

TECH.: J.O.	REV.DATE:	DWG DATE: 99/08
CAD: WO	REVISION:	DRAWING: 057



**PIONEER NATURAL RESOURCES CANADA INC.  
CHINCHAGA GAS PLANT**

**RIVEST TESTING INC.**

Item Desc.: C-32-H/94-H-8 / DISCHARGE OIL TRAP / COALESCER

Equip. No.: V-610

Ser. No.: 1617

Prov. Reg.: N/A

Pt.Desc.: TRANS.SHELL

Point No.: **057-05**

Nominal: 9.500

Mths. Rem. To Min. Nom:

Good For Continued Service: YES

Corr. Allowance: 1.600

Min. Cal. Wall Thk.:

Additional Assessment Of Data: YES

Min. Nominal: 7.900

Suggested Max Insp. Interval In Mths.: 12

Survey Dates:

1999-12

Data Readings	1	10.000	____.____
	2	9.900	____.____
	3	9.900	____.____
	4	9.900	____.____
	5	9.900	____.____
	6	9.800	____.____

Data Evaluation

Lowest Reading : 9.800

Average - Low 3 : 9.867

Thk.Remaining Above Min. : 1.900

Indv. Short Term Rate (mm/yr) :

Short Term Rate (mm/yr) :

LongTerm Rate (mm/yr) :

Pt.Desc.: TOP SHELL

Point No.: **057-10**

Nominal: 9.500

Mths. Rem. To Min. Nom:

Good For Continued Service: YES

Corr. Allowance: 1.600

Min. Cal. Wall Thk.:

Additional Assessment Of Data: YES

Min. Nominal: 7.900

Suggested Max Insp. Interval In Mths.: 12

Survey Dates:

1999-12

Data Readings	1	10.000	____.____
	2	9.900	____.____
	3	9.900	____.____
	4	10.000	____.____
	5	10.000	____.____
	6	9.900	____.____

Data Evaluation

Lowest Reading : 9.900

Average - Low 3 : 9.900

Thk.Remaining Above Min. : 2.000

Indv. Short Term Rate (mm/yr) :

Short Term Rate (mm/yr) :

LongTerm Rate (mm/yr) :

**PIONEER NATURAL RESOURCES CANADA INC.  
CHINCHAGA GAS PLANT**

**RIVEST TESTING INC.**

Item Desc.:	C-32-H/94-H-8 / DISCHARGE OIL TRAP / COALESCER		
Equip. No.:	V-610	Ser. No.:	1617
		Prov. Reg.:	N/A

Pt.Desc.: BTM.SHELL

Point No.: **057-15**

Nominal:	9.500	Mths. Rem. To Min. Nom:	Good For Continued Service:	YES
Corr. Allowance:	1.600	Min. Cal. Wall Thk.:	Additional Assessment Of Data:	YES
Min. Nominal:	7.900		Suggested Max Insp. Interval In Mths.:	12

Survey Dates: 1999-12

Data Readings	1	9.800	____.____
	2	9.800	____.____
	3	9.700	____.____
	4	9.800	____.____
	5	9.700	____.____
	6	9.700	____.____

Data Evaluation

Lowest Reading	:	9.700
Average - Low 3	:	9.700
Thk.Remaining Above Min.	:	1.800
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	

Pt.Desc.: BTM.HEAD

Point No.: **057-20**

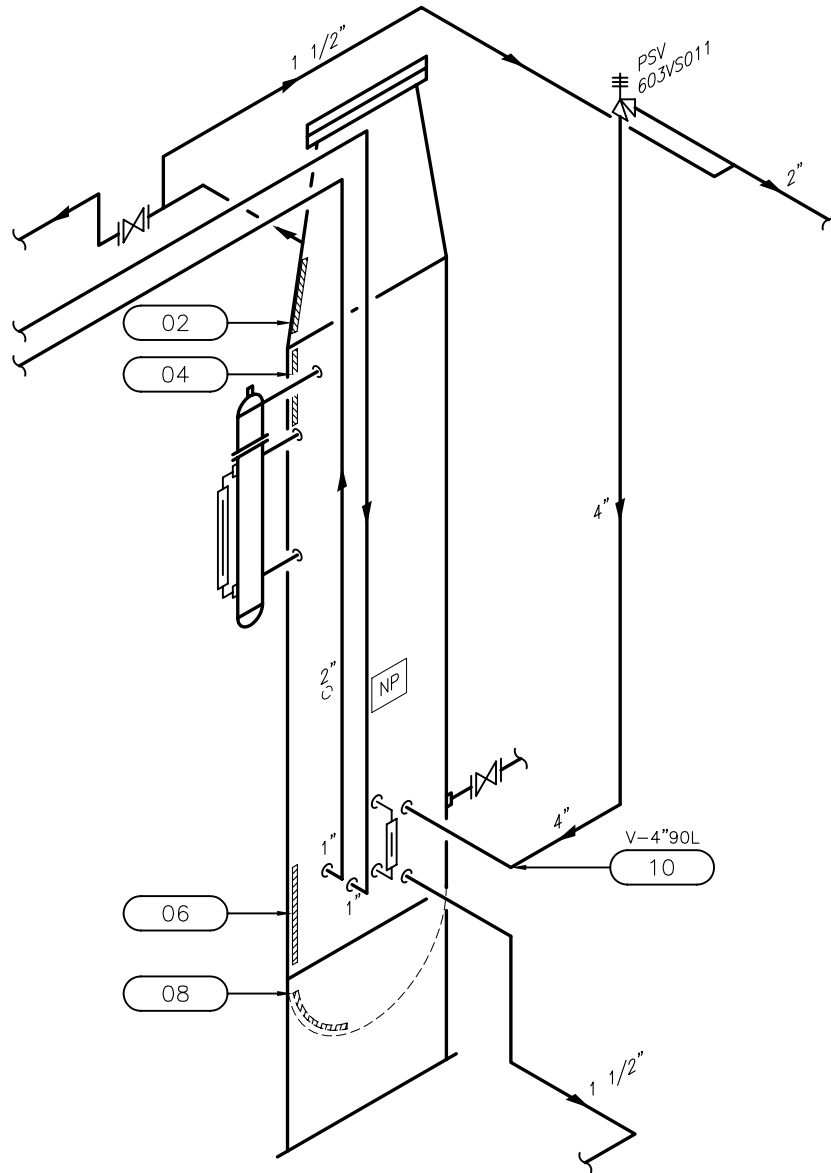
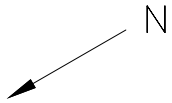
Nominal:	8.800	Mths. Rem. To Min. Nom:	Good For Continued Service:	YES
Corr. Allowance:	1.600	Min. Cal. Wall Thk.:	Additional Assessment Of Data:	YES
Min. Nominal:	7.200		Suggested Max Insp. Interval In Mths.:	12

Survey Dates: 1999-12

Data Readings	1	9.800	____.____
	2	9.700	____.____
	3	9.600	____.____
	4	9.700	____.____
	5	9.700	____.____
	6	9.600	____.____

Data Evaluation

Lowest Reading	:	9.600
Average - Low 3	:	9.633
Thk.Remaining Above Min.	:	2.400
Indv. Short Term Rate (mm/yr)	:	
Short Term Rate (mm/yr)	:	
LongTerm Rate (mm/yr)	:	



Comments: PROCESS BLD.



P.E. No.:	<u>N/S</u>	Yr. Bt.:	<u>1998</u>
OIP#	<u>603VS011</u>	Manway:	<u>YES</u>
Serial No.:	<u>1617</u>	Size:	<u>3048mm x 9144mm</u>
P.R.N. (A)	<u>N/S</u>	Service:	<u>SWEET</u>
C.R.N.:	<u>N8389.21</u>	PWHT:	<u>NO</u>
Code/Div.:	<u>ASME VIII DIV. 1</u>	RT:	<u>2</u>
Para:	<u>N/S</u>	Insulated:	<u>NO</u>
C. Stamp:	<u>UW</u>	N.B. No.:	<u>N/S</u>
Manufacturer: <u>THERMO ENG.</u>			

**Design & Materials Data**

<b>HEAD</b>	<b>SHELL</b>
Material: <u>SA-105-N/SA-516-70N</u>	Material: <u>SA-516-70N</u>
Nom.: <u>8.8mm</u>	Nom.: <u>9.5mm</u>
C.A.: <u>1.6mm</u>	C.A.: <u>1.6mm</u>
<b>BOOT HEAD</b>	<b>BOOT SHELL</b>
Material: _____	Material: _____
Nom.: _____	Nom.: _____
C.A.: _____	C.A.: _____
<b>CHANNEL HEAD</b>	<b>CHANNEL SHELL</b>
Material: _____	Material: _____
Nom.: _____	Nom.: _____
C.A.: _____	C.A.: _____
MAWP Shell Side: <u>1793 KPA</u>	@ Temp.: <u>93°C</u>
MAWP Tube Side: _____	@ Temp.: _____

CLIENT

TAQA NORTH

FACILITY

CHINCHAGA GAS PLANT

LSD C-032-H/094-H-08

ITEM

DISCHARGE OIL TRAP/COALESCER

BY: M.T.

DATE: 2008/04

DWG.# 021

## TAQA North

Unit: N-603

FACILITY:	CHINCHAGA GAS PLANT	MANUFACTURER:	THERMO DESIGN ENGINEER
LSD:	C-032-H/094-H-08	DESIGN PRESSURE:	1793 kPa / 260 psi
ITEM DESC.:	DISCHARGE OIL TRAP/COALESCER	DESIGN TEMP.:	93 C / 199 F
EQUIP / OIP#:	603VS011	RECOMMENDED NEXT INSP. DATE:	04/2013
PROV. REG. #:	N/S	RECOMMENDED RETIREMENT DATE:	12/2275
SERIAL #:	1617	REM. LIFE (from last survey 04/2008):	267.70 yrs.
CRN.:	N8389.21	TOTAL CAUTION / ACTION TML:	0

### Item # (021)

#### TML No.: 2 TOP HD T-B 150 #

DATE BUILT: 01/1998

AVERAGE THICKNESS MEASURED: 10.02 mm.

