



2955267

RAE Engineering and Inspection Ltd.

#111,4808 - 87 Street, Edmonton, Alberta T6E 5W3
 Phone: (780) 469-2401 Fax (780) 468-2422

Date Printed 2003/06/25

Field Inspection Report

Vessel # 2955267

Client	Canadian Natural Resources Ltd.		Inspection Date	2003-06-16	
Prov. Reg.#	2955267		Insp. Type	VE/UT	
Equipment	Horizontal Inlet Separator		Location	Clearhills	
Tag/Equip. #			LSD	16-11-88-13W6	
Vessel Status	In Service		Comp./Unit		
Manufacturer	Process Ind	Serial #	93C26973000	MAWP/Temp	700 psi 120 F
CRN #	M3213.2	Shell Material	SA-516-70	Shell Thick.	1.500 in
Corrosion All.	0.063 in	Head Material	SA-516-70	Head Thick.	1.717 in
Manway	Yes	Head Material 2		Head Thick. 2	in
Coating	No	Channel Material		Channel Thick.	in
Diameter	72 in	Length	240 in	RT	1 HT Yes
Year Built	1994	Next Inspection	2007	Next Insp. Type	NA
Service	Sour			Job #	03-203
PSV #.	CE448991A10				
Mfg.	Farris	Serial #	CE448991A10	Set Pressure	700 psi
Type/Model	26KA1212057	Capacity	25200 SCFM	Size	3,000 in
Date of Service	2003-06-01	Next Service	2007	Service Co.	Unified Valve

Observations:

External

Part external - part in building. Item supported on two saddles. Paint in building fair, measles corrosion starting to show. Insulation on external fair, seal needs maintenance. Gauges in good condition.

AB-40 to be attached

Field Inspection Report

Vessel # 2955267

Internal

The vessel is about 72" diameter. The only access for internal maintenance cleaning/inspection is on the North side at bottom shell through the 36" diameter boot with a flat bolted blind flange, which is about 22" away from the building floor. This separator was not made available for internal inspection due to complexity of the internal access/operation constraint, instead the downstream separator with 'A' 2725370 at Unit #1 building was internally inspected.

UT

Measurements in Inches

Nozzles

2 x 10"/12" inlet/outlet on top - No access

3 x 2" Nozzles

1 x 6" Bottom Nozzle

1 x 36" Bottom Leg

Shell - 1.513 - 1.520

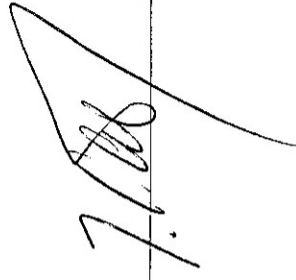
North Head - 1.746 - 1.840

Bottom Leg Boot - 3.010 - 3.016 (flange- 21/2" t)

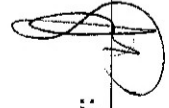
Recommendations:

CNRL to plan internal inspection on next shutdown.

Inspector: Theo Abels



Reviewed by:



AB-40 to be attached

Field Inspection Report

Vessel # 2955267

Client	Canadian Natural Resources Ltd.		Inspection Date	2002/12/10	
Prov. Reg.#	2955267		Insp. Type	VE/UT	
Equipment	3 Phase Separator		Location	Clearhills	
Tag/Equip. #			LSD	16-11-88-13W6	
Vessel Status	In Operation		Comp./Unit		
Manufacturer	Process Ind	Serial #	93C26973000	MAWP/Temp	700 psi 120 F
CRN #	M3213.2	Shell Material	SA-516-70	Shell Thick.	1.500 in
Corrosion All.	0.063 in	Head Material	SA-516-70	Head Thick.	1.717 in
Manway	Yes	Head Material 2		Head Thick. 2	in
Coating	No	Channel Material		Channel Thick.	in
Diameter	60 in	Length	168 in	RT	1 HT Yes
Year Built	1994	Next Inspection	2005	Next Insp. Type	NA
Service	Sour			Job #	02-539

PSV #.	CE448991A10				
Mfg.	Farris	Serial #	CE448991A10	Set Pressure	700 psi
Type/Model	26KA12120S7	Capacity	25200 SCFM	Size	3.000 in
Date of Service	2001/05/10	Next Service	2004	Service Co.	Unified Valve

Observations:

External
 Building is well maintained. Vessel is supported by 2 saddles that are bolted to supports. PSV is located on the shell. PSV vents to flare. Piping is in good condition and well supported. Paint and external are in good condition. Gauges are in good condition. Skid is grounded.

Internal
 None at this time

AB-40 to be attached

Field Inspection Report

Vessel # 2955267

UT
Measurements in inches
North Head - 1.758 to 1.774
8" 300#, RFLWN - 1.406 to 1.409

Recommendations:

1. Vessel needs an internal inspection at next shutdown.
2. No further recommendations.

Inspector: Sean Zitaruk

Reviewed by:



AB-40 to be attached

RAE Inspection Service (1979) Ltd.

