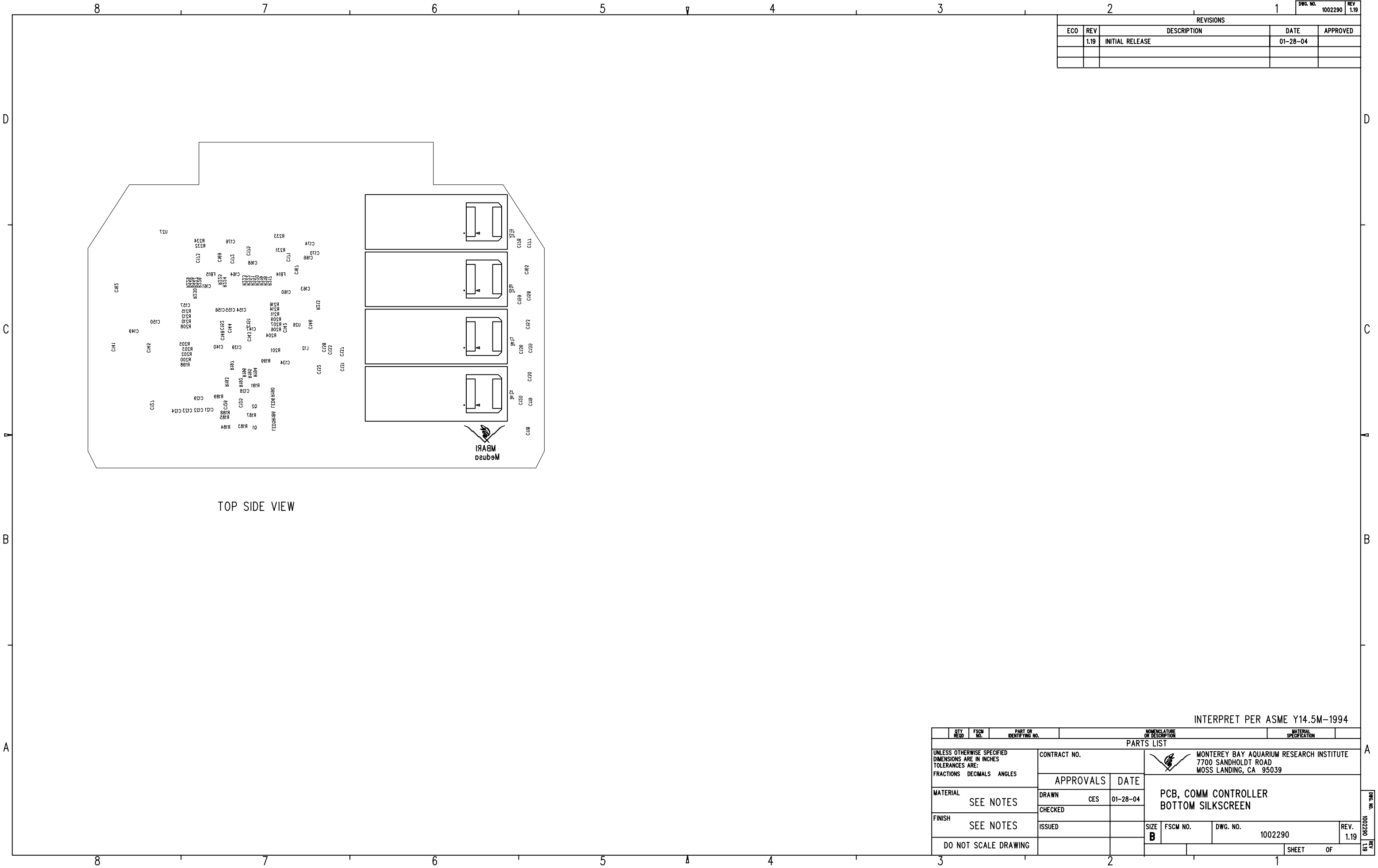
