× 10405644

Item Inspected:

Location:

ABSA #:

BOOSTE SLUG CATCHER PINE CREEK 6-22-57-20-W5M

A-457109

hupo ask

PSV PIPING

91

08 2009

EQ# 6617 2227

PSV

Imperial Oil Resources – ExxonMobil Canada Ltd. STATIC EQUIPMENT INSPECTION REPORT

PSV #:

Service Date:

10812917

CRN #:	L 9912.213	Set Press:	635 psi	
Serial #:	00-741	Capacity:	1306 scfm	
SAP #:		Serial #:	92108	
IORL#:	PID-013			
Damage Code:		MAWP: (Shell)	1480 psi	@ 100 °F
AITEC Job #:	5301-6845	(Tube)		@ °
Inspection requested b	y: WILBUR SCHUTTE		Inspection date: Al	JG 14, 2009
Inspection performed b	by: ROGER LORENSON	Inspector's	Certification: API 510 26	153 / ABSA 000212
Chief Inspector & In-Se	11/2011	038	Inspection Interval:	6 YRS
Remedial Action	Access & Coverage	Other Other	Shell	top bottom
no action required coating/lining repa coating / lining repair weld - S.R. repair weld - no S. ground out replaced monitor	irs adequately cleaned internal inspection partial int. inspection	see common baffle / wei baffle / wei support rin flange corr burner mis bolting dar downcome valve caps	ir damage go go g damage ex cosion intraligned pit pit ex corrosion screen scre	od condition ternal corrosion ernal corrosion ted - light ted - severe aled - light aled - heavy stered
Nozzles	External Protection	Welds	Supp	<u>orts</u>
good condition internal corrosion cracked scaled plugged poor welding leaking	good condition fireproofing cracked insulation damaged paint deteriorated corrosion under insulation (CUI)	□ good cond □ corroded □ cracked □ broken □ poor qualit	☐dis ☐cra ☐bra ty ☐pc	ood condition storted acked oken oor installation lts missing/loose
Heads ☐top ☐right 1	Heads ☐ bottom ☐ left S	Internal Protection	coating Anod	
good condition external corrosion internal corrosion pitted - light pitted - severe scaled - light scaled - heavy blistered	good condition external corrosion internal corrosion pitted - light pitted - severe scaled - light scaled - heavy blistered	good cond blistered - blistered - disbonded chipped holidays mechanic missing	dition di light co severe co d co	ood condition rty onsumed 20% onsumed 50% onsumed 80% + issing

STATIC EQUIPMENT INSPECTION REPORT - Continued

Demister Screen	Heating Coil	<u>Manways</u>	<u>Trays</u>
N/A good condition dirty dislodged broken missing tie-downs missing	N/A good condition corrosion cracked scaled worn loose poor installation	NONE good condition coating damage internal corrosion mechanical damage	N/A good condition collapsed distorted (bent) loose missing wear corrosion poor installation
Firetubes N/A good condition cracked corrosion scaled heat impinged coated wear	Tube Bundle N/A good condition pitted - light pitted - severe scaled plugged damaged wear erosion	Tubesheet N/A good condition general corrosion pitted - light pitted - severe erosion damaged	Channel Head N/A good condition general corrosion pitted - light pitted - severe erosion scaled coated
Refractory N/A good condition cracked (minor) spalled missing damaged badly cracked	Tube N/A good condition external corrosion internal corrosion thinning bulged heat impinged distorted erosion	Drum	Floor N/A external corrosion internal corrosion pitted - light pitted - severe edge settlement weld cracking sludge previous repairs

COMMENTS:

EXTERNAL

- Located inside building bolted 4x tight to floor with Slug Catcher bolted into support
- Nameplate secure and legible
- Ground to south support noted
- · Paint in good condition
- Pressure gauge rated to 600 psi and in good condition
- · Sight glass fouled
- Piping appears adequately supported, PSV gusset also examined by TEAM using black / white AC MPI with no indications noted



