INSTALLATION DRAWING LIST

REV.	DWG. NUMBER	TITLE
		P&ID'S
2	V049-0-001	LEGEND/STATION DIAGRAMS (3 SHTS.)
2	V049-0-002	BEAM SPLITTER CHAMBER ALL BUT CORNER VERTEX ARMS
3	V049-0-003	BEAM SPLITTER CHAMBER CORNER VERTEX ARMS
3	V049-0-004	HORIZONTAL ACCESS MODULE
2	V049-0-005	112cm & 122cm GATE VALVES
6 *	V049-0-006	80K CRYOPUMP
2 *	V049-0-007	CHAMBER PRESSURIZATION SYSTEM
5	V049-0-020	LA LEFT END STATION
2	V049-0-021	LA LEFT & RIGHT MID JOINTS
4	V049-0-022	LA LEFT BEAM MANIFOLD
4	V049-0-023	LA VERTEX STATION
4	V049-0-024	LA RIGHT BEAM MANIFOLD
5	V049-0-025	LA RIGHT END STATION
4 *	V049-0-026	LA CORNER STATION MECHANICAL ROOM
		DRAWING TREE/BOM STRUCTURE
3 *	V049-0-100	GENERAL PROJECT (SHT. 1 OF 3)
3 *	V049-0-100	WASHINGTON SITE (SHT. 2 OF 3)
3 *	V049-0-100	LOUISIANA SITE (SHT. 3 OF 3)
		APPLICABLE SPECIFICATIONS
2 *	V049-2-014	LEAK CHECK PROCEDURE
3 *	V049-2-015	CLEANING PROCEDURE
0 *	V049-2-025	INSTALLATION/COMMISSIONING SPEC. LOUISIANA
0 *	V049-2-202	ELECTRICAL AND INSTRUMENT CONSTRUCTION SPEC. LA.
1	V049-2-023	PROJECT SAFETY PLAN
1	V049-2-029	PROJECT Q.A. PLAN
6 *	V049-2-037	PIPING DESIGN AND MATERIAL SPECIFICATION
4 *	V049-2-045	O-RING SPECIFICATION /5
1 *	V049-2-059	SPEC FOR SMALL VACUUM VALVES
2 *	V049-2-060	SPEC FOR CLEAN QUARTER TURN VALVES
0	V049-2-070	WELDING PROCEDURES
2	V049-2-071	WELDING PROCEDURES
2	V049-2-072	WELDING PROCEDURES
0	V049-2-073	WELDING PROCEDURES
0 *	V049-8-810	WELDING PROCEDURES CHART COASTAL FAB.
0	V049-2-074	MATERIAL/WELDING REPAIR SCHEDULE
0	V049-2-116	ISOLATABLE SECTION BAKEOUT PROCEDURE
0	V049-2-118	CLEAN ROOM ACTIVITIES
1	V049-2-119	CONTAMINATION CONTROL PLAN
0	V049-2-120	RAW MATERIAL HANDLING PROCEDURE
1	V049-2-123	COMPONENT PACKAGING, HANDLING, & SHIPPING
0	V049-2-124	CONTROL OF NON-CONFORMANCE
1	V049-2-128	VISUAL INSPECTION PROCEDURE
0	V049-2-130	BLACK LIGHT TEST PROCEDURE
1	V049-2-131	SITE PIPING CLEANING PROCEDURE
0	V049-2-132	SITE VACUUM SURFACE RE-CLEANING PROCEDURE
0	V049-2-137	RGA CALIBRATION
2 *	V049-2-139	STRUCTURAL CARBON STEEL FABRICATION AND PAINTING
3 *	V049-2-144	SOFTWALL CLEAN ROOM PANELS - HAM
3 *	V049-2-145	SOFTWALL CLEAN ROOM PANELS - BSC
1	V049-2-157	PORTABLE SOFTWALL CLEAN ROOMS
2	V049-2-163	THERMAL INSULATION-PIPING
1	V049-2-164	80K PUMP RELIEF VALVE SPEC.
0	V049-2-168	CONFLAT FLANGE ASSEMBLY PROCEDURE
1 *	V049-2-169	O-RING INSTALLATION AND FLANGE ASSEMBLY PROCEDURE
2 *	V049-2-174	COMPONENT ALIGNMENT PROCEDURE
0	V049-2-175	VACUUM PUMP FIELD INSTALLATION PROCEDURE
2 *	V049-2-178	SPEC FOR PREFABRICATED VACUUM AND CLN 100 AIR PIPING
0 *	V049-2-186	PROC. FOR RGA FIELD CALIBRATION
5 1 *	V049-2-199	ANCHOR BOLT INSTALLATION PROCEDURE LA
0 *	V049-2-200	SPEC FOR MOVING CLEAN ROOMS
0 *	V049-2-205	QUALITY PLAN FOR COMPONENT INSTALLATION
0 *	V049-2-206	QUALITY PLAN FOR LIGO PIPING INSTALLATION
0 *	V049-2-207	PROCEDURE FOR OPERATING BACK TO AIR CARTS
		COMPONENT ACCEPTANCE TESTS PROCEDURES
0	V049-2-102	80K PUMPS
0	V049-2-104	ROUGHING PUMPS
0	V049-2-105	TURBOMOLECULAR PUMPS
0	V049-2-106	ION PUMPS
0	V049-2-107	LARGE GATE VALVES
0	V049-2-108	6", 10", 14" GATE VALVES
1	V049-2-109	CLEAN AIR SUPPLIES