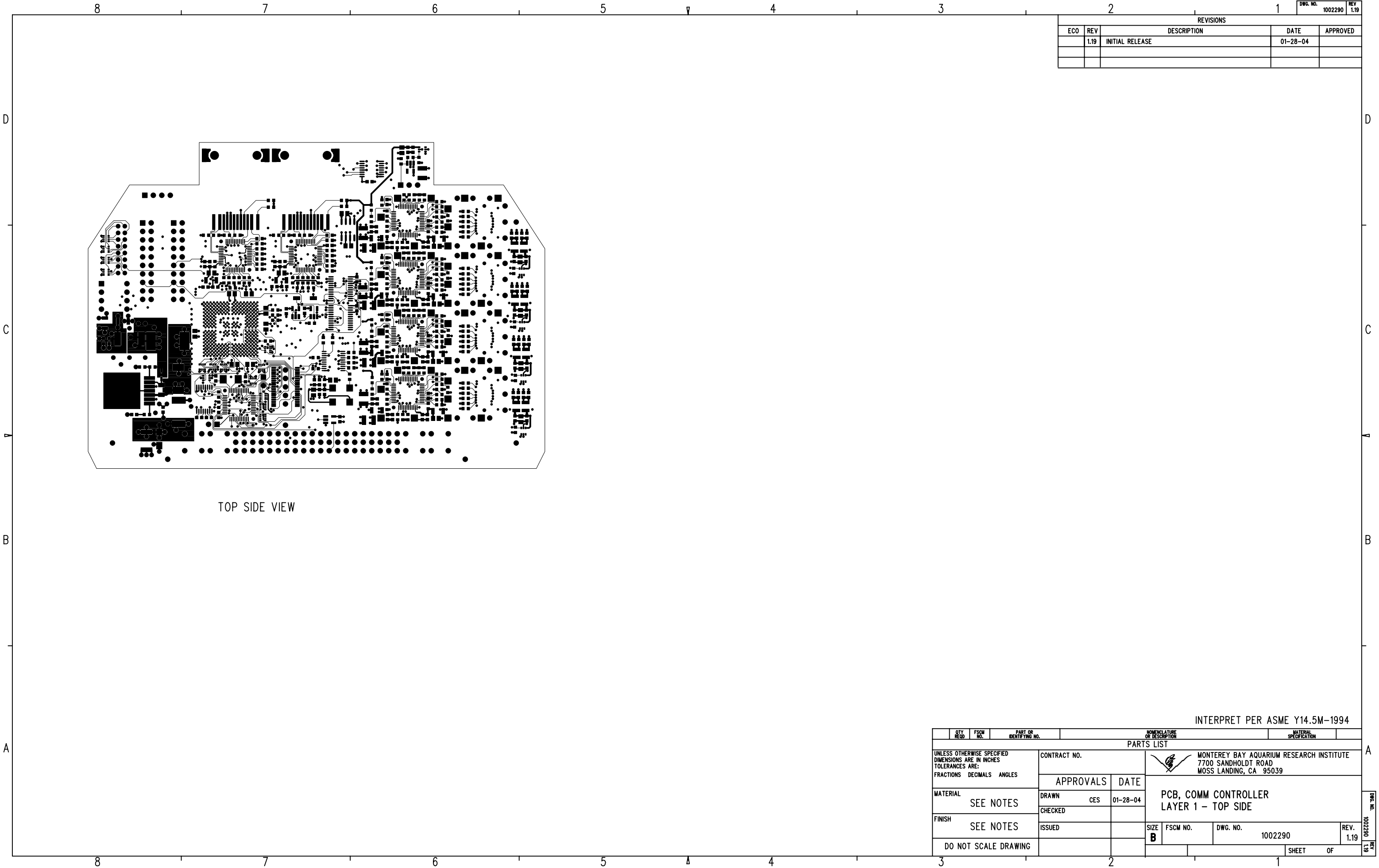