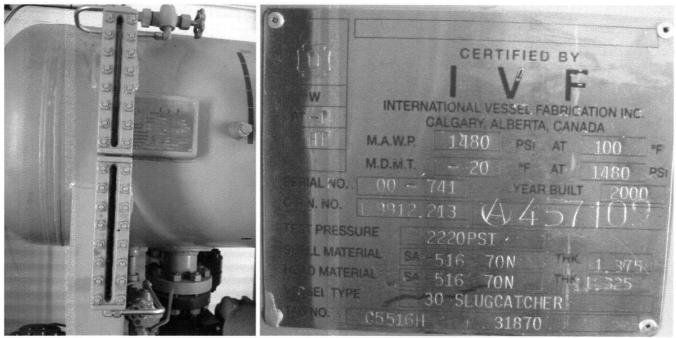
RECOMMENDATIONS:

Acceptable for continued service

PICTURES:



PID-013 BOOSTER SLUG CATCHER AT TOP



FOULED SIGHT GLASS AND NAMEPLATE



Phone (780) 417-7777 Fax: (780) 417-1185

TEAM Industrial Services
Inspection Services Canada

ISO 9001: 2000

2507 - 84 Avenue, Edmonton, Alberta T6P 1K1

NDE EXAMINATION	REPORT			MT- 5301-6845-02-YL					
CLIENT: Imperial Oil R	esources			<u> </u>					
INVOICE ADDRESS: PO BOX		AB T7S 1P5		JOB NO.: 6845					
WORK LOCATION: PINE C	WORK LOCATION: PINE CREEK COMPRESSOR STATION LSD 06-22-57-20 W5M								
STANDARD/TEAM PROCEDURE	:	TEAM MT-3	ASME V ART 7	OFFICE CODE: 5301 DATE: 14-Aug-09					
ACCEPTANCE STANDARD:				P.O. NO.:					
EXAMINATION OF: MT ON				W.O. NO.:					
SLUG CATCHER A	# 457109 PID-0)13		PAGE:1 OF1					
SURFACE: As Ground TEST EQUIPMENT & MATERIAL		Shot Blasted		Painted As Welded nation Temperature°C					
EQUIPMENT	SERIAL No.	7	TECHNIQUE	TEST MEDIUM					
✓ Hand Yoke FERROUS PROBE	12085	<u>MPI</u>	<u>LPI</u>	✓ Wet Ardrox 8031					
Perm Magnet	CAL 05/08/09	✓AC	Water Washable	☐ Dry					
Coil		DC	Post Emulsified	✓ Colour Contrast white 8901W					
Blacklight			Solvent Removable	Fluorescent					
Alloy Analyzer		Residual	_	Penetrant Dye					
Hardness Tester			Dwell Time min	Other_					
Other			Developer Time min						
Black Light Intensity _>1000	μW/cm²								
Purpose:									
WET BLACK ON WHITE MT wa	s carried out on:								
MT ON PSV GUSSET FILLET V	VELDS ON 6" PIP	E							
ALL ACCESSIBLE BUFFED AR	EAS OF SLUG CA	ATCHER A# 45	57109						
Results:									
NO CRACK INDICATIONS FOU	ND AT TIME OF	EXAMINATION.							
I TO STATE OF THE PERSON OF TH	NO AT TIME OF	EXAMINATION.							
A.M. P.M.	TOTAL HOURS	KILOMETERS	SUBSISTENCE	CONSUMABLES					
TIME IN TIME OUT TIME IN TIME OUT	S.T. hrs.		MANDAY OT/MEALS						
	O.T hrs.								
TECHNICIANS	y y y y or or or								
Interpretation is in accordance with the above mentioned standards, to the YUN FENG LIU		T Lovel: II/II	Dog No. 11980	0.					
Fillit.	CGSB/SN	Level.	Reg No	Sign:					
Print: JESSE SCHNELL The above representation is a professional opinion, final interpretation is t	CGSB/SN he responsibility of the client. I have re		Reg No.:	Sign:					
Client Representative: (Print)			п по сощена от ша тероп.	Date: 14-Aug-09					

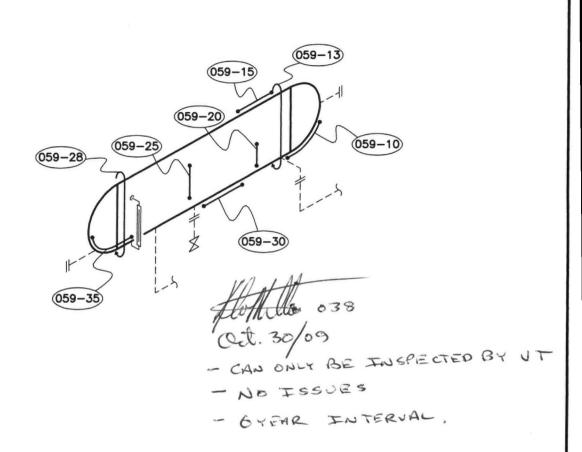
Industrial Services
Inspection Services Canada

