



228329

Field Inspection Report

Vessel # 228329

Client	Canadian Natural Resources Ltd.		Inspection Date	2002/09/10	
Prov. Reg.#	228329		Insp. Type	VEVI/UT	
Equipment	Treater		Location	Stanmore	
Tag/Equip. #			LSD	8-13-30-12W4	
Vessel Status	In Service		Comp./Unit		
Manufacturer	CE Natco	Serial #	L6333	MAWP/Temp	75 psi 200 F
CRN #	F7133.2	Shell Material	SA-516-70	Shell Thick.	0.375 in
Corrosion All.	0.063 in	Head Material	SA-516-70	Head Thick.	0.313 in
Manway	Yes	Head Material 2	SA-516-70	Head Thick. 2	0.375 in
Coating	Yes	Channel Material		Channel Thick.	in
Diameter	72 in	Length	in	RT	4 HT
Year Built	1986	Next Inspection	2007	Next Insp. Type	
Service	Sweet			Job #	02-413

PSV #.	85C3522				
Mfg.	Consolidated	Serial #	85C3522	Set Pressure	75 psi
Type/Model	1905HC	Capacity	1385 SCFM	Size	1.500 in
Date of Service	2002/09/10	Next Service	2005	Service Co.	CVS

Observations:

External

Vessel is insulated and clad. Ground wire has been cut. Temperature gauge appears functional. Vessel is well supported. Gauges appear functional. Associated piping appears solid.

Internal

A couple of small chips in the coating noted. Anodes approximately 50% used - to be replaced. Some surface rust and pitting noted at the manway flange. Coating repairs have been done in this area.

☐ AB-40 to be attached

Field Inspection Report

Vessel # 228329

UT

Measurements in inches

Minimum 5 spots

West Head - 0.370 to 0.380

Shell - No access available at this time.

East Head - 0.448 to 0.456

Recommendations:

1. Replace grounding to skid.
2. No other concerns noted.

Inspector: Chris Eklund



Reviewed by:



☐ AB-40 to be attached

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Field Inspection Report
Vessel A # 228329

Client	Canadian Natural Resources			Date of Insp.		November 9, 1999	
Prov. Reg.#	228329			Location		Stanmore Field	
Equipment	Treater			LSD		8-13-30-12W4	
Tag/Equip. #				Comp./Unit #			
Vessel Status		Not In Operation		Job #		99-333	
Fabricator	CE Natco	Serial #		L-6-333		MAWP/Temp 75psi/ 200F	
CRN#	F7133.2	Shell Mat'l		SA-516-70		Shell Thick. 9.5mm	
Corr. All.	1.6mm	Head Mat'l		SA-516-70		Head Thick. Coal: 7.9mm Ft: 9.5mm	
Diameter	1829mm	Length	6100mm	Height		RT	4 HT
Year Built	1986	Next Insp.		2001		Insp. Type Firetube only	
Service	Sweet	Manway		Yes		Coating Yes	
PSV #.	Not on Vessel						
Mfg.	Consolidated	Serial #		85C3522		Set Pressure 75psi	
Type/Model	1905HC	Capacity		3888 SCFM		Size 1.5"	
Date of Service	92/06	Next Service		Prior to service		Service Co. BGV	

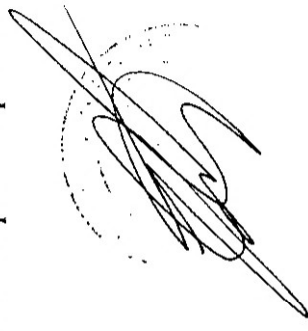
Report # 1025

Observations:

Inspection of firetube only. Complete vessel inspected prior to this visit.
 See attached firetube inspection report.

Recommendations:

Service PSV prior to service of treater and forward service report to RAE Inspection upon completion.



