AR MINISTERNATION			CIC.
	MANUFACTU		DESIGN
W RT-2	EDMONTON	ALBERTA	CANADA
	UNITNAME		TAG NUMBER
FEED/BO	ITOMS EXCT	HANGER	E-700.
CH. NUMBER	SERIAL NUMBER	ANU	MBER
L-0310,21	#1628		
MAWP: 95-245PSI 75-245PSI	AT TEMP. G 250° F CORR ALL	M.D.M.T20°F SS	AT PRESSURE . 5-245 PSIG. 5-245 PSIG.
1998	0.0625 IN	9097-085	50-214.
6.625 IN	8-OTS/TS	CAPACITY . I. 31 CUFT	WEIGHT 550 LBS.
SA-106-B	SA-105N SA-105N	SA -516-70N SA -516-70N	COIL MATL SA-179
0,380 IN	HEAD MIN. THK. 150#BLD FLG	1:250 IN 1:250 IN	COILTHK.
	devaluation of	脚类数。 人名克	



TAQA NORTH DATA

EQUIPMENT STATIC DATA FORM

EQUIP NO.: 603HT007	RAMS ID TAG N	NO.: NEW	PRN: 1	N/A	NAT'L I	BOARD #:	N/A	CATEGORY:
PLANT/FIELD: CHINCHAG	GA GAS PLANT		LSD: 0	C-032-H / 09	94-H-08	LOCATION:	GAS PI	LANT
EQUIP. NAME : FEED/BOTT	TOMS EXCHANGER	-	Cl	LASS: HT	1		TYPE:	EXCHANGER
SERVICE: Sweet	Sour H2S:	N/A PPN	M FI	LUID: CO	NDENSATE	S/D R	EQT.:	Yes No Partial
OPERATING PRESSURE:	10	KPa □I	PSI O	PERATING	TEMPERATU	RE:	24	⊠°C □°F
OPERATING STATUS: II	N SERVICE □N	ot In Service	M	/WAY(16"AN	ND ABOVE):	□Yes 🗵	No SIZ	E: 6"
MANUFACTURING DA	TA							
MFG.: THERMO DESIGN L	TD DWG. NO.:	9097-0850-214	SI	ERIAL NO.:	1628	YR. BU	JILT: 19	98 STAMP: U,W
CRN: L0310.21	CODE/DIV.: AS	SME VIII DIV 1	PA	ARA.: N/A	A	SUPPO	RT: Ski	rt □Saddles ⊠Nozzle
MAWP: 1689 ⊠kPa □	□PSI @ TEMP:	121 ⊠°C	□°F N	IDMT: -	-29 ⊠°C []°F VOLUM	ME:	N/A ☐M³ ☐FT
FLANGE RATING: 150#	PWHT: Yes	⊠No □N	/A RAD	OIOGRAPHY	Y: □RT1 🗵	RT2 R	T3 □RT4	□Spot □Full □N/.
SIZE: 168 ⊠mm.	□inch. □ID	OD LENG	TH:	2438	⊠mm. □in	ch. HEIGH	T: N/A	□mm □inc
INSULATION TYPE: Fiber	rglass Wool	Low Temp	Asbestos	Other: No	ONE	INSUL	ATION THK	: N/A ☐mm ☐inc
SECTION		MATERIAL		N	NOMINAL mn	1		C.A. mm
SHELL		SA-106-B			7.1 MM			1.6 MM
HEAD		SA-105-N		150 BLIND FLANGE 1.6 M				1.6 MM
COMMENTS:								
TUDING DATA								
TUBING DATA								
MAWP: 1689 ⊠k	Pa □PSI @ T	EMP: 121		°C □°F	TEMA CLAS	SS: N/A	T	YPE: SA-179
TUBE SIZE: 168 mm.	. □ID ⊠OD	NUMBER (QTY	OF TUBES)	: N/A	GAUGE (BW	G): 14	JOINT:	□Welded □Rolled
SECTION		MATERIAL			NOMINAL n	ım		C.A. mm
SHELL		SA-516-70N			31.8 MM			1.6 MM
TRAY/PACKING DATA								
TRAY TYPE: N/A	NUMI	BER (# OF TRAYS)	: N/A		PAC	KING TYPE	E: N/A	
MATERIAL: N/A	MAN	JFACTURER:	N/A					
COATING/LINING/CLA	ADDING DATA							
AREA								
EXTERNAL:		OXY						YR. APPLIED
INTERNAL:		V/A	N/A N/A				N/A	
LINING:		V/A					N/A	
CLADDING:		V/A V/A				N/A		
CLADDING.	1	VA			17/7	1		IVA
PRESSURE RELIEF DE	PRESSURE RELIEF DEVICES DATA PSV not located No PSV							
EQUIP. NO.	TAG NO.	S	ET	(CAPACITY		CAP UN	NITS/OTHER
603SVVT002	N/A	1689	⊠kPa [□PSI	824	⊠SCFM	□LB/hr.	☐GAL/min.
N/A	N/A	N/A	∏kPa [□PSI	N/A	□SCFM	LB/hr.	☐GAL/min.
N/A	N/A	N/A	□kPa [□PSI	N/A	□SCFM	LB/hr.	☐GAL/min.

FORM U-1 MAI ACTURER'S DATA REPORT FOR PRESSUF VESSELS As Required by the Provisions of the ASME Code Rules, Section 3.1, Division 1

