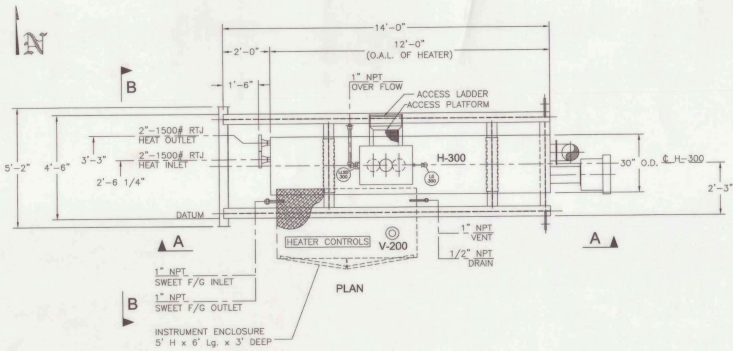
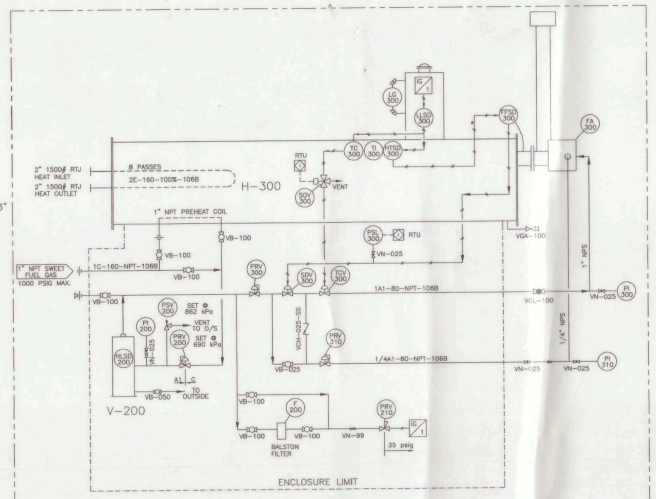
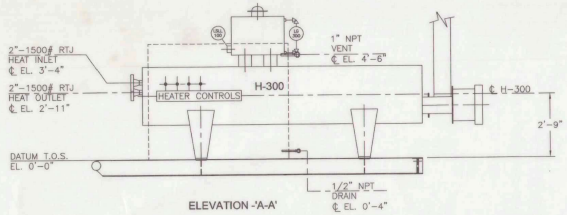




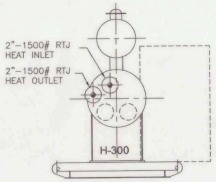
V-200
SCRUBBER SIZE: 6.625" O.D x 39" LONG
D.P.: 150 PSIG @ 150°F MODEL: OPSCO DP
SMFA 639, C.A. = 0.0625"

H-300
LINE HEATER SIZE: 30" O.D. x 12'-0" LONG, 500,000 Btu/hr
8.625" O.D. STACK AND FIRETUBE
HEAT COIL : 8 PASSES, 2" NPS Sch. 160 SMLS PIPE
D.P. : .3375 PSIG @ 200°F,
C.A = 1/16"
FUEL GAS: ONE PASS 1" Sch. 160
EXPANSION TANK : 20" O.D x 2'-3" HIGH

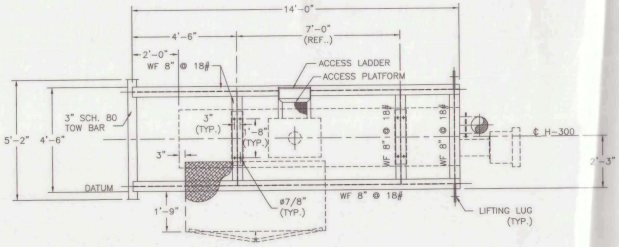
TAG	QTY	BRAND	DESCRIPTION
F-200	1	Balston	Filter, 1/4" NPT Model C8002N-0A2-DX C/W 100-12-DX Element
FA-300	1	A-Fire	A-Fire Burner System c/w Vortex Type Flame Arrestor, Firetube Liner, Firetube Energy Saver, Stack Cap, 500,000 Btu/hr, 8" Firetube.
FFSD-300	1	Kimray	Flame Failure Shut Down, Model HT12PG
HLSD-200	1	Wenco	Fuel Gas High Level Shut Down, Model FGSV-12
HTSD-300	1	Kimray	Temperature Controller, HT-12 base assembly c/w 3/4" NPT x 12" Lg C/Steel TW
LG-300	1	Penburthy	Tubular Sight Glass c/w cocks # N7A
LLSD-300	1	Wellmark	Low Level Shut Down, Model ST2TP, 0-30 psig
PI-200	1	Wika	Pressure Indicator, 1/4" NPT x 2.5" liquid filled, dual scale (0-200 psig) SS case
PI-300	1	Wika	Pressure Indicator,1/4" NPT x 2.5" liquid filled, dual scale (0-30 psig) SS case
PI-310	1	Wika	Pressure Indicator,1/4" NPT x 2.5" liquid filled, dual scale (0-15 psig) SS case
PRV-200	1	Fisher	Regulator, 1" NPT Model 627, Steel Body,100 psig set spring, 1/8" Port,Nylon Trim
PRV-210	1	Fisher	Regulator, 1/4" NPT Model 67CFR, 35 psig set spring
PRV-300	1	Fisher	Regulator, 1" NPT Model 627, Steel Body, 5-15 psig spring, 3/16" port,Nitrile Trim
PRV-310	1	Fisher	Regulator, Model 67CFR, 1/4" NPT, 5 psig
PSL-300	1	Asco	Pressure Switch, 3-port, STD Service, 24 VDC,XP, set @ 10 psig Falling, Model SB12D/TE10A11
PSV-200	1	Farris	Relief Valve, 1" x 1" NPT Model 27DA33-M20, set @ 125 psig
SDV-300	1	Kimray	Motor Valve, 1" NPT Model 112 SMT-DAB, CI body
SOV-300	1	Asco	Solenoid Valve, 3-port, STD Service 24vdc, XP Model EF8314G-301-24, 100 psig MWP
TC-300	1	Kimray	Temperature Controller, HT-12 base assembly c/w 3/4" NPT x 12" Lg C/Steel TW
TCV-300	1	Kimray	Motor Valve, 1" NPT Model 112 SMT-DAB, CI body
TI-300	1	Trend	Temperature Indicator, 1/2" x 3" dual scale (-20 to +120 deg C) c/w 3/4" NPT x 6" Lg SS Thermowell
VB-050	1	Navco	Ball Valve, 1/2" NPT Regular Port, 2000 psig WOG
VB-025	1	Navco	Ball Valve, 1/4" NPT Regular Port, 2000 psig WOG
VB-100	7	Navco	Ball Valve, 1" NPT Regular Port, 2000 psig WOG
VCH-025-SS	1	Nupro	Check Valve, 1/4" NPT, SS body, SS-4CP2-1
VGA-100	1	Navco	Gate Valve, 1" NPT, class 800
VGL-100	1	Navco	Globe Valve, 1" NPT, class 800
VN-025	5	Agco	Needle Valve, 1/4" NPT Model H1VDC-22 MXF
VN-99	1	Agco	Mini Valve, Model H5RDC -2 F X F



ELEVATION -'A-A'



ELEVATION -'B-B'



SKID STRUCTURAL LAYOUT

SKID : OPSCO Standard skid c/w 3/16" checker plate within enclosure limits.
SIZE : 4'-6" wide x 14'-0" long c/w 1-Tow bar & TWO (2) lifting lugs.
ENCLOSURE: 5'-0" high x 6'-0" long x 3'-0" deep c/w Dual doors,deadbolt & padlock hasp

GENERAL NOTES:

1. No of Units req'd: ONE (1)
2. Materials shown for one Unit only
3. Welded piping to be: See Line Specs. on P&ID
4. All Threaded Piping to be: See Table below
5. All Welded Fittings to be: See Line Specs. on P&ID
6. All Forged Steel fittings to be: See Table below

7/8. Unit to be designed / hydrotested as follows:

PIPING

* SPEC.	SERVICE	DESIGN	NPT PIPING	F.S. FITTINGS	STRESS RELIEF	HYDROTEST/ARTEST @ ROOM TEMP.
A1:	SWEET	100 PSIG @ 110° F	SEE LINE SPEC.	SA-105N, 3000#	SEE LINE SPEC.	110 PSIG (AT)
C:	SWEET	1480 PSIG @ 200° F	SEE LINE SPEC.	SA-105N, 3000#	SEE LINE SPEC.	2220 PSIG (HT)

* Use SA-350-LF2 for Low Temp F.S. Fittings & SA-333 for Low Temp. NPT Piping

VESSEL

TAG #	MAWP	HYDROTEST @ ROOM TEMP.	STRESS RELIEF
V-200	150 PSIG @ 150° F	225 PSIG	NO

HEATER COIL

* SPEC.	SERVICE	DESIGN	STRESS RELIEF	HYDROTEST @ ROOM TEMP.
C:	F/G PREHEAT	1480 PSIG @ 200° F	SEE LINE SPEC.	2220 PSIG
E:	HEAT	3375 PSIG @ 200° F	SEE LINE SPEC.	5558 PSIG

9. Unit to be commercially sandblasted to SSPC-SP-6 and shop-primed with: ONE (1) coat CLOVA PRIME 21 (83021)
10. Finish Paint: ONE(1) coat CLOVERDALE GREY # 416 on main piping & vessel with skid CLOVERDALE BLUE # 409 on structural steel (exluding supports) stock: high temperature aluminum
11. Underskid Insulation: 1" Thk. fire retardant urethane foam on underside of floor within building limits.
12. Radiography on Piping welding to be: See Line Specs on P&ID
13. OPSCO standard pipe supports, as required.
14. Unless specified otherwise, all projections beyond building wall to be: AS SHOWN
15. Dimensions may change to reflect customer requests, layout changes, accessibility and non-conformity of OEM supplied components.
16. Stress Relieving Details: See Line Specs on P&ID
17. XP electrical hook-up of Catalytic Heaters: N/A
18. Other Electrical Work: N/A
19. All bleeding type of instruments with bleed ports (excluding diaphragms & regulator bonnets) to be vented to skid-edge.
20. Tubing Details:

SERVICE	SIZE	TUBE	WT	FITTINGS	FERRULES
ALL TUBING	3/8"	SS	0.035"	SS	SS

UNIT-1-AREA: SMOKY, LSD: 5-19

Z:\L\4058L.dwg

OPSCO STANDARD WELDED PIPELINE DESIGNATION SYSTEM
OPTIONAL: LEAVE OUT UNLESS NEEDED
EXAMPLE: 6B - 40 - 10% - 106B - HT - [ ]
LINE SIZE (NPS) — ANSI CLASS: A=150 B=300 C=600 D=900 E=1500 F=2500 — PIPE SCHEDULE — X-RAY — MATERIAL SPEC. — STRESS REL. — OTHER NDT

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No.	DATE	REVISIONS	BY	APP	No.	DATE	REVISIONS	BY	APP
0	Dec. 19, 2003	ISSUED FOR APPROVAL	T.V.						
1	Dec. 22, 2003	ISSUED FOR CONSTRUCTION	T.V.						
2	Mar. 03, 2004	AS BUILT	T.V.						

ENGINEERS RECORD		DATE
DRAWN BY	TOAN VAN	Dec. 17, 2003
CHECKED BY		
APPD. BY		
ISSUED TO SHOP		

OPSCO

CLIENT: DEVON CANADA C/O GAS LIQUID ENG.
PROJECT: SWEET LINE HEATER 500,000 BTU/HR
TITLE: FLOW DIAGRAM, PIPING LAYOUT, & SKID LAYOUT
Scale 1"=30" | JOB No. JM-03-4058 | DWG. No. L-03-4058-2116 | REV. 2