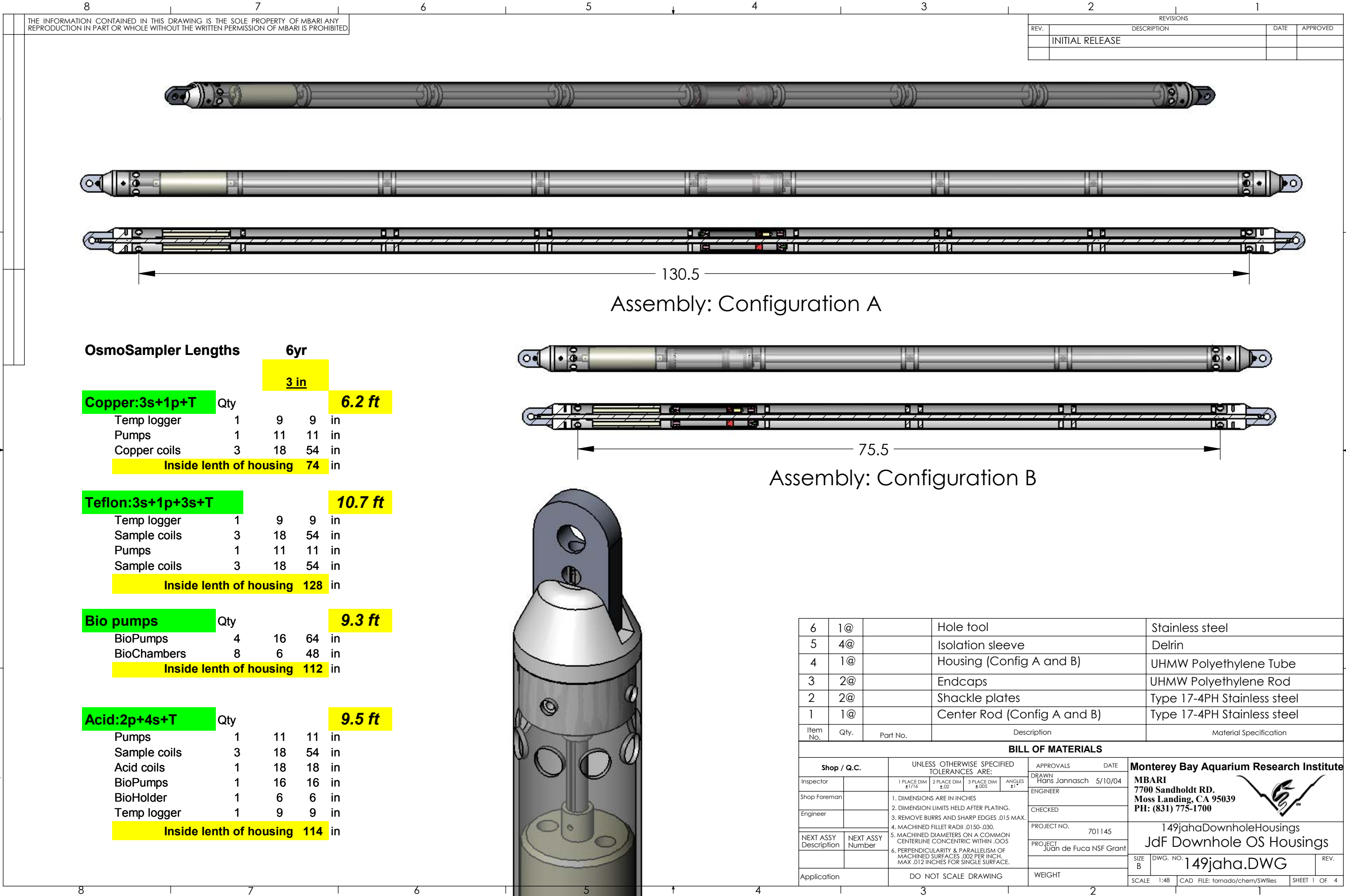




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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
	INITIAL RELEASE		

Assembly: Configuration A

Assembly: Configuration B

OsmoSampler Lengths

6yr

3 in

Copper:3s+1p+T

Qty

6.2 ft

Temp logger	1	9	9	in
Pumps	1	11	11	in
Copper coils	3	18	54	in
Inside lenth of housing				74 in