MATERIAL: SA105-N

MINIMUM THICKNESS MEASURED: 9.90 mm.

Pts.	Nom. Thick.	Corr. Allow.	Min. Thick.	B/L Survey Date	B/L Survey	Prev. Survey Date	Prev. Survey	Last Survey Date	Last Survey	Short Term Rate	Long Term Rate	TML Insp. Due	TML Retire. Date	Action/ Caution Required Item
				mm/yyyy		mm/yyyy		mm/yyyy						
2.01	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	10.10	0.000	0.000	04/2013	12/2974	NO
2.02	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	10.10	0.000	0.000	04/2013	12/2974	NO
2.03	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	10.00	0.000	0.000	04/2013	08/2941	NO
2.04	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.90	0.000	0.000	04/2013	04/2908	NO
2.05	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.90	0.000	0.000	04/2013	04/2908	NO
2.06	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	10.10	0.000	0.000	04/2013	12/2974	NO

#### TML No.: 4 TOP SH T-B 150 #

DATE BUILT: 01/1998

AVERAGE THICKNESS MEASURED: 10.03 mm.

MATERIAL: SA516-70

MINIMUM THICKNESS MEASURED: 9.90 mm.

Pts.	Nom. Thick.	Corr. Allow.	Min. Thick.	B/L Survey Date	B/L Survey	Prev. Survey Date	Prev. Survey	Last Survey Date	Last Survey	Short Term Rate	Long Term Rate	TML Insp. Due	TML Retire. Date	Action/ Caution Required Item
				mm/yyyy		mm/yyyy		mm/yyyy						
4.01	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	10.00	0.000	0.000	04/2013	04/2708	NO
4.02	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	10.00	0.000	0.000	04/2013	04/2708	NO
4.03	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	9.90	0.000	0.000	04/2013	12/2674	NO
4.04	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	10.10	0.000	0.000	04/2013	08/2741	NO
4.05	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	10.10	0.000	0.000	04/2013	08/2741	NO
4.06	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	10.10	0.000	0.000	04/2013	08/2741	NO

(\*) and GREEN Represent 25% of the TMLs, which have the earliest retirement dates.

BLUE (Caution TML) Corrosion Rate greater than 0.250mm/yr. or TML Remaining Life is less than 1.00 year.

RED (Action TML) TML with negative life.

If Baseline Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness.

## TAQA North

Unit: N-603

FACILITY:	CHINCHAGA GAS PLANT	MANUFACTURER:	THERMO DESIGN ENGINEER
LSD:	C-032-H/094-H-08	DESIGN PRESSURE:	1793 kPa / 260 psi
ITEM DESC.:	DISCHARGE OIL TRAP/COALESCER	DESIGN TEMP.:	93 C / 199 F
EQUIP / OIP#:	603VS011	RECOMMENDED NEXT INSP. DATE:	04/2013
PROV. REG. #:	N/S	RECOMMENDED RETIREMENT DATE:	12/2275
SERIAL #:	1617	REM. LIFE (from last survey 04/2008):	267.70 yrs.
CRN.:	N8389.21	TOTAL CAUTION / ACTION TML:	0

### Item # (021)

#### TML No.: 6 BTM SH T-B 150 #

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 9.80 mm.

MATERIAL: SA516-70 MINIMUM THICKNESS MEASURED: 9.60 mm.

Pts.	Nom. Thick.	Corr. Allow.	Min. Thick.	B/L Survey Date	B/L Survey	Prev. Survey Date	Prev. Survey	Last Survey Date	Last Survey	Short Term Rate	Long Term Rate	TML Insp. Due	TML Retire. Date	Action/ Caution Required Item
				mm/yyyy		mm/yyyy		mm/yyyy						
6.01	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	9.60	0.000	0.000	04/2013	12/2574	NO *
6.02	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	9.70	0.000	0.000	04/2013	04/2608	NO *
6.03	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	9.90	0.000	0.000	04/2013	12/2674	NO
6.04	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	9.90	0.000	0.000	04/2013	12/2674	NO
6.05	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	9.90	0.000	0.000	04/2013	12/2674	NO
6.06	9.50	1.60	7.90	01/1998	9.50	N/A	N/A	04/2008	9.80	0.000	0.000	04/2013	08/2641	NO

#### TML No.: 8 BTM HD T-B 150 #

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 9.72 mm.

MATERIAL: SA516-70 MINIMUM THICKNESS MEASURED: 9.60 mm.

Pts.	Nom. Thick.	Corr. Allow.	Min. Thick.	B/L Survey Date	B/L Survey	Prev. Survey Date	Prev. Survey	Last Survey Date	Last Survey	Short Term Rate	Long Term Rate	TML Insp. Due	TML Retire. Date	Action/ Caution Required Item
				mm/yyyy		mm/yyyy		mm/yyyy						
8.01	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.70	0.000	0.000	04/2013	08/2841	NO
8.02	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.70	0.000	0.000	04/2013	08/2841	NO
8.03	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.70	0.000	0.000	04/2013	08/2841	NO
8.04	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.80	0.000	0.000	04/2013	12/2874	NO
8.05	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.80	0.000	0.000	04/2013	12/2874	NO
8.06	8.80	1.60	7.20	01/1998	8.80	N/A	N/A	04/2008	9.60	0.000	0.000	04/2013	04/2808	NO

(\*) and GREEN Represent 25% of the TMLs, which have the earliest retirement dates.

BLUE (Caution TML) Corrosion Rate greater than 0.250mm/yr. or TML Remaining Life is less than 1.00 year.

RED (Action TML) TML with negative life.

If Baseline Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness.

## TAQA North

Unit: N-603

FACILITY:	CHINCHAGA GAS PLANT	MANUFACTURER:	THERMO DESIGN ENGINEER
LSD:	C-032-H/094-H-08	DESIGN PRESSURE:	1793 kPa / 260 psi
ITEM DESC.:	DISCHARGE OIL TRAP/COALESCER	DESIGN TEMP.:	93 C / 199 F
EQUIP / OIP#:	603VS011	RECOMMENDED NEXT INSP. DATE:	04/2013
PROV. REG. #:	N/S	RECOMMENDED RETIREMENT DATE:	12/2275
SERIAL #:	1617	REM. LIFE (from last survey 04/2008):	267.70 yrs.
CRN.:	N8389.21	TOTAL CAUTION / ACTION TML:	0

### Item # (021)

**TML No.: 10 4"90L N-E 150 #**

DATE BUILT: 01/1998

AVERAGE THICKNESS MEASURED: 6.00 mm.

MATERIAL:

MINIMUM THICKNESS MEASURED: 5.80 mm.

Pts.	Nom. Thick.	Corr. Allow.	Min. Thick.	B/L Survey Date mm/yyyy	B/L Survey	Prev. Survey Date mm/yyyy	Prev. Survey	Last Survey Date mm/yyyy	Last Survey	Short Term Rate	Long Term Rate	TML Insp. Due	TML Retire. Date	Action/ Caution Required Item	
10.01	6.00	0.70	5.30	01/1998	6.00	N/A	N/A	04/2008	6.50	0.000	0.000	04/2013	04/2408	NO	*
10.02	6.00	0.70	5.30	01/1998	6.00	N/A	N/A	04/2008	6.00	0.000	0.000	04/2013	08/2241	NO	*
10.03	6.00	0.70	5.30	01/1998	6.00	N/A	N/A	04/2008	5.80	0.000	0.020	04/2013	11/2032	NO	*
10.04	6.00	0.70	5.30	01/1998	6.00	N/A	N/A	04/2008	6.00	0.000	0.000	04/2013	08/2241	NO	*
10.05	6.00	0.70	5.30	01/1998	6.00	N/A	N/A	04/2008	5.90	0.000	0.010	04/2013	04/2067	NO	*
10.06	6.00	0.70	5.30	01/1998	6.00	N/A	N/A	04/2008	5.80	0.000	0.020	04/2013	11/2032	NO	*

(\*) and GREEN Represent 25% of the TMLs, which have the earliest retirement dates.

BLUE (Caution TML) Corrosion Rate greater than 0.250mm/yr. or TML Remaining Life is less than 1.00 year.

RED (Action TML) TML with negative life.

If Baseline Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness.



## DETAIL VESSEL AND PIPING INSPECTION REPORT

(Imperial)

### GENERAL PRESSURE VESSEL INFORMATION

Company:	Pioneer Natural Resources Canada Inc.	LSD:	BC	C-32-H/94-H-8
Area/Facility:	Chinchaga Gas Plant	Inspection Date	06-Feb-02	Interval: 2 yrs
Vessel Name:	Discharge Oil Trap Coalescer	A No:	BC	MTL No: VSL189
Internal Coating Type:		Next External:	2/6/2003	Next Internal: Feb, 2004
Vessel Orientation:	Vertical	Internal Coating Lining:	0	
Vessel Type:	Vertical Vessel	Fluid Type:		
Tag No:	V-610	Serial Number:	1617	
Separator Type:		Business Unit:		
Direct Fired Vessel:	N/A	Fired Tube:		
Current Status:	In Service	Flame Arrester Date Required:	Date	
Thermal Insulation:	No	Asbestos:	No	

### PRESSURE VESSEL NAMEPLATE INFORMATION

MTL Number:	VSL189	Volume:	41.000 F3	CRN Number:	N-8389-21	Registered:	Yes
Serial Number:	1617	Size:	30.000 in O.D.	x	7 ft	6 in	Seam to Seam
Drawing Number:	9097-0850-204	P & ID Number:					
Shell Material:	SA-516-70N	Bottom	Shell Thickness:	0.375 In			
		Top	Shell Thickness:	0.375 In			
Head Material:	SA-516-70N	Bottom	Head Thickness:	0.345 In			
		Top	Head Thickness:	0.345 In			
Tube Material:		Tube Size(OD):	In	Tube Thickness:	In		
Tubesheet Material:		Tubesheet Thickness:	In				
Channel Material:		Channel Type:		Channel Thickness:	In		
Design Pressure:	Shell:	260 psi		Operating Pressure:	Shell:	psi	
	Tube:	psi			Tube:	psi	
Design Temperature:	Shell:	200 F		Operating Temperature:	Shell:	F	
	Tube:	F			Tube:	F	
RT (XRay):	RT2			Heat Treatment:	No		
Code Parameters:				Joint Efficiency:			
Manufacturer:	Thermo Design Engineering			Year Built:	1998		
Corrosion Allowance:	0.063			Manway:	Yes		

**DETAIL VESSEL AND PIPING INSPECTION REPORT****(Imperial)**

## GENERAL PRESSURE VESSEL INFORMATION

Company:	Pioneer Natural Resources Canada Inc.	LSD:	BC	C-32-H/94-H-8
Area/Facility:	Chinchaga Gas Plant	Inspection Date	06-Feb-02	Interval: 2 yrs
Vessel Name:	Discharge Oil Trap Coalescer	A No:	BC	MTL No: VSL189

**VESSEL SHELL / HEADS / PIPING**

## External / Instrumentation Condition

The external surface of this vessel was noted in good condition. The vessel paint was good with no visible signs of external corrosion but there is a minor gasket leak on top manway. All welds were intact and there were no signs of deterioration or cracking. The associated instrumentation appeared to be in good working order.