#111, 4808 – 87 Street, Edmonton, Alberta T6E 5W3

Phone: (780) 469-2401 Fax: (780) 468-2422

**Field Inspection Report
Vessel A #2955267**

Client	Canadian Natural Resources Ltd.		Date of Insp.	November 6, 2000	
Prov. Reg.#	2955267		Location	Clearhills Gas Plant	
Equipment	Horizontal Separator		LSD	16-11-88-13W6	
Tag/Equip. #			Comp./Unit #		
Vessel Status	In Operation		Job #	00-474	
Fabricator	Process	Serial #	93C29673000	MAWP/Temp	720 psi/ 120F
CRN#	M3213.2	Shell Mat'1	SA-516-70	Shell Thick.	1.50"
Corr. All.	0.062"	Head Mat'1	SA-516-70	Head Thick.	1.717"
Diameter	~6'	Length	~15'	Height	RT
Year Built	1994	Next Insp.	2002	RT	1 HT
Service	Sour	Manway	Yes	Insp. Type	VE/UT
PSV #.			Coating		
Mfg.	Farris	Serial #	CE3016493A10	Set Pressure	700 psi
Type/Model		Capacity	3158 SCFM	Size	4"
Date of Service	96/02	Next Service	2001	Service Co.	Dalco

Report # 4582**Observations:**

External Inside the building- Shell/ head surface has minor rust formation. Liquid boot start to corrode on mating flanges – scattered paint break down (flaking due to temperature) on 8" discharge pipe. Outside the building – fully insulated. The insulation is in very good condition.

UT Inspection (Measurements in inches)

Test Point	Nominal			
North Head	1.717	1.756	1.766	1.774
Shell	1.50	1.528	1.540	1.536
Note	No access to south head – no window for UT.			

Recommendations:

None at this time.

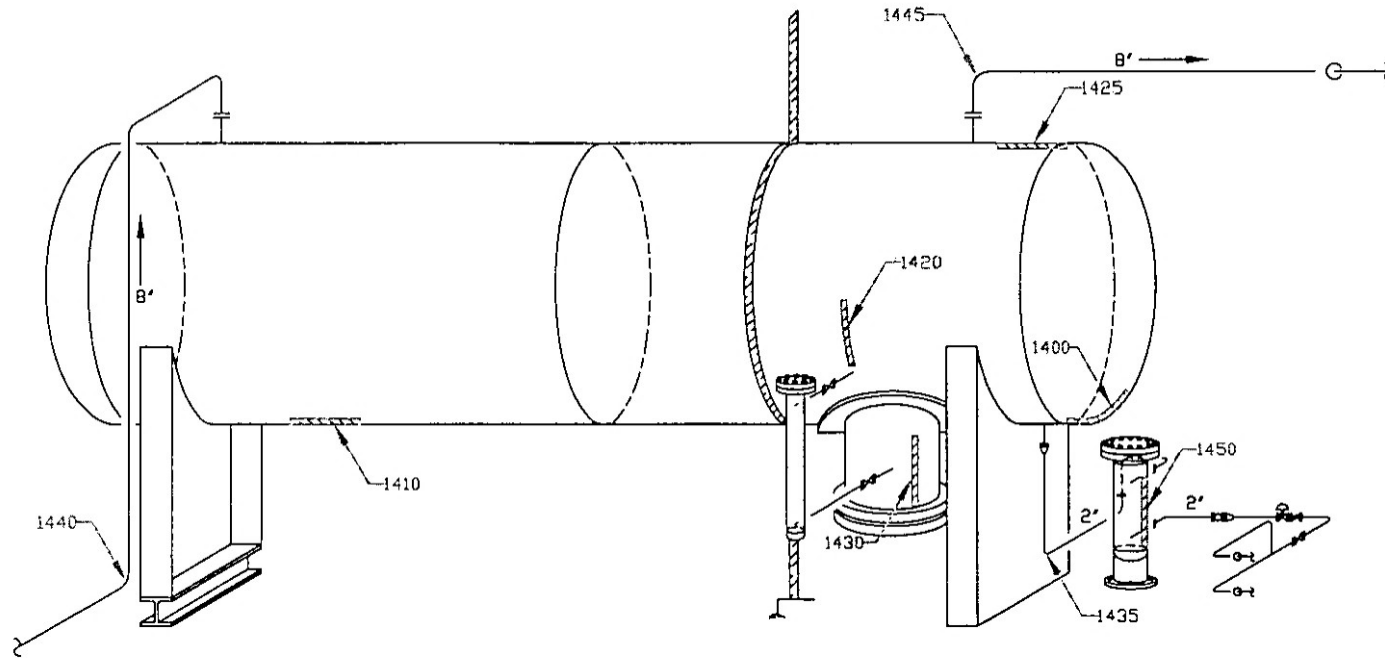
Inspector: Rex Sadaba**Reviewed By:** AB-40 to be attached

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V-3213.2
Inlet Slug-Catcher
 Reg. No. : A 2955267
 Built : 1994
 Design : 700 PSI @ 120 F
 Size : 72" OD x 20'
 Size Boot: 24" OD x 18"
 J.E. : 100 %
 C.A. : .063
 Shell : 1.500 SA 516.70
 Head : 1.717 SA 516.70
 Boot SH : 3.000 SA 516.70

V-3213.1
Condensate Filter
 Reg. No. :
 Built : 1994
 Design : 700 PSI @ 120 F
 Size : 8.625" OD x 22"
 J.E. : 100 %
 C.A. : .063
 Shell : .322 SA 106 B
 Head : .322 SA 234 WPB

TransCanada Midstream
 Clearhills
 16-11-88-13W6

Locations: 1400 - 1450

ULTRATEST NDT Services Inc.

