

Spectra Energy Transmission
BC Pipeline and Field Services Divisions
Fifth Avenue Place, East Tower
Suite 2600, 425 - 1st Street S.W.
Calgary, Alberta T2P 3L8

403 699-1589
403 699-1585 Fax
gjohnson@spectraenergy.com



Garth Johnson
Director, Regulatory Affairs and Services

September 7, 2012

Via Courier

Ms. Sheri Young
Secretary of the Board
National Energy Board
444 - 7th Avenue S.W.
Calgary, Alberta
T2P 0X8

MAIL ROOM
SALLE DE COURIER
2012 SEP - 7 P 4: 00
NEB/ONE

Dear Ms. Young:

**Re: Westcoast Energy Inc., carrying on business as
Spectra Energy Transmission ("Westcoast")
Nig Creek Pipeline Rupture - Return to Service Plan dated August 7, 2012
TSB Occurrence Number P12H0105
NEB File OF-Surv-Inc-2012 81**

Pursuant to the National Energy Board (the "Board") letter dated August 14, 2012 to Westcoast's Monty Peterson, Director, Field Services Gathering, enclosed for approval by the Board are the results of Westcoast's pressure test of the Nig Creek Pipeline in application for leave to return the pipeline to service.

Yours truly,

for Garth Johnson

Enclosure

cc: Mr. Manuel Kotchounian, TSB

16" Nig Creek Pipeline Hydrostatic Re-test Leave to Open Application

Westcoast Energy Inc., carrying on business as Spectra Energy Transmission ("Westcoast") requests Leave to Open the Nig Creek Pipeline (the "Project").

In accordance with Guide T – Leave to Open of the NEB Filing Manual, Westcoast submits the following information:

1. The Board Order under which the work was carried out;

The Nig Creek Pipeline Rupture Return to Service Plan dated August 7, 2012 as approved by the NEB in a letter dated August 14, 2012.

2. A list of standards, specifications and procedures to and under which the replacement pipe were designed and constructed:

- *National Energy Board Act*
- CSA Z662-11, Oil and Gas Pipeline Systems
- *Onshore Pipeline Regulations, 1999*
- CSA Z245.1-07, Steel Pipe, April 2007
- TP-CT1.4, Pressure Testing, Westcoast Specification
- NACE MRO175/15156 Petroleum and natural gas industries – Materials for use in H₂S containing environments in oil and gas production
- All applicable OH&S Regulations

The replacement pipe was pre-tested in accordance with CSA Z662-11.

3. Project components not included in this Leave to Open application:

The following components are not included in this Leave to Open application:

- All final tie-in welds to rejoin the tested pipeline to the existing sending and receiving barrels.
- Existing sending and receiving barrels and associated S-bend risers.

4. A description of the pressure-tested facilities:

Nig Creek Pipeline – Approximately 45.4 km of 406.4 mm O.D. pipeline extending from kP 0.0 (a-94-B, 94-H-4) to kP 45.4 (d-93-K, 94-A-11).

The tests of the Project included:

- Original Repair – replaced section of pipeline – Appendix 1.
- Pre-test of Replacement Pipe – backup section pipe – Appendix 2
- Flanges – deactivated producer tie-ins – Appendix 3
- Mainline Retest – two separate test sections – Appendix 4 and 5

**16" Nig Creek Pipeline Hydrostatic Re-test
Leave to Open Application**

Test Number FSJ-12-015 – 16" Nig Creek Hydrostatic Retest – Original Repair Pipe

Location: Westcoast Welding Shop, Fort St. John, B.C.	
Service: Sour Gas	
MOP: 6 895 kPag	
Schematic	
Original Repair Pipe FSJ-12-015	N/A
Pipe Specifications	
Line pipe	406.4 mm OD, CSA Z245.1 Grade 359 CAT II 0.375" WT
Line pipe transition pieces	406.4 mm OD, API 5LX52 0.375" x 0.250" WT
Heavy Wall	N/A – no heavy wall sections were tested
Fabricated Assemblies	N/A – Fabricated assemblies were not part of the pressure tests
Elevation Profile Summary	
N/A	

Test Number S1393-2012-01 – 16" Nig Creek Hydrostatic Retest – Pre-test of Replacement Pipe

Location: Macro Industries Yard, Fort St. John, B.C.	
Service: Sour Gas	
MOP: 6 895 kPag	
Schematic	
Test Number S1393-2012-01	PL-7300-SK002
Pipe Specifications	
Line pipe	406.4 mm OD, API 5LX52 0.375" WT
Line pipe transition pieces	406.4 mm OD, API 5LX52 0.375" x 0.250" WT
Heavy Wall	N/A – no heavy wall sections were tested
Fabricated Assemblies	N/A – Fabricated assemblies were not part of the pressure tests
Elevation Profile Summary	
N/A	

**16" Nig Creek Pipeline Hydrostatic Re-test
Leave to Open Application**

Test Number FSJ-12-016 – NPS 6 Cap and NPS 10 Flanges

Location: Westcoast Welding Shop, Fort St. John, B.C.	
Service: Sour Gas	
MOP: 6 895 kPag	
Schematic	
Original Repair Pipe FSJ-12-016	N/A
Pipe Specifications	
Line pipe	N/A
Heavy Wall Fabricated Assemblies	N/A – no heavy wall sections were tested NPS 6 cap and NPS 10 flanges
Elevation Profile Summary	
N/A	

**Test Number S1393-2012-02 – 16" Nig Creek Hydrostatic Retest – Section 1
(25,557m)**

Location: K.P. 0.0426 to K.P. 25.6 (a-94-B, 94-H-4 to d-84-E, 94-A-14)	
Service: Sour Gas	
MOP: 6 895 kPag	
Schematic	
Test Number S1393-2012-02	PL-7300-SK002
Pipe Specifications	
Line pipe	406.4 mm OD, API 5LX52 0.250" WT
Heavy Wall	406.4 mm OD, CSA Z245.1 Grade 290, 0.375" WT, CAT II, FBE
Fabricated Assemblies	N/A – Fabricated assemblies were not part of the pressure tests
Elevation Profile Summary	
880.9m	Test Section Begin Point – K.P. 0.0426
794.0m	Low Point – K.P. 8.3
913.1m	High Point – K.P. 3.2
804.7m	Test Section End Point – K.P. 25.6

**16" Nig Creek Pipeline Hydrostatic Re-test
Leave to Open Application**

Test Number S1393-2012-03 – 16" Nig Creek Hydrostatic Retest – Section 2 (19,890m)

Location: K.P. 25.6 to K.P. 45.49 (d-84-E, 94-A-14 to d-93-K, 94-A-11)	
Service: Sour Gas	
MOP: 6 895 kPag	
Schematic	
Test Number S1393-2012-03	PL-7300-SK002
Pipe Specifications	
Line pipe Heavy Wall	406.4 mm OD, API 5LX52 0.250" WT, 406.4 mm OD, API 5LX52 0.500" WT 406.4 mm OD, ASTM A333 Gr. 6 0.500" WT 406.4 mm OD, CSA Grade 359 CAT II 0.257" WT 406.4 mm OD, ASTM A53 Gr. B 0.500" WT 406.4 mm OD, API 5L Gr. B 0.344" WT 406.4 mm OD, ASTM A53 Gr. B 0.656" WT 406.4 mm OD, ASTM A333 Grade 6 CAT II 0.500" WT
Fabricated Assemblies	N/A – Fabricated assemblies were not part of the pressure tests
Elevation Profile Summary	
804.7m	Test Section Begin Point – K.P. 25.6 -
786.4m	Governing Low Point – K.P. 45.2
855.0m	High Point – K.P. 29.3
798.6m	Test Section End Point – K.P. 45.49

5. A summary of continuous pressure and temperature readings over the test period, including:

- Date, pressure, and temperature readings of the piping are attached in the Appendices.