## Internal Condition

No internal access

## Nozzle Condition

The nozzles were painted with no leaks on shell nozzles or couplings. No visible evidence of external corrosion was noted during this inspection.

## Flange Condition

The flanges are bolted properly and there was no visible evidence of leakage. The associated gaskets and bolting were in place and appeared to be tight.

## Internal Piping

Not Applicable

## External Piping

The piping was painted with no evidence of corrosion. The associated pressure welds were intact and revealed no signs of deterioration or visible cracking.

## Pipe Support Condition

All of the supports are in place, secure and functioning properly.

## Bolting Condition

The associated bolting and gaskets were in place and appeared to be tight.

## Firetube Condition

Not Applicable

## Demister Pad Condition

Not Applicable

## Anode Condition

Not Applicable

## Vessel Support

The skid base, skirt, baseplate and 8 bolts were all noted in good condition.

## DETAIL VESSEL AND PIPING INSPECTION REPORT

(Imperial)

### GENERAL PRESSURE VESSEL INFORMATION

Company:	Pioneer Natural Resources Canada Inc.	LSD:	BC	C-32-H/94-H-8
Area/Facility:	Chinchaga Gas Plant	Inspection Date	06-Feb-02	Interval: 2 yrs
Vessel Name:	Discharge Oil Trap Coalescer	A No:	BC	MTL No: VSL189

### VESSEL COATING INSPECTION

Type of Coating

Coating Manufacturer and Type

Location

Coating Condition

### VESSEL NONDESTRUCTIVE TESTING

NDE Type	UT Survey			
Location of Test				
Contractors Name	Rivest	Qualifications		
Last UT Survey Date	Feb 3, 2002	Interval	2 yrs	Next UT Date: Feb 3, 2004
Survey By	MTL Testing Inc.			
Test Results				

### VESSEL STATUS

Suitable for Further Service?	Yes	Repairs Required?	No
Owners Representative		Repairs Completed?	
Owners Date		Repairs Completed By	
		Repair Date	

Recommendations

Consider performing internal inspection next turnaround in 3 years  
 Next PSV servicing in 3 years  
 Repeat UT Survey in 3 years  
 Tighten unions on gauge glass bottle and top access cover

Details of Repairs

--

## DETAIL VESSEL AND PIPING INSPECTION REPORT

(Imperial)

### GENERAL PRESSURE VESSEL INFORMATION

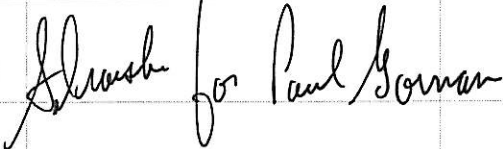
Company:	Pioneer Natural Resources Canada Inc.	LSD:	BC	C-32-H/94-H-8
Area/Facility:	Chinchaga Gas Plant	Inspection Date	06-Feb-02	Interval: 2 yrs
Vessel Name:	Discharge Oil Trap Coalescer	A No:	BC	MTL No: VSL189

### PSV DATA

Side	Set Pressure psi	CRN Number	Manufacturer PSV Number	Model Serial Number	Capacity	Size Inches	Set Date
Shellside	250	W-15675	Farris PNR6102	2850 CE-1699-5-R4	3451 SCFM	1.5 x	Dec/1999

### CURRENT VESSEL PROCESS CONDITIONS

Lube Oil
----------

Name (Printed)	Signature	Date
Visual Inspector Paul Gorman API510		February 06, 2002
QA Supervisor: (Chief Inspector)		
QA Administrator:		
ABSA Inspector:		

**EQUIPMENT NO: 603VS011**

Page of

FACILITY: Chinchaga Gas Plant		PROV. REG. NO:	
EQUIPMENT NAME: Discharge Oil Trap / Coalescer		TAG NO:	
SIZE: 762mm	OD x	L/H 2286mm	MAWP: 1793
LSD : C-032-H / 094-H-08		MANWAY	kPa @ 93/-29 °C
		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO

SERVICE:		FLUID: Oil	
<input type="checkbox"/> SOUR	<input checked="" type="checkbox"/> SWEET	<input type="checkbox"/> CRYOGENIC	
SCOPE OF INSPECTION		TYPE OF INSPECTION:	
<input type="checkbox"/> PRECOMMISSIONING	<input type="checkbox"/> AE	<input type="checkbox"/> MT	<input type="checkbox"/> RT
<input checked="" type="checkbox"/> INITIAL	<input type="checkbox"/> ET	<input type="checkbox"/> MFL	<input checked="" type="checkbox"/> UT
<input type="checkbox"/> REINSPECTION	<input type="checkbox"/> LT	<input type="checkbox"/> PT	<input checked="" type="checkbox"/> VT
		<input type="checkbox"/> OTHER	
		CLEANING:	
		<input checked="" type="checkbox"/> GOOD	
		<input type="checkbox"/> FAIR	
		<input type="checkbox"/> INADEQUATE	
		ACCESS:	
		<input type="checkbox"/> FULL	
		<input type="checkbox"/> PARTIAL	
		<input checked="" type="checkbox"/> EXTERNAL	

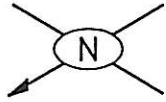
**PLEASE ADD PAGES AND SKETCHES AS NEEDED (TURN OVER FOR SKETCH)**

- OBSERVATIONS:  EXTERNAL
1. LADDERS, STAIRWAYS, PLATFORMS AND WALKWAYS  N/A
  2. FOUNDATIONS AND SUPPORTS  Skirt / Piling
  3. NOZZLES
  4. GROUNDING CONNECTIONS
  5. PROTECTIVE COATINGS AND INSULATION  Epoxy
  6. EXTERNAL METAL SURFACES  No
  7. FANS AND OTHER ANCILLARY EQUIPMENT  No
  8. PRESSURE RELIEF DEVICES
  9. NAME PLATE
  10. ULTRASONIC INSPECTION SURVEY
  11. INSPECTION REPORT COMPLETED
  12. NON CONFORMANCE COMPLETED  N/A
  13. OIP LABEL APPLIED
  14. PICTURE ON FILE

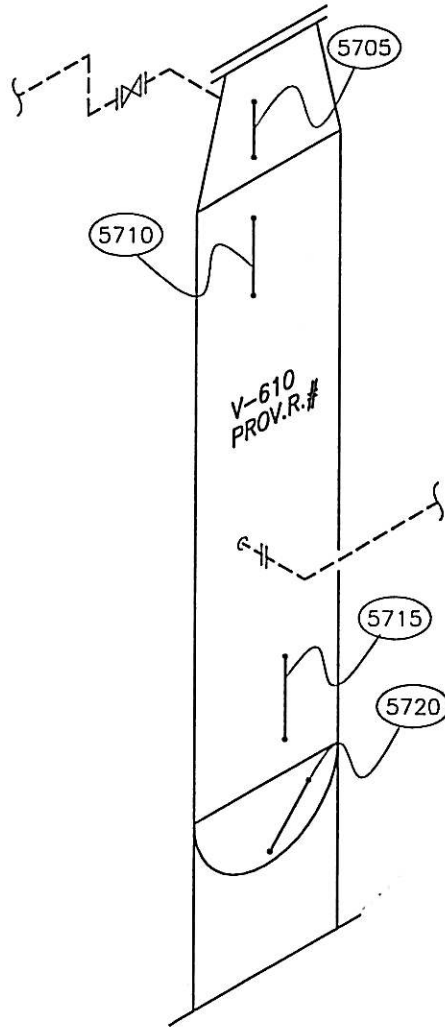
COMMENTS  
CHECKED BOX INDICATES ACCEPTANCE

RECOMMENDATIONS:

SUITABLE FOR	REMEDIAL ACTION
FURTHER SERVICE: <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	PRIORITY: <input type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW
INSPECTION PERFORMED BY: Mark Tomko	DATE OF INSPECTION 07 04 2008 (DD MONTH YYYY)
FOLLOW-UP INSPECTION REQ'D: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	BY DATE: (DD MONTH YYYY)



P&ID. # \_\_\_\_\_  
REF. # \_\_\_\_\_



### VESSEL DATA

Prov. Reg. No. \_\_\_\_\_ C.R.N. N 8389.21 P.E. No. V-610 Serial No. 1617  
MFR. THERMO DESIGN Code/Div. \_\_\_\_\_ Para \_\_\_\_\_ Code Stamp U  
Yr. Bilt. 1998 Yr. Inst. \_\_\_\_\_ Size 30'ØX7'6" Vol.: \_\_\_\_\_ Service \_\_\_\_\_ PWHT \_\_\_\_\_

#### Nominal Thickness & Material

Head: 150# FLG. Mat'l: SA 105 N C.A.: 0.0625" Insulated NO R.T. 2  
Head: 8.8mm SA 516-70N Repairs \_\_\_\_\_  
Shell: 9.5mm SA 516-70N C.A.: \_\_\_\_\_ COMMENTS \_\_\_\_\_

