



Weatherford HPS Order Form

Revision # _____

Date: October 13, 2011
Quote/FSSO # CH-110513-MH
Ordered By: MINDY HARRISON
Completed By: LINDSAY CAMERON

Ship Date: November 30, 2011 Time: _____
Customer: CNRL-CENTRAL BRITNELL BATTERY
Well # 01-36-80-22-W4
Field: CENTRAL BRITNELL TAG P-817 A

Shipper # N 2730 Ship To Address: Canadian Natural Resources Ltd, CBB Project C/O Universal Contract Logistics, 2840-76 Ave NW - Edmonton AB T6P 1J4
Ship Via: CF 1-877-582-8770 "COLLECT"

Skid Details → **WO #** WO 13433

Serial # WFTEM1113433 SKID #1 Type Double Beam Length 19' Ft

Saddles

Part # 809419 Series 862 Inserts _____ Quantity 3

Motor Manufacturer: _____

Serial # MV.C10C738-1 Part # 720713 HP 500 Supplier: TECO

Motor-Pump Coupling

Disc Coupling Part # 873225 Description COUPLING ASSEMBLY, HPS SX-158-6 2.626 ID

Coupling Guard Part # 1236330 Description COUPLING GUARD ASSEMBLY, SPLIT HPS LG:12.75 PVC

Thrust Chamber → **WO #** WO 13435

Part # 875503

Serial # WFT031113435 Description THRUST CHAMBER ASSEMBLY, HPS 3-BEARING STD SHAFT

TC - Pump Coupling

Part # 432264 Description COUPLING, PUMP 1.1875x1.375 MINGO W1126028 6 SPLINE

Intake Orientation: RIGHT

Part # 429817 Description INTAKE ASSEMBLY, HPS ANSI FLANGE 6"-150RF SS

Seal

Part # 408182 Description SEAL, MECHANICAL JC-1-19422

Pump 1 → **WO #** WO 13598

Serial # 2NN11J13598 Part # 2007657 Description PUMP HPS 862-25000 14 HSG 14 STG CP CT TA

Pump 2 → **WO #** _____

Serial # _____ Part # _____ Description _____

Pump Coupling

Part # _____ Description _____

Bellhousing Part # _____ **TC Cooler** Part # _____

Description: _____ Description _____

Expansion Joint

Part # 2000367 Description JOINT, EXPANSION 6x18x150 DOUBLE BRAIDED HOSE SS316

Discharge Flange

Part # 751460 Description DISCHARGE FLANGE ASSEMBLY HPS 862 6-600RF

Instrumentation

Vibration Part # 897429 QUANTITY 2 Description TRANSMITTER SEISMIC VIB. IPT METRIX ST5484E-121-020-00

TC Level Part # _____ Description _____

Pressure Switch Part # _____ Description _____

Miscellaneous Items:

Part # 751464 Description: PLATE, ADAPTOR, INTAKE, HPS, SS, 862
Part # _____ Description: _____
Part # _____ Description: _____
Part # _____ Description: _____
Part # _____ Description: _____
Part # _____ Description: _____

Special Instructions:

Bill of Lading to show/Freight charge to PO
2010066-015R2 Canadian Natural Resources Ltd
C/O Upside Engineering Ltd. 409-10th Ave SE,
Calgary Alberta, T2G 0W3