Teflon:3s+1p+3s+T

10.7 ft

Temp logger	1	9	9	in
Sample coils	3	18	54	in
Pumps	1	11	11	in
Sample coils	3	18	54	in
Inside lenth of housing				128 in

Bio pumps

Qty

9.3 ft

BioPumps	4	16	64	in
BioChambers	8	6	48	in
Inside lenth of housing				112 in

Acid:2p+4s+T

Qty

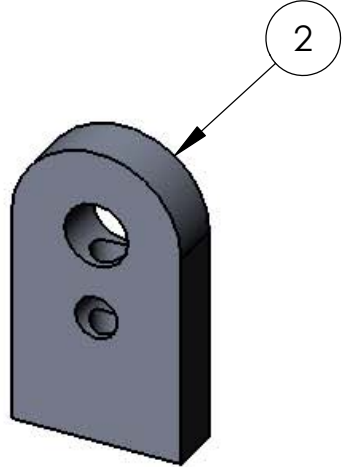
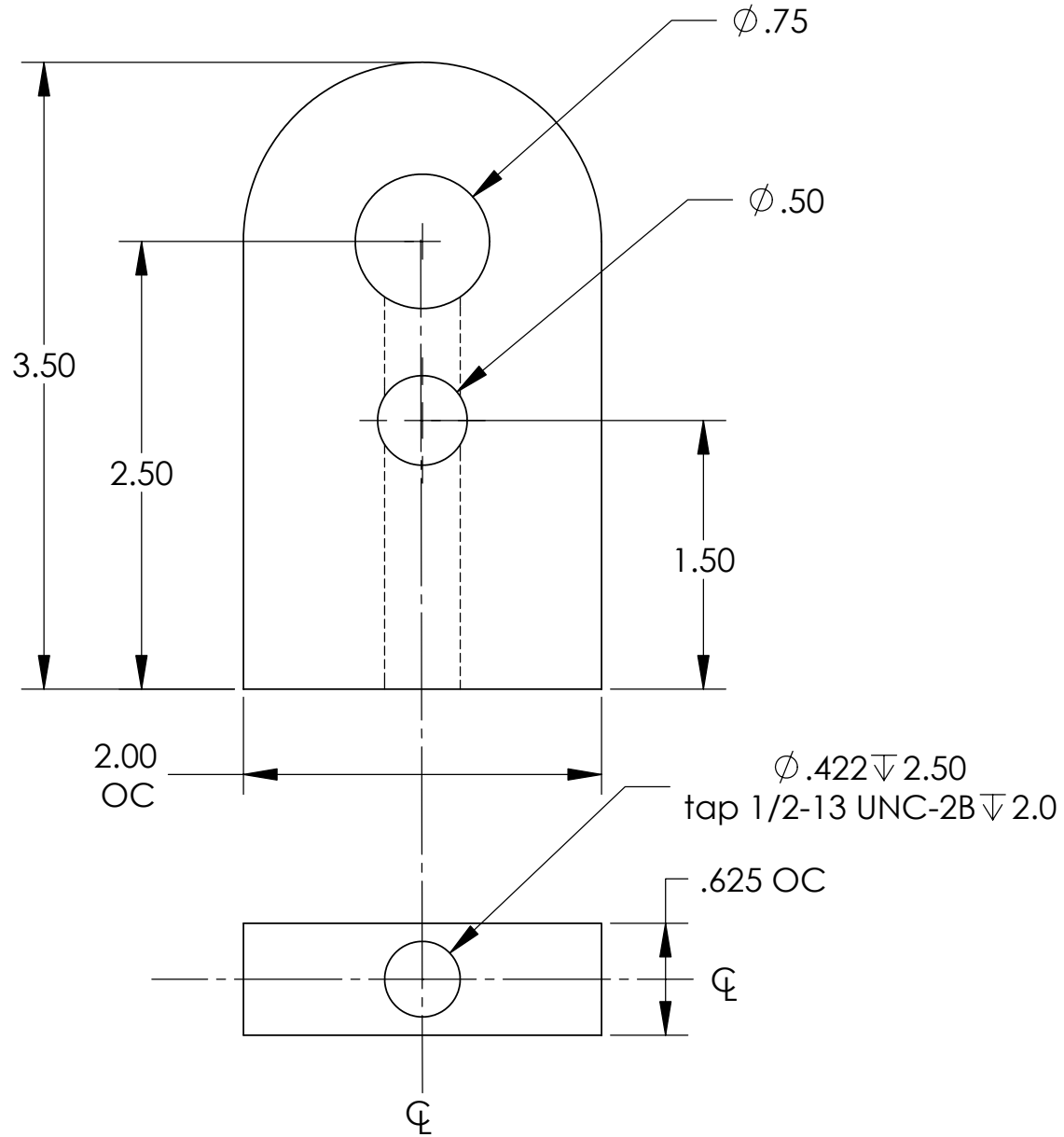
9.5 ft