Shell: \_\_\_\_\_  
Chan Hd: \_\_\_\_\_ C.A.: \_\_\_\_\_  
Chan Sh: \_\_\_\_\_  
Gas Boot Hd: \_\_\_\_\_ C.A.: \_\_\_\_\_  
Gas Boot Sh.: \_\_\_\_\_  
Liq. Boot Hd.: \_\_\_\_\_ C.A.: \_\_\_\_\_  
Liq Boot Sh.: \_\_\_\_\_

MAWP Shell Side 260psi @ Temp. -20/200°F  
MAWP Tube Side \_\_\_\_\_ @ Temp. \_\_\_\_\_

PIONEER NATURAL RESOURCES CANADA INC.  
CHINCHAGA GAS PLANT  
LSD C-32-H \ 94-H-8

#### DISCHARGE OIL TRAP / COALESSER

TECH.: J.OLIVER	REV.DATE:	DWG DATE: 02/2002
CAD: MKM	REVISION:	DRAWING: 057



Equip No	V-610	Serial No	1617	Prov Reg No	N/A
Description	DISCHARGE OIL TRAP/ COALESSER				

**057 - 005**

TML Description: TRANS. SHELL					
T Nominal: 9.5					
Min Nominal: 7.9					
Corr Allowance: 1.6					
<i>Data Readings</i>					
<i>Data Evaluations</i>			Dec-99	Feb-02	
		Point 1	10.0	10.0	
Months Remaining to T Min: 999		Point 2	9.9	10.0	
Min Calc'd Wall Thickness: N/A		Point 3	9.9	10.0	
Thick Remain Above T Min: 2.0		Point 4	9.9	9.9	
Short Term Corr Rate: N/A		Point 5	9.9	9.9	
Long Term Corr Rate: N/A		Point 6	9.8	9.9	
Months Remain to LFL: 104		Point 7			
Lowest Value - Last Reading: 9.9		Point 8			
Comment:		Point 9			
		Point 10			
		Point 11			
		Point 12			
		Average	9.9	10.0	
		Avg Low 3	9.9	9.9	
		Lowest	9.8	9.9	

**057 - 010**

TML Description: TOP SHELL					
T Nominal: 9.5					
Min Nominal: 7.9					
Corr Allowance: 1.6					
<i>Data Readings</i>					
<i>Data Evaluations</i>			Dec-99	Feb-02	
		Point 1	10.0	10.1	
Months Remaining to T Min: 999		Point 2	9.9	9.9	
Min Calc'd Wall Thickness: N/A		Point 3	9.9	9.9	
Thick Remain Above T Min: 2.0		Point 4	10.0	10.0	
Short Term Corr Rate: N/A		Point 5	10.0	10.0	
Long Term Corr Rate: N/A		Point 6	9.9	10.0	
Months Remain to LFL: N/A		Point 7			
Lowest Value - Last Reading: 9.9		Point 8			
Comment:		Point 9			
		Point 10			
		Point 11			
		Point 12			
		Average	10.0	10.0	
		Avg Low 3	9.9	9.9	
		Lowest	9.9	9.9	

TML Description: BTM. SHELL T Nominal: 9.5 Min Nominal: 7.9 Corr Allowance: 1.6			<i>Data Readings</i>		
<i>Data Evaluations</i>  Months Remaining to T Min: 999 Min Calc'd Wall Thickness: N/A Thick Remain Above T Min: 1.9 Short Term Corr Rate: N/A Long Term Corr Rate: N/A Months Remain to LFL: 78 Lowest Value - Last Reading: 9.8		Dec-99	Feb-02		
	Point 1	9.8	9.9		
	Point 2	9.8	9.9		
	Point 3	9.7	9.8		
	Point 4	9.8	9.9		
	Point 5	9.7	9.8		
	Point 6	9.7	9.9		
	Point 7				
	Point 8				
	Point 9				
	Point 10				
	Point 11				
Point 12					
	Average	9.8	9.9		
	Avg Low 3	9.7	9.8		
	Lowest	9.7	9.8		
Comment:					

TML Description: BTM. HEAD T Nominal: 8.8 Min Nominal: 7.2 Corr Allowance: 1.6			<i>Data Readings</i>		
<i>Data Evaluations</i>  Months Remaining to T Min: 999 Min Calc'd Wall Thickness: N/A Thick Remain Above T Min: 2.4 Short Term Corr Rate: N/A Long Term Corr Rate: N/A Months Remain to LFL: N/A Lowest Value - Last Reading: 9.6		Dec-99	Feb-02		
	Point 1	9.8	9.8		
	Point 2	9.7	9.8		
	Point 3	9.6	9.7		
	Point 4	9.7	9.7		
	Point 5	9.7	9.6		
	Point 6	9.6	9.7		
	Point 7				
	Point 8				
	Point 9				
	Point 10				
	Point 11				
Point 12					
	Average	9.7	9.7		
	Avg Low 3	9.6	9.7		
	Lowest	9.6	9.6		
Comment:					

## EQUIPMENT INTERNAL INSPECTION REPORT

<b>Customer:</b>	TAQA North	<b>ITS Job No.:</b>	1829
<b>District:</b>	Northern	<b>Date:</b>	10-Jul-2012
<b>Facility:</b>	Chinchaga Gas Plant	<b>LSD:</b>	C-32-H/94-H-08
<b>Equip. Description:</b>	Discharge Oil Trap/Coalescer	<b>Serial No.:</b>	1617
<b>Equip./OIP No.:</b>	603VS011	<b>PRN:</b>	Not Stated
<b>Equip. Type:</b> <input type="checkbox"/> Column <input type="checkbox"/> Cooler <input type="checkbox"/> Exchanger <input type="checkbox"/> Furnace <input type="checkbox"/> Heater <input type="checkbox"/> Plate Exchanger <input type="checkbox"/> Reboiler <input checked="" type="checkbox"/> Vessel <input type="checkbox"/> Other:			

Head (1)	Head (2)	Shell	Boot Shell/Head
<input checked="" type="checkbox"/> Top <input type="checkbox"/> North <input type="checkbox"/> West	<input checked="" type="checkbox"/> Bottom <input type="checkbox"/> South <input type="checkbox"/> East	<input type="checkbox"/> Top <input type="checkbox"/> Bottom	<input checked="" type="checkbox"/> Not Applicable
<input checked="" type="checkbox"/> Flat <input checked="" type="checkbox"/> FLG <input type="checkbox"/> ELL <input type="checkbox"/> ECC <input type="checkbox"/> HEMI	<input type="checkbox"/> Flat <input type="checkbox"/> FLG <input checked="" type="checkbox"/> ELL <input type="checkbox"/> ECC <input type="checkbox"/> HEMI	<input checked="" type="checkbox"/> Good Condition <input type="checkbox"/> Internal Corrosion	<input type="checkbox"/> Good Condition <input type="checkbox"/> Internal Corrosion
<input checked="" type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Pitting: <small>(max depth)</small>
<input type="checkbox"/> Internal Corrosion	<input type="checkbox"/> Internal Corrosion	<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Wear/Erosion
<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Cracked	<input type="checkbox"/> Cracked
<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Blistered	<input type="checkbox"/> Blistered
<input type="checkbox"/> Cracked	<input type="checkbox"/> Cracked	<input type="checkbox"/> Scale	<input type="checkbox"/> Scale
<input type="checkbox"/> Blistered	<input type="checkbox"/> Blistered	<input checked="" type="checkbox"/> Coated	<input type="checkbox"/> Coated
<input type="checkbox"/> Scale	<input type="checkbox"/> Scale	<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Mechanical Damage
<input checked="" type="checkbox"/> Coated	<input checked="" type="checkbox"/> Coated	<input type="checkbox"/> Bulged/ Distorted/ Deformation	<input type="checkbox"/> Bulged/ Distorted/ Deformation
<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Mechanical Damage	<input checked="" type="checkbox"/> See Comments	<input type="checkbox"/> See Comments
<input type="checkbox"/> Bulged/ Distorted/ Deformation	<input type="checkbox"/> Bulged/ Distorted/ Deformation		
<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments		

Channel Head	Internal Welds	Internal Nozzles	Drum
<input checked="" type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Mud <input type="checkbox"/> Steam
<input type="checkbox"/> Good Condition	<input type="checkbox"/> Poor Quality	<input type="checkbox"/> Internal Corrosion	<input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/> Internal Corrosion	<input type="checkbox"/> Internal Corrosion	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Good Condition
<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Internal Corrosion
<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Cracked	<input type="checkbox"/> Pitting: <small>(max depth)</small>
<input type="checkbox"/> Cracked	<input type="checkbox"/> Cracked	<input type="checkbox"/> Scale	<input type="checkbox"/> Wear/Erosion
<input type="checkbox"/> Blistered	<input type="checkbox"/> Scale	<input checked="" type="checkbox"/> Coated	<input type="checkbox"/> Cracked
<input type="checkbox"/> Scale	<input checked="" type="checkbox"/> Coated	<input type="checkbox"/> Plugged	<input type="checkbox"/> Blistered
<input type="checkbox"/> Coated	<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Poor Welding	<input type="checkbox"/> Scale
<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> See Comments	<input type="checkbox"/> Leaking	<input type="checkbox"/> Coated
<input type="checkbox"/> Bulged/ Distorted/ Deformation		<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Mechanical Damage
<input type="checkbox"/> See Comments		<input type="checkbox"/> See Comments	<input type="checkbox"/> Bulged/ Distorted/ Deformation
			<input type="checkbox"/> See Comments