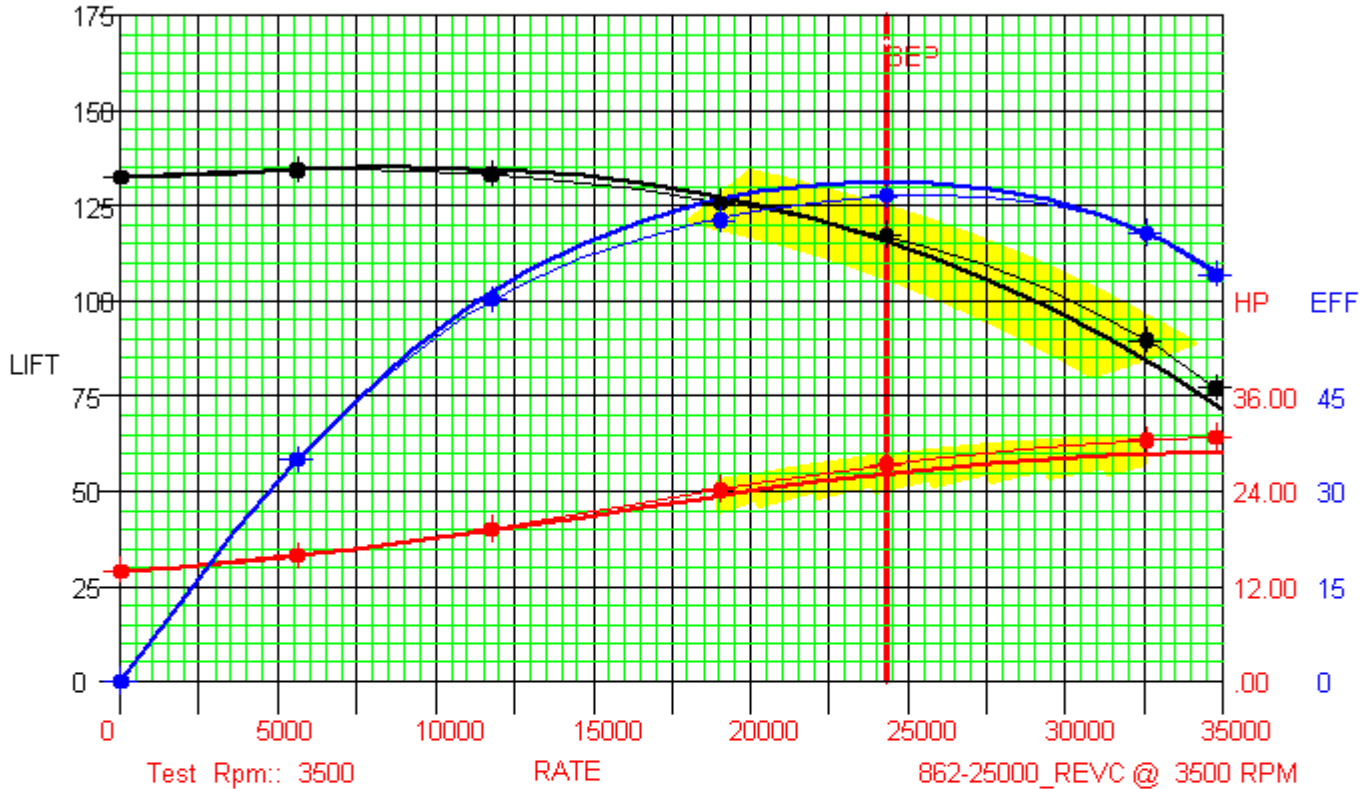
Shaded items are reason for latest revision



PUMPTEST REPORT

Prepared For CNRL
 CENTRAL BRINTNELL
 DATE/TIME: 11/28/2011 3:06:58 PM
 WORK ORDER: 13598

Test Data Adjusted to Test RPM A Specific Gravity Of 1 and To 1 Pump Stage



Max(Recommended)	LIFT	2.03%	(86.63)	POWER	6.13%	(30.402)	EFF	0.13%	(70.95)
@ BEP-1 STG	LIFT	0.74%	(116.46)	POWER	4.20%	(27.392)	EFF	-2.94%	(76.40)
Min (Recommended)	LIFT	-0.94%	(126.18)	POWER	2.92%	(24.152)	EFF	-3.90%	(73.00)