Pumps	1	11	11	in
Sample coils	3	18	54	in
Acid coils	1	18	18	in
BioPumps	1	16	16	in
BioHolder	1	6	6	in
Temp logger	1	9	9	in
Inside lenth of housing				114 in

6	1@		Hole tool	Stainless steel
5	4@		Isolation sleeve	Delrin
4	1@		Housing (Config A and B)	UHMW Polyethylene Tube
3	2@		Endcaps	UHMW Polyethylene Rod
2	2@		Shackle plates	Type 17-4PH Stainless steel
1	1@		Center Rod (Config A and B)	Type 17-4PH Stainless steel
Item No.	Qty.	Part No.	Description	Material Specification

BILL OF MATERIALS

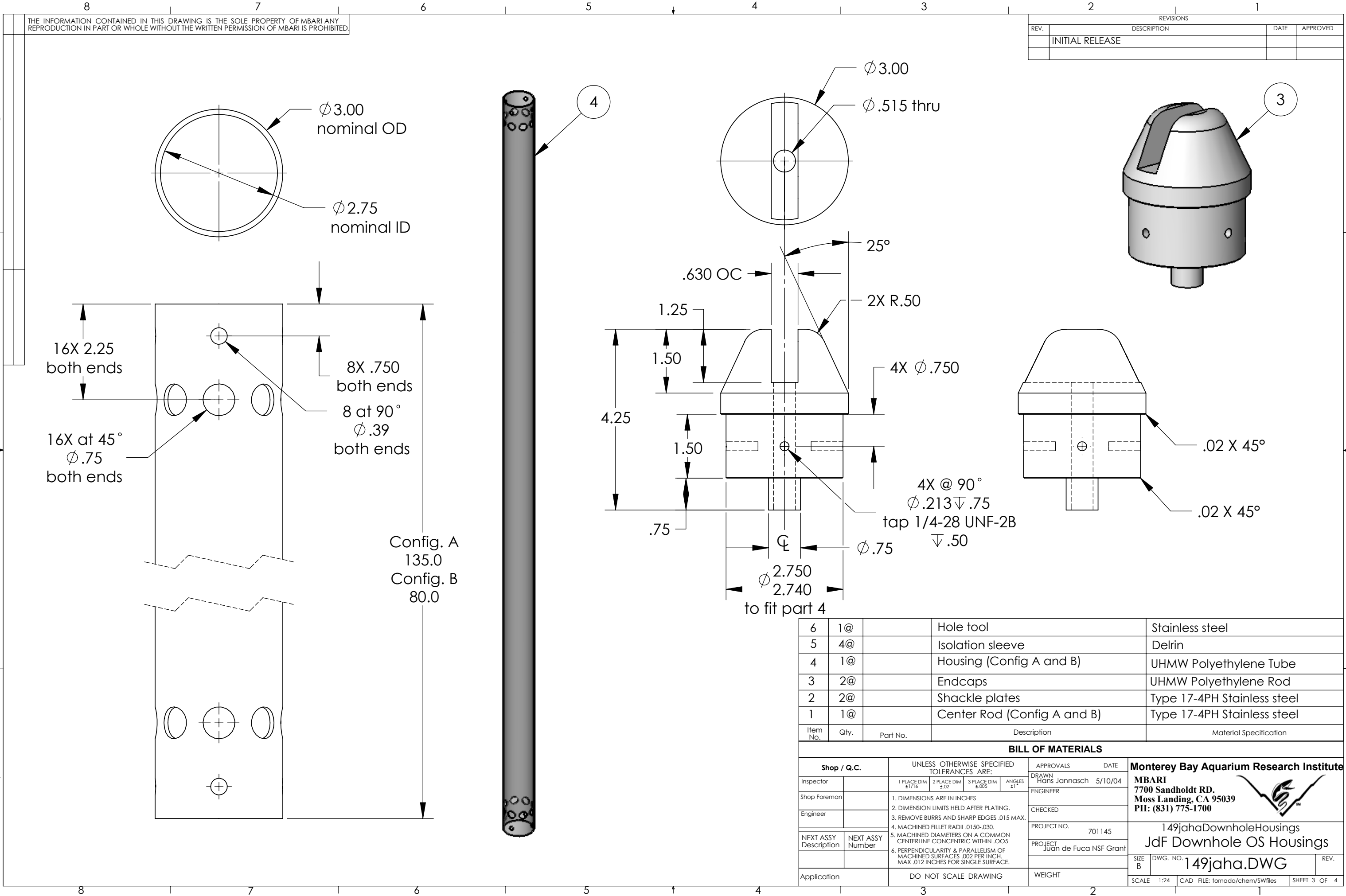
Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS	DATE	Monterey Bay Aquarium Research Institute		
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch	5/10/04	MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700		
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH. MAX .012 INCHES FOR SINGLE SURFACE.				ENGINEER				
Engineer						CHECKED				
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO.	701145			
						PROJECT	Juan de Fuca NSF Grant			
Application		DO NOT SCALE DRAWING		WEIGHT		SIZE B	DWG. NO. 149jaha.DWG	REV.		
		SCALE	1:48	CAD	FILE: tornado/chem/SWfiles	SHEET 1 OF 4				