Internal Protection	Vessel Internals	Heating Coil (A)	Heating Coil (B)
<input checked="" type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Adequate Cleaning	<input checked="" type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/> Coating <input type="checkbox"/> Lining	<input type="checkbox"/> Vortex Breaker(s)/Deflection Plate(s) Damage	<input type="checkbox"/> Good Condition	<input type="checkbox"/> Good Condition
<input type="checkbox"/> Good Condition		<input type="checkbox"/> Corrosion	<input type="checkbox"/> Corrosion
<input type="checkbox"/> Blister(s)	<input type="checkbox"/> Weir(s)/ Baffle(s)/ Divider(s) Damage	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Pitting: <small>(max depth)</small>
<input type="checkbox"/> Dis-bonded		<input type="checkbox"/> Cracked	<input type="checkbox"/> Cracked
<input type="checkbox"/> Chipped	<input type="checkbox"/> Spray Nozzles Damaged/ Missing	<input type="checkbox"/> Scaled	<input type="checkbox"/> Scaled
<input type="checkbox"/> Holidays/Cracked		<input type="checkbox"/> Worn	<input type="checkbox"/> Worn
<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Down-comer Corrosion	<input type="checkbox"/> Loose	<input type="checkbox"/> Loose
<input type="checkbox"/> Missing		<input type="checkbox"/> Poor Installation	<input type="checkbox"/> Poor Installation
<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments
	<input type="checkbox"/> See Comments		

Demister Screen	Refractory	Manway	Trays
<input checked="" type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Not Applicable	<input type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/> Good Condition	<input type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Good Condition
<input type="checkbox"/> Dislodged	<input type="checkbox"/> Cracked (minor)	<input type="checkbox"/> Coating Damage	<input type="checkbox"/> Collapsed
<input type="checkbox"/> Broken	<input type="checkbox"/> Spalling	<input type="checkbox"/> Internal Corrosion	<input type="checkbox"/> Distorted
<input type="checkbox"/> Missing	<input type="checkbox"/> Missing	<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Loose
<input type="checkbox"/> Tie-downs Missing	<input type="checkbox"/> Damaged	<input type="checkbox"/> Seal Face Corrosion	<input type="checkbox"/> Missing
<input type="checkbox"/> Fouling	<input type="checkbox"/> Cracked (severe)	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Wear
<input type="checkbox"/> Corrosion	<input type="checkbox"/> See Comments	<input checked="" type="checkbox"/> See Comments	<input type="checkbox"/> Corrosion
<input type="checkbox"/> See Comments			<input type="checkbox"/> Poor
			<input type="checkbox"/> Valve Caps Missing
			<input type="checkbox"/> See Comments

Tube Sheet	Firetube(s)	Tube Bundle	Tubes
<input checked="" type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Not Applicable	<input checked="" type="checkbox"/> Not Applicable
<input type="checkbox"/> Good Condition	<input type="checkbox"/> Good Condition	<input type="checkbox"/> Good Condition	<input type="checkbox"/> Good Condition
<input type="checkbox"/> Corrosion	<input type="checkbox"/> Corrosion	<input type="checkbox"/> Corrosion	<input type="checkbox"/> External Corrosion
<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input type="checkbox"/> Internal Corrosion
<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Wear/Erosion	<input type="checkbox"/> Pitting: <small>(max depth)</small>
<input type="checkbox"/> Cracked	<input type="checkbox"/> Cracked	<input type="checkbox"/> Cracked	<input type="checkbox"/> Wear/Erosion
<input type="checkbox"/> Damaged	<input type="checkbox"/> Scaled	<input type="checkbox"/> Damaged	<input type="checkbox"/> Cracked
<input type="checkbox"/> See Comments	<input type="checkbox"/> Coated	<input type="checkbox"/> Plugged	<input type="checkbox"/> Thinning
	<input type="checkbox"/> Heat Impinged	<input type="checkbox"/> Scaled	<input type="checkbox"/> Heat Impinged
	<input type="checkbox"/> Burner Misalignment	<input type="checkbox"/> See Comments	<input type="checkbox"/> Bulged/Distorted
	<input type="checkbox"/> Damaged Supports		<input type="checkbox"/> Leaking
	<input type="checkbox"/> Damaged Guides/ Tracks		<input type="checkbox"/> See Comments
	<input type="checkbox"/> See Comments		

**Observations:**

**Vessel in Good Condition**

**Based on API 510 Visual Internal Inspection this vessel is fit for service**

- The support ring for screen is intact and secure. There are no issues.
- The gasket seal surface on the top head is in good condition. There is no corrosion, erosion or mechanical damage. The tabs on the top head are in good condition.
- The pressure gauge is not within MAWP of vessel. A Found Work sheet was put in place to swap gauges from 603VF009.
- The coating is chipped around the nozzle opening. On the shell wall, there is an approximately ¼" round piece of coating missing alongside the nozzle. There is no corrosion or erosion noted on the shell wall. Bottom head coating has some marks from it being sucked out. There are no issues.
- The filter screen support ring has corrosion as material is missing.

**Recommendations:**

- Swap the pressure gauge from 603VF008 and both vessels will be within the range of their MAWP.
- Monitor ¼ inch diameter chipping of coating on shell wall and see if it has gotten larger at next outage.
- Replace or repair filter support ring of the filter screen.

**Pictures:**

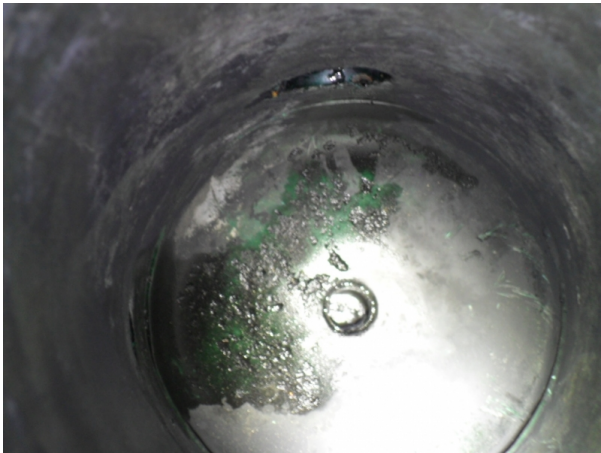


Photo 1: Bottom Head and Shell



Photo 2: Top Nozzle



Photo 3: Top Head



Photo 4: Coating Chipped



**Pictures:**



Photo 5: Coating Chipped (2)



Photo 6: Overview



Photo 7: O-Ring Seal and Coating Chipped



Photo 8: Filter Screen



Photo 9: Filter Screen (2)

**Additional Comments:**

None

Internal Inspection Performed By:

Print Name: Erwin Pederson

Signature: *Erwin Pederson*

Certification No.:

API 510: 33075  
IPV: 000406  
PEI Class 2: 154

Report Reviewed:

*[Signature]*  
Initial



Unique OUP #: 603VS011 Old OUP #: \_\_\_\_\_ LSD: C-032-H/094-H-08  
 PLANT / FIELD: Chinchaga Gas Plant Down Hole Location: \_\_\_\_\_ RENTAL: No  
 EQUIPMENT NAME: Discharge Oil Trap / Coalescer Unique # of Compressor this equipment is related to: \_\_\_\_\_  
 VESSEL STATUS: Active PRIMARY LOCATION: \_\_\_\_\_ Vessel Car-Sealed Out? No  
 PHYSICAL LOCATION: \_\_\_\_\_ YEAR INSTALLED: \_\_\_\_\_

SERVICE: Sweet H<sub>2</sub>S \_\_\_\_\_ PROCESS FLUID: Oil Multiphase CYCLIC: \_\_\_\_\_

MANUFACTURER: Thermo Design Engineering Ltd. DWG.# 90970850204 Rev. 1 S N: 1617  
 PRN \_\_\_\_\_ for VESSEL or SHELL CRN N8389.21 YR. BUILT 1998  
 NB: \_\_\_\_\_ CODE/DIV. \_\_\_\_\_ ASME Sec. VIII Div. 1 PARA. \_\_\_\_\_ STAMP U

SHELL-TANK RADIOGRAPHY: RT2 JOINT EFF. 100% PWHT: \_\_\_\_\_  
 MAWP 1793 kPa AT 93 °C MDMT -29 °C AT \_\_\_\_\_ kPa  
 DIA. ID 743.0 mm LENGTH: \_\_\_\_\_ mm HEIGHT: 2286.0 mm VOLUME: \_\_\_\_\_ m<sup>3</sup>

<u>SECTION</u>	<u>MATERIAL</u>	<u>NOMINAL THICKNESS</u>	<u>C.A.</u>
Shell	SA-516-70N	9.525 mm	1.588 mm
Top Head	SA-105-N	mm	mm
Bottom Head	SA-516-70N	8.763 mm	1.588 mm
		mm	mm
		mm	mm
		mm	mm

Heat Exchangers, Tubing, Channel, Line Heater coil PRN \_\_\_\_\_ CRN \_\_\_\_\_ RADIOGRAPHY: \_\_\_\_\_  
 MAWP \_\_\_\_\_ kPa AT \_\_\_\_\_ °C MDMT \_\_\_\_\_ °C AT \_\_\_\_\_ kPa S N: \_\_\_\_\_  
 CODE/DIV. \_\_\_\_\_ PARA. \_\_\_\_\_ STAMP \_\_\_\_\_ TUBE/TUBE SHEET \_\_\_\_\_ TEMA CLASS \_\_\_\_\_  
 DIA. \_\_\_\_\_ mm LENGTH: \_\_\_\_\_ mm TUBE SIZE \_\_\_\_\_ mm # of Tubes \_\_\_\_\_

<u>SECTION</u>	<u>MATERIAL</u>	<u>NOMINAL THICKNESS</u>	<u>C.A.</u>
		mm	mm
		mm	mm
		mm	mm
		mm	mm

TUBING: PRN \_\_\_\_\_ CRN \_\_\_\_\_ TEMA CLASS \_\_\_\_\_ TYPE \_\_\_\_\_ S N: \_\_\_\_\_  
 MAWP \_\_\_\_\_ kPa AT \_\_\_\_\_ °C TUBE SIZE \_\_\_\_\_ mm GAUGE, BWG \_\_\_\_\_ TUBE/TUBE SHEET JT. \_\_\_\_\_  
 # of Tubes \_\_\_\_\_

<u># of Tubes</u>	<u>MATERIAL</u>	<u>NOMINAL THICKNESS</u>	<u>C.A.</u>
		mm	mm

COIL: PRN \_\_\_\_\_ CRN \_\_\_\_\_ COIL NAME: \_\_\_\_\_ HP, LP, FG, HS  
 MAWP \_\_\_\_\_ kPa AT \_\_\_\_\_ °C TUBE SIZE \_\_\_\_\_ mm S N: \_\_\_\_\_  
 # of Tubes \_\_\_\_\_

