V-200
GROUP SEPARATOR VESSEL
FOREMOST INDURTRIES
1829mm OD x 6069mm S/S
DESIGN PRESSURE: 1034 kPag @ 54°C
MDMT: -40°C
C.A.: 3.2mm
SERIAL #: 029307-1
CRN: PENDING
BUILT 2013

BR-200
BRIDLE ASSEMBLY
4" NPS
DESIGN PRESSURE: 1620 kPag @ 121°C
MDMT: -29°C
C.A.: 3.2mm
SERIAL #: 029307-2
CRN: V6041.231
BUILT: 2013

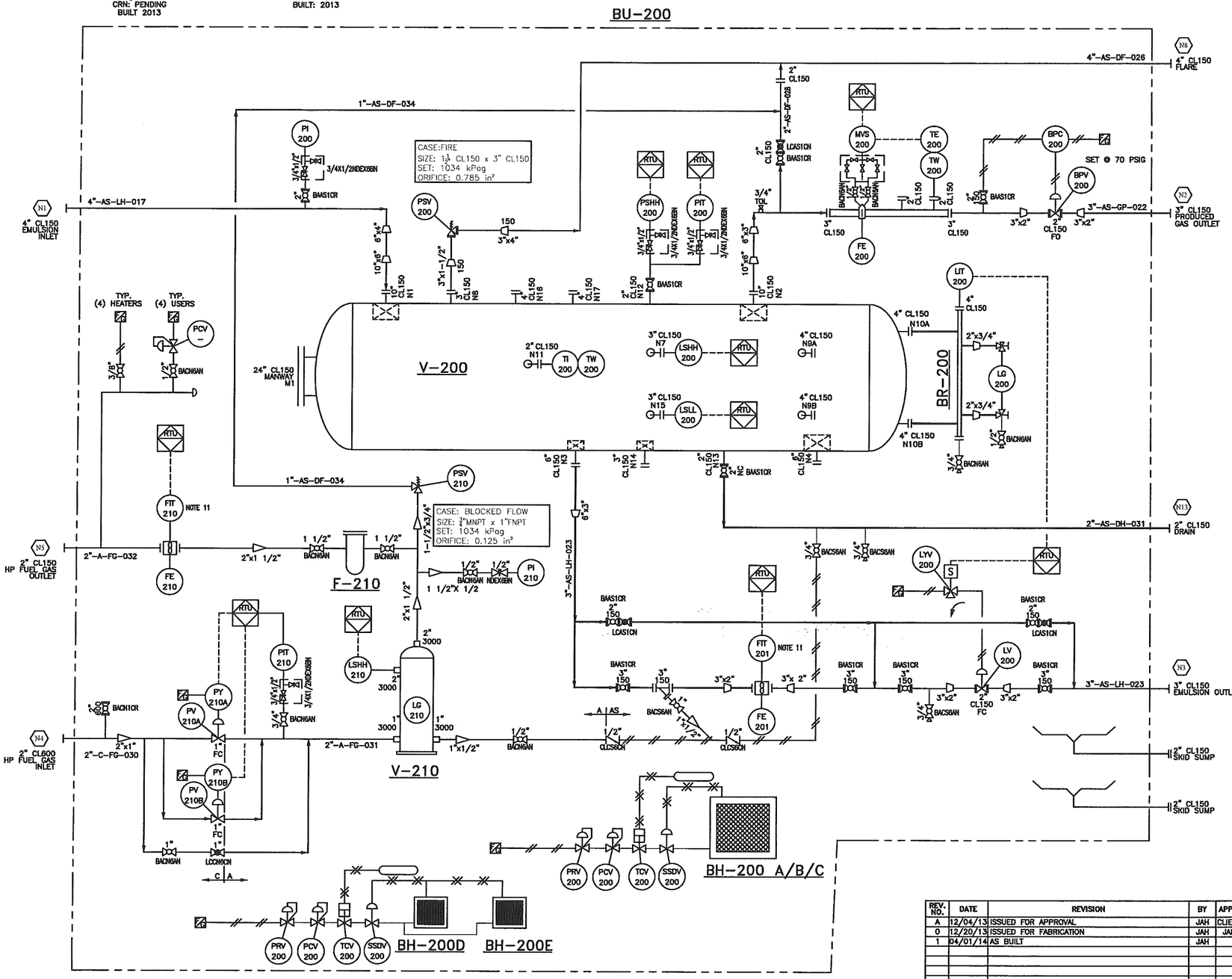
V-210
FUEL GAS SCRUBBER
8 5/8" OD x 3'-0" OAL
SWEET SERVICE
150 PSI @ 100°F
CRN: OH2298.21345