66172227

10801042

N 10405644

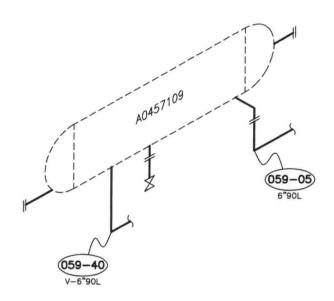
P&ID. # _____



				VESSEL L					
P.E. No	N/S	Serie	al No0	0-741 Pro	ov. Reg. No.	A045710	09 C.R.N	L9912	.213
MFR	IVF INTERNAT	TIONAL	Code/Div.	N/S	Para	N/S	Code Stamp	UW	
Yr. Blt	2000 Yr.	Inst	N/S Size	30"DIA. X 58"W/	W Service	N/S	PWHT _	YES	S
					RT	1	Insulated _	NO)
Nominal	Thickness	& Mate	erial		Repairs				
Head:	1.325"	Mat'l: _	SA-516-70N	C.A.: N/S _	Reason				
Head:					Reason				
Shell:	1.375"		SA-516-70N						
Shell:					EXXON	MOBIL			
Chan Hd: _							SSOR STATION		
Chan Sh: _					LSD 06	-22-057-20	W5M		
Boot Hd: _					_				
Boot Sh: _									
MAWP Shell	Side	1480PSI	@ Temp.	100°F	_				
MAWP Tube	Side		@ Temp.		SLUG C	ATCHER			
					TECH.: A.C	REV	/.DATE: 2009/08	DWG DATE:	2003/03
	N\C124L007\00			,	CAD: K.I	D. REV	ISION: 1	DRAWING:	059

\		-
>	NY	
>	<u>IV</u>	
		1

P&ID # _____



			PIF	PING DA	TA		ASTM CORR. ALL	٧.		
THICKNESS MEASUREMENT LOCATION:	SIZE	PROC.	LINE #	SPEC.	SCH.	NOM.THK.	CALCULATEI) .	. CAL.THK	FLG. RATING
059-05	6"				80	0.432"	ASTM	0.378		
059-40	6*				80	0.432"	N/S	0.432*		
										-
COMMENTS:					PINE	N MOBIL CREEK CON 06-22-057		STATION		
					SLUG	CATCHER F	PIPING			
					TECH.:	A.C.	REV.DATE:	2009/08	DWG.DATE:	2003/03
FILENAME: EVVON' 04041 007 007010500					CAD:	K.D.	REVISION:	1	DRAWING:	059A

EXXON MOBIL PINE CREEK COMPRESSOR STATION - (007)

AREA #1 - (01)

TEAM Industrial Services

Item Desc.:	SLUG CA							06-22-057-20W5M
Prov. Reg.:	A0457109)		Equip. No.			Ser. No.: (00-741
SKID No.				PSV No.	:	L	ast VE Date	
Description:	6"90L	B-T					CML:	059-05**
		1	C.A. as per	1			1	
Nominal:	0.432				C.A. L.F.L.:	0.054	4	Con't Service: YES
t Min.:		- 1	ASTM		L.F.L.:	0.37	8	Insp. Intv. 6
C.A. Calc.:		j		ı	Mths.To L.F.L.:	24	₄	Addt'l Assm't: NO
Survey Dates:		2003-03	2009-08					
	Reading 01:	0.444	0.394					
	Reading 02:	0.436	0.400					
	Reading 03:	0.436	0.409					
	Reading 04:	0.439	0.400	·_				
	Reading 05:	0.432	0.398	·_				
	Reading 06:	0.416	0.409	·_				
	Reading 07:	0.428	0.409					
	Reading 08:	0.430	0.396					
Data Evaluation								
Lowest Reading	:	0.416	0.394					
Average - Low 3	:	0.425	0.396					
Thk.Rem. Above		*0.038	**0.016					
Indv. Short Term			0.008					
Short Term Rate (0.005					
LongTerm Rate (i	n/yr) :							

Comments:

2009/08 - ALL RDGS CONFIRMED. CMLS #059-13 & 059-28 ADDED.