RATE	LIFT	POWER	EFF	DEFECTS/REPAIRS/FAILURES		
34784	77.1	1079.4	30.785	430.99	64.1	NEW PUMP TEST
32561	89.66	1255.24	30.435	426.09	70.6	PUMP TEST ACCEPTABLE
24324	117.21	1640.94	27.371	383.194	76.7	VIBRATION TEST ACCEPTABLE
19025	125.63	1758.82	24.214	338.996	72.7	SHIMMED UP .030
11777	133.37	1867.18	19.214	268.996	60.2	
5607	134.38	1881.32	15.857	221.998	35.0	
0	132.56	1855.84	13.971	195.594	.0	

TYPE: BWFT 862-25000	Comment 1:
HOUSING: 14	Comment 2:
SN: 2NN11J13598	
STAGES: 14	

MISC. DATA			
Before Shims	H -0.121	B -0.140	Shaft Travel 0.151
After Shims	No Shim Bolts		TEST BY TRAVIS



Hydrostatic Test Report

Ensure the Pump is 100% liquid filled before starting the test

Customer Name:	CNRL	Design Pressure (psig)	1600
Serial No.:	2NN11J13598	Test Pressure (psig)	2400
Part No.:	2007657	PRV Set Point (psig)	
Description:	862-25000-14STG	Pressure Gauge No.	JW031202-1
Calibration Ref:	37027/35115	Calibration Date	

First Pressure Test

Time (minutes)	Applied Pressure (psi)	Measured Pressure (psi)	Tolerance (+/-) psi	Accept/Reject
0.00	2400	2400		A
2.00	2400	2400		A
3.00	2400	2400		A
4.00	2400	2400		A
5.00	2400	2400		A
6.00	2400	2400		A
7.00	2400	2400		A
8.00	2400	2400		A
9.00	2400	2400		A
10.00	2400	2400		A
11.00	2400	2400		A
12.00	2400	2400		A
13.00	2400	2400		A
14.00	2400	2400		A
15.00	2400	2400		A

Second Pressure Test

Time (minutes)	Applied Pressure (psi)	Measured Pressure (psi)	Tolerance (+/-) psi	Accept/Reject
0.00	1600	1600		A
2.00	1600	1600		A
3.00	1600	1600		A
4.00	1600	1600		A
5.00	1600	1600		A
6.00	1600	1600		A
7.00	1600	1600		A
8.00	1600	1600		A
9.00	1600	1600		A
10.00	1600	1600		A

Allowable Tolerance on Establishing Initial Test Pressure

TEST PRESSURE	TOLERANCE
0 - 500 psig	(+/-) 5 psig
500 - 2000 psig	(+/-) 10 psig
2000 - 5000 psig	(+/-) 15 psig
5000 - 10000 psig	(+/-) 20 psig