REV.	DWG. NUMBER	TITLE
1 *	V049-2-110	PORTABLE SOFT WALL CLEANROOMS
0	V049-2-111	SMALL VALVES
1 *	V049-2-112	BAKEOUT SYSTEM BLANKETS AND CARTS
		SYSTEM ACCEPTANCE TEST PROCEDURES
3 *	V049-2-113	CORNER STATIONS
3 *	V049-2-114	MID STATIONS
3 *	V049-2-115	END STATIONS
		ELECTRICAL DRAWINGS
0 *	V049-3-005	ELECTRICAL DRAWING LIST (2 SHTS.) LA SITE
		MECHANICAL DRAWINGS
4 *	V049-4-002	HORIZONTAL ACCESS MODULE (HAM)
3	V049-4-003	BSC SHELL WELDMENT/MACHINING (4 SHEETS)
3 *	V049-4-004	80K CRYOPUMP, LONG LEFT HAND (2 SHEETS)
3 *	V049-4-005	80K CRYOPUMP, SHORT RIGHT (2 SHEETS)
3 *	V049-4-006	80K CRYOPUMP, LONG RIGHT HAND (2 SHEETS)
3 *	V049-4-007	80K CRYOPUMP, SHORT LEFT HAND (2 SHEETS)
3 *	V049-4-010	ROUGHING PUMP CART ARRANGEMENTS
3 *	V049-4-011	TURBO PUMP CART ARRANGEMENTS
1	V049-4-012	BASE EXTENSION-TURBO PUMP CART
4 *	V049-4-014	COVER, BSC TYPE I
3	V049-4-017	44 1/4" I.D. FLANGE DETAIL (GROOVED)
2	V049-4-018	48 1/4" I.D. FLANGE DETAIL (GROOVED)
4	V049-4-019	60 1/2" I.D. BSC FLANGE DETAIL (GROOVED)
2	V049-4-020	72 1/4" I.D. FLANGE DETAIL (GROOVED)
3	V049-4-021	84 1/4" I.D. FLANGE DETAIL (GROOVED)
5	V049-4-022	104 1/2" I.D. FLANGE DETAIL (GROOVED)
4	V049-4-023	BSC SUPPORT ASSY.
4 *	V049-4-025	BSC ANNULUS PIPING
1	V049-4-028	72 1/4" I.D. FLANGE DETAIL (FLAT FACED)
1	V049-4-029	48 1/4" I.D. FLANGE DETAIL (FLAT FACED)
5	V049-4-031	60 1/2" I.D. HAM FLANGE DETAIL (GROOVED/SLOTTED)
3	V049-4-032	60 1/2" I.D. HAM FLANGE DETAIL (FLAT FACED)
1	V049-4-033	44" GATE VALVE SUPPORT FRAME
1	V049-4-034	48" GATE VALVE SUPPORT FRAME
2 *	V049-4-036	BSC INTERNAL PLATFORM DETAILS
5 *	V049-4-040	HAM TIE ROD ASSY.
2	V049-4-041	104 1/2" I.D. FLANGE DETAIL (FLAT FACED)
1	V049-4-042	44 5/8" I.D. FLANGE DETAIL (FLAT FACED)
2 *	V049-4-043	PIPE BRIDGE-CORNER STATION
1	V049-4-045	BSC RGA/AUX. TURBO CONN. ASSY.
2 *	V049-4-046	BSC RGA/AUX TURBO/GAUGE PAIR ASSY.
1	V049-4-047	44 5/8" ID x 80" OD FLANGE DETAIL (FLAT FACED)
3	V049-4-052	VESSEL SUPPORT (HAM)
1	V049-4-053	EXPANSION JOINT (HAM)
5 *	V049-4-054	HAM ANNULUS PIPING
2	V049-4-055	60 1/2" ID RING DETAIL REDUCING UNION
1	V049-4-056	30 1/2" ID x 68 1/4" OD FLANGE DETAIL (FLAT FACED)
3	V049-4-057	30 1/2" ID x 68 1/4" OD FLANGE DETAIL (GROOVED)
1	V049-4-058	44 5/8" ID x 60 1/2" ID FLANGE DETAIL
4 *	V049-4-059	SHIPPING COVER WITH FILTER UNITS
4	V049-4-060	44 1/4" ID FLANGE DETAIL (GROOVED/SLOTTED)
2 *	V049-4-061	3/4" OD ELBOW x 2 3/4" C.F. FLG. ANNULUS CONN.
1	V049-4-064	60 1/2" ID x 68 1/2" OD BE-3A FLANGE (FLAT)
2 *	V049-4-066	60 1/2" ID x 72 1/4" OD OFFSET FLANGE (BE3A)
3 *	V049-4-067	61.31' ID x 72 1/4" OD BE-3A FLANGE (GROOVED)
2 *	V049-4-068	48 1/4" ID x 60 1/2" ID OFFSET FLANGE
1 *	V049-4-070	48.81 ID x 68 1/4" OD FLANGE DETAIL (FLAT FACED)
0	V049-4-071	48.81 ID x 80 OD FLANGE DETAIL (FLAT FACED)
3 *	V049-4-072	PS-1 PIPE SUPPORT TEE POST (LN2 PIPING)
4 *	V049-4-073	PS-2 PIPE SUPPORT
3 *	V049-4-074	PS-3 PIPE SUPPORT TEE POST
4 *	V049-4-075	PS-4 PIPE/ELECTRICAL SUPPORT
1 *	V049-4-076	PS-5 PIPE SUPPORT @ 80K LONG PUMP
3 *	V049-4-077	75 L/S ION PUMP/MANIFOLDS
2 *	V049-4-078	25 L/S ION PUMP/MANIFOLDS
1	V049-4-079	48 1/4" ID x 68 1/4" OD FLANGE DETAIL
1 *	V049-4-080	SHIPPING COVER ASSY.- WITHOUT FILTER ASSY.
1	V049-4-081	48 1/4" ID FLANGE DETAIL (GROOVED/SLOTTED)
2 *	V049-4-082	PS-6 PIPE SUPPORTS @ BACKING PUMPS
0	V049-4-087	60 1/2" ID x 80" OD FLANGE DETAIL (FLAT FACED)
2	V049-4-090	80K PUMP RESERVOIR-SHORT RIGHT (3 SHTS.)