CTC, PG. 1 OF 2

Manufactured and certified by THERMO DESIGN ENGINEERING LTD., 1524 - 70 A/FEMULE ENMONTON, ALBERTA CANADA TOP 195										-								
	. Mar	ufactured and	certified b	y THER	IMO DESIGN E	NGINEERIN	G LTD., 1	524 - 70 <i>F</i>					CANADA	A T6P 1P5				
	2. N	ectured for	Chauvo	o Res. Lt	d. c/o Tartan E	ng. Ltd., 170	0, 800 - 6t		S.W., Calga	ry, A	AB T2P 3G	8.50						
Type	3. Loc	ation of Installa	ation Cl	ninchaga	Gas Plant, Bri	tish Columbia	, LSD: C-	•		s of P	ourchaser)							
RANKE Code, Section VIII, Div. 1 Edition 1995. Address Edition 1995. Address Code Case No. Code Case										and ad	ddress)							
ASME Code, Section VIII, Div. 1	1. Тур		WHEELOO PARTICIPATION								Visin Vision evaluate visits		ASSESSMENT OF THE PARTY OF	Section and different particles	1011			
Edition Color Co	5 451)	(Mtg's ser	ial No.)		(CRN)		(Dra	wing No.)	23	vati. Bo	I. No.) (Year built)
Shell (a) No. of course(s)). /\OI	VIL OUGE, OUG		=				Coc	le Case No.	_			Spe	cial Service pe	er UG-120(d)		-
No. Diameter, in. Length (lik in.) Spec/Grade or Type Nom. Corr. Type Full, Spot, Nome Eff. Type	tems	6 - 11 Incl. to I	e comple	ted for sir	ngle wall vesse	ls, jackets of j	acketed v	essels, st	nell of heat ex	chan	ngers, or cha	amber	of multi-c	hamber ve	ssels.			
No. Diameter, in Length (in & in.) Spec_Kirade or Type Nom. Corr. Type Full, Spot, None Eft. Type Full, Spot,	3. She	ell (a) No. of co	ourse(s):		1		(t) Overall	length (ft & in	ı.): _				8'-0" TS	/TS			
1		Course	e(s)		Mater	ial	Thick	ness	Long.	Join	it (Cat. A)		Circun	n, Joint (Cat	. A, B & C	;)	Heat Tre	atment
Content Cont	No.	Diameter, in.	Length (i	ft & in.)	Spec/Grade	or Type	Nom.	Corr.	Туре	Full,	Spot, None	Eff.	Туре	Full, Sp	ot, None	Eff.	Temp.	Time
	1	6.07"ID	7'-9 3	3/4"	SA-10	6-B	0.280"	0.0625"	Sml's Pipe		N/A	100	Sgl"V"	CS	:Spot	100	N/A	N/A
	7. Hea	ads: (a)			N/	A N/A			(b)					N/A N/A	A			
Bottom, Ends Min. Corr. Crown Knuckle Ratio Apex Angle Radius Diameter Concave Type Full, Spot, None Eff.							and conserve soon and a final	1 2 1				T	Officer many spirit	W. C	H.T Time	10,004	95V	
A			200000				and Some	AC 200		1		12.00			-			
Termovable, bolts used (describe other fasterning) N/A			MIN.	Corr.	· Crown	Knuckie	Hatio	Apex Ar	igie Hadius		Diameter	UC	nvex	Concave	Туре		uli, Spot, N	one Eff.
Tremovable, bolts used (describe other fastening)						-								51				_
NA	(0)		1		11	I		1		-5416		<u> </u>	1		1	E		}
NA	If rem	ovable, bolts ι	sed (desc	ribe other	r fastening)	N/A												
Note	0 Tu	a of inakat			NI/A				lacket elecu		(Mat'l Spec. No	, Grade	, Size, No.)	N//	V.			
	o. iyi	e or jacker			INF				Jacket Closu	16			(Desc			etc.)		
10. Impact test No, Exempt Per UG-20(f) (internal) (external) (indicate yes or no and the component(s) impact tested)	14 .	r, give dimen	sions N	I/A							í	-				98	scribe or s	ketch.
10. Impact test No, Exempt Per UG-20(f) (internal) (external) (indicate yes or no and the component(s) impact tested)						8				_			•			1 1920		9
10. Impact test	9. MA					ax. temp				-	Min. desigr	n meta	I temp.	-20	* F	at _	245	psi.
11. Hydro, pneu, or comb. test press 368 PS G Proof test Hydrotest	10. In	7.00	20.00000000 .				\		(CAICHIAI)									
		· · · · · · · · · · · · · · · · · · ·	<u> </u>			***************************************	(inc	licate yes or	no and the comp	onent	t(s) impact teste	d)						
12. Tube sheet: SA-516-70N (2 Pieces) 6.07' 1.250' 0.0625' Mom. thk., in. N/A N/A N/A N/A N/A N/A N/A N/A N/A Floating (Mart Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Nom. thk., in. N/A				하기 가지 얼마셨다. 프라스 하나 있다.		36	8 PSIG		Proof	test				Hydro	test			-
Stationary (Mart Spec. No.) Dia., in (subject to press.) Nom., thk., in. Nom., thk., in. Corr. Allow., in. Altachment (welded or botted)			-0-3277 - CA2+17970 (MO-04) - EHERO (M															
N/A	12. T	ubesheet:					(12)((2))				and the second second	101000000000000000000000000000000000000		-				
SA-179 O.75" 14 BWG 26 Straight				Stationary (M	iati Spec. No.)			ct to press.)		. , IN.	Corr				Attachme		The second second	
13. Tubes: SA-179 0.75" 14 BWG 26 Straight Matt' Spec. No., Grade or Type O. D., in. Nom. thk., in. or gauge Number Type (Straight or U)	_	Flo		inec Nn)													200 AND CO.	
Mat1 Spec. No., Grade or Type O. D., in. Nom. thk., in. or gauge Number Type (Straight or U)	13. T		aming (marrie	G						BWG				26		,		
14. Shell (a) No. of course(s): 2 (b) Overall length (ft & in.): Course(s) Material Thickness Long. Joint (Cat. A) Circum. Joint (Cat. A, B & C) Heat Treatment No. Diameter, in. Length (ft & in.) Spec_/Grade or Type Nom. Corr. Type Full, Spot, None Eff. Type Full, Spot, None Eff. Temp. Time 1 6.07"ID 7 1/2" SA-106-B 0.280" 0.0625" Sml's Pipe N/A 100 Sgl"V" CS:Spot 100 N/A N/A 2 6.07"ID 7 1/2" SA-106-B 0.280" 0.0625" Sml's Pipe N/A 100 Sgl"V" CS:Spot 100 N/A N/A 15. Heads: (a) SA-105N N/A SA-105N N/A SA-105N N/A Corr. Type Elfliptical Conical Hemispherical Bottom, Ends) Min. Corr. Crown Knuckle Ratio Apex Angle Radius Blind Flg. Side to Pressure Convex Concave Type Full, Spot, None Eff. Temp. Heat Treatment Circum. Joint (Cat. A, B & C) Heat Treatment Circum. Joint (Cat. A, B & C) Heat Treatment Circum. Joint (Cat. A, B & C) Heat Treatment Circum. Joint (Cat. A, B & C) Heat Treatment Filith Tope (Mail Spec. No., Grade or Type) Convex Concave Type Full, Spot, None Eff. Convex Concave Type Full, Spot, None Eff. Eff. Type Full, Spot, None Filith Apex Angle Radius Diameter Convex Concave Type Full, Spot, None Full, Spot, None Eff. Eff. Temp. Convex Concave Type Full, Spot, None Filith Filith Convex Concave Type Full, Spot, None Eff. Eff. Temp. Convex Concave Type Full, Spot, None Eff. Eff. Eff. Edgory A Diameter Convex Concave Type Full, Spot, None Eff. Eff. Eff. Eff. Eff. Edgory A Eff. Eff. Eff. Edgory A Eff. Eff. Eff. Edgory A Edg			Mat'l Spe										N			Тур		U)
Course(s) Material Thickness Long. Joint (Cat. A) Circum. Joint (Cat. A, B & C) Heat Treatment	Items	14 - 18 incl. to	be comp	leted for i	inner chambers	of jacketed v	essels or	channels	of heat excha	ange	rs.							
No. Diameter, in. Length (ft. & in.) Spec/Grade or Type Nom. Corr. Type Full, Spot, None Eff. Type Full, Spot, None Eff. Temp. Time 1 6.07"ID 7 1/2" SA-106-B 0.280" 0.0625" Sml's Pipe N/A 100 Sgl"V" CS:Spot 100 N/A N/A 2 6.07"ID 7 1/2" SA-105N N/A 0.280" 0.0625" Sml's Pipe N/A 100 Sgl"V" CS:Spot 100 N/A N/A 15. Heads: (a) SA-105N N/A (b) SA-105N N/A (Mat'l Spec. No., Grade or Type) H.T Time & Temp. (Mat'l Spec. No., Grade or Type) H.T Time & Temp. Location (Top, Thickness Radius Elliptical Apex Angle Radius Flat Side to Pressure Category A Bottom, Ends) Min. Corr. Crown Knuckle Ratio Apex Angle Radius Diameter Concave Type Full, Spot, None E	14. S	hell (a) No. of	course(s):			2		(b) C	verall length	(ft &	in.):			0'-	11" S/F			
1 6.07"ID 7 1/2" SA-106-B 0.280" 0.0625" Sml's Pipe N/A 100 Sgl"V" CS:Spot 100 N/A N/A 2 6.07"ID 7 1/2" SA-106-B 0.280" 0.0625" Sml's Pipe N/A 100 Sgl"V" CS:Spot 100 N/A N/A 15. Heads: (a) SA-105N N/A (b) SA-105N N/A (Mat'I Spec. No., Grade or Type) H.T Time & Temp. (Mat'I Spec. No., Grade or Type) H.T Time & Temp. Location (Top, Thickness Bottom, Ends) Radius Elliptical Apex Angle Radius Flat Diameter Side to Pressure Category A (a) End 6"Dia 150# Blind Flg. Diameter Convex Concave Type Full, Spot, None Eff.		Cours	e(s)		Mate	rial	Thic	kness	Long	j. Joir	nt (Cat. A)		Circu	m. Joint (Ca	t. A, B &	C)	Heat T	realment
2 6.07"ID 7 1/2" SA-106-B 0.280" 0.0625" Sml's Pipe N/A 100 Sgl"V" CS:Spot 100 N/A N/A 15. Heads: (a) SA-105N N/A (Mat'l Spec. No., Grade or Type) H.T Time & Temp. Location (Top, Thickness Radius Elliptical Bottom, Ends) Min. Corr. Crown Knuckle Ratio Apex Angle Radius Diameter Convex Concave Type Full, Spot, None Eff. (a) End 6"Dia 150# Blind Flg.	No.	Diameter, in.	Length (ft. & in.)	Spec./Grad	le or Type	Nom.	Corr.		Full	I, Spot, None	Eff.	Туре	Full, S	pot, None	e Eff.	Temp.	Time
15. Heads: (a) SA-105N N/A (Mar'l Spec. No., Grade or Type) H.T Time & Temp. Location (Top, Thickness Radius Elliptical Bottom, Ends) Min. Corr. Crown Knuckle Ratio Apex Angle Radius Diameter Convex Concave Type Full, Spot, None Eff. (a) End 6"Dia 150# Blind Flg.	1	6.07"ID	7 1	/2"	SA-10	06-B	0.280"	0.0625"	Sml's Pipe		N/A	100	Sgl"V	" CS	S:Spot	100	N/A	N/A
Category A Corr. Crown Knuckle Ratio Ratio Flg. Concave Concave Type H.T Time & Temp.	2	6.07"ID	7 1.	/2"	SA-10	06-B	0.280"	0.0625"	Sml's Pipe		N/A	100	Sgl"V	" CS	S:Spot	100	N/A	N/A
Category A Corr. Crown Knuckle Ratio Ratio Flg. Concave Concave Type H.T Time & Temp.			1	1						<u></u>						1	1	
Location (Top, Thickness Radius Elliptical Conical Hemispherical Flat Side to Pressure Category A Bottom, Ends) Min. Corr. Crown Knuckle Ratio Apex Angle Radius Diameter Convex Concave Type Full, Spot, None Eff. (a) End 6"Dia 150# Blind Flg.	15. F	leads: (a)				2022			(b) _	***	····						
Bottom, Ends) Min. Corr. Crown Knuckle Ratio Apex Angle Radius Diameter Convex Concave Type Full, Spot, None Eff. (a) End 6"Dia 150# Blind Flg.	ГП	Location (Ton	This				77,2237 - 45 3	Coni	al Hamisaha	arical	Elat	(Ma	The second second		pe) H.T]			
(a) End 6"Dia 150# Blind Flg.	1 1								10			-			Tun			lone Eff
<u> </u>	-									-	Diamotol	+		03,100,10	1,36	-	, opo., i	
				İ											1			

SA-193-B7, 3/4" Diameter, (8)

(Mat'l Spec. No., Grade, Size, No.)

,vable, bolts used (describe other fastening)

MAWP	24 (inter		N/A (external)	psi at max. '	250 (internal)	N/A (external)	_ ° F	Min. desig	n metal temp.	-20	_ ° F	= at	245	psi.
Impact test				-Sheets Per UCS-66(a)				s) impact tested	- exd					
Hydro., pne				368 PSI	10 10		oof test	ay impuot tostou		Hydrote	st	· · · · · · · · · · · · · · · · · · ·		
N 'es, insp	ection						N1- 7	Listana T	Dainfassana		A1		Lassia	
և (Inlet,		Diameter	Flange	Mate				hickness	Reinforcemen	200		tached	Locatio	0.000
tlet, Drain, etc.)	-	or Size	Туре	Nozzle	Flan		Nom.	Corr.	Material	Noz		Flange	(Insp. Op	
N1	1	2"	RFWN	SA-106-B	SA-1		0.218"	0.0625"	N/A	UW-16			Chann	
N2	1	2"	RFWN	SA-106-B	SA-1	05	0.218"	0.0625"	N/A	UW-16		-	Chann	
C1	1	1 1/2"	CPLG	SA-105	N/A	4	6000#	0.0625"	N/A	UW-16			Shell	_
C2	1	1 1/2"	CPLG	SA-105	N/A	4	6000#	0.0625"	N/A	UW-16			Shell	
C3	1	3/4"	CPLG	SA-105	N/A	A	6000#	0.0625"	N/A	W-16	3.1(c)	N/A	Chann	el
C4	1	3/4*	CPLG	SA-105	N/A	Α	6000#	0.0625"	N/A	JW-16	3.1(c)	N/A	Chann	el
Supports: Ski	<u> </u>	No	Lugs	Legs	_!	hers	1	Shoes	Atta	ched		Welde	od .	
Supports. Ski	··· –	(Yes or No.)	_ Lugs _	(No.)	(No.)			Describe)				(Where and		
pacity:	1.3	1 Cu Ft.		PS/TS, Feed/Bott	oms Excha	inger "	E-700"						7.334	
eating Su					/ 7 7 h b -	C Desi	niah c	1 = 1) DCII.	O- Di-				
gistered	Dr	awing No	.: 909	7-0850-214/Rev.1	(Alberta	1 & Bri	tish C	orumbia	.) PSV:	On Pip	Lng		*****	
N. V				050	TIFICATE OF	E CHOR C	OMBLIA	NCE						
	le for	Pressure Ve	ssels, Sect	nis report are correct and t ion VIII, Division 1.	that all details	of design,	material,		pires <i>F</i>	August 22		, 19 99	orm to	
							2			Belle	7	-		
Date 98-0.	3.17	Name Name		THERMO DES		RING LTD).		Signed Ca					
-					Manufacturer)		NODEOT	10N			tepres	sentative)		
					RTIFICATE O					Carlottera Carlottera Carlottera Carlottera				
, the undersig	ned, I	holding a vali	id commiss	ion issued by The Nationa	il Board of Boil	ier and Pre	essure Ves	ssel Inspect	ors and the Stat	e or Provinc	e of	_	AB	
and employed	by			Alberta Boilers' Safety Ass	sociation			of	in Edm	nonton			have insp	ected
Manufacturer emplover mak	has d es an er sh	constructed the y warranty, e all be liable i	nis pressur expressed on any man	facturer's Data Report on e vessel in accordance with or implied, concerning the ner for any personal injury fauthorized	th ASME Code pressure vesso or property da	e, Section el describe	VIII, Divised in this Notes of an	sion 1. By si Manufacturer ny kind arisir	s Data Report. To from or conne	icate neither Furthermore	r the l e, nei nis in:	Inspector i ither the Ir spection.	nor his Ispector	, the
				CERTIFICA	ATE OF FIEL	D ASSEN	BLY CO	MPLIANCE	Ē					
We certify that Code, Section			n this repor	t are correct and that the	e field assemb	oly construc	ction of all	I parts of this	s vessel conform	ns with the r	equir	ements of	ASME	
U Certificate o	f Auti	horization No						Exp	oires	120000		_ , 19		
Date		N	ame						Signed					
-			A-1-1-1	****	(Assembler)					(F	lepres	entative)		-
					ATE OF FIE									
I, the undersig	jned,	holding a val	id commiss	sion issued by The Nationa	al Board of Boi	iler and Pre	essure Ve	ssel Inspect	ors and the Sta	te or Provinc	ce of	6 <u>7.35</u>		hijosalar.
and employed	by								of					
have compare	ed th	e statement	s in this	Manufacturer's Data Re	port with the	described	d pressur	e vessel a	nd state that	parts refer	rred	to as dat	a items	_
									ve been inspec					edae
and ballof th	o M	anufacturor F	has constr	ucted and assembled this										5~
					Pressure vess				neither the Inspe					rantv
was inspected expressed or in be liable in an	implie	ed, concernin	g the press	sure vessel described in th jury or property damage o	nis Manufactur	rer's Data	Report.	Furthermore	e, neither the l	Inspector no				ainy,
Date	•		aned					nmissions	* Open 47 479 574					

(Authorized Inspector)

(Nat'l Board incl. endorsement, State, Province and No.)

N	P&ID. #
042-10 100	042-20
042-10 E-700 Prov.R.#	042-15)
P.E. No. E-700 Serial No. 1628 Pr. MFR. THERMO DESIGN Code/Div. Yr. Blt. 1998 Yr. Inst. Size 6.625*** x 8* Nominal Thickness & Material	Ov. Reg. No. A C.R.N. L-0310.21 — Para Code Stamp U — Service PWHT NO RT RT-1 Insulated NO
P.E. No. E-700 Serial No. 1628 Property MFR. THERMO DESIGN Code/Div.	Ov. Reg. No. A C.R.N. L-0310.21 — Para Code Stamp U — Service PWHT NO RT RT-1 Insulated NO Repairs NO NO

Reason Head: _ Reason _ Shell: __.280" (7.1mm) SA 106 B .0625" Shell: _____ PIONEER NATURAL RESOURCES CANADA INC. CHINCHAGA GAS PLANT LSD C-32-H / 94-H-8 Chan Hd: ___ Chan Sh: __ Boot Hd: ____ Boot Sh: __ 245PSI -20/250°F MAWP Shell Side _ @ Temp. 245PSI FEED BOTTOMS' EXCHANGER -20/250°F MAWP Tube Side __ @ Temp. _ TECH .: J.O. REV.DATE: DWG DATE: 99/08 COMMENTS: _ CAD: WO REVISION: DRAWING: 042

FILENAME: PIONEER\C4-L16\L16-042.DWG

PIONEER NATURAL RESOURCES CANADA INC. CHINCHAGA GAS PLANT

RIVEST TESTING INC.

The and Provide Manager Water, 75	SOMEON MARKET SOME TRANSPORT		MVEST TESTING	
	94-H-8 / F	EED BOTTOMS EXCHANGE		
Equip. No.: E-700		Ser. No.: 1628	Prov. Reg.: N/A	
Pt.Desc.: S.CHAN	N.SHELL		Point No.: 042-()5
Nominal:	7.100	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:	5.500		Suggested Max Insp. Interval In Mths.:	12
Survey Dates:		<u>1999-12</u>		
Data Readings	1	7.300		
	2	7.500		
	3	7.200		
	4	6.700		
Data Evaluation		· — —		
Lowest Reading		6.700		
Average - Low 3	:	7.067		
Thk.Remaining Above N	Iin. :	1.200		
Indv. Short Term Rate (r	nm/yr) :			
Short Term Rate (mm/yr) :			
LongTerm Rate (mm/yr)	:			
Comments:				
RDG.#4 CONFIRMED				
Pt.Desc.: S.SHEL	L		Point No.: 042-]	10
Nominal:	7.100	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:	5.500		Suggested Max Insp. Interval In Mths.:	12
Survey Dates:		1999-12		
Data Readings	1	8.100		
	2	7.900		
	2	7.900 7.800		
		20/1/0.20		
	3	7.800		
	3 4	7.800 7.300		
Data Evaluation	3 4 5	7.800 7.300 7.400		
<u>Data Evaluation</u> Lowest Reading	3 4 5	7.800 7.300 7.400		
	3 4 5	7.800 7.300 7.400 6.900		
Lowest Reading	3 4 5 6	7.800 7.300 7.400 6.900		
Lowest Reading Average - Low 3	3 4 5 6 :	7.800 7.300 7.400 6.900 6.900 7.200		
Lowest Reading Average - Low 3 Thk.Remaining Above M Indv. Short Term Rate (I Short Term Rate (mm/yr)	3 4 5 6 **Inm/yr) : **inm/yr) :	7.800 7.300 7.400 6.900 6.900 7.200		
Lowest Reading Average - Low 3 Thk.Remaining Above M Indv. Short Term Rate (1)	3 4 5 6 **Inm/yr) : **inm/yr) :	7.800 7.300 7.400 6.900 6.900 7.200		
Lowest Reading Average - Low 3 Thk.Remaining Above M Indv. Short Term Rate (I Short Term Rate (mm/yr)	3 4 5 6 **Inm/yr) : **inm/yr) :	7.800 7.300 7.400 6.900 6.900 7.200		

PIONEER NATURAL RESOURCES CANADA INC. CHINCHAGA GAS PLANT

Item Desc.:

Lowest Reading

Average - Low 3

Thk.Remaining Above Min.

Indv. Short Term Rate (mm/yr) Short Term Rate (mm/yr) LongTerm Rate (mm/yr)

C-32-H/94-H-8 / FEED BOTTOMS EXCHANGER

RIVEST TESTING INC.

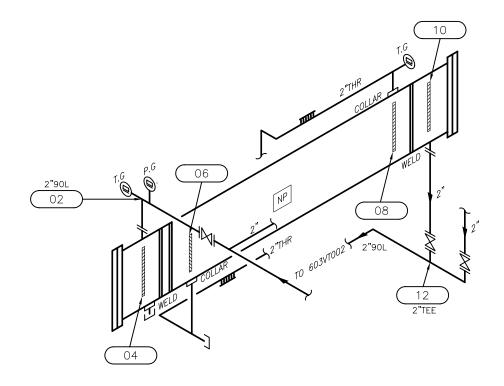
Prov. Reg.: N/A Ser. No.: 1628 E-700 Equip. No.: Point No.: 042-15 Pt.Desc.: N.SHELL Good For Continued Service: YES 7.100 Mths. Rem. To Min. Nom: Nominal: 1.600 Additional Assessment Of Data: YES Min. Cal. Wall Thk .: Corr. Allowance: Min. Nominal: 5.500 Suggested Max Insp. Interval In Mths.: 12 Survey Dates: 1999-12 Data Readings 1 7.300 2 7.300 3 7.400 4 7.200 5 7.300 6 7.400 Data Evaluation 7.200 Lowest Reading : 7.267 Average - Low 3 Thk.Remaining Above Min. 1.700 Indv. Short Term Rate (mm/yr) Short Term Rate (mm/yr) LongTerm Rate (mm/yr) Point No.: 042-20 Pt.Desc.: N.CHAN.SHELL Good For Continued Service: YES Nominal: 7.100 Mths. Rem. To Min. Nom: Additional Assessment Of Data: YES 1.600 Min. Cal. Wall Thk .: Corr. Allowance: Suggested Max Insp. Interval In Mths.: 5.500 Min. Nominal: 1999-12 Survey Dates: 7.000 **Data Readings** 1 2 7.500 3 7.100 4 6.800 Data Evaluation

6.800

6.967

1.300





its	Integrity	Testina
	intogrity	SERVICES

integrity res	vices
P.E. No.: <u>N/S</u>	_ Yr. Blt.: <u>1998</u>
OIP# <u>603HT007</u>	_ Manway: NO
" Serial No.: <u>1628</u>	
P.R.N. ③ <u>N/S</u>	_ Service: SWEET
C.R.N.: <u>L0310.21</u>	_ PWHT: <u>NO</u>
Code/Div.: ASME VIII DIV. 1	
Para: N/S	_ Insulated: <u>N/S</u>
C. Stamp: UW	_ N.B. No: <u>N/S</u>
Manufacturer: THERMO DESIGN L	_TD.
Design & Materials Data	
HEAD Material: SA-105-N	SHELL SA 106 P
Nom.: N/S	
C.A.: 1.6mm	
•	
BOOT HEAD Material:	BOOT SHELL Material:
Nom.:	
C.A.:	C.A.:
	CHANNEL SHELL
Material:	Material:
Nom.:	Nom.:
C.A.:	C.A.:
MAWP Shell Side: 1689 KPA	@ Temp.: <u>121°C</u>
MAWP Tube Side:	
CLIENT	
TAQA	NORTH
FACILITY	
CHINCHAGA	GAS PLANT
LSD C-032-I	H/094-H-08
ITEM FFFD / BOTTOM	S FXCHANGER

Comments:

DATE: 2008/04 DWG.# 032 BY: M.⊤.

CALCULATE PRESSURE VESSEL TMIN or DESIGN PRESSURE

FACILTY: Chinchaga Gas Plant C-32-H/94-H-8

DESCRIPTION: 6" HEAT EXCHANGER

ITEM NO.: #032

TML: #4--#10

MATERIAL: SA106B

PRN #: SN--1628--603HT007

RT: 2

TYPE: SHELL

PRESSURE VESSEL TMIN CALCS (Cylindrical shells INSIDE RADIUS)

t= PR/SE-0.6P Minimum Required Thickness, inches

P=	245	Design Pressure, psi
R=	3.068	INSIDE Radius of shell, inches
S=	17100	Maximum Allowable Stress, psi
E=	0.85	Joint Efficiency

T= 250°F t= 0.052 t= 1.32

inches, per ASME Sect 8 UG-27(c)1

mm

t= 0.0522" + C/A 0.0625" =0.1147"



TAQA North
Unit: N-603

FACILITY: CHINCHAGA GAS PLANT MANUFACTURER: THERMO DESIGN ENGINEER LSD: C-032-H/094-H-08 DESIGN PRESSURE: 1689 kPa / 245 psi ITEM DESC .: 250 F FEED/BOTTOMS EXCHANGER DESIGN TEMP.: 121 C EQUIP / OIP#: RECOMMENDED NEXT INSP. DATE: 08/1998 603HT007 PROV. REG. #: N/S RECOMMENDED RETIREMENT DATE: 09/1998 SERIAL #: 1628 REM. LIFE (from last survey 04/2008): -9.60 yrs. CRN.: TOTAL CAUTION / ACTION TML: L0310.21 8

Item # (032)

COMMENTS:

2008/04 - READING BETWEEN TML 2.02 AND 2.03 @ NIPPLE.

TML No.: 2 2"90L T-B 150 #

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 4.13 mm. MATERIAL: 3.90 mm. MINIMUM THICKNESS MEASURED: **TML** Pts. Nom. Corr. Min. B/L B/L Prev. Prev. Last Last Short Long **TML** Thick. Allow. Thick. Survey Survey Survey Survey Survey Term Term Retire. Action/Caution Survey Insp. Date Date Date Rate Due Date Required Item Rate mm/yyyy mm/yyyy mm/yyyy 2.01 3.90 0.50 3.40 01/1998 3.90 N/A N/A 04/2008 3.90 0.000 0.000 04/2013 12/2174 NO 2.02 3.90 0.50 3.40 01/1998 3.90 N/A N/A 04/2008 4.00 0.000 0.000 04/2013 04/2208 NO 2.03 3.90 0.50 3.40 01/1998 3.90 N/A N/A 04/2008 4.60 0.000 0.000 04/2013 04/2408 NO 3.90 01/1998 3.90 04/2008 4.00 0.000 0.000 04/2013 04/2208 2.04 0.50 3.40 N/A N/A NO

TML No.: 4 CHANNEL SIDE SH

AVERAGE THICKNESS MEASURED: **DATE BUILT: 01/1998** 7.33 mm. 7.00 mm. MATERIAL: MINIMUM THICKNESS MEASURED: SA516-70 Pts. Nom. Corr. B/L B/L Prev. Prev. Short Long **TML TML** Min. Last Last Thick. Allow. Thick. Action/Caution Survey Survey Survey Survey Survey Survey Term Term Insp. Retire. Date Date Rate Required Item Date Rate Due Date mm/yyyy mm/yyyy mm/yyyy 4.01 31.80 1.60 30.20 01/1998 31.80 N/A N/A 04/2008 7.40 0.000 2.377 09/1998 09/1998 **ACTION** 4.02 31.80 1.60 30.20 01/1998 31.80 N/A N/A 04/2008 7.60 0.000 2.357 09/1998 09/1998 ACTION 0.000 4.03 31.80 1.60 30.20 01/1998 31.80 N/A N/A 04/2008 7.30 2.385 09/1998 09/1998 **ACTION** 7.00 0.000 4.04 31.80 1.60 30.20 01/1998 31.80 N/A N/A 04/2008 2.416 08/1998 08/1998 **ACTION**

*

^(*) 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.



TAQA North Unit: N-603

FACILITY: CHINCHAGA GAS PLANT MANUFACTURER: THERMO DESIGN ENGINEER LSD: C-032-H/094-H-08 **DESIGN PRESSURE:** 1689 kPa / 245 psi ITEM DESC .: FEED/BOTTOMS EXCHANGER **DESIGN TEMP.:** 121 C 250 F EQUIP / OIP#: RECOMMENDED NEXT INSP. DATE: 603HT007 08/1998 PROV. REG. #: N/S RECOMMENDED RETIREMENT DATE: 09/1998 SERIAL #: 1628 REM. LIFE (from last survey 04/2008): -9.60 yrs. TOTAL CAUTION / ACTION TML:

8

Item # (032)

CRN.:

COMMENTS:

2008/04 - READING BETWEEN TML 2.02 AND 2.03 @ NIPPLE.

TML No.: SIDE SH SOU T-B 6

L0310.21

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 7.75 mm. 7.10 mm. MATERIAL: SA106-B MINIMUM THICKNESS MEASURED: Pts. Nom. Corr. Min. B/L B/L Prev. Prev. Last Last Short Long **TML TML** Thick. Allow. Thick. Survey Survey Survey Survey Term Term Retire. Action/Caution Survey Survey Insp. Date Date Rate Due Date Required Item Date Rate mm/yyyy mm/yyyy mm/yyyy 6.01 7.10 1.60 5.50 01/1998 7.10 N/A N/A 04/2008 8.30 0.000 0.000 04/2013 08/2941 NO 6.02 7.10 1.60 5.50 01/1998 7.10 N/A N/A 04/2008 8.00 0.000 0.000 04/2013 08/2841 NO 6.03 7.10 1.60 5.50 01/1998 7.10 N/A N/A 04/2008 8.00 0.000 0.000 04/2013 08/2841 NO 7.10 5.50 01/1998 7.10 N/A 04/2008 7.50 0.000 0.000 04/2013 12/2674 6.04 1.60 N/A NO 6.05 7.10 1.60 5.50 01/1998 7.10 N/A N/A 04/2008 7.60 0.000 0.000 04/2013 04/2708 NO 7.10 7.10 0.000 6.06 7.10 1.60 5.50 01/1998 N/A N/A 04/2008 0.000 04/2013 08/2541 NO

TML No.: SIDE SH NOR T-B

DATE BUILT: 01/1998 AVERAGE THICKNESS MEASURED: 7.42 mm. 7.20 mm. MATERIAL: MINIMUM THICKNESS MEASURED: SA106-B Pts. Nom. Corr. B/L B/L Prev. Prev. Long **TML TML** Min. Last Last Short Thick. Allow. Thick. Survey Survey Survey Survey Survey Term Retire. Action/Caution Survey Term Insp. Date Date Date Rate Rate Due Date Required Item mm/yyyy mm/yyyy mm/yyyy 8.01 7.10 1.60 5.50 01/1998 7.10 N/A N/A 04/2008 7.40 0.000 0.000 04/2013 08/2641 NO 8.02 7.10 1.60 5.50 01/1998 7.10 N/A N/A 04/2008 7.60 0.000 0.000 04/2013 04/2708 NO 7.10 7.10 7.30 8.03 5.50 01/1998 N/A N/A 04/2008 0.000 0.000 04/2013 04/2608 1.60 NO 8.04 7.10 5.50 01/1998 7.10 N/A N/A 04/2008 7.50 0.000 0.000 04/2013 12/2674 1.60 NO 7.50 5.50 0.000 04/2013 8.05 7.10 1.60 01/1998 7.10 N/A N/A 04/2008 0.000 12/2674 NO 8.06 7.10 1.60 5.50 01/1998 7.10 N/A N/A 04/2008 7.20 0.000 0.000 04/2013 12/2574 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.



TAQA North
Unit: N-603

FACILITY: CHINCHAGA GAS PLANT MANUFACTURER: THERMO DESIGN ENGINEER DESIGN PRESSURE: 1689 kPa / LSD: C-032-H/094-H-08 245 psi ITEM DESC.: FEED/BOTTOMS EXCHANGER DESIGN TEMP.: 121 C 250 F EQUIP / OIP#: 603HT007 RECOMMENDED NEXT INSP. DATE: 08/1998 PROV. REG. #: N/S RECOMMENDED RETIREMENT DATE: 09/1998 SERIAL #: 1628 REM. LIFE (from last survey 04/2008): -9.60 yrs. CRN.: TOTAL CAUTION / ACTION TML: L0310.21 8

Item # (032)

COMMENTS:

2008/04 - READING BETWEEN TML 2.02 AND 2.03 @ NIPPLE.

TML No.: 10 CHANNEL SIDE SH

DATE	E BUILT	Γ: 01/1	1998			AVE	RAGE TI	HICKNES	S MEAS	URED:	7.	25 mm.			
MAT	ERIAL:	SA5	16-70			MINI	MUM TI	HICKNES	S MEAS	URED:	6.	90 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	31.80	1.60	30.20	01/1998	31.80	N/A	N/A	04/2008	7.40	0.000	2.377	09/1998	09/1998	ACTION	*
10.02	31.80	1.60	30.20	01/1998	31.80	N/A	N/A	04/2008	7.50	0.000	2.367	09/1998	09/1998	ACTION	*
10.00															
10.03	31.80	1.60	30.20	01/1998	31.80	N/A	N/A	04/2008	7.20	0.000	2.395	09/1998	09/1998	ACTION	*

TML No. 12 2"TEE E-W 150#

TMIL	No.:	12	2"TEF	5 E-W 15	0 #										
DATE	E BUILT	Γ: 01/1	1998			AVE	RAGE TI	HICKNES	S MEAS	URED:	6.2	28 mm.			
MATI	ERIAL:					MINI	MUM TI	HICKNES	S MEAS	URED:	5.8	80 mm.			
Pts.	Nom.	Corr.	Min.	B/L	B/L	Prev.	Prev.	Last	Last	Short	Long	TML	TML		
	Thick.	Allow.	Thick.	Survey	Survey	Survey	Survey	Survey	Survey	Term	Term	Insp.	Retire.	Action/Caution	
				Date		Date		Date		Rate	Rate	Due	Date	Required Item	
				mm/yyyy		mm/yyyy		mm/yyyy							
12.01	5.50	0.70	4.80	01/1998	5.50	N/A	N/A	04/2008	5.80	0.000	0.000	04/2013	08/2341	NO	
12.02	5.50	0.70	4.80	01/1998	5.50	N/A	N/A	04/2008	6.50	0.000	0.000	04/2013	12/2574	NO	
12.03	5.50	0.70	4.80	01/1998	5.50	N/A	N/A	04/2008	6.30	0.000	0.000	04/2013	04/2508	NO	
12.04	5.50	0.70	4.80	01/1998	5.50	N/A	N/A	04/2008	6.20	0.000	0.000	04/2013	12/2474	NO	
12.05	5.50	0.70	4.80	01/1998	5.50	N/A	N/A	04/2008	6.60	0.000	0.000	04/2013	04/2608	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.



DETAIL VESSEL AND PIPING INSPECTION REPORT

(Imperial)

GENERAL PRESSURE VESSEL INFORMATION

Company:	Pioneer Natural Res	ources Canada Inc.	LSD: BC C-32-F	I/94-H-8
Area/Facility:	Chinchaga Gas Plan	t	Inspection Date 06-Feb-	02 Interval: 2 yrs
Vessel Name:	Feed Bottom Exchai	nger	A No: BC	MTL No: EXC210
Internal Coating Type	e:	999	Next External: 2/6/2003	Next Internal: Feb, 2004
Vessel Orientation:	Horizontal		Internal Coating Lining: 0	
Vessel Type:	Exchanger		Fluid Type:	8
Tag No:	E-700		Serial Number: 1628	
Separator Type:	Single Phase		Business Unit:	
Direct Fired Vessel:	N/A Fi	red Tube:	Cost Centre:	
Current Status:	In Service		Flame Arrester Date Required	Date
Thermal Insulation:	No		Asbestos: No	

PRESSURE VESSEL NAMEPLATE INFORMATION

MTL Number:	EXC210	Volume:	1.310 F3	CRN Num	ber:	L-03	10.21		Re	gistered:	No
Serial Number:	1628	304 (4-935)000-0-0-000001	Commission was go save	Size:	6.625	in (D.D.	х	8 ft	0 in	Tan to Tan
Drawing Number:	9097-0850-214		***	P & ID Nur	nber:						
DI- 1114 - 7 - 1	SA-106-B		Bottom Shell Thickness:			0.280	În				
Shell Material: SA-106-B			T			Shell Thickness:				0.280	In
Head Material: SA-105N -				Н	ead Thi	ckness			ln		
				Head Thickness:					ln		
Tube Material:	SA-179	Tube	Size(OD):	1.25 l	n .		TubeThi	ickness	:	1.250	ln
Tubesheet Material:					7	Tubesl	neet Thi	ckness			In
Channel Material:			Channel Type:			Cha	nnel Thi	ckness	•		In
Decian Process	Shell: 245 psi		Operating Pressure:			Shell	:		psi		
Design Pressure:	Tube:	e: 245 psi					Tube	:		psi	
Design Temperature:	Shell:	250 F 250 F		Operating Temperature:			Shell			F	
Design Temperature.	Tube:						Tube	:		F	
RT (XRay):	RT2			Heat Treatr	nent:	No					
Code Parameters:				Joint Efficie	ncy:						
Manufacturer:	Thermo Design En	gineering		Year Built:		199	8				
Corrosion Allowance:	0.063			Manway:		No					



INSPECTION GROUP INC.

DETAIL VESSEL AND PIPING INSPECTION REPORT

(Imperial)

GENERAL PRESSURE VESSEL INFORMATION

Company:	Pioneer Natural Resources Canada Inc.	LSD: BC C-32-H/94-F	1-8
Area/Facility:	Chinchaga Gas Plant	Inspection Date 06-Feb-02	Interval: 2 yrs
Vessel Name:	Feed Bottom Exchanger	A No: BC	MTL No: EXC210

VESSEL SHELL / HEADS / PIPING

External / Instrumentation Condition

The external surface of this vessel was noted in good condition with no signs of deterioration or visible cracking. The paint was also in good condition with no evidence of corrosion. The associated instrumenation appeared to be in good working order.

Internal Condition

No internal access

Nozzle Condition

The nozzle assemblies were painted with some minor chips. There was a minor gasket leak on end cover.

Flange Condition

The flanges and NPT connections appeared to be in good condition with some miscellaneous NPT weeps. There was no visible evidence of corrosion.

Internal Piping

External Piping

Pipe Support Condition

i ipe dapport donation

Bolting Condition

Not Applicable

The external piping was insulated and painted with no visible evidence of corrosion or mechanical leaks.

The associated pipe supports were in good condition with no evidence of any mechanical damage or degradation.

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 supports and bolting were noted in good condition.

Printed: Nov 8, 2002

By: S.C.(Stephen) Droeske

Equipment Inspection Report - MTL Inspection Group Inc

INSPECTION GROUP INC.

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:	Feed Bottom Exchanger	A No: BC	MTL No: EXC210

VESSEL COATING INSPECTION Type of Coating Coating Manufactuer and Type Location Coating Condition

NDE Type	UT Survey			
Location of Test				
Contractors Name	Rivest		Quali	fications
Last UT Survey Date	Feb 3, 2002	Interval	2 yrs	Next UT Date: Feb 3, 200
Survey By	MTL Testing Inc.			

VESSEL STATUS					
Suitable for Further S	Service?	Yes	Repairs Required?	No	
Owners Representat	ive		Repairs Completed?		
Owners Date			Repairs Completed By		
			Repair Date		
Recommendations	Remove 2 end b Service PSV in 3 Repeat UT in 3 y		de		
Details of Repairs					

By: S.C.(Stephen) Droeske



INSPECTION GROUP INC.

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:	Feed Bottom Exchanger	A No: BC		MTL No: EXC210

			PSV [DATA	Market Alexa		
Side	Set Pressure	CRN Number	Manufacturer PSV Number	Model Serial Number	Capacity	Size Inches	Set Date
Shellside	245		Farris PNR7101	2741-U/SP CE-326747-1-KD	891 SCFM	1.5 ×	Dec/1999

CURRENT VESSEL PROCESS CONDITIONS					
Condensate					
	Condensate				

Name (Printed)	Signature	Date
Visual Inspector Paul Gorman AP	91510 Alwish for Paul Source	February 06, 2002
QA Supervisor: (Chief Inspector)	7 0	
QA Administrator:		
ABSA Inspector:		

By: S.C.(Stephen) Droeske



INSPECTION REPORT

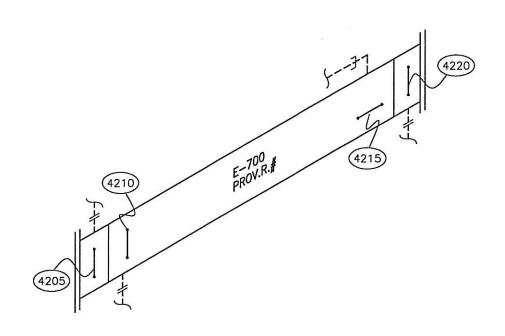
EQUIPMENT NO: 603HT007	Page of
FACILITY: Chinchaga Gas Plant	PROV. REG. N0:
EQUIPMENT NAME: Feed / Bottom Exchanger	TAG NO:
SIZE: 168mm OD x 2438mm L/H LSD: C-032-H / 094-H-08	MAWP: 1689
SERVICE: FLUID: Gas	
SOUR SWEET CRYOGENIC SCOPE OF INSPECTION: PRECOMMISSIONING AE MT RT INITIAL ET MFL UT REINSPECTION IT PT VT OTHER	CLEANING: ACCESS: GOOD FULL FAIR PARTIAL INADEQUATE EXTERNAL
PLEASE ADD PAGES AND SKETCHES A	S NEEDED (TURN OVER FOR SKETCH)
OBSERVATIONS: EXTERNAL	
LADDERS, STAIRWAYS, PLATFORMS AND WALKWAYS ✓	
2. FOUNDATIONS AND SUPPORTS ☒	
3. NOZZLES ⊠	
4. GROUNDING CONNECTIONS ☑ Bolted to skid , Skid is grounded	
5. PROTECTIVE COATINGS AND INSULATION ☒	
6. EXTERNAL METAL SURFACES ☑ I-beam for support	
7. FANS AND OTHER ANCILLARY EQUIPMENT ☐ N/A	
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 REM	MEDIAL ACTION
FURTHER SERVICE: YES NO PRICE	DRITY: HIGH MEDIUM LOW
INSPECTION PERFORMED BY: Mark Tomko	DATE OF INSPECTION 08 04 2008 (DD MONTH YYYY)
FOLLOW-UP INSPECTION REQ'D:	S ⊠ NO BY DATE: (DD MONTH YYYY)

032



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P&ID. # ______



			VESSEL D	ATA			
Prov. Reg. No.							
MFR. THERMO DESIGN							
Yr. Bit. 1998 Yr. Inst					NO Service		Control of the Contro
Nominal Thickness Head: 150# FLG.							
Head:			•	COMMENTS _			
Shell:			-				151 1116
Chan Hd:				1131 (1196) (1196) (1196)	NATURAL RES A GAS PLANT		ADA INC.
Chan Sh:				The state of the s	2-H \ 94-H		LC I
Gas Boot Sh.:			<u>u</u> :				
Liq. Boot Hd.:			C.A.:	1			
Liq Boot Sh.:			=	SEED DOT	TOMS' EXCHA	NCED	
MAWP Shell Side				THE RESERVE TO THE PARTY OF THE		. Alexandre de la company	00 (0000
MAWP Tube Side	245psi	@ Temp	-20/250°F	CAD: MK	LIVER REV.DAT		DWG DATE: 02/2002 DRAWING: 042

001 Chinchaga Gas Plant C-32-H\94-H-8 (01 PLANT)

Equip No E-700 Serial No 1628 Prov Reg No N/A
Description FEED BOTTOMS' EXCHANGER

042 - 005

TML Description: S. CHAN. SHI T Nominal: 7.1	ELL					
Corr Allowance: 1.6	1	Data Readings				
Data Englisations		I	Dec-99 I	Feb-02	Maria de la Santa de Caractería de la Caractería de Caract	
Data Evaluations		Point 1	7.3	7.3		
Months Remaining to T Min: Min Calc'd Wall Thickness: Thick Remain Above T Min: Short Term Corr Rate: Long Term Corr Rate: Months Remain to LFL: Lowest Value - Last Reading:	999 N/A 1.4 N/A N/A	Point 2	7.5	7.5		
		Point 3	7.2	7.2		
		Point 4	6.7	6.9		
		Point 5				
		Point 6				
		Point 7				
	6.9	Point 8				
		Point 9				
Comment:		Point 10				
		Point 11				
		Point 12				
		Average	7.2	7.2		
		Avg Low 3	7.1	7.1		
		Lowest	6.7	6.9		

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TML Description: S. SHELL T Nominal: 7.1 Min Nominal: 5.5 Corr Allowance: 1.6		Data Readings			
Data Evaluations Months Remaining to T Min:		<u> </u>	Dec-99 I		
		Point 1	8.1	8.1	
	999 N/A 1.4 N/A N/A N/A 6.9	Point 2	7.9	7.9	
Min Calc'd Wall Thickness:		Point 3	7.8	7.8	
Thick Remain Above T Min: Short Term Corr Rate: Long Term Corr Rate: Months Remain to LFL: Lowest Value - Last Reading:		Point 4	7.3	7.3	
		Point 5	7.4	7.4	
		Point 6	6.9	6.9	
		Point 7			
		Point 8			
		Point 9			
Comment:		Point 10			
		Point 11			
		Point 12			
		Average	7.6	7.6	
		Avg Low 3	7.2	7.2	
		Lowest	6.9	6.9	

TML Description: N. SHELL T Nominal: 7.1 Min Nominal: 5.5 Corr Allowance: 1.6	,	Data Readings			
Coll Allowalice. 1.0					
Data Evaluations	416 N/A 1.6 N/A N/A N/A 7.1	I	Dec-99 I	Feb-02	
Data Evaluations		Point 1	7.3	7.3	
Months Remaining to T Min:		Point 2	7.3	7.3	
Min Calc'd Wall Thickness:		Point 3	7.4	7.4	
Thick Remain Above T Min: Short Term Corr Rate: Long Term Corr Rate: Months Remain to LFL:		Point 4	7.2	7.1	
		Point 5	7.3	7.3	
		Point 6	7.4	7.4	
		Point 7			
Lowest Value - Last Reading:		Point 8			
		Point 9			
Comment:		Point 10			
		Point 11			
		Point 12			
		Average	7.3	7.3	
		Avg Low 3	7.3	7.2	
		Lowest	7.3 7.2	7.2	
		Lowest	1.2	7.1	

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TML Description: N. CHAN. SHE	ELL				
T Nominal: 7.1					
Min Nominal: 5.5		•			
Corr Allowance: 1.6		Data Readings			
Die		j i	Dec-99	Feb-02	
Data Evaluations		Point 1	7.0	7.0	
Months Remaining to T Min:	999	Point 2	7.5	7.4	
Min Calc'd Wall Thickness:	N/A	Point 3	7.1	7.2	
Thick Remain Above T Min: Short Term Corr Rate: Long Term Corr Rate: Months Remain to LFL: Lowest Value - Last Reading:	1.3	Point 4	6.8	6.8	
	N/A	Point 5			
	N/A	Point 6			
	N/A 6.8	Point 7			
		Point 8			
		Point 9			
Comment:		Point 10			
		Point 11			
		Point 12			
		Average	7.1	7.1	
		Avg Low 3	7.0	7.0	
		Lowest	6.8	6.8	