Test Description/Comments

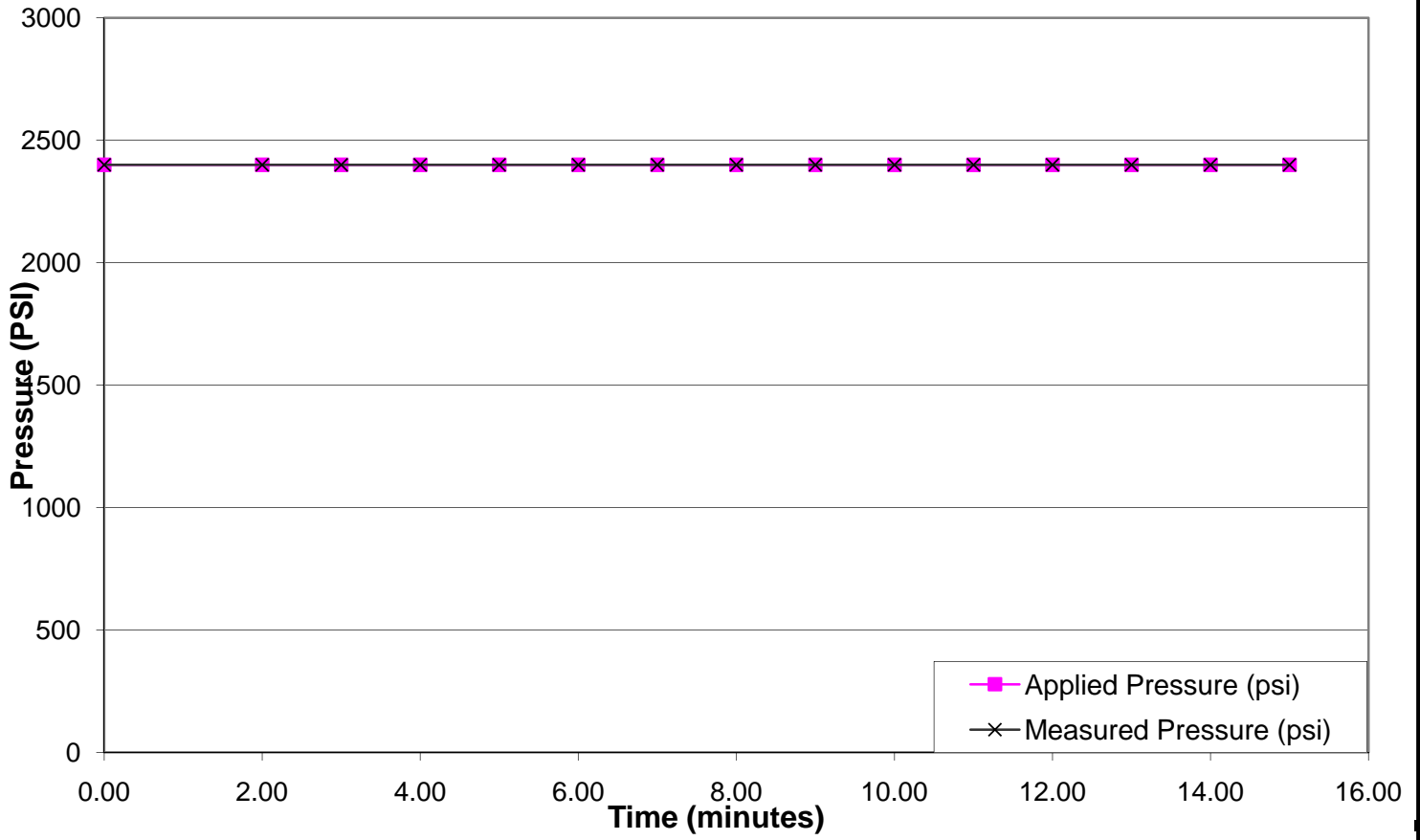
GLYCOL TEST

Test Performed By: LAURENT VALLEE
 Test Performed By: _____
 Witnessed By: _____
 Witnessed By: _____