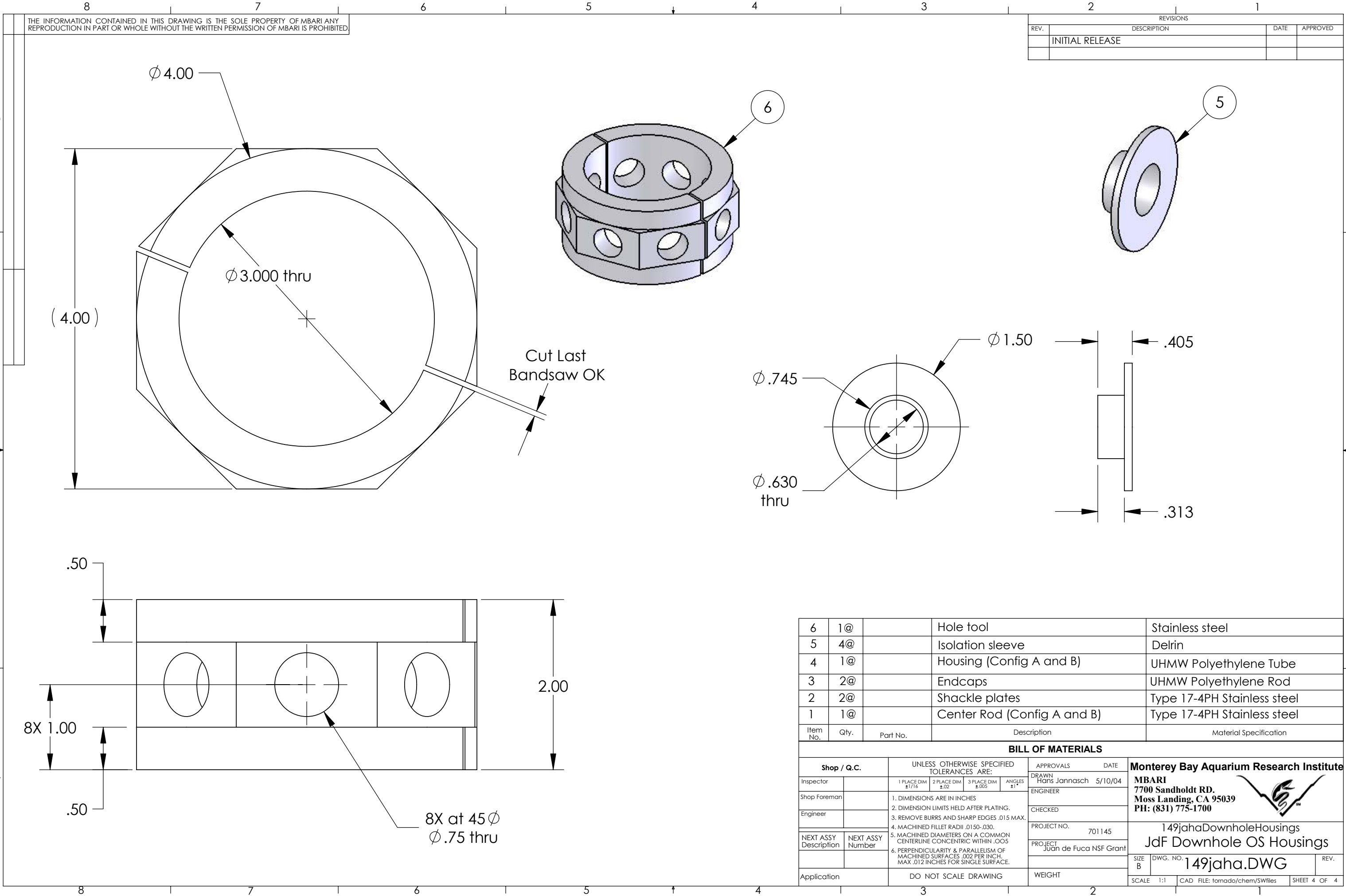


6	1@		Hole tool	Stainless steel
5	4@		Isolation sleeve	Delrin
4	1@		Housing (Config A and B)	UHMW Polyethylene Tube
3	2@		Endcaps	UHMW Polyethylene Rod
2	2@		Shackle plates	Type 17-4PH Stainless steel
1	1@		Center Rod (Config A and B)	Type 17-4PH Stainless steel
Item No.	Qty.	Part No.	Description	Material Specification

BILL OF MATERIALS

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS DATE		Monterey Bay Aquarium Research Institute		
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch	5/10/04		MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700	
Shop Foreman		1. DIMENSIONS ARE IN INCHES 2. DIMENSION LIMITS HELD AFTER PLATING. 3. REMOVE BURRS AND SHARP EDGES .015 MAX. 4. MACHINED FILLET RADII .0150-.030. 5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005 6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE.				ENGINEER				
Engineer						CHECKED				
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO. 701145				
						PROJECT Juan de Fuca NSF Grant				149jahaDownholeHousings JdF Downhole OS Housings
								SIZE B	DWG. NO. 149jaha.DWG	REV.