Inspector: Jim Longstreet

Reviewed By:

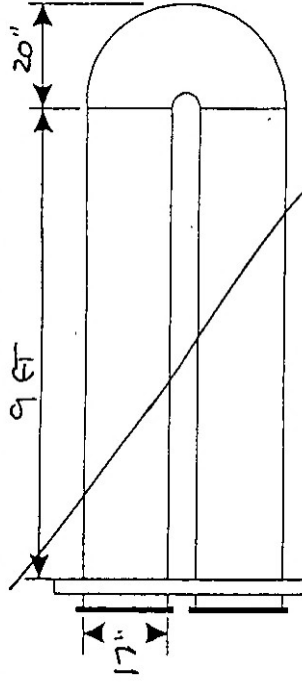
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Firetube Inspection Report

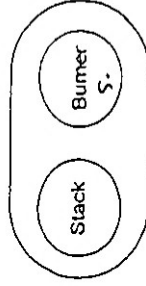
Page **2** of **2**

File Number	99-333	Firetube Number	229329
Inspection Date	Nov 9-99	Inspector	Jim Longstrech
Location	STANMONG BOPB 8-13-30-12-W4m.		



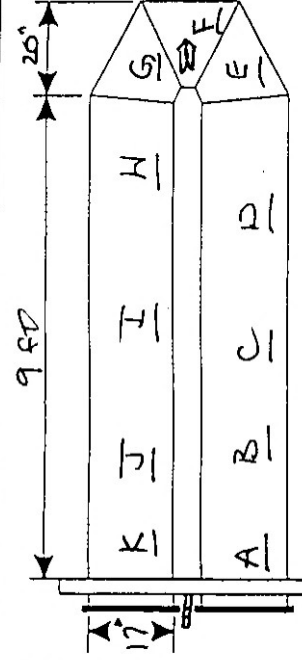
☐ Formed Return Bend

Flange Orientation:

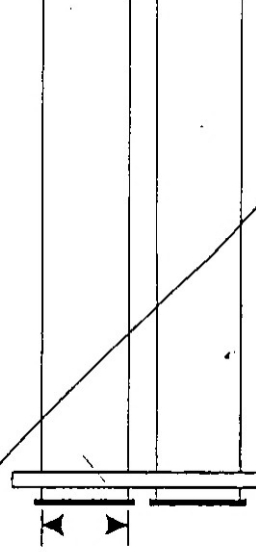


☒ Horizontal

☐ Vertical



☒ Three Section Mitred Return Bend



☐ Other (sketch return bend)

	Stack Leg				Burner Leg			
	3	6	9	12	3	6	9	12
A	362	362	364	364				
B	364	362	363	363				
C	364	362	364	365				
D	365	361	364	365				
E	377	368	365	362				
F	363	362	374	366				
G					366	363	362	364
H					363	360	362	364
I					363	363	362	363
J					363	361	360	364
K					361	361	360	360
L								
M								
N								
O								
P								
Q								

Thickness readings are in: ☐ mm ☒ 0.001"

Visual Inspection

EXTERNAL- GOOD CONDITION, MINIMAL
PITTING ON FIRETUBE FLANGE BOTTOM
SECTION, INSIDE. TUBES AND BEND
IN GOOD CONDITION WITH SOME MINOR
MECHANICAL GOUGES TO ABOUT .020" DEPTH
NOTED.

INTERNAL- SMOOTH, GOOD CONDITION, NO
DISTORTION NOTED AT THIS TIME.

Magnetic Particle Investigation

MPI (BLACK ON WHITE W/ 46 MOVE) WAS
COMPLETED ON ALL EXTERNAL WELDS
(INSIDE TUBES) AND NO APPARENT
DEFECTS FOUND AT THIS TIME.