By: ML Date: 4/99 Dwg: 14

Certificate of Inspection

BLUE RANGE RESOURCE CORP.

1300, 800 - 5 AVENUE SW
(TRIMAC HOUSE)
CALGARY, AB
T2P 3T6

PREFERRED RE-INSP. INTERVAL: 4.00 Yr.

CRN: M3213.2

YEAR BUILT: 1994

VOLUME: 16.7 M3

HEATING SURFACE:

SURFACE AREA:

COMPANY CODE:

LOCATION: CLEAR HILLS 16-11-088-13-W6M

DESCRIPTION: 3 PHASE HORIZONTAL SEPARATOR

MANUFACTURER: PROCESS INDUSTRIES INC.

SERIAL #: 93-C2697-3000

Safety Valves

PART	MAX. AUTHORIZED WORKING PRESSURE	MAX. TEMP	MIN. TEMP	VALVE ID	SETTING	CAPACITY	LOCATION
SEP	4826 KPA	49 C	-9 C	SV1	4826 KPA	76 MM SHELL	

OWNER INSTRUCTIONS/REMARKS:

VERIFY VESSEL THICKNESS BY ULTRASONIC EXAMINATION, ANALYZE AND FORWARD A COPY TO THE ABSA SAFETY CODES OFFICER FOR REVIEW.

OWNER TO VERIFY INTEGRITY OF VESSEL BY PERIODIC INSPECTION PROGRAM.

Safety Codes Officer: HOUSE, DAN

Signature: 

NOTE: REQUIREMENTS OF THE SAFETY CODES ACT AND THE REGULATIONS ISSUED THEREUNDER:

Owner or person in charge shall report all accidents involving a boiler, pressure vessel or pressure piping system to the district Safety Codes Officer immediately and shall send a full report in writing to the Administrator as required by the Act. No repairs or alterations may be made unless authorized by a Safety Codes Officer.

Certificate of Inspection

BLUE RANGE RESOURCE CORP.
1100, 801 - 6 AVENUE SW

CALGARY AB T2P 3W2

LOCATION: LSD 16-11-88-13-W6
COMPANY CODE:

DESCRIPTION: 3 PHASE HORIZONTAL SEPARATOR

MANUFACTURER: PROCESS INDUSTRIES INC.

SERIAL # : 93-C2697-3000

HEATING SURFACE:

m2

YEAR BUILT: 1994

CUBICAL CAPACITY: 16.700 m3

PREFERRED RE-INSP. INTERVAL: 5.00 YRS
CRN: M3213.2

PART	MAX. AUTHORIZED PRESSURE	MIN. TEMP	MAX. TEMP	ID/LOCATION	SAFETY VALVES SET/CAPACITY	AT TEMP
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SEPARATOR

4826 kPa

49 C SV1
-9 C SHELL

4826 kPa
76 MM

INSPECTOR: PARSONS, GEORGE HENRY

SIGNATURE: *G.P. Parsons*

NOTE: REQUIREMENTS OF THE SAFETY CODES ACT AND THE REGULATIONS ISSUED THEREUNDER:

THE OWNER OR PERSON IN CHARGE SHALL REPORT ALL ACCIDENTS INVOLVING A BOILER, PRESSURE VESSEL OR PRESSURE PIPING SYSTEM TO THE DISTRICT INSPECTOR IMMEDIATELY AND SHALL SEND A FULL REPORT IN WRITING TO THE CHIEF INSPECTOR AS REQUIRED BY THE ACT. NO REPAIRS OR ALTERATIONS MAY BE MADE UNLESS AUTHORIZED BY AN INSPECTOR.

VESSEL (A) : 2955267

DATE OF INSPECTION : 1994 APR 21

Certificate of Inspection

BLUE RANGE RESOURCES LTD.
905, 706 - 7 AVE S W

CALGARY, AB
T2P 0Z1

LOCATION: 16-11-80-13 W6M
COMPANY CODE: 3 PHASE HORIZONTAL SEPARATOR
DESCRIPTION: 3 PHASE HORIZONTAL SEPARATOR
LSD: 16-11-80-13 W6M
PREFERRED RE-INSP. INTERVAL: 2.00 YRS
CRN: M3213.2

MANUFACTURER: PROCESS INDUSTRIES INC.

SERIAL # : 93C26973000

HEATING SURFACE:

m2

YEAR BUILT: 1994

CUBICAL CAPACITY:

16,700 m3

PART	MAX. AUTHORIZED PRESSURE	MAX. TEMP/ MIN. TEMP	ID/LOCATION	SAFETY VALVES SET/CAPACITY	AT TEMP
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SEPARATOR

4826 kPa

49 C SVI
-9 C TO BE INSTALLED

0 kPa
0


OWNER INSTRUCTIONS/REMARKS:

VERIFY THAT VESSEL IS PROTECTED BY A 'UV' SAFETY RELIEF VALVE OF ADEQUATE CAPACITY, SET AT NO MORE THAN MAXIMUM PRESSURE AUTHORIZED, HAS BEEN INSTALLED IN ACCORDANCE WITH THE REGULATIONS.

TO BE INSTALLED IN ACCORDANCE WITH THE BOILERS & PRESSURE VESSEL ACT & REGULATIONS

CONTACT THE AREA INSPECTOR BEFORE PLACING THE VESSEL IN SERVICE.