Application		DO NOT SCALE DRAWING				WEIGHT		SCALE 1:12 CAD FILE: tornado/chem/SWfiles SHEET 2 OF 4		





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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
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6	1@		Hole tool	Stainless steel
5	4@		Isolation sleeve	Delrin
4	1@		Housing (Config A and B)	UHMW Polyethylene Tube
3	2@		Endcaps	UHMW Polyethylene Rod
2	2@		Shackle plates	Type 17-4PH Stainless steel
1	1@		Center Rod (Config A and B)	Type 17-4PH Stainless steel
Item No.	Qty.	Part No.	Description	Material Specification

BILL OF MATERIALS

Shop / Q.C.		UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:				APPROVALS	DATE	Monterey Bay Aquarium Research Institute		
Inspector		1 PLACE DIM ±1/16	2 PLACE DIM ±.02	3 PLACE DIM ±.005	ANGLES ±1°	DRAWN Hans Jannasch	5/10/04	MBARI 7700 Sandholdt RD. Moss Landing, CA 95039 PH: (831) 775-1700		
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Engineer						CHECKED				
NEXT ASSY Description	NEXT ASSY Number					PROJECT NO.	701145			
						PROJECT	Juan de Fuca NSF Grant			
Application		DO NOT SCALE DRAWING		WEIGHT		SIZE B	DWG. NO. 149jaha.DWG	REV.		
		SCALE	1:1	CAD	FILE: tornado/chem/SWfiles	SHEET 4 OF 4				