F-210
FUEL GAS FILTER
ESG MODEL: 385A-1½"-70C
DESIGN: 500PSI @ 120°F
FLOW: 314 SCFM @ 100 PSI
CRN: OE12657.2

BH-200 A/B/C
BUILDING HEATER
CATADYNE MKII-24x48
DUTY: 40,000 BTU/HR
12 VOLT, NATURAL GAS

BH-200 D/E
BUILDING HEATER
CATADYNE WX-6x6
DUTY: 1,250 BTU/HR
12 VOLT, NATURAL GAS

BU-200
SELF FRAMING BUILDING
METALEX
SEE DWG D2415-601 FOR DETAILS



INSTRUMENTATION

TAG	QTY	PART No.	DESCRIPTION
PV/PY/PVC-210A	1	1-014775	1" x 3600 FNPT FISHER 667-30 D-BODY CONTROL VALVE W/ 667 SIZE 30 ACTUATOR
			FISHER DVC6200 FIELDVUE POSITIONER & 1/4" 67 CFR PRESSURE REGULATOR (FAIL CLOSED)
PV/PY/PVC-210B	1	1-014775	1" x 3600 FNPT FISHER 667-30 D-BODY CONTROL VALVE W/ 667 SIZE 30 ACTUATOR
			FISHER DVC6200 FIELDVUE POSITIONER & 1/4" 67 CFR PRESSURE REGULATOR (FAIL CLOSED)
PSV-200	1	1-014776	1 1/2" CL150 x 3" CL150 FARRIS RELIEF VALVE MODEL: 26HA10-120/S7 (SET @ 1034 kPa)
PSV-210	1	1-014777	3/4" MNPT x 1" FNPT FARRIS RELIEF VALVE MODEL: 27DA23-W20/00 (SET @ 1034 kPa)
PIT-200	1	1-014778	ROSEMOUNT 2088 SERIES GAUGE PRESSURE TRANSMITTER 2088G3S22A1M4C6 C/W
			PGI INTERNATIONAL 03068T22BA11SG 2-VALVE MANIFOLD
PIT-210	1	1-014778	ROSEMOUNT 2088 SERIES GAUGE PRESSURE TRANSMITTER 2088G3S22A1M4C6 C/W
			PGI INTERNATIONAL 03068T22BA11SG 2-VALVE MANIFOLD
LIT-200	1	1-014779	4" CL150/300/600 ANSI FISHER DL3 LEVEL TRANSMITTER DLC3010 c/w FISHER 249W LEVEL DISPLACER
MVS-200/TE-200	1	1-015033	FISHER MVS200S REMOTE SENSOR 0-250 PSIG DP, 0-3600 PSIG P w/ 2" CL150 x 5-1/2" STEM THERMOWELL
			-100 to 260°C RTD & 316SST 5-VALVE MANIFOLD KIT (NACE)
LV/LVV/PVC-200	1	1-015014	2" x CL150 FISHER D4 CONTROL VALVE W/ SIZE 40 ACTUATOR
			ASCO EF8314G301-24 24V 3-WAY SOLENOID VALVE & 1/4" 67 CFR PRESSURE REGULATOR
BPV/BPC/PVC-200	1	1-015015	2" x CL150 FISHER ET CONTROL VALVE W/ 657 SIZE 40 ACTUATOR (FAIL OPEN)
			FISHER C1 LOW BLEED PNEUMATIC PRESSURE CONTROLLER & 1/4" 67 CFR PRESSURE REGULATOR
FE-200	1	1-015031	3" x CLASS 150 RF SCH 40 CANALTA NACE TRIM RIGHT HAND AGA 3 METER RUN c/w AGA 2000,
			CPA - CATCH ALL FLOW CONDITIONER 0.75 BETA c/w
			ORIFICE PLATE 3" x 1/8" THK 316SS w 1.5" DIA BORE
LSLL-200	1	1-007366	2" NPT NORRISEAL 1001A SOUR SERVICE ELECTRIC LEVEL SWITCH 1001A2SM60NELD
LSHH-200	1	1-007366	2" NPT NORRISEAL 1001A SOUR SERVICE ELECTRIC LEVEL SWITCH 1001A2SM60NELD
LSHH-210	1	1-003649	2" NPT SOR 1510C SOUR SERVICE ELECTRIC LEVEL SWITCH 1510C-02A-C-W9-ES-CS-CV-NC
PSHH-200	1	1-010963	QCS DUAL SNAP PRESSURE SWITCH MODEL 6900ZZC-18 CRN: OF4954.2
LG-200	1	1-008842	PENBERTHY 1TM5 SIGHT GLASS w/ 3/4" NPT x 1/2" NPT PENBERTHY 330J LEVEL GAUGE VALVES
PI-200	1	1-001230	WIKA SERIES 233.34 0-200PSI PRESSURE INDICATING GAUGE 1/2" BOTTOM MOUNT
PI-210	1	1-001230	WIKA SERIES 233.34 0-200PSI PRESSURE INDICATING GAUGE 1/2" BOTTOM MOUNT
TW-200	1	1-009353	THERMOWELL 316/L 2 CL150 X 15" STEM
TI-200	1	1-009352	WIKA 52150A005C4 5" FACE 0 to 200F TEMPERATURE INDICATOR 1/2" BACK MOUNT w/ 15" STEM
V-210	1	1-014780	8 5/8" OD x 3'-0" OAL 150 PSI FUEL GAS SCRUBBER CRN: OH2298.21345
F-210	1	1-015016	UNITED FILTER SYSTEM ESG 385A-1 1/2"-70C COMPRESSED GAS FILTER
LG-210	1	1-014753	2" NPT FLOW SIGHT INDICATOR JACOBY-TARBOX S-5400 C/S 2" JTB CRN: OF2829.12
FE-200	1	1-015046	2" NUFLO TURBINE FLOW METER MODEL: 9A-100003551 c/w 9A-100002077 PICKUP &
FIT-210	1		NUFLO MC-III EXP FLOW ANALYZER MODEL: 9A-50179024
FE-210	1	1-015047	2" NUFLO TURBINE FLOW METER MODEL: 9A-100003397 c/w 9A-100005100 PICKUP &
FIT-210	1		NUFLO MC-III EXP FLOW ANALYZER MODEL: 9A-50179024