Mainline Test Number	Date	Test Medium	Minimum Allowable Test Pressure (kPag)	Pressure Deviation Noted
FSJ-12-015	July 11, 2012	Water	8 619	None
S1393-2012-1	August 17, 2012	Water	8 619 (Strength test) 7 585 (Leak test)	None
FSJ-12-016	July 28, 2012	Water	8 619	None
S1393-2012-3	August 27, 2012	Water	8 619 (Strength test) 7 585 (Leak test)	None
S1393-2012-2	August 30, 2012	Water	8 619 (Strength test) 7 585 (Leak test)	None

**16" Nig Creek Pipeline Hydrostatic Re-test
Leave to Open Application**

- 6. A statement that all control and safety devices were or will be inspected and tested for functionality:**

All control and safety devices will be inspected and tested for functionality.

- 7. Confirmation that all field joints were non-destructively examined:**

All field joints have been 100% non-destructively examined. Final tie-in welds will be 100% non-destructively examined by radiographic methods. Westcoast will confirm the acceptability of the final tie-in welds prior to returning the pipeline to service.

- 8. Confirmation that any permits required for the use and disposal of water were obtained:**

All permits required for the use and disposal of water were obtained.

- 9. Test equipment calibration certificates:**

Copies of the test equipment calibration certificates are included in the attached test reports.

- 10. Confirmation that pressure testing was performed under the direct supervision of a company representative:**

The pressure testing of the piping was performed under the direct supervision of a Westcoast representative.

- 11. All logs, test charts and other test records, signed and dated by the company representative:**

All logs and other test records were signed and dated by the company representative.

- 12. Confirmation that the test pressure did not fall below 97.5 percent of the minimum strength test pressure:**

The test pressure did not fall below 97.5 percent of the minimum strength test pressure for all tests.

- 13. Details regarding any unsuccessful tests, including the cause if the test failure.**

There were no unsuccessful pressure tests.



Alvin T. Kwan
Project Engineer
September 7, 2012



Sept. 7, 2012

Appendix 1

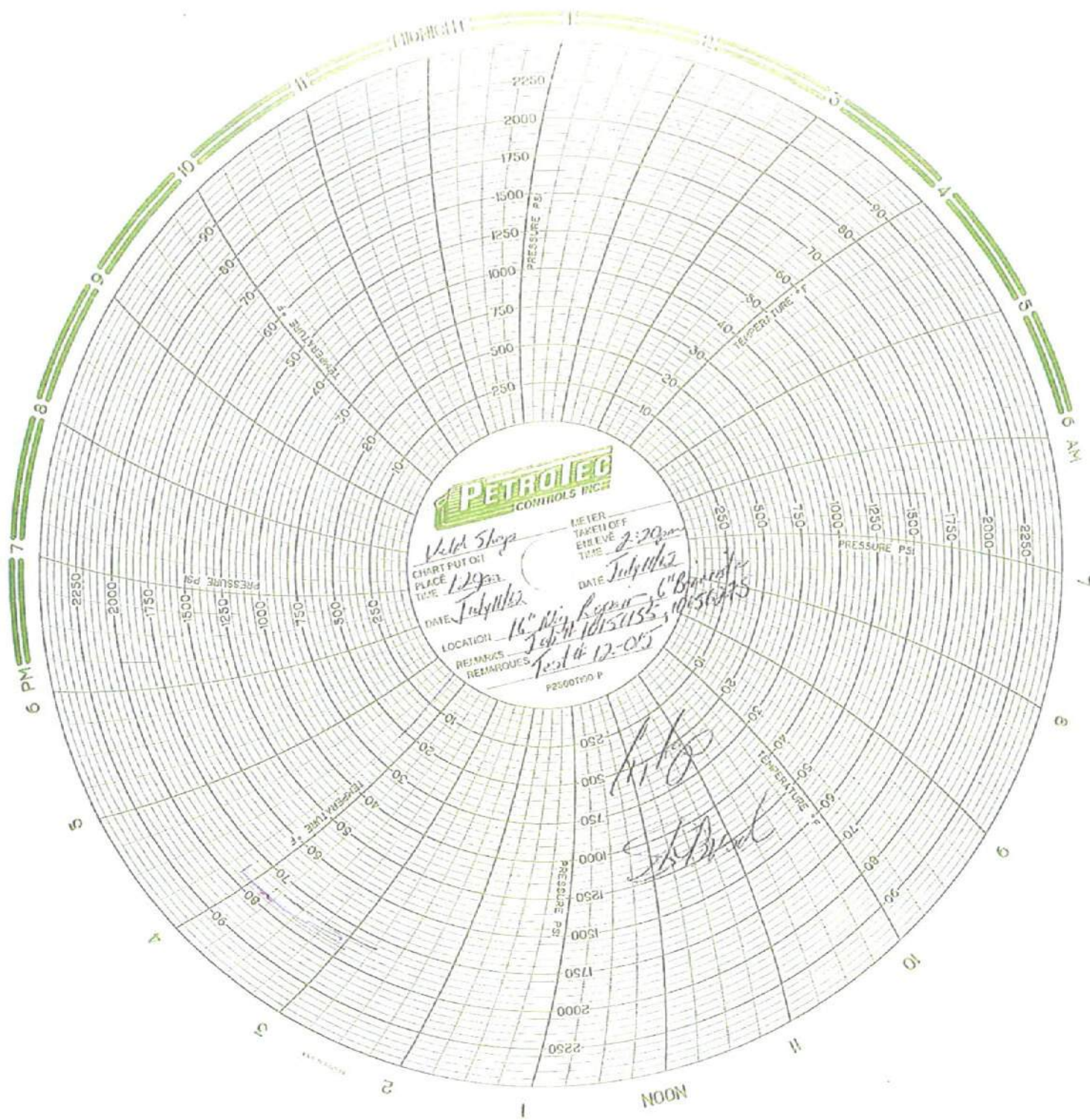
Supporting Documentation for Original Repair Pipe

PRESSURE TEST REPORT

DATE: July 11/12	TEST No. : FSJ - 12-015	LOCATION: Weld Shop
Minimum Test Pressure 1250 PSI	Maximum Test Pressure 1850 PSI.	Selected Test Pressure 1500 ± psig

LOG OF PRESSURES and TEMPERATURES

TIME (LOCAL)	CHART PRESSURE (PSIG)	DEADWEIGHT PRESSURE (PSIG)	PIPE TEMP. °F	AMBIENT TEMP. °F	GROUND TEMP. °F	COMMENTS
1:20	1540	1544.4	71	71.5		117/109
1:35	1548	1551.3	71	71.5		
1:50	1549	1558.6	70.5	71		Job # 10156135 16" Nlig
2:05	1550	1566	70.5	71		Job # 10156273 6" Bonarista
2:20	1550.5	1574.5	71.5	71.5		Tested pipe for 16" Nlig repair @ M.P. 1.1. and 6" Bonarista
						J. Bond



METER TAG/LOT OFF
 TIME 2:20pm
 DATE July 11/12
 LOCATION 16" Air Receiver - 6" Branch
 2nd Fl 1015113, 1015114
 REMARKS Test @ 12:00 P
 P2500170 P

Handwritten signatures:
 [Signature]
 [Signature]



10911 Alaska Road
 Fort St. John, BC V1J 6P3
 PR: (250) 785-2849 Fax: (250) 785-5056

DATE Oct 28/11

RECORDER CALIBRATION REPORT

Dead Weight S/N 24453

Spectra Energy

UNIT NUMBER Shop

RANGE STATIC 0 - 2500 psi

TEMP. 0 - 100 °F

0 - 100 °F

Temp # 1 *Temp # 2* TEMPERATURE STATIC

After Calibration		After Calibration						Before Calibration		After Calibration	
Thermometer	Pen	Thermometer	Pen					Dwg.	Pen	Dwg.	Pen
				/				0		0	∅
36°	36°	36°	36°							500	500
										1000	1000
										1500	1500
62°	62°	62°	62°							2000	2000
										2500	2500
										1250	1250
96°	96°	96°	96°							∅	∅

MARKS:

Temp # 2 zero Adjustment Required.