INSPECTOR: LEE, SAI-BONG

SIGNATURE: 

NOTE: REQUIREMENTS OF THE BOILERS AND PRESSURE VESSELS ACT AND THE REGULATIONS ISSUED THEREUNDER:

THE OWNER OR PERSON IN CHARGE SHALL REPORT ALL ACCIDENTS INVOLVING A BOILER, PRESSURE VESSEL OR PRESSURE PIPING SYSTEM TO THE DISTRICT INSPECTOR IMMEDIATELY AND SHALL SEND A FULL REPORT IN WRITING TO THE CHIEF INSPECTOR AS REQUIRED BY THE ACT. NO REPAIRS OR ALTERATIONS MAY BE MADE UNLESS AUTHORIZED BY AN INSPECTOR.

Note: All readings = inches.



Client:	Blue Range Resources Corp.	Facility:	Clear Hills
Item:	Three Phase Separator	Equip. No.:	S/N 93-C2697-3000
Prov. Reg. No.:	Ⓐ 2955267	Refer to Drawing:	ICD-246A
Installation Date:	1994	Inspection Date:	16/07/97
			Years in Service: 3
Test Point No.:	CP-095	Nominal:	.322
Point Desc.:	8" 90° Elbow	Corrosion Allowance:	.040
		Min. Nominal:	.282
Inspection Dates:	16/01/96		
Location:		Average	Minimum
12 o'clock	.325	.312	.305
3 o'clock	.331	.320	.312
6 o'clock	.331	.320	.312
9 o'clock	.305	.320	.312
Minimum Reading:	.305	Remaining Corrosion Allowance:	.023
Corrosion Rate (thou/year):	.0046	Expected Life Remaining:	4.9 Years
Test Point No.:	CP-100	Nominal:	.322
Point Desc.:	8" 90° Elbow	Corrosion Allowance:	.040
		Min. Nominal:	.282
Inspection Dates:	16/01/96		
Location:		Average	Minimum
12 o'clock	.350	.343	.325
3 o'clock	.350	.343	.325
6 o'clock	.350	.343	.325
9 o'clock	.350	.343	.325
Minimum Reading:	.325	Remaining Corrosion Allowance:	.043
Corrosion Rate (thou/year):	.0046	Expected Life Remaining:	9.2 Years
Test Point No.:	CP-105	Nominal:	.322
Point Desc.:	8" 90° Elbow	Corrosion Allowance:	.040
		Min. Nominal:	.282
Inspection Dates:	16/01/96		
Location:		Average	Minimum
12 o'clock	.350	.320	.312
3 o'clock	.365	.320	.312
6 o'clock	.325	.312	.300
9 o'clock	.350	.328	.320
Minimum Reading:	.300	Remaining Corrosion Allowance:	.018
Corrosion Rate (thou/year):	.003	Expected Life Remaining:	6 Years
Test Point No.:	CP-110	Nominal:	.406
Point Desc.:	8" Tee	Corrosion Allowance:	.051
		Min. Nominal:	.355
Inspection Dates:	16/01/96		
Location:		Average	Minimum
12 o'clock	.450	.410	.400
3 o'clock	.450	.410	.400
6 o'clock	.450	.410	.407
9 o'clock	.437	.410	.407
Minimum Reading:	.400	Remaining Corrosion Allowance:	.045
Corrosion Rate (thou/year):	.005	Expected Life Remaining:	9 Years



ULTRASONIC B-SCAN REPORT

3RD PHASE SEPARATOR
AND ASSOCIATED
PIPING

CLIENT: Blue Range Resources Corp.

ITEM DESCRIPTION: Painting

Ⓐ 2955267

CP 095/100/105/110

LOCATION: Clear Hills

MATERIAL TYPE: Carbon Steel

CONTACT: Jim Cholin

SURFACE: Painted

INSPECTION DATE: July 16/97

_____ BASE LINE _____ 100% INSPECTION

CLIENT P.O.: _____

_____ X _____ INSERVICE _____ X _____ SPOT INSPECTION

INSPECTION VARIABLES

TMI-150 SERIAL NO.: 0084

VERTICAL LINEARITY CALIBRATION

SCAN HEAD FREQUENCY/SIZE: 5Mhz 1/2" Ø

HIGH .500

DAMPING 1.0

MED. _____

DEPTH 5.34

LOW .250

DELAY 5.56

COUPLANT/BATCH NO. H₂O (WATER)

REJECT 5.0

TEMPERATURE _____

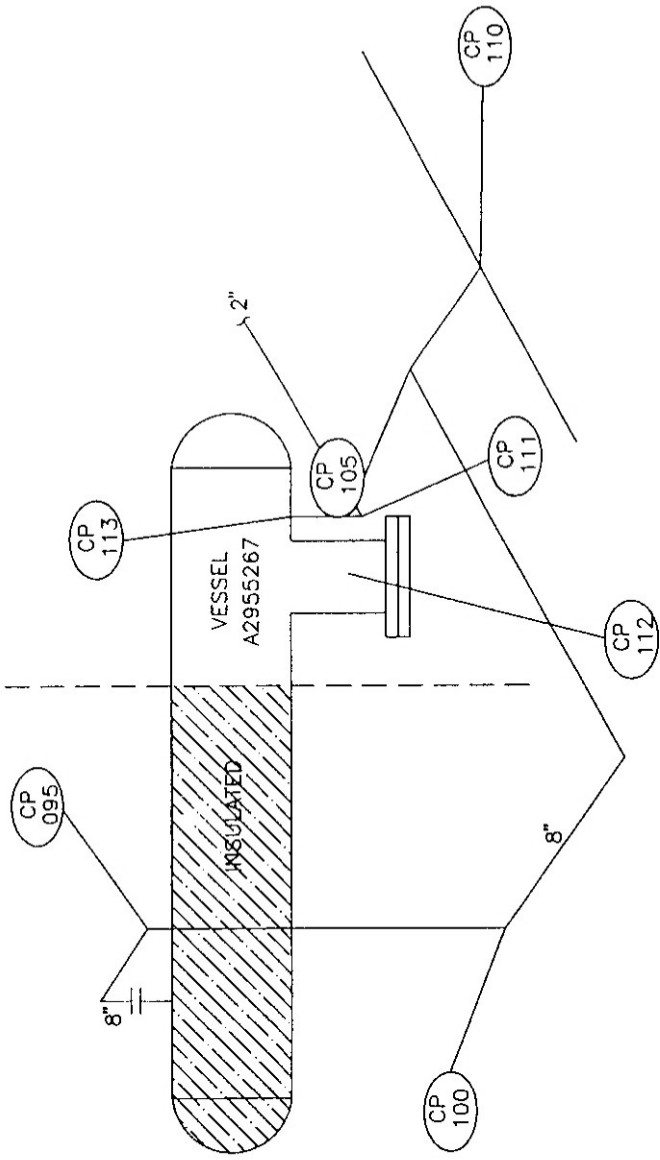
TECHNICIANS K. Chubey/L. Charrois

EXAMINATION ANALYSIS:

Note: All readings = inches.



Client:	Blue Range Resources Corp.	Facility:	Clear Hills
Item:	Three Phase Separator	Equip. No.:	S/N 93-C2697- 3000
Prov. Reg. No.:	Ⓐ 2955267	Refer to Drawing:	ICD-246A
Installation Date:	1994	Inspection Date:	16/07/97
		Years in Service:	3
Test Point No.:	CP-111	Nominal:	.154
Point Desc.:	2" 90° Elbow	Corrosion Allowance:	.019
		Min. Nominal:	.135
Inspection Dates:	16/07/97		
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
12 o'clock	N/A	N/A	<u>Minimum</u>
3 o'clock	.173	.173	
6 o'clock	.173	.173	
9 o'clock	.173	.173	
Minimum Reading:	.173		
Corrosion Rate (thou/year):	.001	Remaining Corrosion Allowance:	.038
		Expected Life Remaining:	38 Years
Test Point No.:	CP-112	Nominal:	3.000
Point Desc.:	Boot	Corrosion Allowance:	.062
		Min. Nominal:	2.938
Inspection Dates:	16/07/97		
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
North	3.037	3.000	<u>Minimum</u>
East	3.037	3.000	
West	3.037	3.000	
South	3.037	3.000	
Minimum Reading:	3.000	Remaining Corrosion Allowance:	.062
Corrosion Rate (thou/year):	.001	Expected Life Remaining:	62 Years
Test Point No.:	CP-113	Nominal:	1.500
Point Desc.:	Bottom Shell	Corrosion Allowance:	.062
		Min. Nominal:	1.438
Inspection Dates:	16/07/97		
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
Bottom Shell	1.515	1.500	<u>Minimum</u>
Minimum Reading:	1.500	Remaining Corrosion Allowance:	.062
Corrosion Rate (thou/year):	.001	Expected Life Remaining:	62 Years
Test Point No.:	Nominal:	Corrosion Allowance:	Min. Nominal:
Point Desc.:			
Inspection Dates:			
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
Bottom Shell	1.515	1.500	<u>Minimum</u>
Minimum Reading:	1.500	Remaining Corrosion Allowance:	.062
Corrosion Rate (thou/year):	.001	Expected Life Remaining:	62 Years
Test Point No.:	Nominal:	Corrosion Allowance:	Min. Nominal:
Point Desc.:			
Inspection Dates:			
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
Bottom Shell	1.515	1.500	<u>Minimum</u>
Minimum Reading:	1.500	Remaining Corrosion Allowance:	.062
Corrosion Rate (thou/year):	.001	Expected Life Remaining:	62 Years
Test Point No.:	Nominal:	Corrosion Allowance:	Min. Nominal:
Point Desc.:			
Inspection Dates:			
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
Bottom Shell	1.515	1.500	<u>Minimum</u>
Minimum Reading:	1.500	Remaining Corrosion Allowance:	.062
Corrosion Rate (thou/year):	.001	Expected Life Remaining:	62 Years



VESSEL DATA

P.E. No. (A) 2955267 CRN M3213.2
 S/N: 93-C2697-3000 MANUF. _____
 NOM. THK.-HEADS 1.717" SHELL 1.500"
 CORROSION ALL. 0.125" BUILT 1994
 MATL-HEADS SA-516-GR-70 SHELL SA-516-GR-70
 DESIGN PRESS. 700psi DESIGN TEMP. 120°F



Edmonton • Calgary •
 Estevan • Ft. St. John •
 Lacombe

ICD-001A

PIPING DATA

SIZE	SCHEDULE	INST. DATE	NOM. THK.	MIN. ALL THK.
8"	40	94	0.322"	0.282"
8"	60	94	0.406"	0.355"
2"	40	94	0.154"	0.135"

CUSTOMER

BLUE RANGE RESOURCES CORP.
 THREE PHASE SEPARATOR

SCALE NTS DATE 97 07 16 DWG.NO. ICD-246A



ULTRASONIC B-SCAN REPORT

DISCHARGE

CLIENT: Blue Range Resources Corp.