Spacing Between Planes

2 36"

Inspector Signature:

[Signature]

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Field Inspection Report
Vessel A # 228329

Client	Canadian Natural Resources				Date of Insp.		October 25, 1999	
Prov. Reg.#	228329				Location		8-13 Battery	
Equipment	Treater				LSD		8-13-30-12W4	
Tag/Equip. #					Comp./Unit #			
Vessel Status	In Operation	Not In Operation				Job #		99-011
Fabricator	Natco	Serial #				MAWP/Temp		75psi/ 200F
CRN#	F7133.2	Shell Mat'l		SA516-70		Shell Thick		0.375"
Corr. All	0.0625"	Head Mat'l		SA-516-70		Head Thick		0.3125" FT 0.375"
Diameter	6'	Length	20'	Height	RT	4	HT	
Year Built	1986	Next Insp		2004		Insp. Type		UT/VE/VI
Service	Sweet	Manway		Yes	Coating		No	
PSV #								
Mfg.	Consolidated	Serial #		85C3522		Set Pressure		75psi
Type/Model		Capacity		3888 SCFM		Size		1.5"
Date of Service	1992	Next Service		Before startup		Service Co.		Black Gold

Report # 3016

Observations:

U Stamp. Vessel painted and appears in good condition.

External: Treater painted externally. Paint in generally good condition.

Internal: Treater painted internally lower 2/3 of vessel. Paint in good condition with flaking sections closer to top.

Vessel anode corroded to 80%, anodes should be replaced prior to startup.

Internal structural/bracing in good condition. Bolts/studs appear in good condition. No evidence of wear or stretching.

Vessel shell is in good condition. There is no evidence of pitting or erosion at nozzles, attachment welds or flange welds.

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Field Inspection Report
Vessel A # 228329

Screens in poor condition. All screens are corroded and show evidence of failure.

Controls appear in good condition.

Firetube support is in good condition with very little evidence of wear.

UT Readings (measurements in inches)

Test Point	Nominals	A	B	C	D
Top Head – 1	0.3125	0.373	0.374	0.371	0.373
Top Head – 2	0.3125	0.371	0.373	0.373	0.374
Shell – 1	0.375	0.396	0.397	0.399	0.398
Shell – 2	0.375	0.404	0.403	0.405	0.403
Head FT – 1	0.375	0.448	0.447	0.453	0.453
Head FT – 2	0.375	0.443	0.447	0.451	0.450

Recommendations:

1. Replace screens.
2. PSV to be serviced prior to startup.
3. Replace anodes.

Inspector: Dennis Simons

Reviewed By:



External

Vessel appears to be in good condition. Cladding is in good condition. Building in relatively good condition. Most connecting line piping has not been blinded and has experienced some surface corrosion on flange surfaces and internal piping. PSV's have been removed. Vessel has enough fluid in it to be flowing out with some pressure. Casey had told me not to enter and he will notify Bill Alston of that. Many parts have been removed from this vessel.

Internal

Lower Manway - No entry. Coated and in very good condition. Filled with sludge up to bottom of manway, unable to see bottom. Screened baffle has corroded with several holes 3" in diameter. Upper Manway - Same condition as above. Anodes appear to be recently changed, before removal from service.

UT Readings (measurements in inches)

Test Point							
6 o'clock, Inside building lower shell	0.381	0.393	0.395	0.395	0.397		
7 o'clock, 1/8 of shell	0.378	0.400	0.378	0.376			
6 o'clock, lower head	0.372	0.366	0.372	0.360			
7 o'clock, 1/8 round of head	0.370	0.373	0.368	0.360			
9 o'clock, 1/4 of shell	0.371	0.383	0.372	0.372			
9 o'clock, head	0.376	0.371	0.367	0.363			
10 o'clock, 1/8 to top shell	0.382	0.383	0.381	0.380	0.382		
Head	0.371	0.372	0.366				
Top	0.382	0.383	0.383	0.387	0.391		
Front	0.389	0.389	0.396	0.399	0.399		
Rear	0.386	0.384	0.385	0.389	0.384	0.384	