TEAM Industrial Services

	(01)							
Item Desc.:	SLUG CA	TCHER					Lsd: 06-22-057-20W5M	1
Prov. Reg.:	A0457109)		Equip. No	.:	Ser	No.: 00-741	
SKID No.				PSV No.	.:	Last VE	Date	
Description:	NORT	ГН НЕАГ	& SHEL	L T-B		CN	^{AL:} 059-10	
		1	C.A. as per	1				
Nominal:	1.325		•		C.A. L.F.L.:	0.000	Con't Service: YES	
t Min.:		1	Not Stated		L.F.L.:	1.325	Insp. Intv. 12	
C.A. Calc.:					Mths.To L.F.L.:	48	Addt'l Assm't: NO	
Survey Dates:		2003-03	2009-08					
	Reading 01:	1.333	1.350					
	Reading 02:	1.384	1.350					
	Reading 03:	1.328	1.360					
	Reading 04:	1.337	1.360					
	Reading 05:	1.347	1.370					
	Reading 06:	1.341	1.400					
	Reading 07:		1.390					
	Reading 08:		1.378					
	Reading 09:		1.395					
1	Reading 10:		1.396					
1	Reading 11:		1.398					
	Reading 12:		1.398					
	Reading 13:		1.399					
	Reading 14:		1.399					
Data Evaluation								
Lowest Reading	:	1.328	1.350					
Average - Low 3	:	1.333	1.353					
Thk.Rem. Above L		0.003	0.025					
Indv. Short Term R			0.005					
Short Term Rate (in			0.000					
LongTerm Rate (in/	/yr) :							

Comments: 2009/08 - RDGS #1-6 TAKEN ON HEAD, RDGS #8-14 TAKEN ON SHELL.

- RDG #5 & 8 TAKEN @ HAZ, # 7 @ WELD.

	AREA #1 -	(01)						7 2.11		1 201 11000
	Item Desc.:	SLUG CA						Lsd: (06-22-057-20\	W5M
	Prov. Reg.:	A0457109)	Equ	uip. No.:			Ser. No.:	00-741	
	SKID No.			P	SV No.:			Last VE Date		
	Description:	NORT	TH SHELL	CIRC T-E-	-B-W			CML:	059-13	
			<u>C.</u>	A. as per	Ī			Ī		
	Nominal:	1.375				C.A. L.F.L.:	0	.000	Con't Service:	YES
	t Min.:	-	No	ot Stated		L.F.L.:	1	.375	Insp. Intv.	12
	C.A. Calc.:		ı			Mths.To L.F.L.:			Addt'l Assm't:	YES
	Survey Dates:		2009-08							
		Reading 01:	1.400	·_						
		Reading 02:	1.400	·_						
		Reading 03:	1.410	·_						
		Reading 04:	1.400	·_						
		Reading 05:	1.400	·						
		Reading 06:	1.390							
		Reading 07:	1.400	·						
		Reading 08:	1.380	·						
		Reading 09:	1.390							
		Reading 10:	1.420							
		Reading 11:	1.410							
		Reading 12:	1.420	·						
<u>I</u>	Data Evaluation									
I	Lowest Reading	:	1.380							
	Average - Low 3	ï	1.387							
	Thk.Rem. Above		0.005							
	ndv. Short Term									
	Short Term Rate (
Ĺ	ongTerm Rate (i	n/yr) :								

EXXON MOBIL PINE CREEK COMPRESSOR STATION - (007)

AREA #1 - (01)

TEAM Industrial Services

Item De Prov. Ro SKID N	eg.: A045710		Equip. No.: PSV No.:	Lsd: (Ser. No.: (Last VE Date	06-22-057-20W5M 00-741
Descrip		SHELL T-B	137 110	CML:	059-15
Nomina t Min.: C.A. Ca		C.A. as per Not Stated	C.A. L.F.L.: L.F.L.: Mths.To L.F.L.:	0.000 1.375 0	Con't Service: YES Insp. Intv. 0 Addt'l Assm't: YES
<u>Survey 1</u>	Reading 01: Reading 02: Reading 03: Reading 04:	1.399 1.402 1.417 1.398			

Data Evaluation

 Lowest Reading
 1.394

 Average - Low 3
 1.397

 Thk.Rem. Above LFL
 0.019

Reading 05:

Reading 06:

Indv. Short Term Rate (in/yr) : Short Term Rate (in/yr) : LongTerm Rate (in/yr) :

Comments:

2009/08 - REMOVED BY CLIENT, NO SAFE ACCESS.

1.394

1.399

Description:	Description: NORTH SIDE SHELL T-B						CML: 059-20				
Nominal: t Min.: C.A. Calc.:	1.375		C.A. as per Not Stated		C.A. L.F.L.: L.F.L.: Mths.To L.F.L.:	0.000 1.375 48	Con't Service: YI Insp. Intv. 12 Addt'l Assm't: NO	!			
Survey Dates:		2003-03	2009-08								
	Reading 01:	1.416	1.410	·_							
	Reading 02:	1.432	1.410	·_							
	Reading 03:	1.384	1.410	·_							
	Reading 04:	1.403	1.400								
	Reading 05:	1.384	1.400								
	Reading 06:	1.386	1.400								
Data Evaluation											
owest Reading	ŝ	1.384	1.400								
Average - Low 3	2	1.385	1.400								
hk.Rem. Above	LFL :	0.009	0.025								
ndv. Short Term	Rate (in/yr) :		0.003								
Short Term Rate	(in/yr) :		0.000								
ongTerm Rate (i	in/yr) :										

EXXON MOBIL PINE CREEK COMPRESSOR STATION - (007)

AREA #1 - (01)

Item Desc.:	SLUG CA	TCHER					Lsd: 0	6-22-057-20V	V5M
Prov. Reg.:	A0457109			Equip. No.:			Ser. No.: 00-741		
SKID No.				PSV No.	;	Last	VE Date		
Description:	SOUT	'H SIDE S	SHELL T-	В		(CML:	059-25	
		1	C.A. as per	1			1		
Nominal:	1.375				C.A. L.F.L.:	0.000		Con't Service:	YES
t Min.:		1	Not Stated		L.F.L.:	1.375		Insp. Intv.	12
C.A. Calc.:				1	Mths.To L.F.L.:	48	I	Addt'l Assm't:	NO
Survey Dates:		2003-03	2009-08						
	Reading 01:	1.394	1.410						
	Reading 02:	1.431	1.410						
	Reading 03:	1.393	1.410						
	Reading 04:	1.391	1.410						
	Reading 05:	1.388	1.410						
	Reading 06:	1.391	1.410						
	Reading 07:		1.410						
	Reading 08:		1.410						
	Reading 09:		1.410						
	Reading 10:		1.410						
	Reading 11:		1.410						
	Reading 12:		1.410						
Data Evaluation									
Lowest Reading	:	1.388	1.410						
Average - Low 3	:	1.390	1.410						
Thk.Rem. Above	LFL :	0.013	0.035						
	Indv. Short Term Rate (in/yr) :		0.003						
Short Term Rate			0.000						
LongTerm Rate (in/yr) :								

Item Desc.:	SLUG CA	TCHER		Lsd: (06-22-057-20W5M
Prov. Reg.:	A0457109)	Equip. No.:	Ser. No.: (00-741
SKID No.	0		PSV No.:	Last VE Date	
Description:	SOUT	TH SHELL CIRC T	-E-B-W	CML:	059-28
		C.A. as per	Ī	1	
Nominal:	1.375		C.A. L.F.L.:	0.000	Con't Service: YES
t Min.:		Not Stated	L.F.L.:	1.375	Insp. Intv. 12
C.A. Calc.:		l	Mths.To L.F.L.:	1	Addt'l Assm't: YES
Survey Dates:		2009-08			
	Reading 01:	1.410			
	Reading 02:	1.410			
	Reading 03:	1.410			
	Reading 04:	1.410			
	Reading 05:	1.410			
	Reading 06:	1.410			
	Reading 07:	1.410			
	Reading 08:	1.420			
	Reading 09:	1.410			
	Reading 10:	1.410			
	Reading 11:	1.400			
	Reading 12:	1.400			
Data Evaluation					
Lowest Reading	:	1.400			
Average - Low 3	:	1.403			
Thk.Rem. Above I	LFL :	0.025			
Indv. Short Term I	20 70 10				
Short Term Rate (1 . 2				
LongTerm Rate (in	n/yr) :				
Description:	RTM S	SHELL S-N		CML:	059-30

Description:	BTM SHELL S-N					CML:	059-30	
Nominal: t Min.: C.A. Calc.: Survey Dates:	Reading 01: Reading 02: Reading 03: Reading 04: Reading 05: Reading 06:		2009-08 1.400 1.400 1.390 1.400 1.400	C.A. L.F.L.: L.F.L.: Mths.To L.F.L.:	0.000 1.375 48		Con't Service: Insp. Intv. Addt'l Assm't:	YES 12
Lowest Reading Average - Low 3 Thk.Rem. Above Indv. Short Term Short Term Rate LongTerm Rate (: LFL : Rate (in/yr) : (in/yr) :	1.378 1.379 0.003	1.390 1.397 0.015 0.000 0.000					

TEAM Industrial Services

	SLUG CATCHER					Lsd: 06-22-057-20W5M			
Prov. Reg.:	A0457109)		Equip. No.	.:	Ser.	No.: 00-741		
SKID No.				PSV No.	.:	Last VE	Date		
Description:	ription: SOUTH HEAD & BT			SHELL	Г-В	CM	^{IL} : 059-35		
		1	C.A. as per			1			
Nominal:	1.325				C.A. L.F.L.:	0.000	Con't Service: YES		
t Min.:		1	Not Stated		L.F.L.:	1.325	Insp. Intv. 12		
C.A. Calc.:		1		1	Mths.To L.F.L.:	48	Addt'l Assm't: NO		
Survey Dates:		2003-03	2009-08						
R	leading 01:	1.341	1.350						
R	leading 02:	1.348	1.350						
R	eading 03:	1.348	1.360						
R	eading 04:	1.345	1.340						
R	eading 05:	1.358	1.400						
R	eading 06:	1.376	1.400						
R	eading 07:		1.410						
R	eading 08:		1.405						
	eading 09:		1.415						
R	eading 10:		1.413						
	eading 11:		1.437						
Data Evaluation									
owest Reading	:	1.341	1.340						
verage - Low 3	:	1.345	1.347						
hk.Rem. Above LF	L :	0.016	0.015						
ndv. Short Term Rate (in/yr)			0.001						
hort Term Rate (in/	5. (1)		0.000						
ongTerm Rate (in/y	r) :								

Comments:

2009/08 - RDGS #1-6 TAKEN ON HEAD, RDGS #7-11 TAKEN ON SHELL.

- RDGS #6 & 8 TAKEN @ HAZ, #7 @ WELD.

	(01)								
Item Desc.:	SLUG C	ATCHER					Lsd: (06-22-057-20W5M	
Prov. Reg.:	Prov. Reg.: A0457109			Equip. No.:			Ser. No.: 00-741		
SKID No.				PSV No.	:	La	st VE Date		
Description:	VESS	SEL 6"90I	_ T-B				CML:	059-40***	
		1	C.A. as per	1			1		
Nominal:	0.432				C.A. L.F.L.:	0.000		Con't Service: NO	
t Min.:			Not Stated		L.F.L.:	0.432		Insp. Intv. 0	
C.A. Calc.:		1		1	Mths.To L.F.L.:	0		Addt'l Assm't: NO	
Survey Dates:		2003-03	2009-08						
	Reading 01:	0.425	0.405						
	Reading 02:	0.422	0.410						
	Reading 03:	0.427	0.403						
	Reading 04:	0.421	0.407						
	Reading 05:	0.429	0.408						
	Reading 06:	0.427	0.403						
	Reading 07:	0.443	0.401	·					
	Reading 08:	0.438	0.402	·_					
Data Evaluation									
Lowest Reading	:	0.421	0.401						
Average - Low 3	:	0.423	0.402						
Thk.Rem. Above	LFL :	***-0.011	***-0.031						
Indv. Short Term			0.007						
Short Term Rate			0.003						
LongTerm Rate (in/yr) :								
Comments: 2009/08 - ALI	L RDGS CON	IFIRMED.							