



TAG #s	QTY	DESCRIPTION
ESDV 400	1	1" NPT Kimray 130 SMT DA-D motor valve, P.O., 316 S.S. trim, ductile iron body, 300 psi MAWP, Sour Service
FE 400	1	3" 600# RF North Star Senior orifice fitting, Nace, c/w 3" Sch 80 AGA 3C meter run, flanged outer ends, (1) 1/2" 3000#, (1) 3/4" 3000#, and (1) 1" 3000# TOL downstream connections
FFSD/BE 400	1	Profile 1100 Burner System c/w enclosure, coil, pilot bracket and type k probe and electrode
FI 500	1	1/4" NPT Muis Control 7101-3810-07A armored 316L metal tube rotameter, Sour Service
HLSD 200	1	Lowres and Gauges LG12 2" NPT internal high level shutdown valve
HTSD 400	1	Kimray T-12-DA pneumatic temperature controller, 5-30 psi supply, indirect acting, cast iron body, tapped vent, 400 deg. F range, Sour Service
LC 200	1	Fisher L2 snap acting liquid level controller, 2" NPT connection, vertical PVC displacer
LG 200	1	Perberty 1RM4-NACE reflex level gauge, 6 3/4" visible c/w 3/4" NPT 330J-NACE gauge valves
LG 300/301	2	Lowres and Gauges SG488C calibrated rad/level gauge
LG 400	1	Perberty N7A 1/2" M.L. gauge valves c/w 5/8" Redline gauge glass
LLSD 400	1	Wellmark ST21P low pressure pneumatic level switch, 2" NPT process connection
LY 200	1	1/4" NPT Fisher 167A switching valve c/w 18-30 psi spring range
MVT 100	1	Control Microsystem 4101-DM22FD10-C-N Modbus multivariable transmitter, Nace, 0-300" H2O diff. Press., 30-1500 psi absolute press., digital RS-485 w/ modbus protocol c/w 298053 rtd temp sensor, 3/4" npt 316SS thermowell, 5TIS-4FLG S-valve manifold
MTN 100	1	
PCV 201	1	1" NPT Fisher 627 regulator, steel body, 70-150 psi range, 3/32" S.S. trim, nylon disk, Sour Service
PCV 300/301/302/303	4	1/4" NPT Fisher 67 CFR regulator, 0-35 psi range, tapped vent, std.
PCV 304/305/306/307	4	1/4" NPT Fisher 67 CFR regulator, 0-100 psi range, Nace
PCV 400	1	1" NPT Fisher 627 regulator, steel body, 5-20 psi range, 1/4" S.S. trim, Sour Service
PCV 401	1	1/4" NPT Fisher 67 CFR regulator, 0-35 psi range, Nace
PI 100	1	0-5000 psi, 4" face, dual scale, S.S., L.F., 1/2" L.M., Nuova Fima 18/3A-425, Sour Service
PI 101	1	0-3000 psi, 4" face, dual scale, S.S., L.F., 1/2" L.M., Nuova Fima 18/3A-423, Sour Service
PI 200/201/500	3	0-200 psi, 2 1/2" face, dual scale, S.S., L.F., 1/4" L.M., Nuova Fima 18/3A-214, Sour Service
PI 300/301/302/303/400/401	6	0-30 psi, 2 1/2" face, dual scale, S.S., L.F., 1/4" L.M., Nuova Fima 18/3A-210, Sour Service
PI 304/305/306/307	4	0-160 psi, 2 1/2" face, dual scale, S.S., L.F., 1/4" L.M., Nuova Fima 18/3A-214, Sour Service
PI 402	1	0-15 psi, 2 1/2" face, dual scale, S.S., L.F., 1/4" L.M., Nuova Fima 18/3A-209, Sour Service
PSHL 100	1	Fisher 4660 Hi-Lo pressure Pilot, 45-1455 psi range, K-Monel bourdon tube, Nace, set @ 1197 psig rising, 70 psig falling
PSV 200	1	1" x 1" NPT Wellmark W5501 RS relief valve set @ 150 psig, Nace primary zone
PSV 210	1	1/4" MNPT x 1/4" Swagelok Nupro SS-4R3A1-C relief valve c/w 177-R3A-K1-C spring, 750-1500 psi range, set @ 1330 psig, Sour Service
PSV 300/301	2	1/4" MNPT x 1/4" Swagelok Nupro SS-4R3A1-F relief valve c/w 177-R3A-K1-F spring, 3000-4000 psi range, set @ 3628 psig, Sour Service
PSV 302	1	1" x 1" NPT Wellmark W5501 RS relief valve set @ 60 psig, Nace primary
PT 100	1	Rosemount 20884A1MEC6 gauge pressure transmitter, (CUSTOMER SUPPLIED)
PV/PY 100	1	Willis M2 angle body choke valve, Nace, 3" 1500# RTJ inlet x 3" 1500# RTJ outlet, 2 0.75" ceramic disc trim, Dyna Flo DFN-156 pneumatic diaphragm actuator, 6-30# signal fail closed, c/w Siemens PS-2 positioner
PVSV 400	1	8" Thief Hatch, Jayco JT-8, 4.0 oz. Pressure, 0.4 oz. Vacuum, sweet service
TC 110	1	Kimray T-12 DA pneumatic temperature controller, 5-30 psi supply, indirect acting, cast iron body, tapped vent, 400 deg. F range, Sour Service
TCV 400	1	1" NPT Kimray 130 SMT DA-D motor valve, P.O., 316 S.S. trim, ductile iron body, 300 psi MAWP, Sour Service
TI 100/101/102	3	0 to 250° F, dual scale, 1/2" NPT C.B.M., bimetallic, 3" dial, 4 stem, Gaugetech GT3
TI 401	1	0 to 250° F, dual scale, 1/2" NPT C.B.M., bimetallic, 3" dial, 2 1/2 stem, Gaugetech GT3
TI/TI/TW 402	1	Rosemount type indicating temperature transmitter c/w RTD & thermowell (CUSTOMER SUPPLIED)
TSH 104	1	Kimray T-12 DA pneumatic temperature controller, 5-30 psi supply, indirect acting, cast iron body, tapped vent, 400 deg. F range, Sour Service
TW 100/101	2	1/2" x 3/4" x 4" lg 316 SS thermowell
TW 104	1	Kimray SS12SS st. steel separable socket, 3/4" MNPT x 1/2" FNPT x 12" lg
TW 110	1	Kimray SS12 steel separable socket, 3/4" MNPT x 1/2" FNPT x 12" lg
TW 400	1	Kimray SS12 steel separable socket, 1" MNPT x 1/2" FNPT x 12" lg
TW 401	1	1/2" x 3/4" x 2 1/2" lg 316 SS thermowell
TYEY 400	2	ASCO EF8314G301 3-way solenoid valve, 1/4" NPT, universal operation, 24 VDC low power, 1.4 watts
BA 60	2	2" NPT ball valve, Fusion 413-TN, 2000# WOG, Nace
BA 45	12	1" NPT ball valve, Fusion 413-TN, 2000# WOG, Nace
BA 35	4	3/4" NPT ball valve, Fusion 413-TN, 2000# WOG, Nace
BA 25	13	1/2" NPT ball valve, Fusion 413-TN, 2000# WOG, Nace
BA 15	10	1/4" NPT ball valve, Fusion 413-TN, 2000# WOG, Nace
CH 46	1	1" NPT piston check valve, RP Navco CP-R10S08A12, Nace, class 800
CH 45	1	1" NPT swing check valve, RP DSI #4421, Nace, class 800
CH 16	1	1/4" NPT piston check valve, Nupro SS-4CP2-1, 3000 psi MAWP, Sour Service
CH 15	4	1/4" NPT piston check valve, Nupro SS-4CP2-1, 3000 psi MAWP, Sour Service
NE 35	3	3/4" x 1/2" NPT needle valve, Century CM7-2-M64-T-BA, C.S., Nace
NE 25	5	1/2" NPT needle valve, Century CM2-2-F44T-B-A, C.S., Nace
NE 15	10	1/4" NPT needle valve, Century CM2-2-F22T-B-A, Nace
ST 35	1	3/4" NPT Y-strainer, Alberta Strainer, YS-800, Nace
ST 25	3	1/2" NPT Y-strainer, Alberta Strainer, YS-800, Nace
H 700	1	24,000 BTU/HR Catadyne heater, 12 volt start c/w regulator, vent hood, thermostat, s.s.o.v. protection grill and 30 ft. of battery leads. (propane gas)
P 200	1	Texteam MX31-1 pump c/w 1/4" plunger, single head
P 300/301	2	Texteam MX31-1 pump c/w 1/4" plunger, single head
P 302	1	1/2" NPT Versa-matic ESAP6X669 heat trace pump

(15) REQ'D  
TIME CARD  
C-2123-PP

NOTES:  
- ALL TUBING TO BE WELDED, 304 SS, 0.035" WT FOR INSTRUMENT, 600 ANSI 0.049" WT WELLHEAD, 1500 ANSI C/W 316 SS SWAGelok TUBE FITTINGS.  
- USE 1/2" OD x 0.049" W.T. TUBING FOR MVT-100 HOOK-UP

REV	DESCRIPTION	DATE	BY
1	REVISED AS NOTED BY CUSTOMER	12/23/03	J.J.
2	DELETE F.G. DRAIN LINE TO SOUR VENT; REVISED AS PER CUSTOMER'S REQUEST	01/16/04	J.J.
3	SPECIFY TRIM SERVICE ON THE MATERIALS LIST, ADDED PT-100, TT-402, PI-402 & 1/2" BALL VALVE ON FGS DRAIN, REVISE VENTING	02/03/04	J.J.
4	VENT P-302 o/s BLDG; REVISED CH-15 TO NUPRO MODEL SS-CHM4-1; REVISED STRAINER DRAIN VALVE GA-25 TO BALL VALVE (BA-25); ADDED STRAINER c/w DRAIN VALVE ON V-200 DRAIN LINE	02/27/04	J.J.
5	ADDED LINE FROM PROPANE TO F.G. SUPPLY c/w ISOLATION VALVE; REVISED AS PER BUILT	03/02/04	J.J.
6	REVISED ELECTRICAL SIGNAL TAGGING TO RTU	03/10/04	J.J.



CUSTOMER:	APACHE CANADA LTD.	LOCATION:	14 - MISSLE
PROJECT:	IMV PROJECTS INC.		1 - HAMBURG
<b>MECHANICAL FLOW DIAGRAM</b>			
500,000 BTU/HR LINEHEATER SKID PACKAGE (SOUR)			
(TYPE "B")			
DATE:	DRN BY:	SCALE:	CHKD BY:
12/02/03	J.J.	NTS	CB
APPROV:	APPROV:	APPROV:	APPROV:
CB	CB	CB	CB
DWG NO:	C-2123-C	REV:	6