Meter Technician

Certificate of Calibration



For Instrument: Druck DPI 601 Pressure Calibrator
Serial Number: 6012383203
Job Number: N1439

CUSTOMER:
Petrotec Controls Ltd
10911 Alaska Road
Fort St John BC V1J 6P3

BHD Calibration Laboratories Ltd. certifies that the above listed instrument meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the *National Institute of Standards and Technology (NIST)*, or to NIST accepted intrinsic standards of measurement, or derived by the ratio type of self-calibration techniques.

This report may not be reproduced, except in full, unless permission for the publication of an approved abstract is obtained in writing from the calibration organization issuing this report.

CALIBRATION INFORMATION

Cal Date: 1 Nov 2011 Temperature 23.0°C Pass Y
Next Cal Due: 31 Oct 2012 Humidity 35% Status OK

As found / As left: In Tolerance

Cal Procedure: Druck DPI 601 (200V) : [1 year] CAL VER /5520/with pressure Revision: Revision: 1.0
Performed by: Roger Draves

STANDARDS USED FOR CALIBRATION

Asset Number	Description	Serial Number	Cal. Date	Due Date
CL101	Fluke 5520A Primary Calibrator	7730004	25 Aug 2011	24 Aug 2012
CL108	DHI PG7302 Deadweight Tester	240	02 Sep 2011	02 Sep 2013

Signed: 

SERIAL NUMBER: 6012383203

ASSET NUMBER: N1439

PRINTED ON: 1 Nov 2011 Certificate of Calibration or Failed Calibration Report

Page 1 of 1

Appendix 2

Supporting Documentation for Pre-Test of Replacement Pipe

16" PRETEST



SPECTRA ENERGY
NIG CREEK 16" RE-TEST PIPELINE PROJECT



HYDROSTATIC PRESSURE TEST RECORD

DATE August 17, 2012 FROM _____ PIPE DIAMETER 16" NPS
 TO _____ WALL THICKNESS 12.7mm - 6.3mm
 SECTION 1 LENGTH 136 m
 VOLUME 16 m³ 1,600 psi MAXIMUM RECORDER S/N #'s R.15 / R.39
 TEST PRESSURE 11,035 kPa 1,450 psi MINIMUM DEADWEIGHT S/N #'s DG.21
10,000 kPa
 TEST LOCATION MACRO YARD

TIME	DEADWEIGHT PRESSURE (kPa) (Psi)	TEMPERATURE		VOLUME m ³	NOTES
		AMBIENT (YC)	GROUND (°C)		
14:15					Hold safety meeting prior to pressure.
14:30	0	25	20	19	Begin pressure.
14:35	500	25	20	19.2	Leak on test tree and depressurize.
14:39	0	25	20	19	Begin second squeeze.
14:42	500	25	20	19.2	Reached 500 psi and performed leak check #1.
14:45	500	25	20	19.2	Begin pressure stage #2.
14:50	1000	25	20	19.3	Leak on fitting, depressurize
15:02	0	25	20	19	Begin pressure.
15:07	1000	25	20	19.3	Reached 1000 psi and performed leak.
15:16	1525	25	20	19.4	Test on. Pressure 1525 psi. No leaks.
15:20	1525	25	20	19.4	Begin 1 hour pre-test.
15:30	1530	25	20	19.4	Slight pressure increase
15:45	1535	25	20	19.4	Bleed off pressure thru needle valve.
16:00	1530	25	20	19.4	No leaks.
16:15	1530	25	20	19.4	No leaks.
14:29	1530	25	20	19.4	No leaks. Successful 1 hour test. Begin depressure

L. DECORBY
 PREPENSE REPRESENTATIVE (Please Print)

 (Signature)

Jim Byrd
 CLIENT REPRESENTATIVE (Please Print)

 (Signature)



SPECTRA ENERGY NIG CREEK 16" RE-TEST PIPELINE PROJECT



HYDROSTATIC PRESSURE TEST RECORD

DATE August 17, 2012 FROM _____ PIPE DIAMETER 16" NPS
 TO _____ WALL THICKNESS 9.5mm - 6.3mm
 SECTION 2 LENGTH 154 m
 VOLUME 19 m³ 1,600 psi MAXIMUM RECORDER S/N #'s R.2 / R.37
 TEST PRESSURE 11,035 kPa 1,450 psi MINIMUM DEADWEIGHT S/N #'s DG.43
10,000 kPa
 TEST LOCATION MACRO YARD

TIME	DEADWEIGHT PRESSURE [kPa] (Psi)	TEMPERATURE		VOLUME	NOTES
		AMBIENT (YC)	GROUND (°C)		
13:30					Hold safety meeting prior to pressure.
13:36	0	25	20	19	Begin pressure.
13:40	500	25	20	19.2	No leaks, hold stage #1.
13:50	500	25	20	19.3	Reached 1000 psi pressure. Leak check.
14:06	1000	25	20	19.3	Begin pressure to target test pressure.
14:08	1525	25	20	19.4	Reached 1525 psi test pressure. Leak check.
14:10	1525	25	20	19.4	No Leaks. Begin 1 hour pre-test.
14:30	1550	25	20	19.4	No Leaks.
14:45	1580	25	20	19.4	No Leaks.
15:00	1600	25	20	19.4	Pressure rising, bleed off to 1595 psi.
15:15	1596	25	20	19.4	No Leaks.
15:20	1598	25	20	19.4	Successful test. Slight pressure increase.

PREPENSE REPRESENTATIVE (Please Print)

(Signature)

CLIENT REPRESENTATIVE (Please Print)

(Signature)

CUSTOMER: Bentall

DATE: Aug 16/12

RECORDER CALIBRATION REPORT

Dead Weight S/N 24453

UNIT NUMBER - R-2

RANGE STATIC 0 - 3000 psi

TEMP. 0 - 100 NF

TEMPERATURE STATIC

Before Calibration		After Calibration		Before Calibration		After Calibration	
Thermometer	Pen	Thermometer	Pen	Dwg.	Pen	Dwg.	Pen
				0		0	0
		34°	34°			600	600
						1200	1200
						1800	1800
		62°	62°			2400	2400
						3000	3000
						1500	1500
		96°	96°			∅	∅

REMARKS:

Shawn
Meter Technician



PROTEC CONTROLS INC.
1770 Apple Road, Fort St. John, B.C. V1J 5P3
Phone: (250)785-2849, Fax: (250)785-5056

CUSTOMER:

Rental

DATE:

Aug 8/12

RECORDER CALIBRATION REPORT

Dead Weight S/N 24453

UNIT NUMBER - R 39
RANGE STATIC 0 - 3000 psi
TEMP. 0 - 100 °F

TEMPERATURE STATIC

Before Calibration		After Calibration		Before Calibration		After Calibration	
Thermometer	Pen	Thermometer	Pen	Dwg.	Pen	Dwg.	Pen
	/			0	/	0	0
		32°	32°			600	600
		59°	59°			1200	1200
		93°	93°			1800	1800
				2400		2400	
				3000		3000	
				0		0	

REMARKS:

Chris
Meter Technician



18911 Alanta Road
 R. R. 261, DC, VI 025
 305-292-1, Fax 305-295-9255

DATE Aug 15/12

GAUGE CALIBRATION REPORT

Calibrated to National Standards I.N.M.S.# MS-214-B. Dead Weight S/N 24453

CUSTOMER: Rental
TYPE X PZI crystal Gauge
UNIT NUMBER DL-43
MODEL # X PZI
GAUGE RANGE 0 - 5000 PSI/KPA

GAUGE

Before Calibration		After Calibration		
Dwg.	Gauge	Dwg.	Gauge	
0	/	0	0	
		1000	1000	
		2000	2000	
		3000	3000	
		4000	4000	
		5000	5000	
		2500	2500	
		0	0	

Remarks:

Shaw
 Meter Technician

CUSTOMER: Rental

DATE: Aug 16/12

RECORDER CALIBRATION REPORT

Dead Weight S/N 24453

UNIT NUMBER - R15
 RANGE STATIC 0 - 3000 psi
 TEMP. 0 - 100 NF

TEMPERATURE STATIC

Before Calibration		After Calibration		Before Calibration		After Calibration	
Thermometer	Pen	Thermometer	Pen	Dwg.	Pen	Dwg.	Pen
				0		0	0
		32°	32°			600	600
						1200	1200
		68°	68°			1800	1800
						2400	2400
						3000	3000
		92°	92°			1500	1500
						0	0

REMARKS:

R

Shaw
 Meter Technician

CUSTOMER: Rental

DATE: Aug 7/12

RECORDER CALIBRATION REPORT

Dead Weight S/N 24453

UNIT NUMBER - R-37
 RANGE STATIC 0 - 3000 psi
 TEMP. C - 100.0 °C

TEMPERATURE STATIC

Before Calibration		After Calibration		Before Calibration		After Calibration	
Thermometer	Pen	Thermometer	Pen	Dwg.	Pen	Dwg.	Pen
	/			0	/	0	
	/	32°	32°		/	600	600
	/				/	1200	1200
	/	63°	63°		/	1800	1800
	/				/	2400	2400
	/	96°	96°		/	3000	3000
	/				/	1500	1500
	/				/	0	0

REMARKS:

V.P.
 Meter Technician

DATE July 23/12

GAUGE CALIBRATION REPORT

Calibrated to National Standards LNM.S.# MS-214-B. Dead Weight SN 24453

CUSTOMER: Rental
 TYPE: Crystal
 UNIT NUMBER: DG-21
 MODEL #: XP25
 GAUGE RANGE: 0-5000 **PSI/KPA**

Before Calibration		GAUGE		After Calibration	
Dist.	Gauge	Dist.		Gauge	
0		0		0	
		1000		1000	
		2000		2000	
		3000		3000	
		4000		4000	
		5000		5000	
		2500		2500	
		0		0	

Remarks:

Meter Technician *Chris*



SECTION #2
SECTION OF #42

2:00 P 3:20 P

Aug 17-12 AUG 17-12

Franklin Ave. North Street

Box 707 12001
Cincinnati, Ohio 45201
W. & S. 1st Street

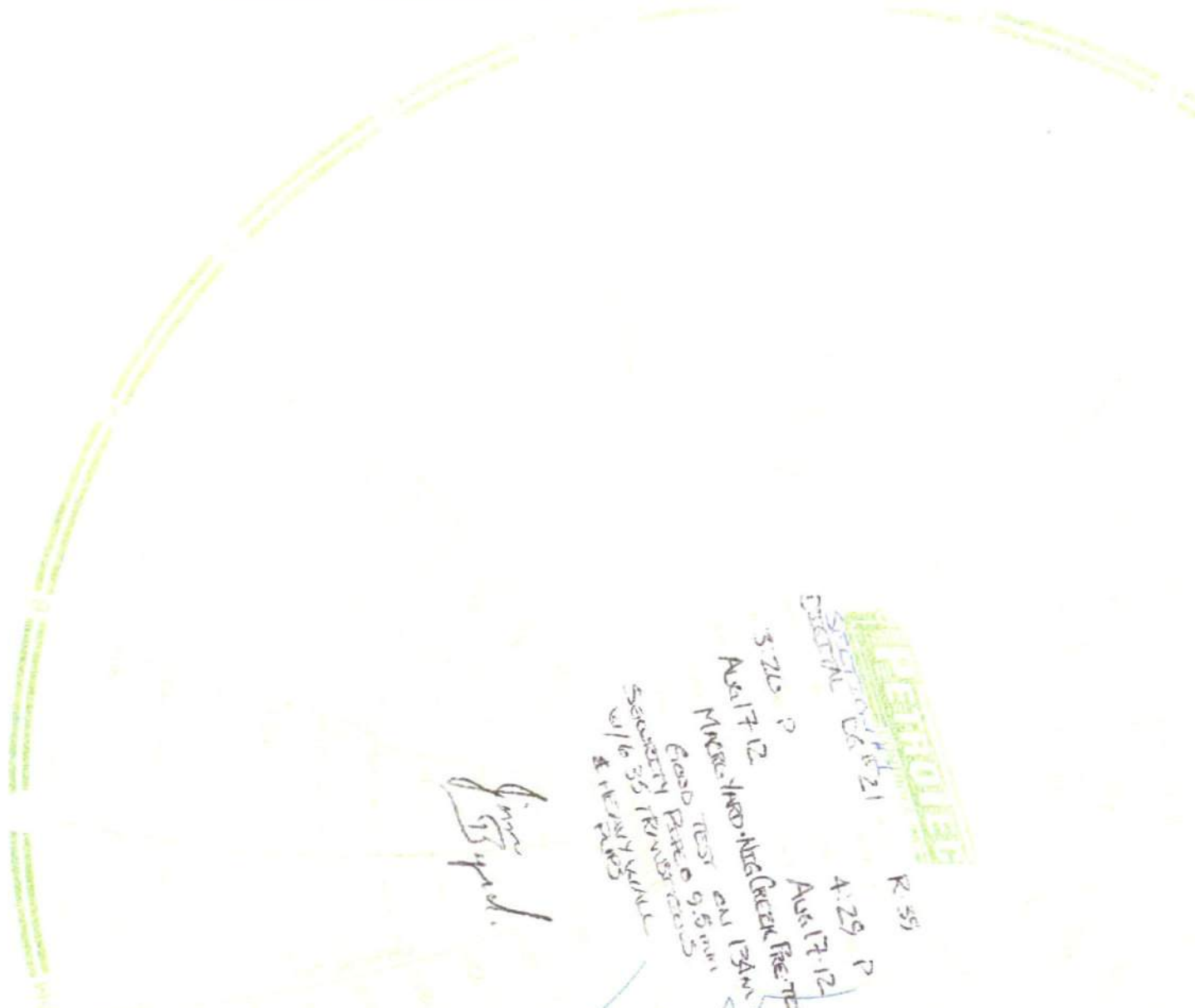
Frank Byrd

7:27 AM 5:20 PM
1578 PSE

BLIND CURB & GABRI
1400 PSE. 1578 PSE

7:27 AM 5:20 PM
1578 PSE

MOON



RECEIVED
SIGNAL CENTER
AUG 21

R-59

4:29 P
AUG 17-12

PRE-TEST

3:20 P
AUG 17-12

POST-TEST ON 13AM

GOOD PAPER TESTS

SECURITY TRAINING

W/ 16-35 TRAINING

Spencer
13/12



TEST OFF 4:29 PM
15:30 PPT

TEST OFF
15:30-15:32 PPT

TEST ON 3:20 PM
15:25 PPT

Appendix 3

Supporting Documentation for NPS 6 and NPS 10 Producer Tap Cap Pre-test

Test# ESJ-12-016

10:5am
July 28/12

11:15am
July 28/12

BSJ Shop
Jobs # 10156565
10" changes 2.6" Cc.p.s for Nig



Appendix 4

Supporting Documentation for Hydrostatic Testing of Section 1



**SPECTRA ENERGY
NIG CREEK 16" RE-TEST PIPELINE PROJECT**



HYDROSTATIC PRESSURE TEST CHECKLIST

DATE August 30, 2012 FROM Station 25+550
 TEST LOCATION Road #7 Mid Point TO Station 0+050
 SECTION # 1 LENGTH 25500 m
 VOLUME 3132 m³
 TEST PRESSURE 8966 Kpa 1300 psi MAXIMUM
8621 Kpa 1250 psi MINIMUM

TEST SAFETY CHECKLIST			
No.	Description	QC	Foreman
1	Pipe Material: Schedule and Grade are suitable for the specification?		✓
2	Flanges: Rating, schedule and material specification are correct.		✓
3	Fittings (Tees, bends, reducers, couplings) Correct Schedule and Material specification		✓
4	Valves: Identification, Manufacturers name tag etc.		✓
5	Valves: Installed correctly, flow direction, accesses, valve free from obstructions, clearance for removal adequate.		✓
6	Lubrication fittings, drains, etc. installed as required.		✓
7	Bolts, Studs, Nuts Length and material correct: Torque satisfactory? Studs at least flush with heads? (min. exposure beyond nut at least 2 threads)		✓
8	Gaskets are correct material, size, thickness?		✓
9	All deficiencies located on Punchlist?		
10	Test Procedure reviewed on site by testing crew and only designated crew on working site?		✓
NOTES	All connections, bolt up, and instrumentation were pre-checked and confirmed acceptable for high pressure testing.		
	Pressure lines received an initial burst test rated at 1.5 times the desired test pressure.		