<u># of Tubes</u>	<u>MATERIAL</u>	<u>NOMINAL THICKNESS</u>	<u>C.A.</u>
		mm	mm

RAM# **434016****EQUIP STATIC RECORD**JOB# **1-2968**Unique OUP #: 603VS011 Old OUP #: \_\_\_\_\_ LSD: C-032-H/094-H-08

TANK M/WAY OD FLANGE DIMENSIONS: \_\_\_\_\_ x \_\_\_\_\_ mm OR IF M/WAY IS ROUND, DIA. IS: \_\_\_\_\_ mm

TK. HEATED: \_\_\_\_\_ TYPE OF HEAT: \_\_\_\_\_ TK. SKIDDED or PORTABLE: \_\_\_\_\_ GAS BLANKET: \_\_\_\_\_ DOUBLE WALL: \_\_\_\_\_

TK. CONSTRUCTION: \_\_\_\_\_ TANK DYKED: \_\_\_\_\_ DYKE MATERIAL: \_\_\_\_\_ Leak Tag#: \_\_\_\_\_

DYKE LINED: \_\_\_\_\_ TYPE of LINER: \_\_\_\_\_ Leak Test Co. \_\_\_\_\_ Leak Test Date \_\_\_\_\_

DYKE SHAPE: \_\_\_\_\_ mm Width: \_\_\_\_\_ mm Height: \_\_\_\_\_ mm

DYKE VOLUME: \_\_\_\_\_ m<sup>3</sup> TK. BASE SITTING ON: \_\_\_\_\_ BETWEEN TK. AND BASE: \_\_\_\_\_TANKS INSIDE DYKE: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

P&amp;ID #: \_\_\_\_\_ SHUT DOWN: \_\_\_\_\_

OPERATING PRESSURE: 965 kPa OPERATING TEMP. \_\_\_\_\_ °C YEAR PUT IN SERVICE: \_\_\_\_\_VESSEL CONNECTIONS: NPT \_\_\_\_\_ FLANGE Yes LARGEST CONNECTION \_\_\_\_\_ mm INSPECTION PORT: Man WayFLANGE ANSI: 150 FLG. FACE: \_\_\_\_\_ SIZE of INSPECTION PORT: 406.4 mmVESSEL ORIENTATION: Vertical TYPE OF VESSEL SUPPORT: Skirt IS BOTTLE (VB) BLOCKED: No

TRAY(VT): \_\_\_\_\_ # of TRAYS \_\_\_\_\_ MAT'L \_\_\_\_\_ MFG. \_\_\_\_\_

PACKING(VK): \_\_\_\_\_ EXT. INSULATED: \_\_\_\_\_ Full or Partially covered?

INSULATION TYPE: \_\_\_\_\_ CLADDING: \_\_\_\_\_

TYPE of EXT. INSULATION: \_\_\_\_\_ EXT. INSULATION THICKNESS: \_\_\_\_\_ mm CUI Susceptible: \_\_\_\_\_

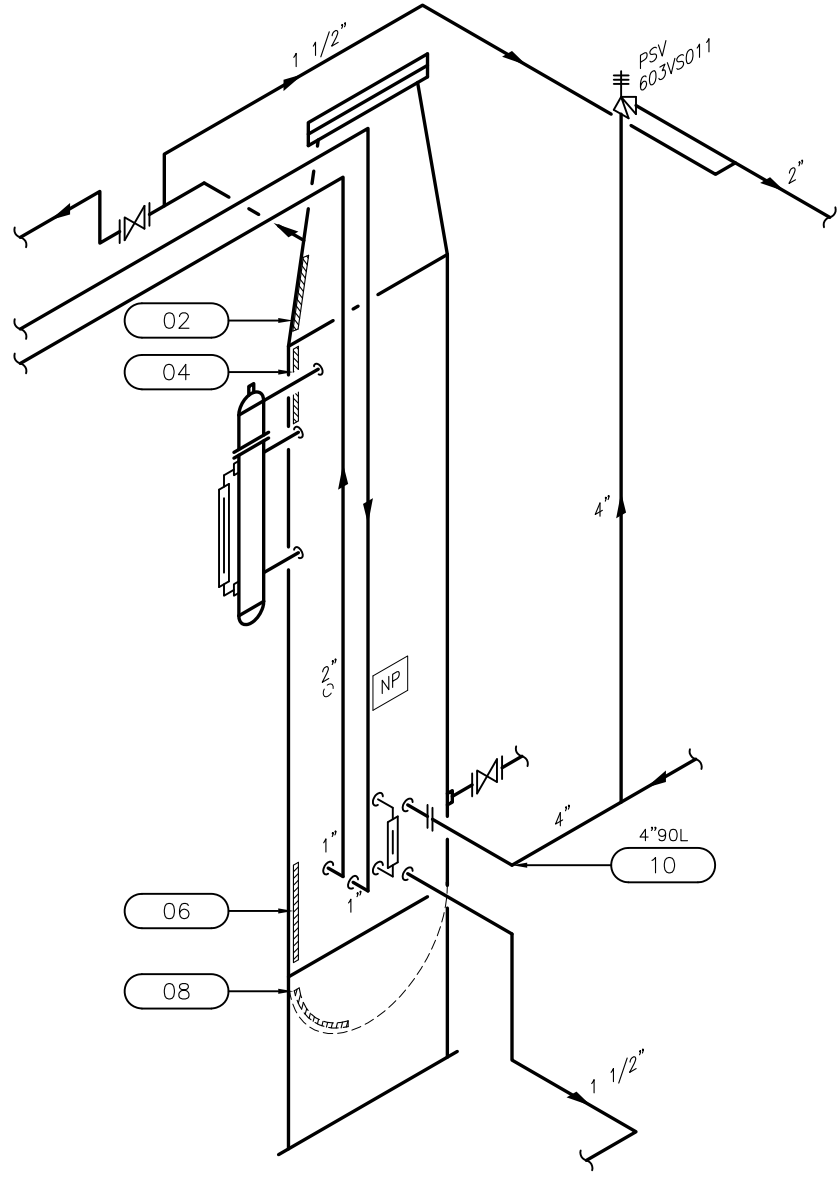
EXT. COATING: Enamel Paint INTERNAL COATING: \_\_\_\_\_ INTER. LINING: \_\_\_\_\_**PRESSURE RELIEF DATA**

CODE: SV, SR, ST, SL or ESD

PROTECTS - TANK, SHELL, TUBE (HA or HT), HP coil, LP coil, FG coil, HS coil (heat string coil in line heater), PL, PP, Channel A or B in HP

PSV OUP#	SET PRESSURE	units	
603SVVS011	1793	kPa	Shell
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	
		kPa	

ITS PRINT NAME: Murray Angus MacGregorITS SIGNATURE: DATE: data collected - yyyy-mmm-dd 2014-Oct-18



<input type="checkbox"/> Column <input type="checkbox"/> Cooler <input type="checkbox"/> Exchanger <input type="checkbox"/> Furnace <input type="checkbox"/> Heater <input type="checkbox"/> Plate Exchanger <input type="checkbox"/> Reboiler <input checked="" type="checkbox"/> Vessel <input type="checkbox"/> Other					Client:, District:, LSD:, Etc.:		
Description:		DISCHARGE OIL TRAP/ COALESCER			TAQA NORTH CHINCHAGA GAS PLANT C-032-H/094-H-08		
P.R.N. No.:		N/S	C.R.N.:	N8389.21			
Equipment No.:		OIP 603VS011	N.B. No.:				
Serial No.:		1617	Other:				
HEAD Material:	SA-105-N/SA-516-70N	Nom.:	8.8mm	C.A.:	1.6mm		
HEAD Material:		Nom.:					
SHELL Material:	SA-516-70N	Nom.:	9.5mm	C.A.:	1.6mm		
SHELL Material:		Nom.:					
MAWP Shell Side:	1793 KPA	@Temp.:	93°C/-29°C		Tech.:	A.L.N.      Date: 10/2014	
					ITS Job No.:	1-2968(I)      DWG No.: 021	

# TAQA North

Unit: N-603

FACILITY:	CHINCHAGA GAS PLANT	MANUFACTURER:	THERMO DESIGN ENGINEER
LSD:	C-032-H/094-H-08	DESIGN PRESSURE:	1793 kPa / 260 psi
ITEM DESC.:	DISCHARGE OIL TRAP/COALESCER	DESIGN TEMP.:	93 C / 199 F
EQUIP / OIP#:	603VS011	VESSEL CORROSION ALLOWANCE:	1.59 mm
PROV. REG. #:	N/S	TOTAL CAUTION / ACTION TML:	2
SERIAL #:	1617		
CRN.:	N8389.21		

## Item # (021)

### COMMENTS:

2014/10 - LIMITED SCANNING DUE TO TEMPERATURE.

### TML No.: 2 TOP HD T-B 150 #

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 9.75 mm.  
 MATERIAL: SA105-N MINIMUM THICKNESS MEASURED: 9.70 mm.

Pts.	Nom. Thick. mm	CA + Steel Mfg.Tol. mm	Nom. -CA -Toll. mm	B/L Survey Thick. mm	Prev. Survey Thick. mm	Last Survey Thick. mm	Short Term CR mm/yr	Long Term CR mm/yr	Rem. Half Life yr	Future UT Reading mm/yy	Action/Caution Required Item
				04/2008		10/2014					
2.01	0.00	0.00	0.00	10.10	N/A	9.80	0.0000	0.0457	100.00	.	NO
2.02	0.00	0.00	0.00	10.10	N/A	9.80	0.0000	0.0457	100.00	.	NO
2.03	0.00	0.00	0.00	10.00	N/A	9.70	0.0000	0.0457	100.00	.	NO
2.04	0.00	0.00	0.00	9.90	N/A	9.70	0.0000	0.0305	100.00	.	NO
2.05	0.00	0.00	0.00	9.90	N/A	9.70	0.0000	0.0305	100.00	.	NO
2.06	0.00	0.00	0.00	10.10	N/A	9.80	0.0000	0.0457	100.00	.	NO

### TML No.: 4 TOP SH T-B 150 #

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 9.85 mm.  
 MATERIAL: SA51670N MINIMUM THICKNESS MEASURED: 9.70 mm.