ITEM DESCRIPTION: Piping
CP 115/120/125/130/135/140

LOCATION: Clear Hills

MATERIAL TYPE: Carbon

CONTACT: Jim Cholin

SURFACE: Painted

INSPECTION DATE: July 16/97

 BASE LINE 100% INSPECTION

CLIENT P.O.:

 X INSERVICE X SPOT INSPECTION

INSPECTION VARIABLES

TMI-150 SERIAL NO.: 0084

VERTICAL LINEARITY CALIBRATION

SCAN HEAD FREQUENCY/SIZE: 5Mhz 1/2" Ø

HIGH 1.0

DAMPING 1.0

MED. .750

DEPTH 5.32

LOW .500

DELAY 5.56

COUPLANT/BATCH NO. H₂O (WATER)

REJECT 5.0

TEMPERATURE

TECHNICIANS K. Chubey/L. Charrois

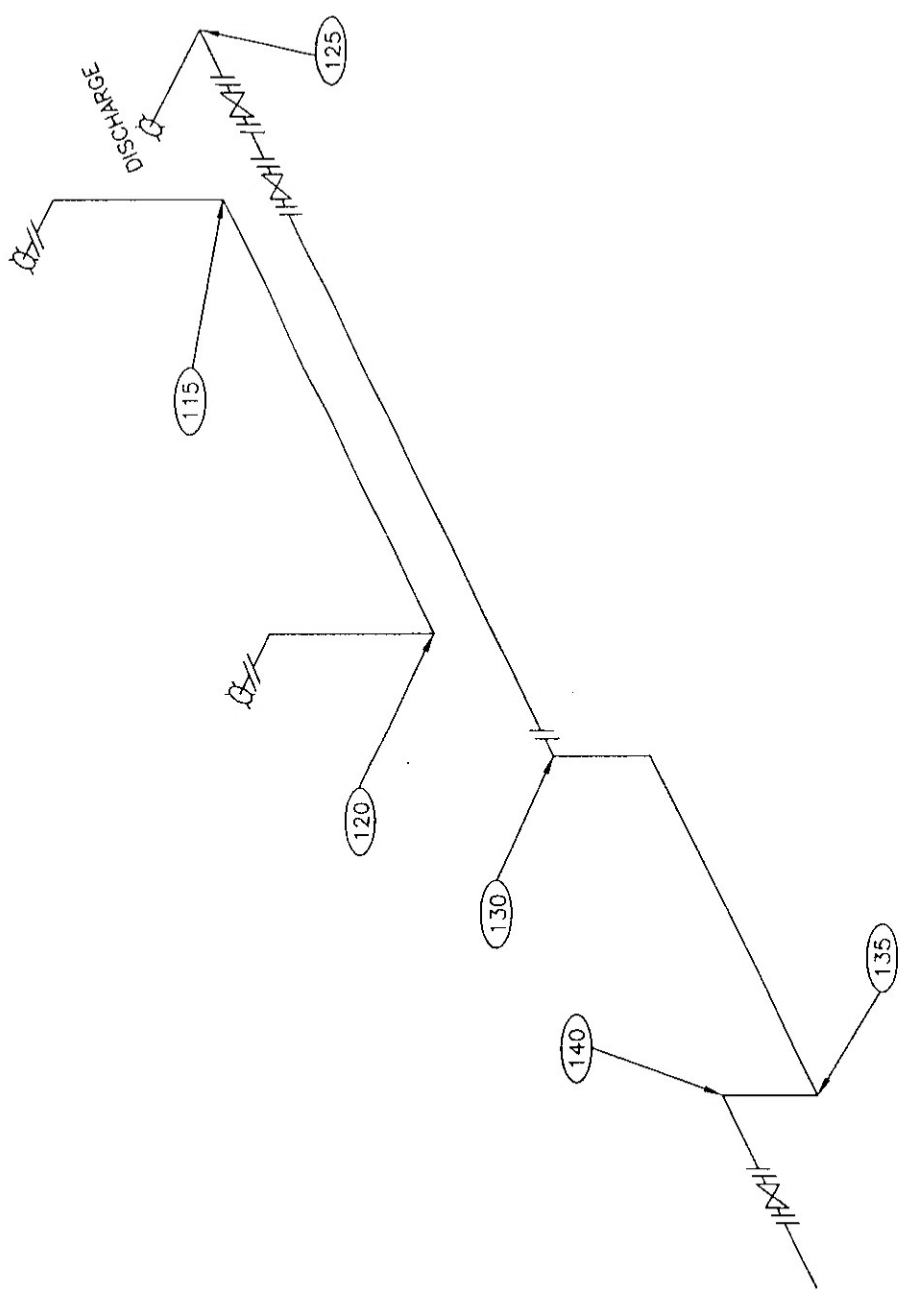
EXAMINATION ANALYSIS:

Note: All readings = inches.

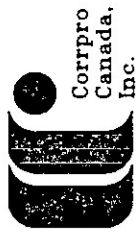
Client:	Blue Range Resources Corp.	Facility:	Clear Hills
em:	Discharge Piping	Equip. No.:	
Prov. Reg. No.:	N/A	Refer to Drawing:	ICD-238A
Installation Date:	1995	Inspection Date:	16/07/97
			Years in Service: 2
Test Point No.:	CP-115	Nominal:	.432
Point Desc.:	6" 90° Elbow	Corrosion Allowance:	.054
Inspection Dates:	13/12/95	Min. Nominal:	.378
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
12 o'clock	No readings taken	.450	
3 o'clock		.450	
6 o'clock		.450	
9 o'clock		.450	
Minimum Reading:	.450	Remaining Corrosion Allowance:	.072
Corrosion Rate (thou/year):	.001	Expected Life Remaining:	72 Years
Test Point No.:	CP-120	Nominal:	.432
Point Desc.:	6" 90 Elbow	Corrosion Allowance:	.054
Inspection Dates:	13/12/95	Min. Nominal:	.378
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
12 o'clock	No readings taken	.368	
East		.368	
West		.368	
South		.368	
Minimum Reading:	.368	Remaining Corrosion Allowance:	0
Corrosion Rate (thou/year):	Not established yet	Expected Life Remaining:	
Test Point No.:	CP-125	Nominal:	.280
Point Desc.:	6" ° Elbow	Corrosion Allowance:	.035
Inspection Dates:	13/12/95	Min. Nominal:	.245
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
12 o'clock	No readings taken	.277	
3 o'clock		.277	
6 o'clock		.277	
9 o'clock		.277	
Minimum Reading:	.277	Remaining Corrosion Allowance:	.032
Corrosion Rate (thou/year):	.001	Expected Life Remaining:	32 Years
Test Point No.:	CP-130	Nominal:	.432
Point Desc.:	6" 90° Elbow	Corrosion Allowance:	.054
Inspection Dates:	13/12/95	Min. Nominal:	.378
<u>Location:</u>	<u>Average</u>	<u>Minimum</u>	<u>Average</u>
12 o'clock	.375	.350	
3 o'clock	.400	.362	
6 o'clock	.400	.362	
9 o'clock	.400	.362	
Minimum Reading:	.350	Remaining Corrosion Allowance:	0
Corrosion Rate (thou/year):	Not established yet	Expected Life Remaining:	

Note: All readings = inches.

Client:	Blue Range Resources Corp.	Facility:	Clear Hills
.em:	Discharge Piping	Equip. No.:	
Prov. Reg. No.:	N/A	Refer to Drawing:	ICD-238A
Installation Date:	1995	Inspection Date:	16/07/97
			Years in Service: 2
Test Point No.:	CP-135	Nominal:	Min. Nominal:
Point Desc.:	6" 90° Elbow		
Inspection Dates:	13/12/95	Average	16/07/97
Location:	Average	Minimum	Average
12 o'clock	Insulation could not	Minimum	Minimum
3 o'clock	be removed		
6 o'clock			
9 o'clock			
Minimum Reading:			
Corrosion Rate (thou/year):			
Test Point No.:	CP-140	Nominal:	.432
Point Desc.:	6" 90 Elbow		
Inspection Dates:	13/12/95	Average	16/07/97
Location:	Average	Minimum	Average
12 o'clock	.487	.465	.465
East	.487	.465	.465
West	.493	.475	.465
South	.493	.475	.465
Minimum Reading:	.465		
Corrosion Rate (thou/year):	.001		
Test Point No.:		Nominal:	Min. Nominal:
Point Desc.:			
Inspection Dates:			
Location:	Average	Minimum	Average
Minimum Reading:			
Corrosion Rate (thou/year):			
Test Point No.:		Nominal:	Min. Nominal:
Point Desc.:			
Inspection Dates:			
Location:	Average	Minimum	Average
Minimum Reading:			
Corrosion Rate (thou/year):			
Test Point No.:		Nominal:	Min. Nominal:
Point Desc.:			
Inspection Dates:			
Location:	Average	Minimum	Average
Minimum Reading:			
Corrosion Rate (thou/year):			



REF.	REVISION	DATE	BY



•Edmonton • Calgary •
•Estevan • Ft.St.John •
• Lloydminster •

CUSTOMER

BLUE RANGE RESOURCES CORP.

DWG.BY

D.G.P.

DSGN.BY

ITEM
DISCHARGE PIPING

CHK.BY

SCALE

NTS

DATE

96 01 15

DWG.NO.

ICD-238A

Manufacturer's

Data

Report



Certificate of Inspection

BLUE RANGE RESOURCE CORP.

1300, 800 - 5 AVENUE SW
(TRIMAC HOUSE)
CALGARY, AB
T2P 3T6

PREFERRED RE-INSP. INTERVAL: 4.00 Yr.
CRN: M3213.2

YEAR BUILT: 1994
VOLUME: 16.7 M3

HEATING SURFACE:
SURFACE AREA:
COMPANY CODE:

LOCATION: CLEAR HILLS 16-11-088-13-W6M

DESCRIPTION: 3 PHASE HORIZONTAL SEPARATOR

MANUFACTURER: PROCESS INDUSTRIES INC.

SERIAL #: 93-C2697-3000

Safety Valves

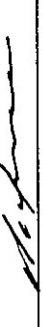
PART	MAX. AUTHORIZED WORKING PRESSURE	MAX. TEMP	MIN. TEMP	VALVE ID	SETTING	CAPACITY	LOCATION
SEP	4826 KPA	49 C	-9 C	SV1	4826 KPA	76 MM SHELL	

OWNER INSTRUCTIONS/REMARKS:

VERIFY VESSEL THICKNESS BY ULTRASONIC EXAMINATION, ANALYZE AND FORWARD A COPY TO THE ABSA SAFETY CODES OFFICER FOR REVIEW.

OWNER TO VERIFY INTEGRITY OF VESSEL BY PERIODIC INSPECTION PROGRAM.

Safety Codes Officer: HOUSE, DAN

Signature: 

NOTE: REQUIREMENTS OF THE SAFETY CODES ACT AND THE REGULATIONS ISSUED THEREUNDER:

The owner or person in charge shall report all accidents involving a boiler, pressure vessel or pressure piping system to the district Safety Codes Officer immediately and shall send a full report in writing to the Administrator as required by the Act. No repairs or alterations may be made unless authorized by a Safety Codes Officer.

Certificate of Inspection

BLUE RANGE RESOURCE CORP.
1100, 801 - 6 AVENUE SW

CALGARY AB T2P 3W2

LOCATION: LSD 16-11-88-13-W6
COMPANY CODE:
DESCRIPTION: 3 PHASE HORIZONTAL SEPARATOR
PREFERRED RE-INSP. INTERVAL: 5.00 YRS
CRN: M3213.2

MANUFACTURER: PROCESS INDUSTRIES INC.

SERIAL # : 93-C2697-3000

YEAR BUILT: 1994

HEATING SURFACE:

m2

CUBICAL CAPACITY:

16.700 m3

PART	MAX. AUTHORIZED PRESSURE	MIN. TEMP	MAX. TEMP	ID/LOCATION	SAFETY VALVES SET/CAPACITY	AT TEMP
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SEPARATOR

4826 kPa

49 C SVI
-9 C SHELL

4826 kPa
76 MM

INSPECTOR: PARSONS, GEORGE HENRY

SIGNATURE: *G. Parsons*

NOTE: REQUIREMENTS OF THE SAFETY CODES ACT AND THE REGULATIONS ISSUED THEREUNDER:

THE OWNER OR PERSON IN CHARGE SHALL REPORT ALL ACCIDENTS INVOLVING A BOILER, PRESSURE VESSEL OR PRESSURE PIPING SYSTEM TO THE DISTRICT INSPECTOR IMMEDIATELY AND SHALL SEND A FULL REPORT IN WRITING TO THE CHIEF INSPECTOR AS REQUIRED BY THE ACT. NO REPAIRS OR ALTERATIONS MAY BE MADE UNLESS AUTHORIZED BY AN INSPECTOR.



LABOUR
Boiler and Pressure Vessel Safety

VESSEL (A) : 2955267

DATE OF INSPECTION : 1994 APR 21

Certificate of Inspection

BLUE RANGE RESOURCES LTD.
905, 706 - 7 AVE S W

CALGARY, AB
T2P 0Z1

LOCATION:

LSD: 16-11-80-13 W6M

COMPANY CODE:

PREFERRED RE-INSP. INTERVAL: 2.00 YRS

DESCRIPTION: 3 PHASE HORIZONTAL SEPARATOR

CRN: M3213.2

MANUFACTURER: PROCESS INDUSTRIES INC.

YEAR BUILT: 1994

SERIAL # : 93C26973000

HEATING SURFACE:

m2

CUBICAL CAPACITY:

16.700 m3

PART	MAX AUTHORIZED PRESSURE	MIN. TEMP	MAX. TEMP	ID/LOCATION	SAFETY VALVES SET/CAPACITY	AT TEMP

SEPARATOR

4826 kPa

49 C SV1

-9 C TO BE INSTALLED

0 kPa
0

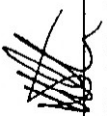
OWNER INSTRUCTIONS/REMARKS:

VERIFY THAT VESSEL IS PROTECTED BY A 'UV' SAFETY RELIEF VALVE. OF ADEQUATE CAPACITY, SET AT NO MORE THAN MAXIMUM PRESSURE AUTHORIZED, HAS BEEN INSTALLED IN ACCORDANCE WITH THE REGULATIONS.

TO BE INSTALLED IN ACCORDANCE WITH THE BOILERS & PRESSURE VESSEL ACT & REGULATIONS

CONTACT THE AREA INSPECTOR BEFORE PLACING THE VESSEL IN SERVICE.

INSPECTOR: LEE, SAI-BONG

SIGNATURE: 

NOTE: REQUIREMENTS OF THE BOILERS AND PRESSURE VESSELS ACT AND THE REGULATIONS ISSUED THEREUNDER:

THE OWNER OR PERSON IN CHARGE SHALL REPORT ALL ACCIDENTS INVOLVING A BOILER, PRESSURE VESSEL OR PRESSURE PIPING SYSTEM TO THE DISTRICT INSPECTOR IMMEDIATELY AND SHALL SEND A FULL REPORT IN WRITING TO THE CHIEF INSPECTOR AS REQUIRED BY THE ACT. NO REPAIRS OR ALTERATIONS MAY BE MADE UNLESS AUTHORIZED BY AN INSPECTOR.

Safety · Relief

Device Data