REV.	DWG. NUMBER	TITLE
0	V049-4-091	80K PUMP RESERVOIR-SHORT LEFT (3 SHTS.)
1	V049-4-092	80K PUMP RESERVOIR-LONG LEFT (3 SHTS.)
0	V049-4-093	80K PUMP RESERVOIR-LONG RIGHT (3 SHTS.)
4 *	V049-4-094	80K PUMP RESERVOIR SUPPT, ASSY, SHORT (2 SHTS.)
4 *	V049-4-095	80K PUMP RESERVOIR SUPPT, ASSY, LONG (2 SHTS.)
1	V049-4-096	72 1/4" ID FLANGE DETAIL (GROOVED)
1 *	V049-4-097	60 1/2" ID FLANGE DETAIL (FLAT FACED)
2 *	V049-4-098	60 1/2" ID FLANGE DETAIL (FLAT/SLOTTED)
0	V049-4-099	72 1/4 ID FLANGE DETAIL (FLAT/SLOTTED)
1	V049-4-101	BSC OVERALL ASSY.
2 *	V049-4-106	25 L/S ANNULUS TUBING-44" G.V. TYPE III
3 *	V049-4-107	25 L/S ION PUMP VALVE SUPPORT (2 SHTS.)
2 *	V049-4-108	25 L/S ANNULUS TUBING 48" G.V. TYPE I
4 *	V049-4-109	ANNULUS TUBING & ION PUMP ASSY. 44" G.V.
6 *	V049-4-114	80K LONG-SHIELD ASSY. RH/LH (3 SHTS.)
5 *	V049-4-117	80K SHORT-SHIELD ASSY. RH/LH (3 SHTS.)
3	V049-4-118	80K LONG-VERTICAL WELDMENT LH (2 SHTS.)
2	V049-4-119	80K LONG-VESSEL WELDMENT RH (2 SHTS.)
2	V049-4-120	80K SHORT-VESSEL WELDMENT LH (2 SHTS.)
3	V049-4-121	80K SHORT VESSEL WELDMENT RH (2 SHTS.)
1 *	V049-4-122	75L ION PUMP SUPPORT
1 *	V049-4-123	HAM 75L ION PUMP SUPPORT
0	V049-4-124	BELLOWS 1" DIA. TIE-ROD ASSY.
4 *	V049-4-127	84 1/4" ID ACCESS COVER-HAM
3	V049-4-128	HAM SHELL WELDMENT ASSY. "D" (3 SHTS.)
1	V049-4-132	44 5/8" ID FLANGE DETAIL (GROOVED)
4 *	V049-4-133	BSC CLEAN ROOM ASSY-STYLE 1 & 3
4 *	V049-4-134	BSC CLEAN ROOM WELDMENT STYLE 1 & 3
3 *	V049-4-135	BSC CLEAN ROOM ASSY.
2 *	V049-4-136	CLEAN ROOM ASSY.- HAM
2 *	V049-4-137	CLEAN ROOM STRUCTURE WELDMENT - HAM
3 *	V049-4-138	BSC CLEAN ROOM WELDMENT
0	V049-4-140	80K LONG-LEG ASSY.
0	V049-4-141	80K SHORT-LEG ASSY.
2	V049-4-142	16 1/2" OD CONFLAT REDUCING FLANGES
0	V049-4-144	60 1/2" ID FLANGE DETAIL BE-3A (FLAT FACED)
0	V049-4-145	LN2 TANK BASE TEMPLATE
1	V049-4-146	80K HEAD/NOZZLE ASSY.
1	V049-4-147	80K HEAD/NOZZLE ASSY.
1	V049-4-148	80K SHIELD SUPPORT LUG
0	V049-4-158	BELLOWS 1 1/4" DIA. TIE-ROD ASSY.
0 *	V049-4-159	LIFTING LUG
0 *	V049-4-161	80K PUMP 2" JACKETED LINE
0	V049-4-163	GATE VALVE FIN CLAMP
2 *	V049-4-165	ANNULUS TUBING & ION PUMP ASSY. 48" G.V.
2 *	V049-4-166	25 L/S ANNULUS TUBING-44" G.V. TYPE II
1 *	V049-4-168	ASSEMBLY BACK TO AIR CART, 50 CFM
1 *	V049-4-175	ASSEMBLY BACK TO AIR CART, 200 CFM
1 *	V049-4-176	14KW REGEN HEATER ASS'Y.
1 *	V049-4-177	28KW REGEN HEATER ASS'Y.
0 *	V049-4-194	12" OD CONFLAT BLANK x 2 3/4 OD CONFLAT
0 *	V049-4-195	12" OD CONFLAT BLANK x 25 KF
0 *	V049-4-196	8" OD CONFLAT BLANK x 25 KF
0 *	V049-4-197	10" OD TUBE BELLOWS-TURBO PUMP
2 *	V049-4-199	BSC SHIPPING SKID
0 *	V049-4-203	BSC-ANNULUS TUBE SUPPORT
0 *	V049-4-204	BSC AIR FILTER ASSY.
0 *	V049-4-206	HAM ANNULUS TUBING SHIPPING SUPPORT
0	V049-4-302	BSC TEST/SHIP ASSY (TWO DOORS)
0	V049-4-303	BSC TEST/SHIP ASSY (THREE DOORS)
0	V049-4-304	BSC TEST/SHIP ASSY (NO DOORS)
0	V049-4-305	BSC TEST/SHIP ASSY (ONE DOOR)
5 3 *	V049-5-003	EQUIPMENT ARR'T. PLAN, CORNER STA. LA (SHT 1 OF 2)
2 *	V049-5-008	EQUIPMENT ARR'T. RIGHT END STA, LA
2 *	V049-5-009	EQUIPMENT ARR'T. LEFT END STA, LA

REV.	DWG. NUMBER	TITLE
1 *	V049-5-040	PIPING ARR'T, PLAN CORNER STA. LA (4 SHTS.)
1 *	V049-5-041	PIPING ARR'T, ELEVATION, CORNER STA, LA (2 SHTS)
1 *	V049-5-042	PIPING ARR'T, SECTIONS, CORNER STA, LA (3 SHTS)
1 *	V049-5-043	PIPING ARR'T, PLAN, RIGHT END STA, LA (2 SHTS.)
1 *	V049-5-044	PIPING ARR'T, ELEVATION, RIGHT END STA. LA
1 *	V049-5-045	PIPING ARR'T, SECTIONS, RIGHT END STA, LA
1 *	V049-5-046	PIPING ARR'T, PLAN, LEFT END, LA (2 SHTS.)
1 *	V049-5-047	PIPING ARR'T, ELEVATION, LEFT END STA. LA
1 *	V049-5-048	PIPING ARR'T, SECTIONS, LEFT END STA, LA
0	V049-5-034	OVERALL FLANGE ARR'T, CORNER STASTION LOUISIANA
0	V049-5-036	OVERALL FLANGE ARR'T, TYPICAL END STA, WA & LA
0	V049-5-037	CLEAN ROOM WITH BSC ASSY.
0 *	V049-5-053	SURVEY-BENCHMARKS-CORNER STATION LA
0 *	V049-5-054	SURVEY-BENCHMARKS-END STA, WA & LA
		PSI ADAPTER & SPOOL DETAIL DRAWINGS
3 *	V049-4-A1	ADAPTER
3 *	V049-4-A2	ADAPTER
3 *	V049-4-A3	ADAPTER
8 *	V049-4-A4	60" HAM END COVER, GROOVED, TYPE A4
3 *	V049-4-A7A	ADAPTER
2 *	V049-4-A7B	ADAPTER
5 *	V049-4-A11	BSC END COVER, TYPE A11
3 *	V049-4-BE1	SPOOL
3 *	V049-4-BE2	SPOOL
4 *	V049-4-BE3	SPOOL
6 *	V049-4-BE3A	SPOOL
4 *	V049-4-BE4	SPOOL
5 *	V049-4-BE5	SPOOL
5 *	V049-4-BE6	SPOOL
5 *	V049-4-B1	SPOOL
4 *	V049-4-B3A	SPOOL
5 *	V049-4-B5A	SPOOL
5 *	V049-4-B9G1	SPOOL
5 1	V049-1-164	LOUISIANA SITE FIELD RFC LOG

* = DRAWINGS ADDED/REVISED SINCE MARCH 1997

MAY 28 1998

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DWG. NO.	DESCRIPTION	DWG. NO.	DESCRIPTION
REFERENCE DRAWINGS			

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ±
ANGULARMACH ±0°-30' BEND ±2°
TWO PLACE DECIMAL ± .01
THREE PLACE DECIMAL ± .005
FINISHED SURFACE RMS
BREAK CORNERS IN OUT:
REMOVE ALL BURRS

DO NOT SCALE THIS DRAWING
USED ON:
NEXT ASS'Y:

REV	DESCRIPTION
5	REISSUED FOR CONSTRUCTION
4	REISSUED FOR CONSTRUCTION
3	REISSUED FOR CONSTRUCTION
2	ISSUED FOR FDR UPDATE / CONTSRUCTION
1	ISSUED FOR FDR UPDATE / CONTSRUCTION
0	ISSUED FOR FDR UPDATE / CONTSRUCTION

ISSUE DESCRIPTION

CHKD	DRWN	DATE	DEO#
REC.	REC	05/22/98	0577
REC	REC	04/15/98	0611
REC	REC	03/19/98	0592
REC	REC	12/31/97	0588
REC	REC	12/22/97	0577
REC	REC	12/08/97	0498

PROCESS SYSTEMS INTERNATIONAL INC.
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INSTALLATION DOCUMENT LIST
LOUISIANA SITE
LIGO VACUUM EQUIPMENT

CAD FILE	SIZE	DWG. NO.	REV.
V049000A	D	V049-0-00A	5
SCALE NONE		SHEET 1 OF 1	

LIGO-D980208-05-V