VALVES

TAG	QTY	PART No.	DESCRIPTION
3"-BAAS1CR	4	1-003624	3" x CLASS 150 RF RP WKM BALL VALVE MODEL: B100-CS2-42-S2 (NACE)
	1	1-003597	3" x CLASS 150 RF Y-STRAINER ALTA MODEL: 3NYF150N (NACE)
2"-BAAS1CR	7	1-003617	2" x CLASS 150 RF RP WKM BALL VALVE MODEL: B100-CS2-42-S2 (NACE)
2"-BACN1CR	1	1-003619	2" x CLASS 600 RF RP WKM BALL VALVE MODEL: B114-CS2-42-S2 (NACE)
2"-LCAS1CN	3	1-010322	2" x CLASS 150 RF GLOBE VALVE VELAN MODEL: F08-00074C-02NB (NACE)
1 1/2"-BACN6AN	2	1-003615	1 1/2" FNPT x 2000 CWP RP BALL VALVE WKM MODEL: B138-CS-42-CS (NACE) (API607)
1"-BACS6AN	1	1-003610	1" FNPT x 2000 CWP FP BALL VALVE WKM MODEL: B138-CS2-43-S2 (NACE) (API607)
1"-BACN6AN	1	1-003610	1" FNPT x 2000 CWP FP BALL VALVE WKM MODEL: B138-CS2-43-S2 (NACE) (API607)
1"-LCCN6CN	1	1-012740	1" FNPT x CLASS 800 GLOBE VALVE VELAN MODEL: S05-20748-02NB (NACE)
3/4x1/2-NDEX6BN	4	1-007961	3/4" MNPT x 1/2" FNPT CLASS 6000 BLOCK & BLEED NEEDLE VALVE CENTURY MODEL: CM2291M64TDNT
3/4"-BACS6AN	4	1-003607	3/4" FNPT x 2000 CWP FP BALL VALVE WKM MODEL: B138-CS-42-CS (NACE) (API607)
3/4"-BACN6AN	1	1-003607	3/4" FNPT x 2000 CWP FP BALL VALVE WKM MODEL: B138-CS-42-CS (NACE) (API607)
1/2"-BACN6AN	7	1-008942	1/2" FNPT x 2000 CWP FP BALL VALVE WKM MODEL: B138-CS2-43-S2 (NACE) (API607)
1/2"-CLCSRCN	2	1-014494	1/2" FNPT x CLASS 800 PISTON CHECK VALVE VELAN MODEL: S03-20348-26NB (NACE)
1/2-NDEX6BN	2	1-013082	1/2" FNPT x CLASS 10000 NEEDLE VALVE PGI MODEL: 03068T22BA11SG

HEATER

TAG	QTY	PART No.	DESCRIPTION
BH-200A/B/C	3	1-015113	24" x 48" CATADYNE HEATER, 12 VOLT NATURAL GAS ASSEMBLY MKII24X48
BH-200C/D	2	1-015375	6" x 6" CATADYNE HEATER, 12 VOLT NATURAL GAS WX6X6
PRV-200A/B/C/D/E	4	1-001474	1/4" NPT x 3/8" NPT FISHER 912 REGULATOR, SET @ 11" WC
PCV-200A/B/C	3	-	3/8" NPT APPLIANCE REGULATOR MAXITROL MODEL RV-20, SET @ 7.5" WC
TCV-200A/B/C	3	1-006192	3/8" NPT THERMOSTATIC TEMPERATURE CONTROLLER (HEATER MANUFACTURER STD)
TCV-200D/E	1	1-006311	3/8" NPT THERMOSTATIC TEMPERATURE CONTROLLER (HEATER MANUFACTURER STD)
SSDV-200A/B/C	3	-	3/4" NPT JOHNSON CONTROLS H19 SERIES TAMPER RESISTANT SAFETY SHUT-OFF VALVE/THERMOCOUPLE
-	6	1-001486	24" VENT HOOD ASSEMBLY

GENERAL NOTES:

1. PIPING BUILT TO ASME B31.3 ED.2010
2. TUBING MATERIAL: 3/8" OD x 0.035" 316SS SEAMLESS c/w STAINLESS STEEL FITTINGS (SWAGELOK)
   1/2" OD x 0.049" 316SS SEAMLESS c/w STAINLESS STEEL FITTINGS (SWAGELOK)
3. PIPE MATERIAL: SA-106-B
4. FLANGE MATERIAL: SA-105-N
5. BOLTING MATERIAL: SA-193-B7M/SA-194-2HM
6. ALL THREADED FITTINGS SHALL BE 3000#
7. THREADED PIPING
   "A SPEC" - 1/2"-2" SCH XH THREADED LINES: C.A. = 1.6 mm (1/16")
   "AS SPEC" - 1/2"-2" SCH XXH THREADED LINES: C.A. = 3.2 mm (1/8")
8. FUNCTION TEST SHALL BE PERFORMED ON ALL INSTRUMENTS
9. DRAIN ALL WATER FROM ALL INSTRUMENTS
10. ALL INSTRUMENTS SHALL BE IDENTIFIED WITH STAINLESS STEEL TAGS
11. 5 PIPE STRAIGHT DIAMETERS UPSTREAM & 3 STRAIGHT PIPE DIAMETERS DOWNSTREAM REQUIRED
12. PIPING ISOMETRIC DRAWINGS ARE LINKED TO THE P&ID VIA THE LINE LIST
13. ALL INSTRUMENTS TO BE VENTED OUTSIDE AT A MINIMUM OF 1M ABOVE EAVE HEIGHT

ELECTRICAL NOTES:

1. ELECTRICAL BY OTHERS

REV. NO.	DATE	REVISION	BY	APP'D
A	12/04/13	ISSUED FOR APPROVAL	JAH	CLIENT
0	12/20/13	ISSUED FOR FABRICATION	JAH	JAM
1	04/01/14	AS BUILT	JAH	

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Welding & Manufacturing Ltd.
BOX 6106
5815 37 Street
INNISFAIL, AB
CANADA
403-227-7799
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CANADIAN NATURAL RESOURCES LIMITED
SADDLE HILLS BATTERY GROUP SEPARATOR (V-200) PACKAGE
P&ID

DATE: 11/26/13	SALE ORDER: 0035538		
SHEET: 1 OF 1	JOB ORDER: D2415	SIZE: D	
DRAWN BY: JAH			
PURCHASE ORDER: FC131075-10131			
LOCATION: 06-16-072-04-W6M	DRAWING NO.: D2415-001	REV.: 1	
PROJ. MANAGER: MARK ELLIOTT			

AS-BUILT

FILE PATH: M:\Maindata\CAD\Tanks\D2400-D2499\D2415\D2415-001