Pts.	Nom. Thick. mm	CA + Steel Mfg.Tol. mm	Nom. -CA -Toll. mm	B/L Survey Thick. mm	Prev. Survey Thick. mm	Last Survey Thick. mm	Short Term CR mm/yr	Long Term CR mm/yr	Rem. Half Life yr	Future UT Reading mm/yy	Action/Caution Required Item
				01/1998	04/2008	10/2014					
4.01	9.53	1.84	7.69	9.53	10.00	9.90	0.0152	0.0000	72.51	.	NO
4.02	9.53	1.84	7.69	9.53	10.00	9.70	0.0457	0.0000	21.98	.	NO *
4.03	9.53	1.84	7.69	9.53	9.90	9.70	0.0305	0.0000	32.97	.	NO *
4.04	9.53	1.84	7.69	9.53	10.10	10.10	0.0000	0.0000	100.00	.	NO
4.05	9.53	1.84	7.69	9.53	10.10	9.90	0.0305	0.0000	36.26	.	NO *
4.06	9.53	1.84	7.69	9.53	10.10	9.80	0.0457	0.0000	23.08	.	NO *

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

Design Minimum Thickness = Nom. Thick. - CA - Manufacturing Steel Tolerance.

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(\*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.

RED (Action TML Point) - If Remaining Half Life is 0 and Last Survey Thickness is below Nominal-CA-Tolerance Thickness.

CA - Corrosion Allowance, CR - Corrosion Rate (Brown if CR >= 0.500mm/yr.).

Calculated T-Min. Thickness - Using UPipe Mathematics.

# TAQA North

Unit: N-603

FACILITY:	CHINCHAGA GAS PLANT	MANUFACTURER:	THERMO DESIGN ENGINEER
LSD:	C-032-H/094-H-08	DESIGN PRESSURE:	1793 kPa / 260 psi
ITEM DESC.:	DISCHARGE OIL TRAP/COALESCER	DESIGN TEMP.:	93 C / 199 F
EQUIP / OIP#:	603VS011		
PROV. REG. #:	N/S	VESSEL CORROSION ALLOWANCE:	1.59 mm
SERIAL #:	1617		
CRN.:	N8389.21	TOTAL CAUTION / ACTION TML:	2

## Item # (021)

### COMMENTS:

2014/10 - LIMITED SCANNING DUE TO TEMPERATURE.

### TML No.: 6 BTM SH T-B 150 #

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 9.78 mm.  
 MATERIAL: SA51670N MINIMUM THICKNESS MEASURED: 9.70 mm.

Pts.	Nom. Thick. mm	CA + Steel Mfg.Tol. mm	Nom. -CA -Toll. mm	B/L Survey Thick. mm	Prev. Survey Thick. mm	Last Survey Thick. mm	Short Term CR mm/yr	Long Term CR mm/yr	Rem. Half Life yr	Future UT Reading mm/yy	Action/Caution Required Item
					01/1998	04/2008	10/2014				
6.01	9.53	1.84	7.69	9.53	9.60	9.80	0.0000	0.0000	100.00	.	NO
6.02	9.53	1.84	7.69	9.53	9.70	9.80	0.0000	0.0000	100.00	.	NO
6.03	9.53	1.84	7.69	9.53	9.90	9.70	0.0305	0.0000	32.97	.	NO *
6.04	9.53	1.84	7.69	9.53	9.90	9.80	0.0152	0.0000	69.23	.	NO
6.05	9.53	1.84	7.69	9.53	9.90	9.80	0.0152	0.0000	69.23	.	NO
6.06	9.53	1.84	7.69	9.53	9.80	9.80	0.0000	0.0000	100.00	.	NO

### TML No.: 8 BTM HD T-B 150 #

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 9.67 mm.  
 MATERIAL: SA51670N MINIMUM THICKNESS MEASURED: 9.60 mm.

Pts.	Nom. Thick. mm	CA + Steel Mfg.Tol. mm	Nom. -CA -Toll. mm	B/L Survey Thick. mm	Prev. Survey Thick. mm	Last Survey Thick. mm	Short Term CR mm/yr	Long Term CR mm/yr	Rem. Half Life yr	Future UT Reading mm/yy	Action/Caution Required Item
					01/1998	04/2008	10/2014				
8.01	8.76	1.84	6.92	8.76	9.70	9.60	0.0152	0.0000	87.93	.	NO
8.02	8.76	1.84	6.92	8.76	9.70	9.60	0.0152	0.0000	87.93	.	NO
8.03	8.76	1.84	6.92	8.76	9.70	9.60	0.0152	0.0000	87.93	.	NO
8.04	8.76	1.84	6.92	8.76	9.80	9.60	0.0305	0.0000	43.97	.	NO
8.05	8.76	1.84	6.92	8.76	9.80	9.80	0.0000	0.0000	100.00	.	NO
8.06	8.76	1.84	6.92	8.76	9.60	9.80	0.0000	0.0000	100.00	.	NO

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

Design Minimum Thickness = Nom. Thick. - CA - Manufacturing Steel Tolerance.

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(\* ) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.

RED (Action TML Point) - If Remaining Half Life is 0 and Last Survey Thickness is below Nominal-CA-Tolerance Thickness.

CA - Corrosion Allowance, CR - Corrosion Rate (Brown if CR >= 0.500mm/yr.).

Calculated T-Min. Thickness - Using UPipe Mathematics.

# TAQA North

Unit: N-603

FACILITY:	CHINCHAGA GAS PLANT	MANUFACTURER:	THERMO DESIGN ENGINEER
LSD:	C-032-H/094-H-08	DESIGN PRESSURE:	1793 kPa / 260 psi
ITEM DESC.:	DISCHARGE OIL TRAP/COALESCER	DESIGN TEMP.:	93 C / 199 F
EQUIP / OIP#:	603VS011		
PROV. REG. #:	N/S	VESSEL CORROSION ALLOWANCE:	1.59 mm
SERIAL #:	1617		
CRN.:	N8389.21	TOTAL CAUTION / ACTION TML:	2

## Item # (021)

### COMMENTS:

2014/10 - LIMITED SCANNING DUE TO TEMPERATURE.

**TML No.:** 10    **4"90L N-E 150 #**

DATE BUILT: 01/1998

AVERAGE THICKNESS MEASURED: 5.98 mm.

MATERIAL:

MINIMUM THICKNESS MEASURED: 5.80 mm.

Pts.	Nom. Thick. mm	CA + Steel Mfg.Tol. mm	Nom. -CA -Toll. mm	B/L Survey Thick. mm	Prev. Survey Thick. mm	Last Survey Thick. mm	Short Term CR mm/yr	Long Term CR mm/yr	Rem. Half Life yr	Future UT Reading mm/yy	Action/Caution Required Item
				01/1998	04/2008	10/2014					
10.01	6.02	0.75	5.27	6.02	6.50	6.20	0.0457	0.0000	10.17	.	CAUTION *
10.02	6.02	0.75	5.27	6.02	6.00	6.00	0.0000	0.0000	100.00	.	NO
10.03	6.02	0.75	5.27	6.02	5.80	5.90	0.0000	0.0076	41.34	.	NO *
10.04	6.02	0.75	5.27	6.02	6.00	5.80	0.0305	0.0127	8.70	.	CAUTION *
10.05	6.02	0.75	5.27	6.02	5.90	5.90	0.0000	0.0076	41.34	.	NO *
10.06	6.02	0.75	5.27	6.02	5.80	6.10	0.0000	0.0000	100.00	.	NO

If Baseline (B/L) Survey Thickness Measurement was not taken at the time of Manufacture, then Nominal Thickness is used as Baseline Thickness. Minimum Thickness is calculated

Design Minimum Thickness = Nom. Thick. - CA - Manufacturing Steel Tolerance.

Manufacturing Tolerance of pipe and forged fittings is + or -12.5% (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

Manufacturing Tolerance of plate is + or - 0.25mm (0.010") (May or may not apply dependent upon the Client's Owner-User Integrity Management System).

(\*) and GREEN Represent 25% of the last thickness readings, which have the shortest remaining half life.

BLUE (Caution TML Point) - if Corrosion Rate exceed a 0.250mm / 0.009 in. per yr. or Half Life is less than 15 years.

RED (Action TML Point) - If Remaining Half Life is 0 and Last Survey Thickness is below Nominal-CA-Tolerance Thickness.

CA - Corrosion Allowance, CR - Corrosion Rate (Brown if CR >= 0.500mm/yr.).

Calculated T-Min. Thickness - Using UPipe Mathematics.