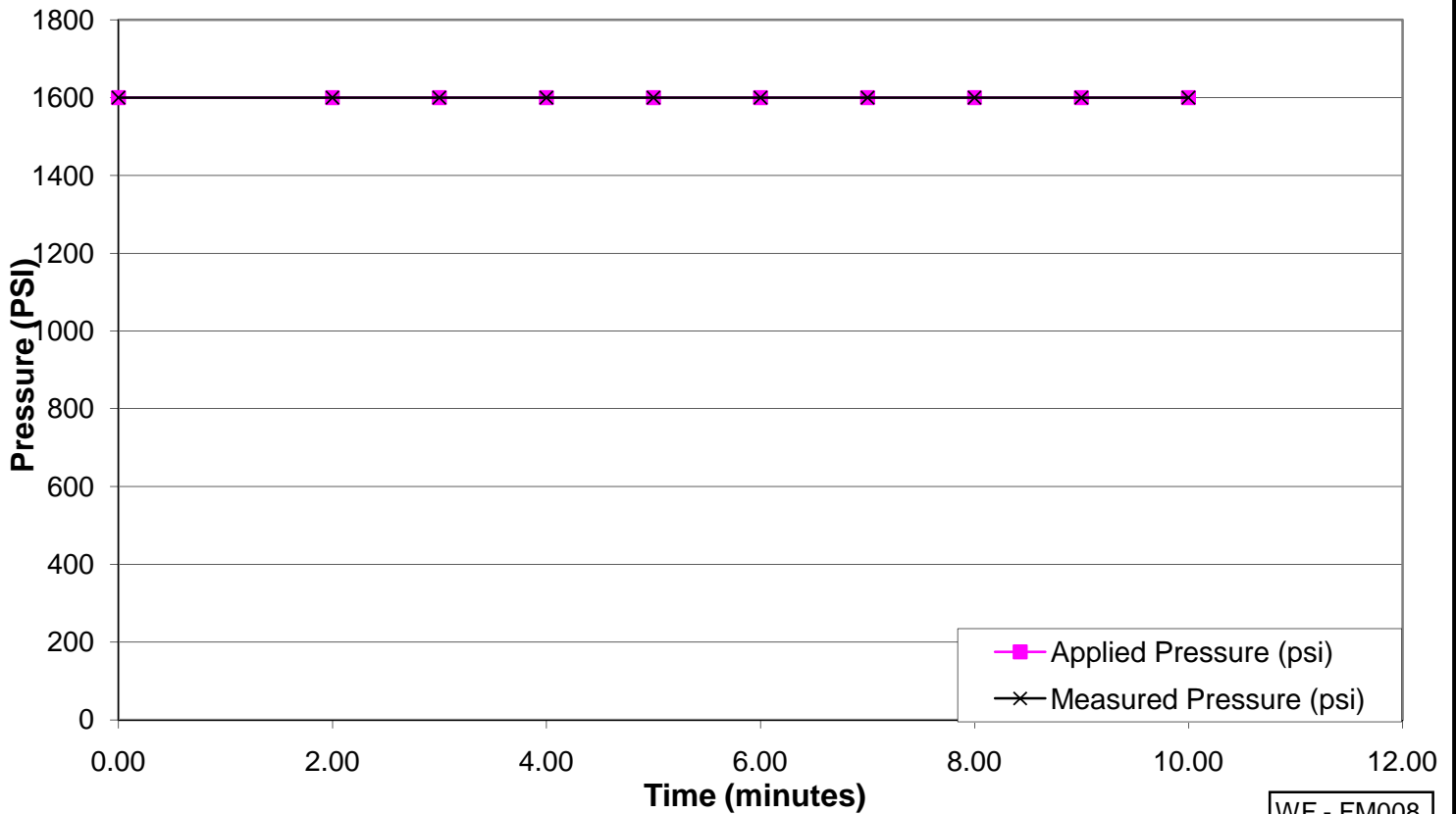
Date: 11/26/2011
 Date: _____
 Date: _____
 Date: _____

WF-FM008

First Pressure Test



Second Pressure Test





HPS EQUIPMENT DATA

Customer	CNRL C/O UPSIDE ENGINEERING	Quote No.	CH-110513-MH R3
Location	01-36-80-22-W4	Unit	P-817B
Name	CENTRAL BRITNELL BATTERY	Date	October 2011

PUMP

Series	Type	# Stages	Model	Length	Hsg	Serial No.
862	TA	14	25000		14	2NN11J13597

THRUST CHAMBER

Model	Bearing	Seal	Metal	Serial No.
BWFT-02	3 BRG STD SHAFT	TYPE 2	SS	WFT031113434

MOTOR

Brand	HP	Volts	Design	Frame	Serial No.
TECO	500	460	NEMA	5011A	MVC10C738-2
Enclosure	Insulation	Phase	RPM	Shaft "U"	Comments
TEFC	F	3	3580	2.625	

HPS SKID

Model	Length	Saddles	Design	Serial No.
BWFT-00	18'	2	862	WFTEM1113432
Discharge	Intake	Vibration Switch	Type	Pressure Switch
862 6"600	6"150	METRIX	ST5484E	-

Comments:
