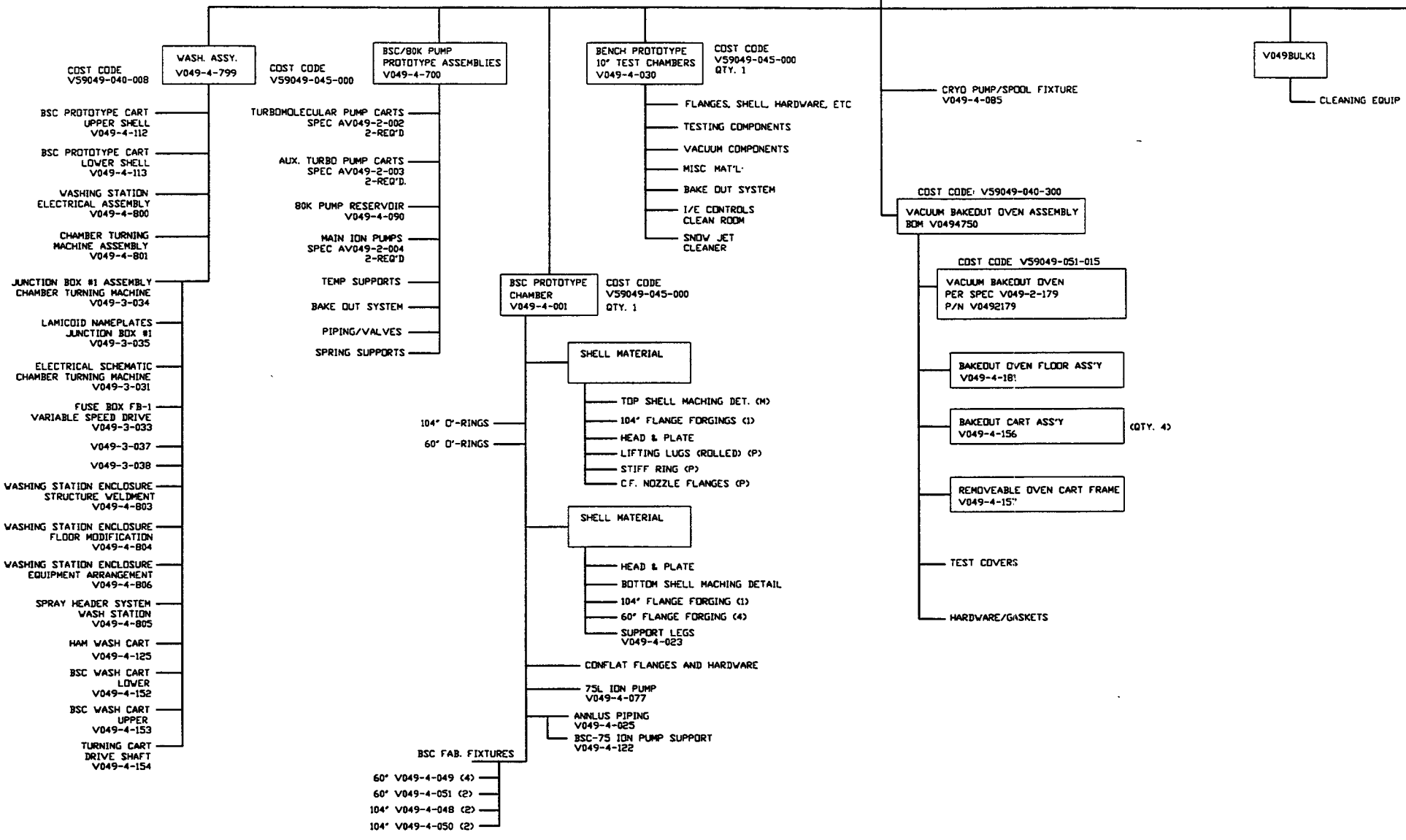


CONT. ON  
SHT 2 OF 3

LIGO PROJECT PARENT  
VS9049



**PROPRIETARY AND CONFIDENTIAL**  
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DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION
	REFERENCE DRAWINGS		

REV	DESCRIPTION	CHKD	DRWN	DATE	DESN
1	RELEASED FOR FABRICATION / CONSTRUCTION			06/27/97	0365
0	RELEASED FOR FABRICATION		PV	12/12/96	

**PROCESS SYSTEMS INTERNATIONAL, INC.**  
20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA

**DRAWING TREE / BOM STRUCTURE**  
**GENERAL PROJECT**  
**LIGO VACUUM EQUIPMENT**

CAD FILE: V0490100/0100S1  
SIZE: D  
DWG. NO.: V049-0-100  
REV: 1

SCALE: NONE  
SHEET: 1 OF 3

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES  
TOLERANCES:  
FRACTIONAL ±  
ANGULAR/CHAMF 40°-90° BEND ±2°  
TWO PLACE DECIMAL ±.01  
THREE PLACE DECIMAL ±.005  
FINISHED SURFACE DIMS  
BREAK CORNERS DR. OUT.  
REMOVE ALL BURRS

DO NOT SCALE THIS DRAWING

USED ON: NEXT ASS'Y:

LIGO PROJECT PARENT  
V59049

WASHINGTON SITE  
PACKING LIST  
P/L V049-1-150

SHIP DATE

INSTALLATION DOCUMENT LIST V049-0-000  
1/E GEN NOTES, LEGEND, DRAWING LIST V049-3-001

BSC COST ACCT NO. V59049-041-000

HAM COST. ACCOUNT NO. V59049-042-000

COST ACCT NO. V59049-043-000

COST. ACCOUNT V59049-044-000

VENDOR SHIPMENTS  
TO WASHINGTON SITE  
PL V049-100SE

PSI ITEMS SHIPPED LOOSE  
TO WASHINGTON SITE  
P/L V049VA

CORNER STATION  
AREA 100  
V049100VA

BSC SHIPPING ASSEMBLY  
VWSC2.4 (NO COVERS)  
V049-4-304 QTY 2

HAM SHIPPING ASSY  
WHAM L6.7J2 (WITH A4 COVER)  
V049-4-309 QTY 4

BOK CRYOPUMP SHORT SHIPPING ASSY  
TAG WCP4, WCP5, WCP8 V049-4-315 RIGHT HAND  
QTY. 3

P/L BEAM TUBE MANIFOLDS  
AND ADAPTER ASSYS.  
P/L V049-4-900 QTY. 1

- LARGE GATE VALVES  
SPEC AV049-2-005  
44"= 122CM=16 REQ'D.  
48"= 122CM=4 REQ'D
- AIR COOLED CHILLERS  
SPEC AV049-2-054  
V049RC-1 QTY.1  
V049RC-2 QTY.1  
V049TC-1 QTY.1  
V049TC-2 QTY.1  
V049TC-3 QTY.1  
V049TC-4 QTY.1
- GATE VALVES  
10" P/N V0492006P2 (QTY. )  
14" P/N V0492006P3 (QTY. )
- LN2 TANKS QTY 2  
CORNER STATIONS
- LN2 TANKS QTY. 6  
MID & END STATIONS
- PIPE BRIDGE  
V049-4-043
- AMBIENT VAPORIZER  
25000 SCFH 2 REQ'D.
- AMBIENT VAPORIZER  
10000 SCFH 6 REQ'D
- AIR COMPRESSOR SKID  
50 CFM 4 REQ'D.
- AIR COMPRESSOR SKID  
200 CFM 1 REQ'D.
- SOFT WALL PANELS [FOR QUANTITIES  
SEE SPECS]
- V0492144P1-HAM
- V0492145P1-BSC STYLE I
- V0492145P2-BSC STYLE III
- V0492145P3-BSC STYLE III

- V049-4-145 LN2 TANK TEMPLATE
- P/N 203571 S/S STUDS FOR BLANKETS (QTY 3500)
- LEFT MID STATION  
AREA 200  
V049200VA
- V0491151 GATE VLV 25 IDN PUMP/TUBING ASSY.(QTY2)
- V0491151G1 GATE VLV 25 IDN PUMP/TUBING ASSY.(QTY2)
- P/N V0492004 MAIN IDN PUMP (QTY.1)
- V049-4-011G2 TURBO CART ASSY.(QTY.1)
- P/N V0492003 AUX TURBO PUMP CART
- V049-4-168 50 CFM BACK TO AIR CART
- V049-4-176 BOK REGEN HTR (QTY.2)
- SMALL VALVES  
KF25 V049M655 VACUUM LOCK (QTY.1)
- V049-4-210 BSC INSTALL. KIT (QTY.1)
- V049-4-077 75 L/S IDN PUMP KIT
- V049-4-045 RGA/AUX.TURBO CDNN ASSY
- V049-4-046 RGA/AUX.TURBO/GP. ASSY
- V0494212 BOK PUMP INSTALL. KIT(QTY.2)
- V0492138P1 RUPTURE DISC ASSY.
- V0494213 BEAM SPOOL INSTALL. KIT
- INSTRUMENTS  
BAKEDOUT CARTS & BLANKETS
- V049-4-133G3 BSC CLN ROOM STYLE NO.1 (QTY.1)
- P/N V0492157P1 4X6X8 GOV.N RM. (QTY.1)
- IDN PUMP CONTROL CABINETS
- HARDWARE
- SPARE PARTS

- V0491151 GATE VLV 25 IDN PUMP/TUBING ASSY.(QTY2)
- V0491151G1 GATE VLV 25 IDN PUMP/TUBING ASSY.(QTY2)
- P/N V0492004 MAIN IDN PUMP (QTY. 8)
- V049-4-036 BSC FLOOR (QTY 4)
- V049-4-010 ROUGH. CART ASSY.(QTY.2)
- V049-4-011G1 TURBO CART ASSY.(QTY.1)
- V049-4-011G2 TURBO CART ASSY.(QTY.1)
- P/N V0492003 AUX TURBO PUMP CART (QTY.2)
- V049-4-175 100CFM BACK TO AIR CART
- V049-4-078 75L/S IDN PUMP ASSY. (QTY.2)
- V049-4-177 BOK REGEN HTR. (QTY.2)
- 6" GATE VLV P/N V0492006P1 (QTY.4)
- KF25 V049M655 VACUUM LOCK (QTY.1)
- V049-4-077 75 L/S IDN PUMP KIT
- V049-4-045 RGA/AUX.TURBO CDNN ASSY
- V049-4-046 RGA/AUX.TURBO/GP. ASSY
- V049-4-210G1 BSC INSTALL. KIT (QTY.2)
- V049-4-077 PUMP
- V049-4-045 RGA/AUX TURBO
- V0494211 HAM INSTALL. KIT (QTY.12)
- IDN PUMPS/ VALVES/HARDWARE
- V0494212 BOK PUMP INSTALL. KIT(QTY.2)
- V0492138P1 RUPTURE DISC ASSY.
- V0494213 BEAM SPOOL INSTALL. KIT
- INSTRUMENTS  
BAKEDOUT CARTS V049-3-045  
BAKEDOUT BLANKETS
- V049-4-133G3 BSC CLN ROOM STYLE NO.1 (QTY.1)
- V049-4-135 BSC CLN ROOM STYLE NO.2 (QTY.1)
- V049-4-136 HAM CLN ROOM (QTY.1)
- P/N V0492157P2 4X8X8 GOV.N RM. (QTY.1)
- IDN PUMP CONTROL CABINETS
- HARDWARE
- SPARE PARTS

- BSC SHIPPING SKID V049-4-199
- 60" SHIP COVERS V049-4-080G4H (4 REQ'D)
- BSC AIR FILTER ASSY V049-4-204
- BSC TEST ASSEMBLY  
(READY FOR TESTING /BAKEDOUT )  
V049-4-104
- 60" TEST COVER V049-4-192 DR 014 (4 REQ'D)
- 16 1/2" REDUCING FLANGE V049-4-142P1
- 16 1/2" REDUCING FLANGE V049-4-142P2
- CONFLAT FLANGES / HARDWARE
- BSC OVERALL ASSEMBLY  
(READY FOR WASHING )  
V049-4-101
- BSC SUPPORT ASSEMBLY V049-4-023
- 75L IDN PUMP SUPPORT-V049-4-122
- ANNULUS TUBING V049-4-025
- SUPPORT FOR ANNULUS HDR. V049-4-203
- BSC FLOOR ASSY. V049-4-036 (FIT-UP ONLY)
- WASH CART/RING (CLOVER SHELL) V049-4-152
- WASH CART/RING (CUPPER SHELL) V049-4-153
- BSC SHELL WELDMENT/MACHINING ASSEMBLY  
V049-4-003 (VENDOR)
- BSC SHIPPING ASSEMBLY  
VWSC3.6 (2-COVERS)  
V049-4-302G1 QTY 2
- 10" OD CONFLAT BLANK FOR TEST PORT
- BSC SHIPPING SKID V049-4-199
- 60" SHIP COVERS V049-4-080G4H (2 REQ'D)
- BSC AIR FILTER ASSY V049-4-204
- BSC TEST ASSEMBLY  
(READY FOR TESTING /BAKEDOUT )  
V049-4-106G1
- 60" TEST COVER V049-4-192 DR 014 (2 REQ'D)
- 60" COVER V049-4-014 QTY.2
- 16 1/2" REDUCING FLANGE V049-4-142P1
- 16 1/2" REDUCING FLANGE V049-4-142P2
- CONFLAT FLANGES / HARDWARE
- BSC OVERALL ASSEMBLY  
(READY FOR WASHING )  
V049-4-101
- BSC SUPPORT ASSEMBLY V049-4-023
- 75L IDN PUMP SUPPORT-V049-4-122
- ANNULUS TUBING V049-4-025
- SUPPORT FOR ANNULUS HDR. V049-4-203
- BSC FLOOR ASSY. V049-4-036 (FIT-UP ONLY)
- WASH CART/RING (CLOVER SHELL) V049-4-152
- WASH CART/RING (CUPPER SHELL) V049-4-153
- BSC SHELL WELDMENT/MACHINING ASSEMBLY  
V049-4-003 (VENDOR)

- 60" SHIPPING COVER V049-4-059G4
- 10"OD CONFLAT BLANK FOR TEST PORT
- HAM TEST/BAKE ASSY.  
(WITH A4 END COVER)  
V049-4-009
- 60" HAM COVER-GROOVED V049-4-4A
- 60" TEST COVER V049-4-192 DR 014
- CONFLAT BLANKS/ HARDWARE
- 16 1/2"OD REDUCING FLANGE V049-4-142P2
- 84 1/4" ACCESS COVER V049-4-127 QTY. 2
- HAM OVERALL ASSEMBLY  
(READY FOR WASHING )  
V049-4-002
- HAM WASH CART V049-4-125
- HAM FLANGE/ANNULUS TUBING ASSY.  
V049-4-054
- ANNULUS TUBE SUPPORT V049-4-206
- HAM ANNULUS FLEX HOSE V049-4-129
- HAM 75 IDN PUMP SUPPORT V049-4-123
- HAM TIE ROD ASSY V049-4-040
- 60" BELLOWS V049-4-053
- HAM SUPPORT SADDLE V049-4-052 QTY. 2
- 60" FLANGE-GROOVE V049-4-031
- 60" FLANGE-FLAT FACE V049-4-032
- 84" FLANGE-GROOVED V049-4-021 QTY. 2
- HAM SHELL WELDMENT ASSY. V049-4-128
- V0494128P3-14 SHELL 84.25 I.D.
- V0494128P11-14 SHELL 60.5 I.D.
- HAM SHIPPING ASSY  
WHAM 2, 3, 4, 5, 6, 9, 10, 11 & SPARE  
V049-4-313 QTY. 9
- 60" SHIPPING COVER V049-4-059G4
- 60" SHIPPING COVER V049-4-080G4H
- 10"OD CONFLAT BLANK FOR TEST PORT
- HAM TEST / BAKE ASSY.  
( WITH 2 TEST COVERS )  
V049-4-013
- CONFLAT BLANKS/HARDWARE
- 84 1/4" ACCESS COVER V049-4-127 QTY. 2
- 60" TEST COVER (GROOVED) V049-4-190 DR A4
- 60" TEST COVER (FLAT FACE) V049-4-192 DR 014
- 16 1/2"OD REDUCING FLANGE V049-4-142P2
- HORIZONTAL ACCESS MODULE ASSY.  
(READY FOR WASHING )  
V049-4-002
- HAM WASH CART V049-4-125
- HAM FLANGE/ANNULUS TUBING ASSY.  
V049-4-054
- ANNULUS TUBE SUPPORT V049-4-206
- HAM ANNULUS FLEX HOSE V049-4-129
- HAM 75 IDN PUMP SUPPORT V049-4-123
- HAM TIE ROD ASSY V049-4-040
- 60" BELLOWS V049-4-053
- HAM SUPPORT SADDLE V049-4-052 QTY. 2
- 60" FLANGE-GROOVE V049-4-031
- 60" FLANGE-FLAT FACE V049-4-032
- 84" FLANGE-GROOVED V049-4-021 QTY. 2
- HAM SHELL WELDMENT ASSY. V049-4-128
- V0494128P3-14 SHELL 84.25 I.D.
- V0494128P11-14 SHELL 60.5 I.D.

- 44 1/4" SHIPPING COVER V049-4-059G1
- BOK CRYO PUMP SHORT ASSY. V049-4-005
- 44" TEST COVER V049-4-188 QTY=0
- 3/4" O.D. ELBOW ANNULUS TUBE CDNN. V049-4-061
- BOK PUMP 2" JACKET LINE V049-4-161
- HEAD/NOZZLE V049-4-146 P2
- BOK SHORT-LEG ASSY. V049-4-141
- 44 1/4" I.D. TEST COVER V049-4-188
- 44 1/4" I.D. FLG. V049-4-017
- 44 5/8" I.D. FLG. V049-4-132
- BOK SHORT-SHIELD ASSY V049-4-117 G1
- BOK SHORT-RESERVOIR SUPPRTS V049-4-094
- BOK SHORT-VESSEL WELDMENT V049-4-121
- SHELL 80" O.D. V049M975
- HEAD/NOZZLE V049-4-146 P3
- SHIELD SUPPORT V049-4-148
- BOK PUMP-RESERVOIR SHORT RIGHT V049-4-090
- BOK CRYOPUMP SHORT SHIPPING ASSY. QTY 3  
TAG WCP3, WCP6, WCP7 V049-4-317 LEFT HAND
- 44 1/4" SHIPPING COVER V049-4-059G1
- BOK CRYO PUMP SHORT ASSY. V049-4-007
- 44" TEST COVER V049-4-188 QTY=0
- 3/4" O.D. ELBOW ANNULUS TUBE CDNN. V049-4-061
- BOK PUMP 2" JACKET LINE V049-4-161
- HEAD/NOZZLE V049-4-147 P2
- BOK SHORT-LEG ASSY V049-4-141
- 44 1/4" I.D. FLG. V049-4-017
- 44 5/8" I.D. FLG. V049-4-132
- BOK SHORT-SHIELD ASSY. V049-4-117 G2
- BOK SHORT-RESERVOIR SUPPRTS V049-4-094
- BOK SHORT-VESSEL WELDMENT V049-4-120
- SHELL 80" O.D. V049M975
- HEAD/NOZZLE V049-4-147 P3
- SHIELD SUPPORT V049-4-148
- BOK PUMP-RESERVOIR SHORT LEFT V049-4-091
- BOK CRYOPUMP LONG SHIPPING ASSY. QTY. 1  
TAG WCP1 V049-4-314 LEFT HAND
- 44 1/4" SHIPPING COVER V049-4-059G1
- BOK CRYO PUMP LONG ASSY. V049-4-004
- 44" TEST COVER V049-4-188 QTY=0
- 3/4" O.D. ELBOW ANNULUS TUBE CDNN. V049-4-061
- HEAD/NOZZLE V049-4-146 P2
- BOK LONG-LEG ASSY. V049-4-140
- PS-5 SUPPORT PLATE V049-4-076
- 44 1/4" I.D. FLG. V049-4-017
- 44 5/8" I.D. FLG. V049-4-132
- BOK LONG-SHIELD ASSY. V049-4-114 G1
- BOK LONG-RESERVOIR SUPPRTS V049-4-095
- BOK LONG-VESSEL WELDMENT V049-4-118
- HEAD/NOZZLE V049-4-146 P3
- SHELL 80" O.D. V049M973
- SHELL 80" O.D. V049M974
- SHIELD SUPPORT V049-4-148
- BOK PUMP-RESERVOIR LONG LEFT V049-4-092

- 44 1/4" SHIPPING COVER V049-4-059G1
- BOK CRYO PUMP LONG ASSY. V049-4-006
- 44" TEST COVER V049-4-188 QTY=0
- 3/4" O.D. ELBOW ANNULUS TUBE CDNN. V049-4-061
- BOK PUMP 2" JACKET LINE V049-4-161
- HEAD/NOZZLE V049-4-147 P2
- BOK LONG-LEG ASSY. V049-4-140
- PS-5 SUPPORT PLATE V049-4-076
- 44 1/4" I.D. FLG. V049-4-017
- 44 5/8" I.D. FLG. V049-4-132
- BOK LONG-SHIELD ASSY. V049-4-114 G2
- BOK LONG-RESERVOIR SUPPRTS V049-4-095
- BOK LONG-VESSEL WELDMENT V049-4-119
- HEAD/NOZZLE V049-4-147 P3
- SHELL 80" O.D. V049M973
- SHELL 80" O.D. V049M974
- SHIELD SUPPORT V049-4-148
- BOK PUMP-RESERVOIR LONG RIGHT V049-4-093

- VJ PIPING SPEC V049-2-016
- P/N V0492016SK-1 QTY.2
- P/N V0492016SK-2 QTY.6
- BAKEDOUT BLANKETS (PARTIAL ORDER)
- V0493017 QTY.1 HEATER CABLE EXT. CABLES
- V0493018 QTY.1 TYPE "J" THERMOCOUPLE
- EXTENSION CABLES

- RIGHT END STATION  
AREA 500  
V049500VA
- V0491151 GATE VLV 25 IDN PUMP/TUBING ASSY.(QTY1)
- V0491151G1 GATE VLV 25 IDN PUMP/TUBING ASSY.(QTY1)
- P/N V0492004 MAIN IDN PUMP (QTY.1)
- V049-4-011G2 TURBO CART ASSY.(QTY.1)
- P/N V0492003 AUX TURBO PUMP CART
- V049-4-168 50 CFM BACK TO AIR CART
- V049-4-176 BOK REGEN HTR. (QTY.1)
- VALVES  
KF25 V049M655 VACUUM LOCK (QTY.1)
- V049-4-210 BSC INSTALL. KIT (QTY.1)
- V049-4-077 75 L/S IDN PUMP KIT
- V049-4-045 RGA/AUX.TURBO CDNN ASSY
- V049-4-046 RGA/AUX.TURBO/GP. ASSY
- V0494212 BOK PUMP INSTALL. KIT(QTY.2)
- V0492138P1 RUPTURE DISC ASSY.
- V0494213 BEAM SPOOL INSTALL. KIT
- INSTRUMENTS  
BAKEDOUT CARTS & BLANKETS
- V049-4-133G3 BSC CLN ROOM STYLE NO.1 (QTY.1)
- P/N V0492157P1 4X6X8 GOV.N RM. (QTY.1)
- IDN PUMP CONTROL CABINETS
- HARDWARE
- SPARE PARTS

- BSC SHIPPING ASSEMBLY  
VWSC7.9 (1 COVER)  
V049-4-305 QTY. 2
- 10" OD CONFLAT BLANK FOR TEST PORT
- BSC SHIPPING SKID V049-4-199
- 60" SHIP COVERS V049-4-080G4H (3 REQ'D)
- BSC AIR FILTER ASSY V049-4-204
- BSC TEST ASSEMBLY  
(READY FOR TESTING /BAKEDOUT )  
V049-4-105
- 60" TEST COVER V049-4-192 DR 014 (3 REQ'D)
- 60" COVER V049-4-014 QTY.2
- 16 1/2" REDUCING FLANGE V049-4-142P1
- 16 1/2" REDUCING FLANGE V049-4-142P2
- CONFLAT FLANGES / HARDWARE
- BSC OVERALL ASSEMBLY  
(READY FOR WASHING )  
V049-4-101
- BSC SUPPORT ASSEMBLY V049-4-023
- 75L IDN PUMP SUPPORT-V049-4-122
- ANNULUS TUBING V049-4-025
- SUPPORT FOR ANNULUS HDR. V049-4-203
- BSC FLOOR ASSY. V049-4-036 (FIT-UP ONLY)
- WASH CART/RING (CLOVER SHELL) V049-4-152
- WASH CART/RING (CUPPER SHELL) V049-4-153
- BSC SHELL WELDMENT/MACHINING ASSEMBLY  
V049-4-003 (VENDOR)

- BSC SHIPPING ASSEMBLY  
VWSC9.10 (3 COVERS )  
V049-4-303 QTY 2
- 10" OD CONFLAT BLANK FOR TEST PORT
- BSC SHIPPING SKID V049-4-199
- 60" SHIP COVERS V049-4-080G4H QTY. 1
- BSC AIR FILTER ASSY V049-4-204
- BSC TEST ASSEMBLY  
(READY FOR TESTING /BAKEDOUT )  
V049-4-103
- 60" COVER V049-4-011 QTY 1
- 60" COVER V049-4-014 QTY.2
- 60" TEST COVER V049-4-192 DR 014
- 16 1/2" REDUCING FLANGE V049-4-142P1
- 16 1/2" REDUCING FLANGE V049-4-142P2
- CONFLAT FLANGES / HARDWARE
- BSC OVERALL ASSEMBLY  
(READY FOR WASHING )  
V049-4-101
- BSC SUPPORT ASSEMBLY V049-4-023
- 75L IDN PUMP SUPPORT-V049-4-122
- ANNULUS TUBING V049-4-025
- SUPPORT FOR ANNULUS HDR. V049-4-203
- BSC FLOOR ASSY. V049-4-036 (FIT-UP ONLY)
- WASH CART/RING (CLOVER SHELL) V049-4-152
- WASH CART/RING (CUPPER SHELL) V049-4-153
- BSC SHELL WELDMENT/MACHINING ASSEMBLY  
V049-4-003 (VENDOR)

- ANNULUS TUBE SUPPORT V049-4-206
- HAM ANNULUS FLEX HOSE V049-4-129
- HAM 75 IDN PUMP SUPPORT V049-4-123
- HAM TIE ROD ASSY V049-4-040
- 60" BELLOWS V049-4-053
- HAM SUPPORT SADDLE V049-4-052 QTY. 2
- 60" FLANGE-GROOVE V049-4-031
- 60" FLANGE-FLAT FACE V049-4-032
- 84" FLANGE-GROOVED V049-4-021 QTY. 2
- HAM SHELL WELDMENT ASSY. V049-4-128
- V0494128P3-14 SHELL 84.25 I.D.
- V0494128P11-14 SHELL 60.5 I.D.

- 44 1/4" SHIPPING COVER V049-4-080G4H
- BOK CRYO PUMP LONG ASSY. V049-4-006
- 44" TEST COVER V049-4-188 QTY=0
- 3/4" O.D. ELBOW ANNULUS TUBE CDNN. V049-4-061
- BOK PUMP 2" JACKET LINE V049-4-161
- HEAD/NOZZLE V049-4-147 P2
- BOK LONG-LEG ASSY. V049-4-140
- PS-5 SUPPORT PLATE V049-4-076
- 44 1/4" I.D. FLG. V049-4-017
- 44 5/8" I.D. FLG. V049-4-132
- BOK LONG-SHIELD ASSY. V049-4-114 G2
- BOK LONG-RESERVOIR SUPPRTS V049-4-095
- BOK LONG-VESSEL WELDMENT V049-4-119
- HEAD/NOZZLE V049-4-147 P3
- SHELL 80" O.D. V049M973
- SHELL 80" O.D. V049M974
- SHIELD SUPPORT V049-4-148
- BOK PUMP-RESERVOIR LONG RIGHT V049-4-093

- 44 1/4" SHIPPING COVER V049-4-080G4H
- BOK CRYO PUMP LONG ASSY. V049-4-006
- 44" TEST COVER V049-4-188 QTY=0
- 3/4" O.D. ELBOW ANNULUS TUBE CDNN. V049-4-061
- BOK PUMP 2" JACKET LINE V049-4-161
- HEAD/NOZZLE V049-4-147 P2
- BOK LONG-LEG ASSY. V049-4-140
- PS-5 SUPPORT PLATE V049-4-076
- 44 1/4" I.D. FLG. V049-4-017
- 44 5/8" I.D. FLG. V049-4-132
- BOK LONG-SHIELD ASSY. V049-4-114 G2
- BOK LONG-RESERVOIR SUPPRTS V049-4-095
- BOK LONG-VESSEL WELDMENT V049-4-119
- HEAD/NOZZLE V049-4-147 P3
- SHELL 80" O.D. V049M973
- SHELL 80" O.D. V049M974
- SHIELD SUPPORT V049-4-148
- BOK PUMP-RESERVOIR LONG RIGHT V049-4-093

SEE SHEET 1 FOR REVISIONS

**PROCESS SYSTEMS INTERNATIONAL INC.**  
20 WALKUP DR. WESTBOROUGH, MASSACHUSETTS 01581 USA

**DRAWING TREE / B.O.M. STRUCTURE**  
WASHINGTON SITE  
LIGO VACUUM EQUIPMENT

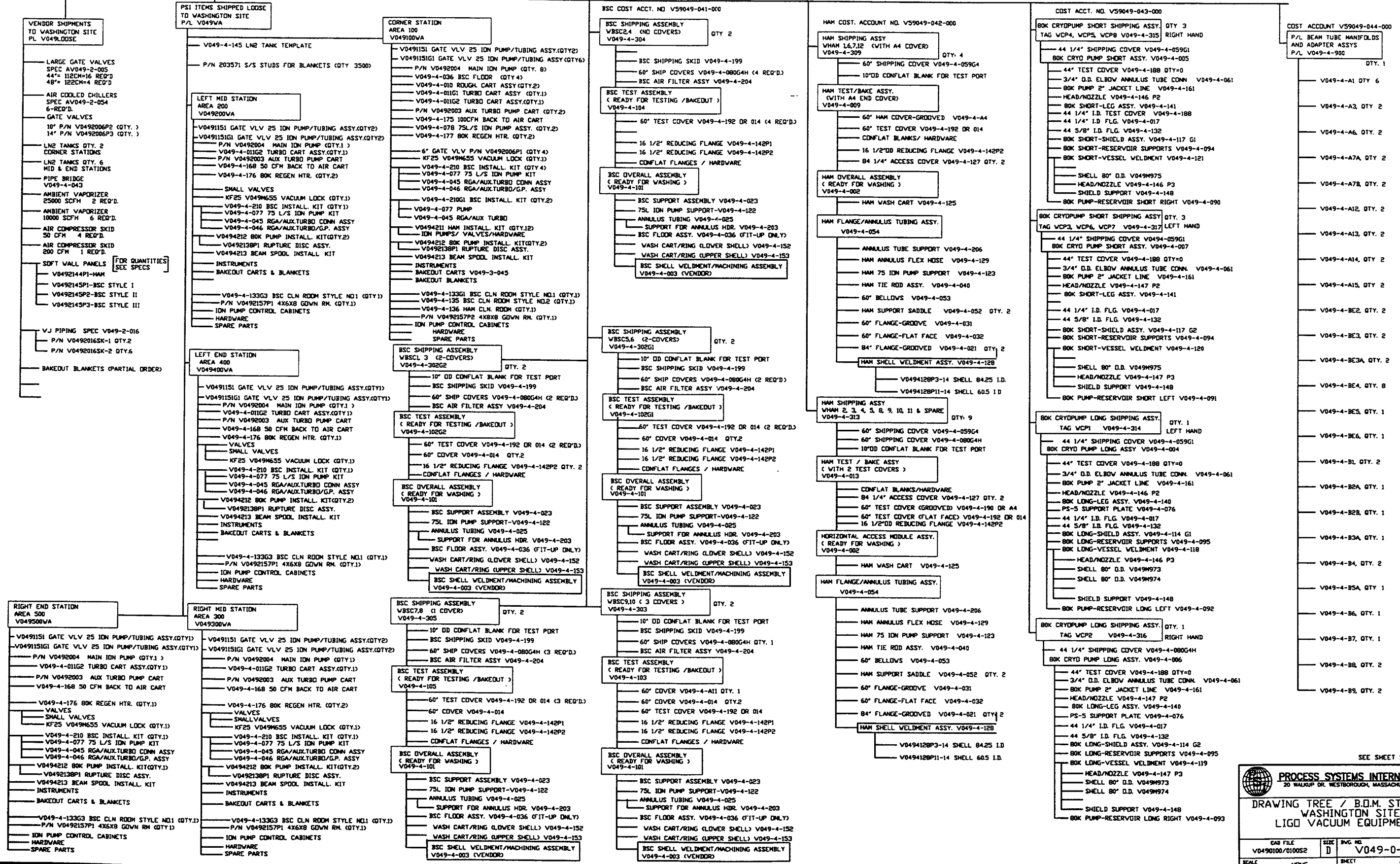
CAD FILE V0490100/0100S2	SIZE D	ING. NO. V049-0-100	REV. 1
SCALE NONE	SHEET 2 OF 3		

LIGO PROJECT PARENT  
V59049

WASHINGTON SITE  
PACKING LIST  
P/L V049-1-150

SHIP DATE

INSTALLATION DOCUMENT LIST V049-0-000  
I/E GEN. NOTES, LEGEND, DRAWING LIST V049-3-001



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SCALE NONE	SHEET 2 OF 3		

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10/27/1997