JJ DECORBY
 MACRO QC REPRESENTATIVE (Please Print)
JJ Decorb
 (Signature)

Jim Byrd
 CLIENT REPRESENTATIVE (Please Print)
Jim Byrd
 (Signature)



**SPECTRA ENERGY
NIG CREEK 16" RE-TEST PIPELINE PROJECT**



HYDROSTATIC PRESSURE TEST CHECKLIST

DATE August 30, 2012 FROM Station 25+550
 TEST LOCATION Nig Creek Station TO Station 0+050
 SECTION # 1 LENGTH 25500 m
 VOLUME 3132 m³
 TEST PRESSURE 8966 Kpa 1300 psi MAXIMUM
8621 Kpa 1250 psi MINIMUM

TEST SAFETY CHECKLIST

No.	Description	QC	Foreman
1	Pipe Material: Schedule and Grade are suitable for the specification?		✓
2	Flanges: Rating, schedule and material specification are correct.		✓
3	Fittings (tees, bends, reducers, couplings) Correct Schedule and Material specification.		✓
4	Valves: Identification, Manufacturers name tag etc.		✓
5	Valves: Installed correctly, flow direction, accesses, valve free from obstructions, clearance for removal adequate.		✓
6	Lubrication fittings, drains, etc. installed as required.		✓
7	Bolts, Studs, Nuts: Length and material correct: Torque satisfactory? Studs at least flush with heads? (min. exposure beyond nut at least 2 threads).		✓
8	Gaskets are correct material, size, thickness?		✓
9	All deficiencies located on Punchlist?		
10	Test Procedure reviewed on site by testing crew and only designated crew on working site?		✓
NOTES	All connections, bolt up, and instrumentation were pre-checked and confirmed acceptable for high pressure testing.		
	Pressure lines received an initial burst test rated at 1.5 times the desired test pressure.		

JJ De Corby
 MACRO QC REPRESENTATIVE (Please Print)
JJ De Corby
 (Signature)

Jim Byrd
 CLIENT REPRESENTATIVE (Please Print)
Jim Byrd
 (Signature)



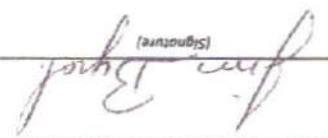
SPECTRA ENERGY NIG CREEK 16" RE-TEST PIPELINE PROJECT

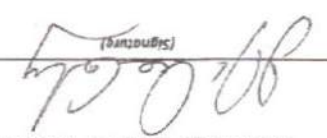


HYDROSTATIC PRESSURE TEST RECORD

DATE	August 30, 2012	
SECTION	1	
VOLUME	3132	m ³
TEST PRESSURE	8966	KPA
TEST LOCATION	Road #7 Mid Point	
	8621	KPA
FROM	Station 25+550	
TO	Station 0+050	
LENGTH	25500	m
PIPE DIAMETER	16" NPS	
WALL THICKNESS	6.3mm - 12.7mm	
RECORDER S/N #	R.37 / R.35	
DEADWEIGHT S/N #	DG. 21	

TIME	DEADWEIGHT PRESSURE (KPA) (PSI)	TEMPERATURE		VOLUME	NOTES
		AMBIENT (°C)	GROUND (°C)		
9:30	264	10	9	3232	Pre-pack On Line
9:34	264	10	9	3233	Start Squeeze Pumping
9:45	289	10	9	3234	
10:00	355	10	9	3236	
10:15	518	10	9	3237	
10:30	614	10	9	3238	
10:45	732	10	9	3240	
11:00	819	10	9	3242	
11:15	915	10	9	3244	
11:30	1013	10	9	3245	
11:45	1129	10	9	3247	
12:00	1208	10	9	3249	
12:15	1307	10	9	3250	
12:30	1404	11	9	3252	Begin Strength Test
12:35	1404	11	9	3252	End Strength Test, and Begin to bleed Off for Leak Test
12:38	1284	11	9	3252	Shut In for Leak Test
12:40	1281	12	9	3252	Begin Four Hour Leak Test
13:00	1281	12	9	3252	
13:15	1281	12	9	3252	
13:30	1281	12	9	3252	
13:30	1281	12	9	3252	
13:45	1281	12	9	3252	
14:00	1281	11	9	3252	


 CLIENT REPRESENTATIVE (Please Print)
 Jim Boyd


 MACRO REPRESENTATIVE (Please Print)
 JJ DeCory



**SPECTRA ENERGY
NIG CREEK 16" RE-TEST PIPELINE PROJECT**



HYDROSTATIC PRESSURE TEST RECORD

DATE August 30, 2012 FROM Station 25+550 PIPE DIAMETER 16" NPS
 TO Station D+050 WALL THICKNESS 6.3mm - 12.7mm
 SECTION 1 LENGTH 25500 m
 VOLUME 3132 m³ 1300 PSI MAXIMUM RECORDER S/N #'s R.37 / R.35
 TEST PRESSURE 8966 KPA 1250 PSI MINIMUM DEADWEIGHT S/N #'s DG.21
8621 KPA
 TEST LOCATION Road #7 Mid Point

TIME	DEADWEIGHT PRESSURE (KPA) (PSI)	TEMPERATURE		VOLUME	NOTES
		AMBIENT (°C)	GROUND (°C)		
14:15	1281	11	9	3252	
14:30	1281	11	9	3252	
14:45	1281	11	9	3252	
15:00	1281	11	9	3252	
15:15	1281	11	9	3252	
15:30	1281	11	9	3252	
15:45	1280	10	9	3252	
16:00	1280	10	9	3252	
16:15	1280	10	9	3252	
16:30	1280	10	9	3252	
16:40	1280	10	9	3252	End Leak Test, Begin Bleed Off

JJ DeCorb
 MACRO REPRESENTATIVE (Please Print)

 (Signature)

Jim Byrd
 CLIENT REPRESENTATIVE (Please Print)

 (Signature)

CUSTOMER: Rental

DATE: Aug 7/12

RECORDER CALIBRATION REPORT

Dead Weight S/N 24453

UNIT NUMBER - R-37
 RANGE STATIC 0 - 3000 psi
 TEMP. 0 - 100 °F

TEMPERATURE STATIC

Before Calibration		After Calibration		Before Calibration		After Calibration	
Thermometer	Pen	Thermometer	Pen	Dwg.	Pen	Dwg.	Pen
	/			0	/	0	
	/	32°	32°		/	600	600
	/				/	1200	1200
	/	63°	63°		/	1800	1800
	/				/	2400	2400
	/	96°	96°		/	3000	3000
	/				/	1500	1500
	/				/	0	0

REMARKS:

V.P.
 Meter Technician

10911 Alpha Road
 R. S. Hill, SC, 29529
 252-785-2829, Fax 252-785-6165

DATE July 29/12

GAUGE CALIBRATION REPORT

Calibrated to National Standards L.N.M.S.# MS-214-B. Dead Weight S/N 24453

CUSTOMER: Rental
 TYPE: Crystal
 UNIT NUMBER: DG-21
 MODEL #: XP25
 GAUGE RANGE: 0 - 5000 PSI/KPA

GAUGE

Before Calibration		After Calibration	
Dist.	Gauge	Dist.	Gauge
0		0	0
		1000	1000
		2000	2000
		3000	3000
		4000	4000
		5000	5000
		2500	2500
		0	0

Remarks:

Chris
 Meter Technician

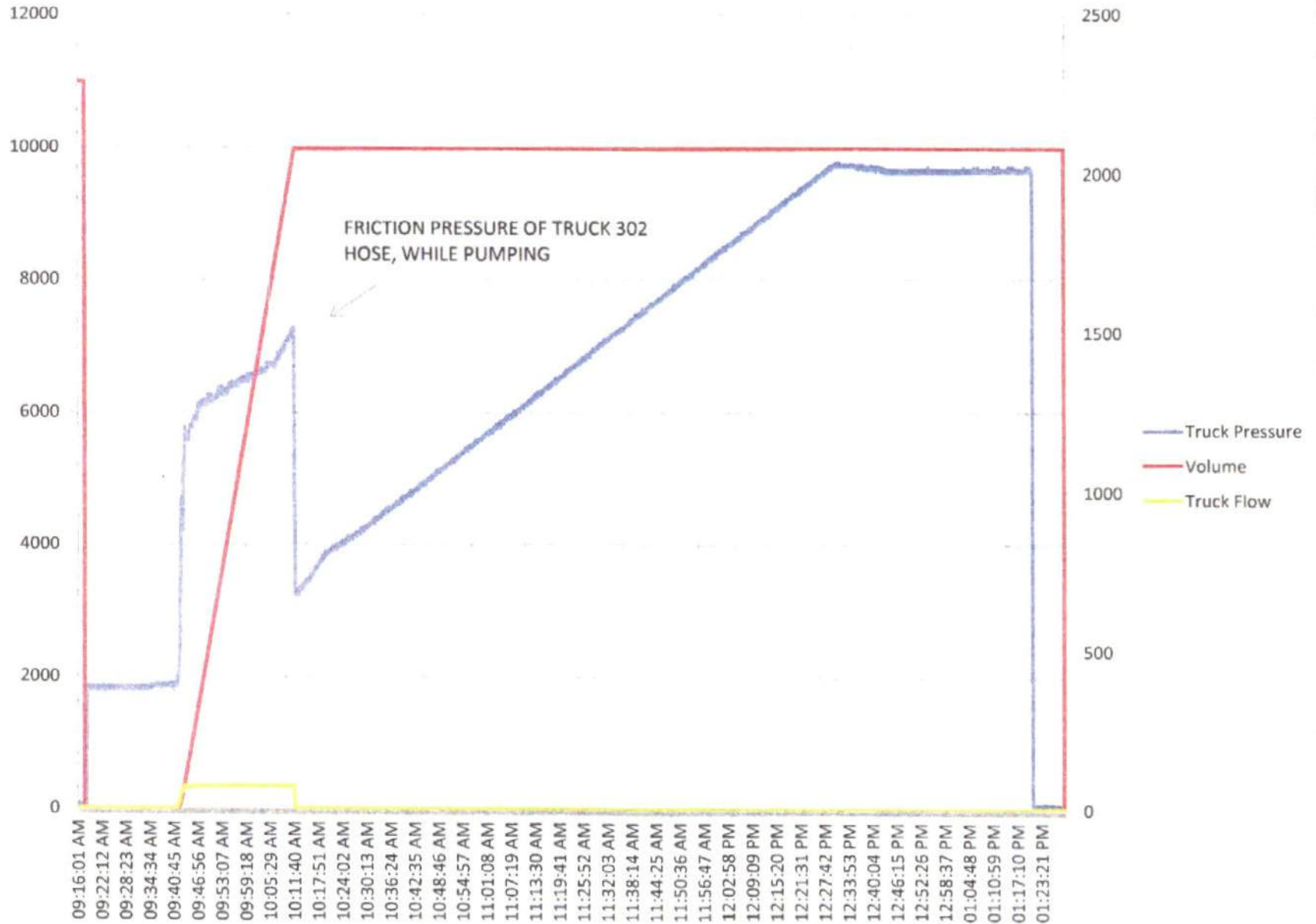
Company: MACRO INDUSTRIES
Location: 16 Inch NIG CREEK
Rig #:
Date: AUG 30 2012

PEREGRINE

Pressure Testers Ltd.
787-8662



Unit Number: 302 AND 303
Operator: Section 1 of 2
Test Type: PIPELINE RETEST
Test Number: Section 1 of 2



VIJAY KAI
VJR



Handwritten notes in the center of the page, including:
- "M... .."
- "A... .."
- "S... .."
- "M... .."
- "K... .."
- "12:30pm"

Handwritten notes on the right side of the page, including:
- "2:30pm"
- "3:30pm"

Handwritten notes at the bottom right of the page, including:
- "4:30pm"
- "5:30pm"

Handwritten notes at the bottom left of the page, including:
- "6:30pm"

Appendix 5

Supporting Documentation for Hydrostatic Testing of Section 2



**SPECTRA ENERGY
NIG CREEK 16" RE-TEST PIPELINE PROJECT**



HYDROSTATIC PRESSURE TEST CHECKLIST

DATE August 27, 2012 FROM Station 45+520
 TEST LOCATION Buck Creek Station TO Station 25+550
 SECTION # 2 LENGTH 19970 m
 VOLUME 2439 m³
 TEST PRESSURE 8276 Kpa 1200 psi MAXIMUM
7759 Kpa 1125 psi MINIMUM

TEST SAFETY CHECKLIST			
No.	Description	QC	Foreman
1	Pipe Material: Schedule and Grade are suitable for the specification?		✓
2	Flanges: Rating, schedule and material specification are correct.		✓
3	Fittings (Tees, bends, reducers, couplings): Correct Schedule and Material specification.		✓
4	Valves: Identification, Manufacturers name tag etc.		✓
5	Valves: Installed correctly, flow direction, accesses, valve free from obstructions, clearance for removal adequate.		✓
6	Lubrication fittings, drains, etc. Installed as required.		✓
7	Bolts, Studs, Nuts: Length and material correct: Torque satisfactory? Studs at least flush with heads? (min. exposure beyond nut at least 2 threads).		✓
8	Gaskets are correct material, size, thickness?		✓
9	All deficiencies located on Punchlist?		
10	Test Procedure reviewed on site by testing crew and only designated crew on working site?		✓
NOTES	All connections, bolt up, and instrumentation were pre-checked and confirmed acceptable for high pressure testing.		
	Pressure lines received an initial burst test rated at 1.5 times the desired test pressure.		

U DeCarby
 MACRO QC REPRESENTATIVE (Please Print)
[Signature]
 (Signature)

Jim Byrd
 CLIENT REPRESENTATIVE (Please Print)
[Signature]
 (Signature)



**SPECTRA ENERGY
NIG CREEK 16" RE-TEST PIPELINE PROJECT**



HYDROSTATIC PRESSURE TEST CHECKLIST

DATE August 27, 2012 FROM Station 45+570
 TEST LOCATION Road #7 Mid Point TO Station 25+550
 SECTION # 2 LENGTH 19970 m
 VOLUME 2439 m³
 TEST PRESSURE 8276 Kpa 1200 psi MAXIMUM
7759 Kpa 1125 psi MINIMUM

TEST SAFETY CHECKLIST			
No.	Description	QC	Foreman
1	Pipe Material: Schedule and Grade are suitable for the specification?		✓
2	Flanges: Rating, schedule and material specification are correct		✓
3	Fittings (Tees, bends, reducers, couplings): Correct Schedule and Material specification.		✓
4	Valves: Identification, Manufacturers name tag etc.		✓
5	Valves: Installed correctly, flow direction, accesses, valve free from obstructions, clearance for removal adequate.		✓
6	Lubrication fittings, drains, etc. installed as required		✓
7	Bolts, Studs, Nuts: Length and material correct: Torque satisfactory? Studs at least flush with heads? (min. exposure beyond nut at least 2 threads).		✓
8	Gaskets are correct material, size, thickness?		✓
9	All deficiencies located on Punchlist?		
10	Test Procedure reviewed on site by testing crew and only designated crew on working site?		✓
NOTES	All connections, bolt up, and instrumentation were pre-checked and confirmed acceptable for high pressure testing.		
	Pressure lines received an initial burst test rated at 1.5 times the desired test pressure.		

J. DE CORBY
 MACRO QC REPRESENTATIVE (Please Print)
J. De Corby
 (Signature)

Jim Byrd
 CLIENT REPRESENTATIVE (Please Print)
Jim Byrd
 (Signature)



SPECTRA ENERGY
NIG CREEK 16" RE-TEST PIPELINE PROJECT



HYDROSTATIC PRESSURE TEST RECORD

DATE August 27, 2012 FROM 45+520 PIPE DIAMETER 16" NPS
 TO 25+550 WALL THICKNESS 6.3mm - 12.7mm
 SECTION 2 LENGTH 19970 m
 VOLUME 2439 m³ 1,200 PSI MAXIMUM RECORDER S/N #'s R.37 / R.35
 TEST PRESSURE 8276 KPA 1,125 PSI MINIMUM DEADWEIGHT S/N #'s DG 21
7759 KPA
 TEST LOCATION Road #7 Mid Point

TIME	DEADWEIGHT PRESSURE (KPA) (PSI)	TEMPERATURE		VOLUME	NOTES
		AMBIENT (°C)	GROUND (°C)		
13:00	88	26	10	2491	Pre-pack On Line
13:20	88	26	10	2491	Start squeeze pumping.
13:30	101	26	10	2493	
13:45	201	26	10	2497	
14:00	434	26	10	2501	
14:15	570	27	10	2503	
14:30	665	28	10	2504	
14:45	767	28	10	2506	
15:00	872	28	10	2507	
15:15	974	28	10	2509	
15:30	1082	28	10	2510	
15:45	1186	27	10	2511	
16:00	1295	27	10	2512	
16:04	1322	27	10	2513	Begin Strength Test.
16:09	1322	27	10	2513	End Strength Test.
16:10	1322	27	10	2513	Begin Bleed Off to Leak Test.
16:15	1278	27	10	2513	
16:29	1172	27	10	2511	Begin Leak Test.
16:45	1172	27	10	2511	
17:00	1172	27	10	2511	
17:15	1172	26	10	2511	
17:30	1172	25	10	2511	
17:45	1172	24	10	2511	

J. J. De Corey
 MACRO REPRESENTATIVE (Please Print)
[Signature]
 (Signature)

Jim Byrd
 CLIENT REPRESENTATIVE (Please Print)
[Signature]
 (Signature)



SPECTRA ENERGY NIG CREEK 16" RE-TEST PIPELINE PROJECT



HYDROSTATIC PRESSURE TEST RECORD

DATE August 27, 2012 FROM 45+520 PIPE DIAMETER 16" NPS
 TO 25+550 WALL THICKNESS 6.3mm - 12.7mm
 SECTION 2 LENGTH 19970 m
 VOLUME 2439 m³ 1,200 PSI MAXIMUM RECORDER S/N #'s R.37 / R.35
 TEST PRESSURE 8276 KPA 1,125 PSI MINIMUM DEADWEIGHT S/N #'s DG 21
7759 KPA
 TEST LOCATION Road #7 Mid Point

Page 2 of 2

TIME	DEADWEIGHT PRESSURE (KPA) (PSI)	TEMPERATURE		VOLUME	NOTES
		AMBIENT (YC)	GROUND (°C)		
18:00	1172	24	10	2511	
18:15	1172	23	10	2511	
18:30	1172	23	10	2511	
18:45	1171	22	10	2511	
19:00	1171	21	10	2511	
19:15	1171	21	10	2511	
19:30	1171	20	10	2511	
19:45	1171	20	10	2511	
20:00	1170	19	10	2511	
20:15	1170	19	10	2511	
20:30	1170	19	10	2511	
20:35	1170	19	10	2511	End Leak Test, Begin Bleed Off.

JJ DeCoby
MACRO REPRESENTATIVE (Please Print)

JJ DeCoby
(Signature)

Jim Byrd
CLIENT REPRESENTATIVE (Please Print)

Jim Byrd
(Signature)

CUSTOMER: Rental

DATE: Aug 8/12

RECORDER CALIBRATION REPORT

Dead Weight S/N 24453

UNIT NUMBER R 35
 RANGE STATIC 0 - 3000 psi
 TEMP. 0 - 100 °F

TEMPERATURE STATIC

Before Calibration		After Calibration		Before Calibration		After Calibration	
Thermometer	Pen	Thermometer	Pen	Dwg.	Pen	Dwg.	Pen
	/			0	/	0	0
		32°	32°			600	600
		59°	59°			1200	1200
		93°	93°			1800	1800
						2400	2400
						3000	3000
				0	0		

REMARKS:


 Meter Technician



10711 Alpha Road
 P. O. Box 80, YUCCA
 251-255-2222 Fax 251-255-5855

DATE July 29/12

GAUGE CALIBRATION REPORT

Calibrated to National Standards INMMS # MS-214-B. Dead Weight S/N 24453

CUSTOMER: Rental
TYPE Crystal
UNIT NUMBER DG-21
MODEL # XP25
GAUGE RANGE 0-5000 PSI/KPA

Before Calibration		GALUGE		After Calibration	
Dwg.	Gauge	Dwg.	Gauge	Dwg.	Gauge
0		0			
		1000			1000
		2000			2000
		3000			3000
		4000			4000
		5000			5000
		2500			2500
		0			0

Remarks:



 Meter Technician

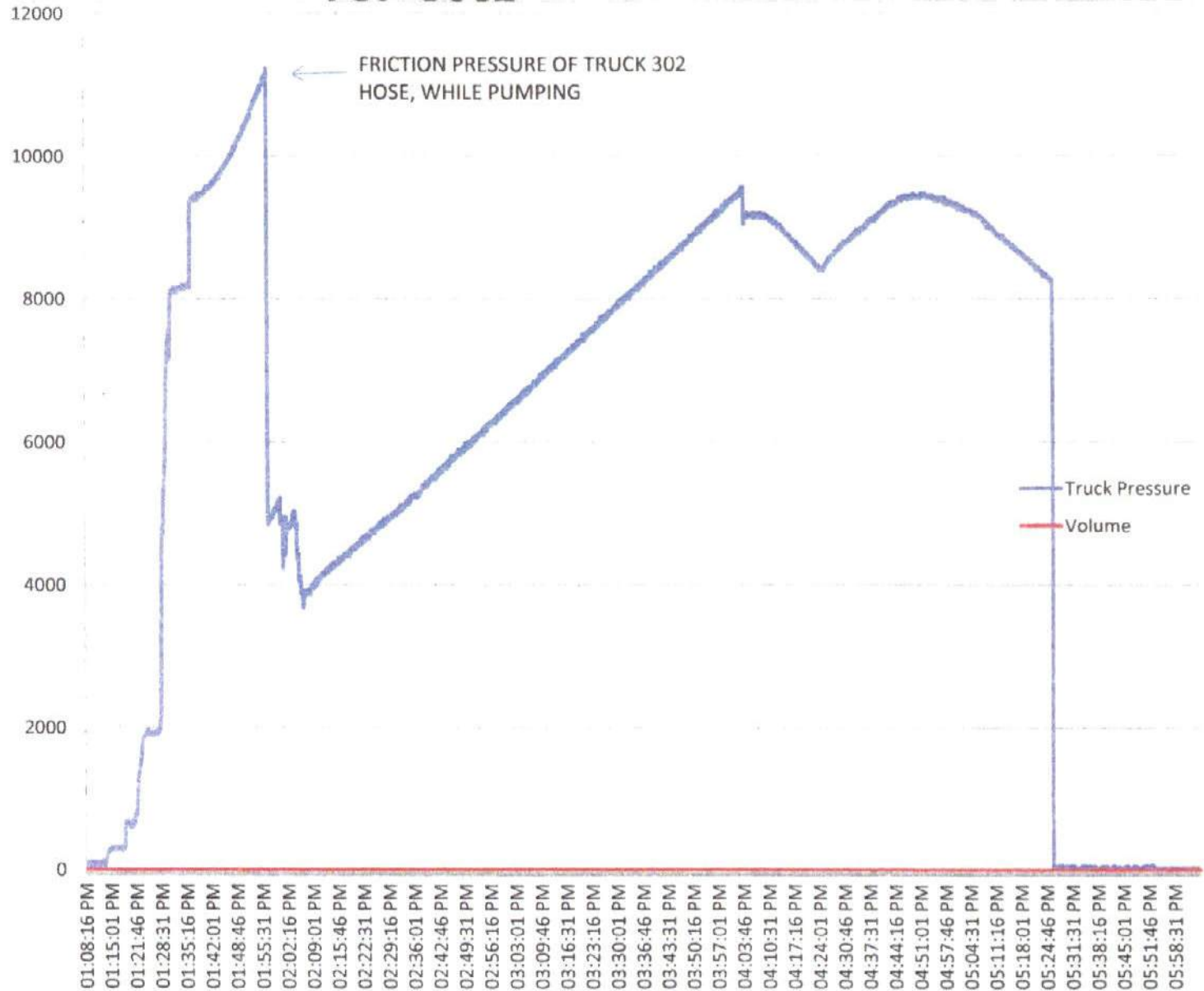
Company: MACRO INDUSTRIES
Location: NIG CREEK
Rig #: NA
Date: AUG 27 2012

PEREGRINE

Pressure Testers Ltd.
787-8662



Unit Number: 302 AND 303
Operator: SECTION 2 OF 2
Test Type: 16 Inch PIPELINE RETEST
Test Number: SECTION 2 OF 2



PETROLIO

Revised # 35 KP 25.14

11:05 P

Aug 27/12

DW 421

5:35 P

Aug 27/12

Runway. Section KP 25.14

KP 25.14 TO KP 41.12

Point # 7 TO Point # 12

6.2 min - 12.7 min

16" NPS CREEK

REPORT LINE 5042-12
241 P.M. @ 1:20 PM

5:00 PM
133 P.M. @ 4:20 PM

POINT STEEL # 74 TEST
1322 P.M. @ 4:04 PM

POINT STEEL # 74 TEST
1322 P.M. @ 4:03 PM

POINT STEEL # 74 TEST
1122 P.M. @ 4:33 PM - 27.2

172 DW 170
18.1 P.M. @ 8:25 PM - 18.1

VIJAY RAI
VJR
AUG. 27/12





RECEIVED # 35-KP25-50
11:05 P
AUG 27/12

DW #21

8:35 P
AUG 27/12

ROAD #7 TO BUREAU CREEK
6:30 AM - 12:27 PM
16" NPS

KP 25 TO ROAD #7
ROAD #7 TO BUREAU CREEK
6:30 AM - 12:27 PM
16" NPS

BUREAU LINE SURVEY
204 P.M. @ 11:20 AM

BUREAU LINE SURVEY
204 P.M. @ 11:20 AM

BUREAU LINE SURVEY TEST
1322 P.M. @ 4:04 PM

BUREAU LINE SURVEY TEST
1322 P.M. @ 4:09 PM

BUREAU LINE SURVEY TEST
1122 P.M. @ 4:27 PM - 27/12

BUREAU LINE SURVEY TEST
1322 P.M. @ 4:09 PM

VIJAY RAI
VJR
AUG. 27/12

MIDNIGHT

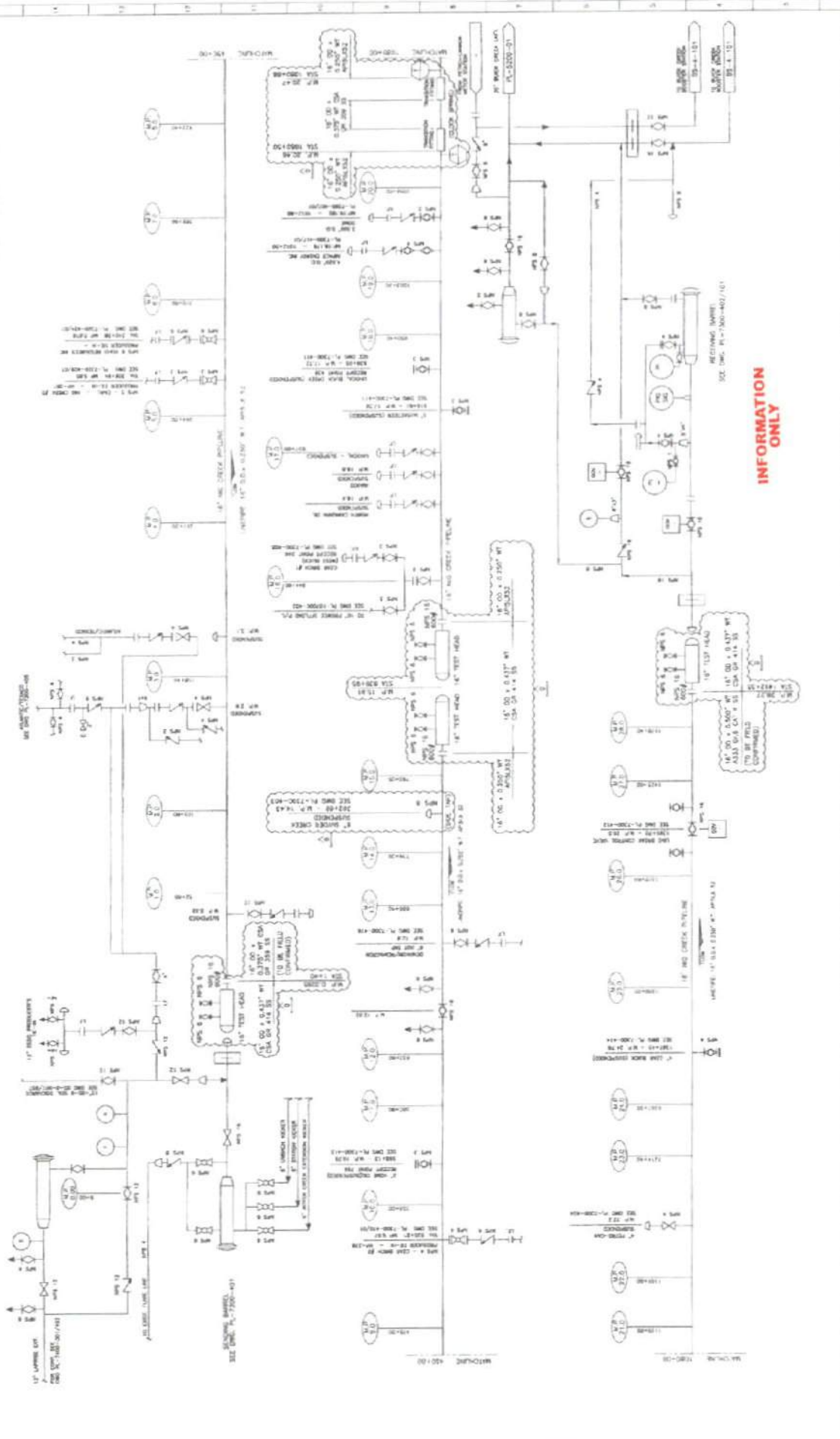
**16" Nig Creek Pipeline Hydrostatic Re-test
Leave to Open Application**

Appendix 6

Reference Drawing

PL-7300-SK002

THIS DRAWING IS THE PROPERTY OF WESTCOAST ENERGY INC. IT IS TO BE USED ONLY FOR THE PROJECT AND LOCATION SPECIFICALLY IDENTIFIED HEREON. ANY REUSE OR MODIFICATION OF THIS DRAWING WITHOUT THE WRITTEN CONSENT OF WESTCOAST ENERGY INC. IS STRICTLY PROHIBITED.



INFORMATION ONLY

<p>Westcoast Energy Inc. TEST SCHEMATIC 6" WG CREEK PIPELINE</p>	
<p>DATE: 10/15/2013 DRAWN BY: J. BROWN CHECKED BY: M. JONES APPROVED BY: S. SMITH</p>	
<p>PROJECT: 6" WG CREEK PIPELINE LOCATION: 15+00.00 TO 15+00.00</p>	
<p>SCALE: AS SHOWN</p>	
<p>PL-7300-SK002</p>	