## EQUIPMENT EXTERNAL INSPECTION REPORT

<b>Customer:</b>	TAQA North	<b>ITS Job No.:</b>	1-2968
<b>District:</b>	North Area	<b>Date:</b>	18-Oct-2014
<b>Facility:</b>	Chinchaga Gas Plant	<b>LSD:</b>	C-032-H/094-H-08
<b>Equip. Description:</b>	Discharge Oil Trap / Coalescer	<b>Serial No.:</b>	1617
<b>Equip./OIP No.:</b>	603VS011	<b>PRN:</b>	Not Stated
<b>Equip. Type:</b> <input type="checkbox"/> Column <input type="checkbox"/> Cooler <input type="checkbox"/> Exchanger <input type="checkbox"/> Furnace <input type="checkbox"/> Heater <input type="checkbox"/> Plate Exchanger <input type="checkbox"/> Reboiler <input checked="" type="checkbox"/> Vessel <input type="checkbox"/> Other:			

Remedial Action	Service	Associated Components	Shell
<input checked="" type="checkbox"/> No Action Required	<input checked="" type="checkbox"/> Sweet <input type="checkbox"/> Sour	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N: Name Plate Secure	<input checked="" type="checkbox"/> Good Condition
<input type="checkbox"/> Paint/Coating Repairs	<b>Access and Coverage</b>	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N: Name Plate Legible	<input type="checkbox"/> External Corrosion
<input type="checkbox"/> Insulation Repairs	<input checked="" type="checkbox"/> External Inspection	External Grounding	<input type="checkbox"/> Pitting: <span style="float: right;">(max depth)</span>
<input type="checkbox"/> PSV Service Required	<input type="checkbox"/> Part. External Inspection	<input type="checkbox"/> Direct <input checked="" type="checkbox"/> Indirect <input type="checkbox"/> N	<input type="checkbox"/> Scale
<input type="checkbox"/> Further Assessment Required	<input type="checkbox"/> Internal Inspection (VI) NDE Examination	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA: Ladders/ Handrail/ Walkway/ Grating in safe condition?	<input type="checkbox"/> Blistered
<input type="checkbox"/> Condition Damage	<input checked="" type="checkbox"/> UT		<input type="checkbox"/> Mechanical Damage
<input type="checkbox"/> Does not comply with applicable code/safe operating requirement.	<input type="checkbox"/> MT	<input type="checkbox"/> See Attached Pictures	<input type="checkbox"/> Deformation/Distortion
<input type="checkbox"/> Repairs Required	<input type="checkbox"/> PT	<input type="checkbox"/> Excessive Vibration	<input type="checkbox"/> Condensation/Sweating
<input type="checkbox"/> See Comments	<input type="checkbox"/> RT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA: Pressure Gauge within MAWP	<input type="checkbox"/> No Access
<b>Status</b>	<input type="checkbox"/> BH		<input type="checkbox"/> No Access Insulated
<input checked="" type="checkbox"/> Operational; <input type="checkbox"/> Idle;	<input type="checkbox"/> Other	<input type="checkbox"/> Y <input checked="" type="checkbox"/> N <input type="checkbox"/> NA: Temp. Gauge within MDMT	<input checked="" type="checkbox"/> Weld(s) in Good Condition
<input type="checkbox"/> Shut In;	<input type="checkbox"/> See Comments	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N Attached Piping and Instrumentation in Good Condition	<input type="checkbox"/> Weld(s) Corroded
<input type="checkbox"/> Surplus/Boneyard;		<input type="checkbox"/> See Comments	<input type="checkbox"/> Weld(s) Poor Quality
<input type="checkbox"/> Other:			<input type="checkbox"/> Weld(s) Cracked
			<input type="checkbox"/> See Comments

Head (1)	Head (2)	Nozzles
<input checked="" type="checkbox"/> Top <input type="checkbox"/> North <input type="checkbox"/> West	<input checked="" type="checkbox"/> Bottom <input type="checkbox"/> South <input type="checkbox"/> East	<input checked="" type="checkbox"/> RF <input type="checkbox"/> RTJ <input checked="" type="checkbox"/> NPT
<input type="checkbox"/> Flat <input checked="" type="checkbox"/> FLG <input type="checkbox"/> ELL <input type="checkbox"/> ECC <input type="checkbox"/> HEMI	<input type="checkbox"/> Flat <input type="checkbox"/> FLG <input checked="" type="checkbox"/> ELL <input type="checkbox"/> ECC <input type="checkbox"/> HEMI	<input checked="" type="checkbox"/> Good Condition
<input type="checkbox"/> Quick Actuating Closure	<input type="checkbox"/> Quick Actuating Closure	<input checked="" type="checkbox"/> Fasteners Engaged
<input checked="" type="checkbox"/> Good Condition	<input type="checkbox"/> Good Condition	<input type="checkbox"/> Repad Weep Holes Clear
<input type="checkbox"/> External Corrosion	<input checked="" type="checkbox"/> External Corrosion	<input type="checkbox"/> Nozzles are Gusseted
<input type="checkbox"/> Pitting: <span style="float: right;">(max depth)</span>	<input type="checkbox"/> Pitting: <span style="float: right;">(max depth)</span>	<input type="checkbox"/> External Corrosion
<input type="checkbox"/> Scale	<input type="checkbox"/> Scale	<input type="checkbox"/> Leaking/Weeping
<input type="checkbox"/> Blistered	<input type="checkbox"/> Blistered	<input type="checkbox"/> Damaged/Cracked
<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Mechanical Damage	<input type="checkbox"/> Bolts Missing/Loose
<input type="checkbox"/> Deformation/Distortion	<input type="checkbox"/> Deformation/Distortion	<input type="checkbox"/> Deflection/Distortion
<input type="checkbox"/> Condensation/Sweating	<input type="checkbox"/> Condensation/Sweating	<input type="checkbox"/> Partial Internal Inspection
<input type="checkbox"/> No Access	<input type="checkbox"/> No Access	<input type="checkbox"/> No Access Insulated
<input type="checkbox"/> No Access Insulated	<input type="checkbox"/> No Access Insulated	<input checked="" type="checkbox"/> Weld(s) in Good Condition
<input type="checkbox"/> No Access Ice Build Up	<input type="checkbox"/> No Access Ice Build Up	<input type="checkbox"/> Weld(s) Corroded
<input type="checkbox"/> External Protection Only	<input type="checkbox"/> External Protection Only	<input type="checkbox"/> Weld(s) Poor Quality
<input type="checkbox"/> See Comments	<input checked="" type="checkbox"/> See Comments	<input type="checkbox"/> Weld(s) Cracked
		<input type="checkbox"/> See Comments

External Surface	Supports	Associated Piping	PRD 1	PRD 2
<input checked="" type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	<input checked="" type="checkbox"/> Good Condition	Location: inlet piping	Location: Not Applicable
<input checked="" type="checkbox"/> Painted <input checked="" type="checkbox"/> Full <input type="checkbox"/> Part.	<input checked="" type="checkbox"/> Anchor Bolts Secure	<input type="checkbox"/> Corrosion	PSV Tag No.: 603SVVS011	PSV Tag No.: Not Applicable
<input type="checkbox"/> Coated <input type="checkbox"/> Full <input type="checkbox"/> Part.	<input type="checkbox"/> Welded to Skid	<input type="checkbox"/> Pitting: <small>(max depth)</small>	<input checked="" type="checkbox"/> Service Date within Interval	<input type="checkbox"/> Service Date within Interval
<input type="checkbox"/> Insulated <input type="checkbox"/> Full <input type="checkbox"/> Part.	<input type="checkbox"/> Supported by Nozzle(s)	<input type="checkbox"/> Bolts Missing/ Loose/ Damaged	<input checked="" type="checkbox"/> Set Pressure within MAWP	<input type="checkbox"/> Set Pressure within MAWP
<input type="checkbox"/> Insulation Damaged	<input type="checkbox"/> Piping Supported	<input type="checkbox"/> Short Threaded	<input checked="" type="checkbox"/> Safety Seal Intact	<input type="checkbox"/> Safety Seal Intact
<input type="checkbox"/> Penetration Seals Broken	<input type="checkbox"/> Expansion Slots	<input type="checkbox"/> Valves leaking	<input checked="" type="checkbox"/> Service Seal Intact	<input type="checkbox"/> Service Seal Intact
<input type="checkbox"/> Corrosion Under Insulation (CUI)	<input type="checkbox"/> Bolts Missing/ Loose/ Damaged	<input type="checkbox"/> Connections Leaking	<input checked="" type="checkbox"/> Current Service Tag Attached	<input type="checkbox"/> Current Service Tag Attached
<input type="checkbox"/> Visible Moisture Contamination	<input type="checkbox"/> Short Threaded	<input checked="" type="checkbox"/> Piping and Valves Supported	<input type="checkbox"/> PSV inlet Gusseted	<input type="checkbox"/> PSV inlet Gusseted
<input type="checkbox"/> Paint Deterioration	<input type="checkbox"/> Deflected/Distorted	<input type="checkbox"/> Piping Deflected/ Distorted	<input type="checkbox"/> Inlet Block Valve	<input type="checkbox"/> Inlet Block Valve
<input type="checkbox"/> Coating Deterioration	<input type="checkbox"/> Poor Insulation	<input type="checkbox"/> No Access Insulated	Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N	Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> Fireproofing Cracked	<input type="checkbox"/> Fire Proofing Cracked	<input type="checkbox"/> See Comments	Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N	Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N
<input type="checkbox"/> External Protection Only	<input checked="" type="checkbox"/> Vessel is level		<input type="checkbox"/> Outlet Block Valve	<input type="checkbox"/> Outlet Block Valve
<input type="checkbox"/> See Comments	<input type="checkbox"/> See Comments		Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N	Locked Open <input type="checkbox"/> Y <input type="checkbox"/> N
			Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N	Sealed Open <input type="checkbox"/> Y <input type="checkbox"/> N
			<input checked="" type="checkbox"/> See Comments	<input type="checkbox"/> See Comments

**Observations:**

 Equipment in  Good,  Fair, or  Poor Condition

**Good:** No concerns found (may still have recommendations)  
**Fair:** Minor issues found that do not impair the "fitness for service" of the equipment, (paint deterioration, general external surface corrosion - no measurable metal loss, not mounted to skid, etc.)  
**Poor:** Equipment had moderate to major concerns found (equipment is damaged, severe external corrosion noted, cracked or broken component, etc.)

 **Based on API 510 Visual External Inspection this vessel is fit for service**  
 (this piece of equipment meets the Jurisdictional requirements)

No access to PSV due to height. PSV information was obtained from Taqa records.  
 Paint deterioration on bottom head has resulted in minor external corrosion.

**Recommendations:**

None

**Non-Conformance Conditions and Corrective Actions:**

Note: Reference any and all Non-Conformance Report (NCR) numbers and Corrective Action Report (CAR) numbers.

None

**Recommended Inspection Intervals:**

Recommended Maximum Inspection Interval:	60	Months	PRD 1 Recommended Service Interval:	60	Months	PRD 2 Recommended Service Interval:	Not Applicable	Months
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External Inspection Performed By:

ABSA IPV PESL: 000622

API 510: 40801

API 653: 48515

PEI Class 2: 158

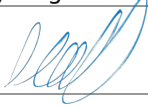
CWB Level 2: 8501

Print Name:

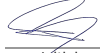
Murray Angus MacGregor

Certification No.:

Signature:



Report Reviewed:

  
Initial

Chief Inspector /  
Client  
Representative:

Name (Print)

Signature

Date: