

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:	LPG Storage Bullet - South	A No:	BC	MTL No: VSL194
Internal Coating Type:		Next External:	2/6/2003	Next Internal: Feb, 2004
Vessel Orientation:	Horizontal	Internal Coating Lining:	0	
Vessel Type:	Horizontal Vessel	Fluid Type:		
Tag No:	V-352	Serial Number:	393508	
Separator Type:		Business Unit:		
Direct Fired Vessel:	N/A	Fired Tube:		Cost Centre:
Current Status:	In Service	Flame Arrester Date Required:		Date
Thermal Insulation:	No	Asbestos:	No	

PRESSURE VESSEL NAMEPLATE INFORMATION

MTL Number:	VSL194	Volume:		CRN Number:		Registered:	No
Serial Number:	393508			Size:	109.347 in O.D. x 65 ft 95 in Overall		
Drawing Number:				P & ID Number:			
Shell Material:				Bottom	Shell Thickness:	0.673 In	
				Top	Shell Thickness:	0.673 In	
Head Material:				End	Head Thickness:	0.436 In	
				End	Head Thickness:	0.436 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: 250 psi			Operating Pressure:	Shell: psi		
	Tube: psi				Tube: psi		
Design Temperature:	Shell: 125 F			Operating Temperature:	Shell: F		
	Tube: F				Tube: F		
RT (XRay):				Heat Treatment:	No		
Code Parameters:	UW			Joint Efficiency:			
Manufacturer:	Trinity			Year Built:	1973		
Corrosion Allowance:	0.063			Manway:	No		

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VESSEL SHELL / HEADS / PIPING

External / Instrumentation Condition

The vessel was snow covered during this inspection but the paint appeared to be in good condition. The ladder and catwalk are securely bolted. There was no evidence of process leaks. The instrument level gauge appears to be in good working condition. The east end hold down straps are also noted in good condition but the north jam nut is short.

Internal Condition

No internal access

Nozzle Condition

The nozzles are painted and appear to be in good condition. The bolted connection, gaskets and NPT connections also appear to be in good condition.

Flange Condition

The flanges are bolted properly and there was no visible evidence of leakage.

Internal Piping

Not Applicable

External Piping

The external piping appeared to be in good condition with adequate supports. The associated bolting and gaskets appear to be leak free. There was no evidence of mechanical overloading or excessive strain.

Pipe Support Condition

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

Bolting Condition

All associated flange and bolting were intact and showed no evidence of deterioration, visible cracking or process leaks.

Firetube Condition

Not Applicable

Demister Pad Condition

Not Applicable

Anode Condition

Not Applicable

Vessel Support

The pile/structural support, fixed and sliding saddles were noted in good condition.



INSPECTION GROUP INC.

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VESSEL COATING INSPECTION

Type of Coating

Coating Manufactuer 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?	No	Repairs Required?	No
Owners Representative		Repairs Completed?	
Owners Date		Repairs Completed By	
		Repair Date	

Recommendations

Next external inspection in 3 years
Next PSV servicing in 3 years
Next UT Survey in 3 years

Details of Repairs



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PSV DATA

Side	Set Pressure psi	CRN Number	Manufacturer PSV Number	Model Serial Number	Capacity	Size Inches	Set Date
	250		Rego PNR193	3-73 991571		4 x 2.5	

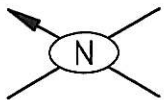
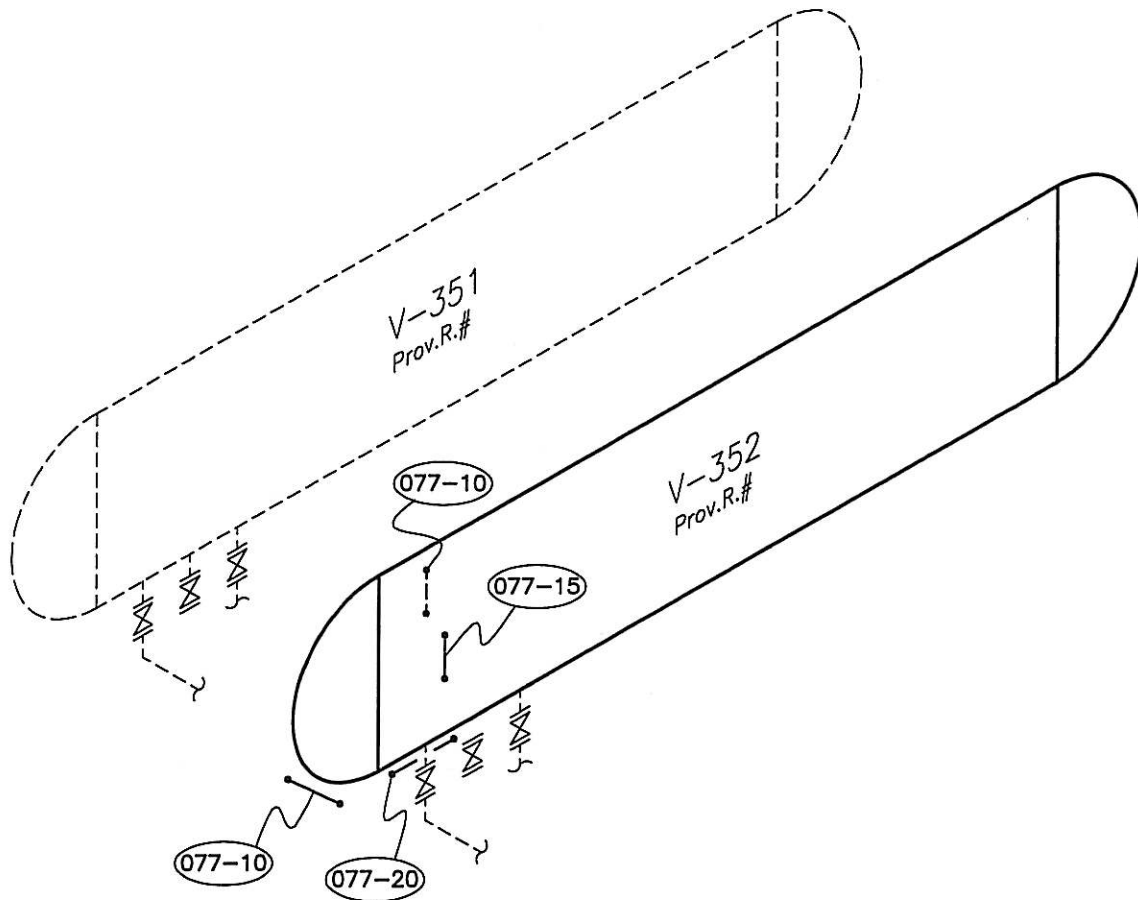
CURRENT VESSEL PROCESS CONDITIONS

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



TESTING INC.

P&ID. # _____
REF. # _____

VESSEL DATA

P.E. No. V-352 Serial No. 393508 Prov. Reg. No. _____ C.R.N. _____
MFR. TRINITY Code/Div. _____ Para _____ Code Stamp U
Yr. Bld. 1973 Yr. Inst. _____ Size 109.347" x 791. Service LPG PWHT _____
RT _____ Insulated NO

Nominal Thickness & Material

Head: .436" (11.1mm) Mat'l: _____ C.A.: 1.6mm
Head: _____
Shell: .6733" (17.1mm)
Shell: _____
Chan Hd: _____
Chan Sh: _____
Boot Hd: _____
Boot Sh: _____

MAWP Shell Side 250PSI @ Temp. 125°F
MAWP Tube Side _____ @ Temp. _____

COMMENTS: _____

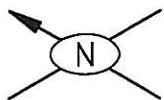
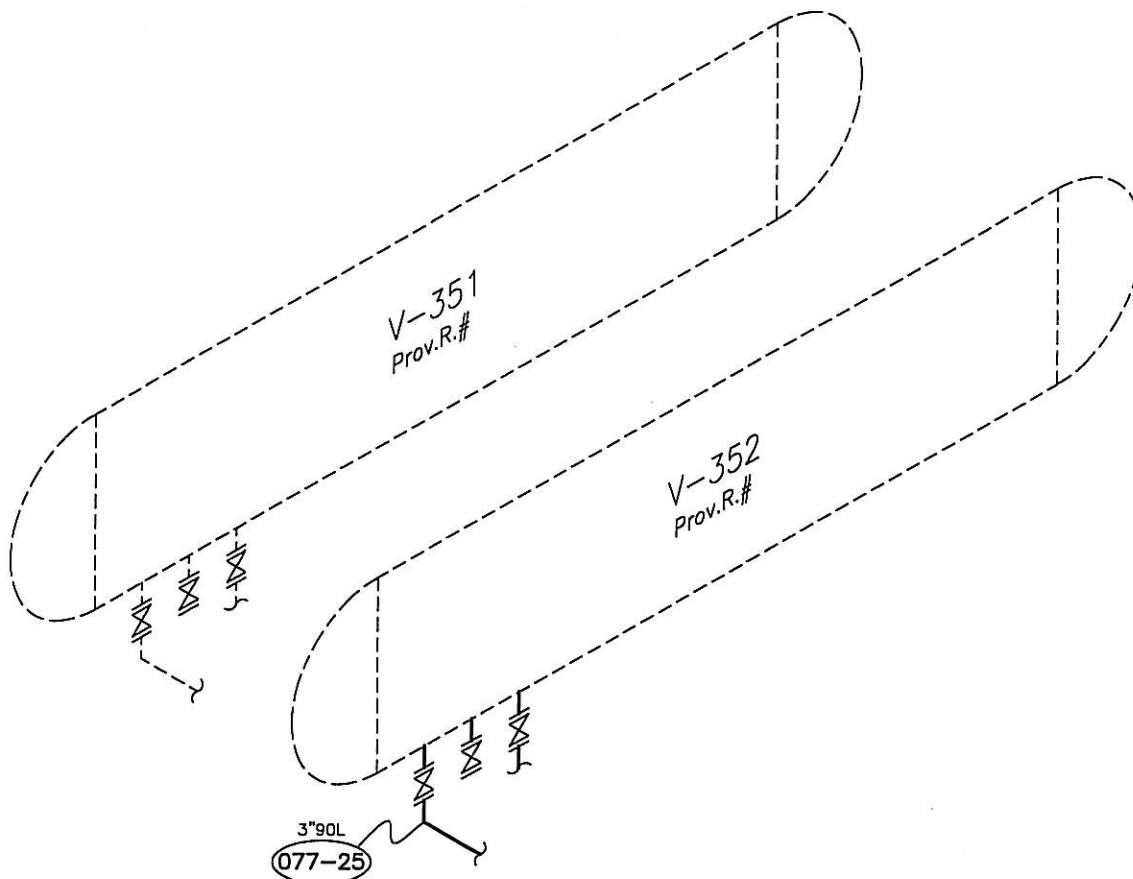
PIONEER NATURAL RESOURCES CANADA INC.
CHINCHAGA GAS PLANT
LSD C-32-H / 94-H-8

LPG STORAGE TANK

TECH.: J.O.	REV. DATE:	DWG DATE: 99/08
CAD: WO	REVISION:	DRAWING: 077



TESTING INC.

P&ID # _____
'REF. # _____

PIPING DATA

THICKNESS MEASUREMENT LOCATION:	SIZE	PROC.	LINE #	SPEC.	SCH.	NOM.THK.	API CORR. ALLW. * CALCULATED CORR.ALLW. **	MIN.THK.	CAL.THK.	FLG. RATING
077-25	3"				40	5.5mm	ASTM	4.8mm		

COMMENTS: _____

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

LPG STORAGE TANKS PIPING

TECH.: JO
CAD: WO
REV.DATE: _____
REVISION: _____
DWG.DATE: 99/12
DRAWING: 077A

PIONEER NATURAL RESOURCES CANADA INC.
CHINCHAGA GAS PLANT

RIVEST TESTING INC.

Item Desc.: C-32-H/94-H-8 / LPG STORAGE TANK

Equip. No.: N/A

Ser. No.: 393508

Prov. Reg.: N/A

Pt.Desc.: E.HEAD

Point No.: 077-05

Nominal: 11.100 Mths. Rem. To Min. Nom:

Corr. Allowance: 1.600 Min. Cal. Wall Thk.:

Min. Nominal: 9.500

Good For Continued Service: YES

Additional Assessment Of Data: YES

Suggested Max Insp. Interval In Mths.: 12

Survey Dates: 1999-12

Data Readings	1	11.400	____.____
	2	11.600	____.____
	3	11.800	____.____
	4	11.500	____.____
	5	11.500	____.____
	6	11.600	____.____

Data Evaluation

Lowest Reading : 11.400

Average - Low 3 : 11.467

Thk.Remaining Above Min. : 1.900

Indv. Short Term Rate (mm/yr) :

Short Term Rate (mm/yr) :

LongTerm Rate (mm/yr) :

Pt.Desc.: E.UPPER SHELL

Point No.: 077-10

Nominal: 17.100 Mths. Rem. To Min. Nom:

Corr. Allowance: 1.600 Min. Cal. Wall Thk.:

Min. Nominal: 15.500

Good For Continued Service: YES

Additional Assessment Of Data: YES

Suggested Max Insp. Interval In Mths.: 12

Survey Dates: 1999-12

Data Readings	1	18.700	____.____
	2	18.700	____.____
	3	18.800	____.____
	4	18.700	____.____
	5	18.600	____.____
	6	18.800	____.____

Data Evaluation

Lowest Reading : 18.600

Average - Low 3 : 18.667

Thk.Remaining Above Min. : 3.100

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 / LPG STORAGE TANK
Equip. No.: N/A Ser. No.: 393508

Prov. Reg.: N/A

Pt.Desc.: E.CTR.SIDE SHELL

Point No.: 077-15

Nominal: 17.100 Mths. Rem. To Min. Nom:
Corr. Allowance: 1.600 Min. Cal. Wall Thk.:
Min. Nominal: 15.500

Good For Continued Service: YES
Additional Assessment Of Data: YES
Suggested Max Insp. Interval In Mths.: 12

Survey Dates: 1999-12
Data Readings
1 18.300 _____.
2 18.300 _____.
3 18.200 _____.
4 18.200 _____.
5 18.200 _____.
6 18.300 _____.
_____.

Data Evaluation

Lowest Reading : 18.200
Average - Low 3 : 18.200
Thk.Remaining Above Min. : 2.700
Indv. Short Term Rate (mm/yr) :
Short Term Rate (mm/yr) :
LongTerm Rate (mm/yr) :

Pt.Desc.: E.CTR.BTM.SHELL

Point No.: 077-20

Nominal: 17.100 Mths. Rem. To Min. Nom:
Corr. Allowance: 1.600 Min. Cal. Wall Thk.:
Min. Nominal: 15.500

Good For Continued Service: YES
Additional Assessment Of Data: YES
Suggested Max Insp. Interval In Mths.: 12

Survey Dates: 1999-12
Data Readings
1 17.700 _____.
2 17.800 _____.
3 17.800 _____.
4 17.800 _____.
5 17.900 _____.
6 18.300 _____.
_____.

Data Evaluation

Lowest Reading : 17.700
Average - Low 3 : 17.767
Thk.Remaining Above Min. : 2.200
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 / LPG STORAGE TANK

Equip. No.: N/A

Ser. No.: 393508

Prov. Reg.: N/A

Pt.Desc.: 3"90L T-B

Point No.: 077-25

Line No.: N/A

Nominal: 5.500 Mths. Rem. To Min. Nom:

Good For Continued Service: YES

Corr. Allowance: ASTM Min. Cal. Wall Thk.:

Additional Assessment Of Data: YES

Min. Nominal: 4.813

Suggested Max Insp. Interval In Mths.: 12

Survey Dates: 1999-12

Data Readings	1	5.600	____.____
	2	6.000	____.____
	3	5.800	____.____
	4	5.700	____.____
	5	5.700	____.____

Data Evaluation

Lowest Reading : 5.600

Average - Low 3 : 5.667

Thk.Remaining Above Min. : 0.787

Indv. Short Term Rate (mm/yr) :

Short Term Rate (mm/yr) :

LongTerm Rate (mm/yr) :

Comments:

ASSUMED NOMINAL