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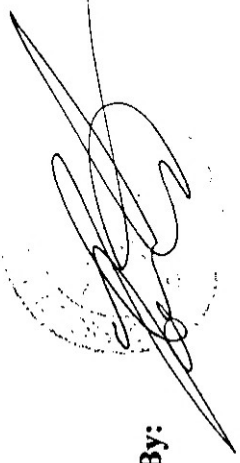
Field Inspection Report
Vessel A #228329

Recommendations:

1. There were no recommendations made at this time.

Inspector: Trevor Paananen

Reviewed By:



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Pressure Safety Valve (PSV) Input Report

File Number 96-088 Date 18-08-96 Page 30 of

SAFETY VALVE IDENTIFICATION

PSV ID Number					
Vessel/Line Identification	<u>A228342</u>	MAWP			
Manufacturer	<u>NATCO</u>	Model Number	<u>PDSA-301</u>		
Serial Number	<u>P4575</u>	Set Pressure	<u>50 PSIG</u>		
Service Description	☐ Sweet ☐ Sour ☒ Gas ☐ Liquid ☐ Multiphase ☐ Cryogenic ☐ Amine				
Valve Size	INLET: <u>3"</u>		OUTLET: <u>3"</u>		
Capacity	<u>N/A</u>		☐ ft ³ /min ☐ lb/hr ☐ gpm ☐ other <u> </u>		
Date Placed in Service	<u>N/A</u>				
Date of Previous Service	<u>0825/96</u>				
Previous Service Company	<u>PETROTEC</u>				
LSD where PSV is located	<u>d-78-E/94-A-11</u>				

This PSV protects the following vessels:

A 228342	Primary: ☒ Yes ☐ No
A	Primary: ☐ Yes ☐ No
A	Primary: ☐ Yes ☐ No

COMMENTS

PSV TAG SANDBLASTED AND NOT READABLE

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Pressure Vessel Data Input Report

File Number: 96083 Date: 19-08-96 Page 30 of 39

Equipment Identification

Owner	CINEREL Energy Ltd.		In Service	☒ Yes ☐ No
LSD	d-78-I / 94-A-11			
Location Name	SOUTH BRICK			
Description	TREATER			
Manway	☐ No ☒ Yes	Number <u>1</u>	Size <u>24"</u>	Coated Vessel ☐ Yes ☒ No

Provincial Number	A2234Z		CRN	F-640.23
Tag Number	N/A		Serial Number	L-6-336
Manufacturer	C.E. NARCO		Year Built	2-86
MAWP	500 PSI @ 200°F		MDMT	? @ 50 PSI
Test Pressure	517 kPa / 75 PSI		U Stamp	☒ Yes ☐ No
Shell Material	SA 516-70		Thickness	7.9 mm
Head Material	SA 516-70		Thickness	9.5 mm
Tube Material	N/A		Thickness	N/A
Corrosion Allowance	1.58 mm		Diameter	1829 mm
Length	6100 mm		Height	N/A
Volume	N/A		Radiography Code	RT-4
Heat Treatment	N/A		Drawing Reference	DA-0015-03
Flange Rating (ANSI)	Nozzles: <u>150#</u>	Flange Rating (ANSI)	Manway: <u>150#</u>	
Support	☐ Skirt ☒ Saddle ☐ Other:			

Last Inspection	N/A		Next Inspection	
Inspection Type	☒ Inventory Only ☐ Visual ☐ RT ☐ MPT ☐ LPT ☐ Ultrasonic ☐ Coating ☐ Initial ☐ Reinspection			
Cleaning	☐ Good ☐ Poor ☐ Unacceptable		Access	☐ Internal ☐ External ☐ Manway ☐ Thru Nozzle
Service	☐ Steam ☐ LPG ☐ Oil ☐ Air ☐ Gas ☐ Sour Gas ☐ Multiphase Sour ☐ Water ☐ Other:			
PSV Off for Service	☐ YES - service report to be obtained		☒ NO - details to be included on revers	