INTERPRET PER ASME Y14.5M-1994										
QTY REQD		FSCM NO.	PART OR IDENTIFYING NO.			NOMENCLATURE OR DESCRIPTION		MATERIAL SPECIFICATION		
PARTS LIST										
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES			CONTRACT NO.		 MONTEREY BAY AQUARIUM RESEARCH INSTITUTE 7700 SANDHOLDT ROAD MOSS LANDING, CA 95039					
			APPROVALS							DATE
MATERIAL			DRAWN		CES		01-28-04		PCB, COMM CONTROLLER LAYER 1 - TOP SIDE	
FINISH			CHECKED							
SEE NOTES			ISSUED							
DO NOT SCALE DRAWING							SIZE		FSCM NO.	
							DWG. NO.		REV.	
							1002290		1.19	
							SHEET		OF	

3

1

2

1

1

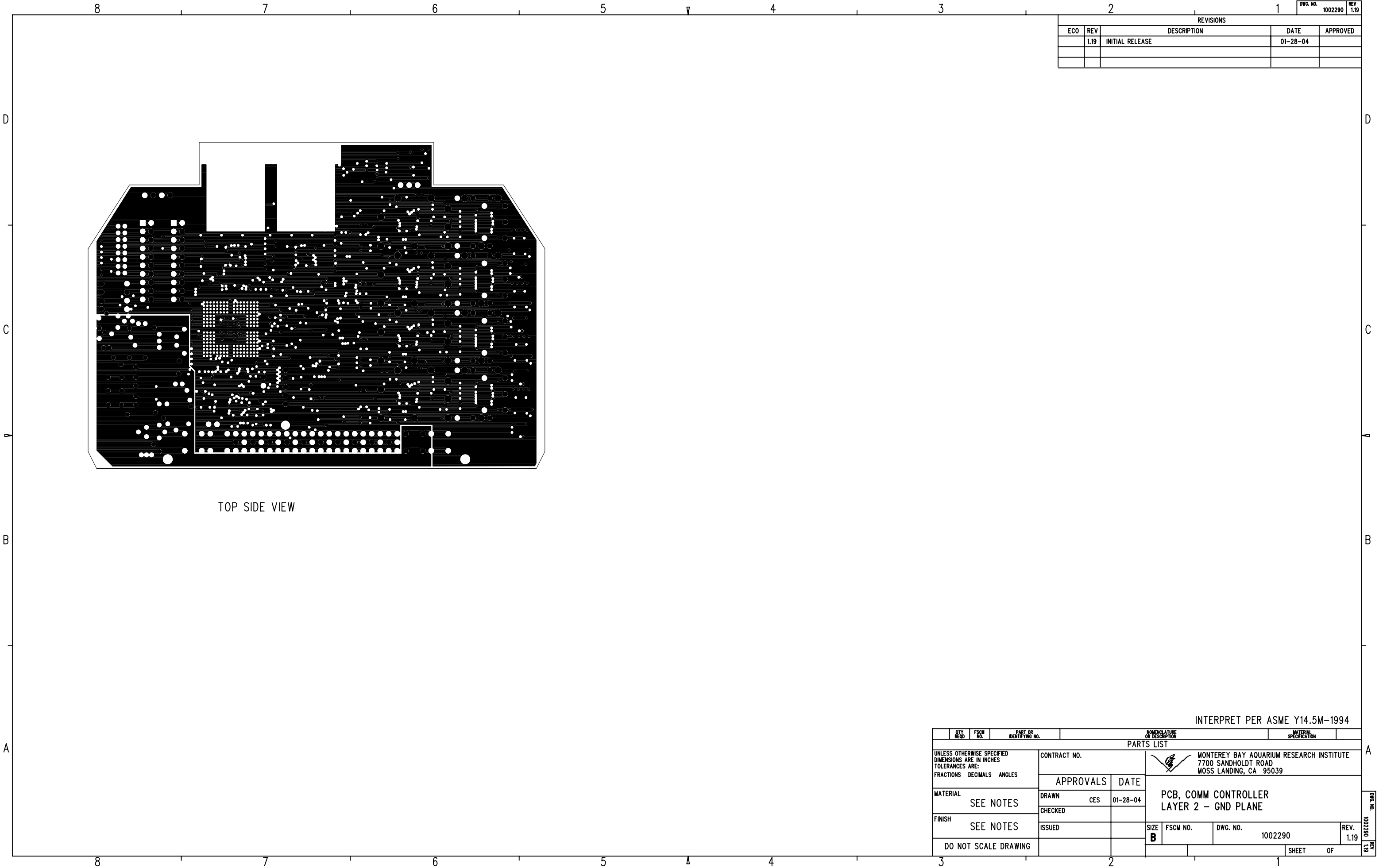
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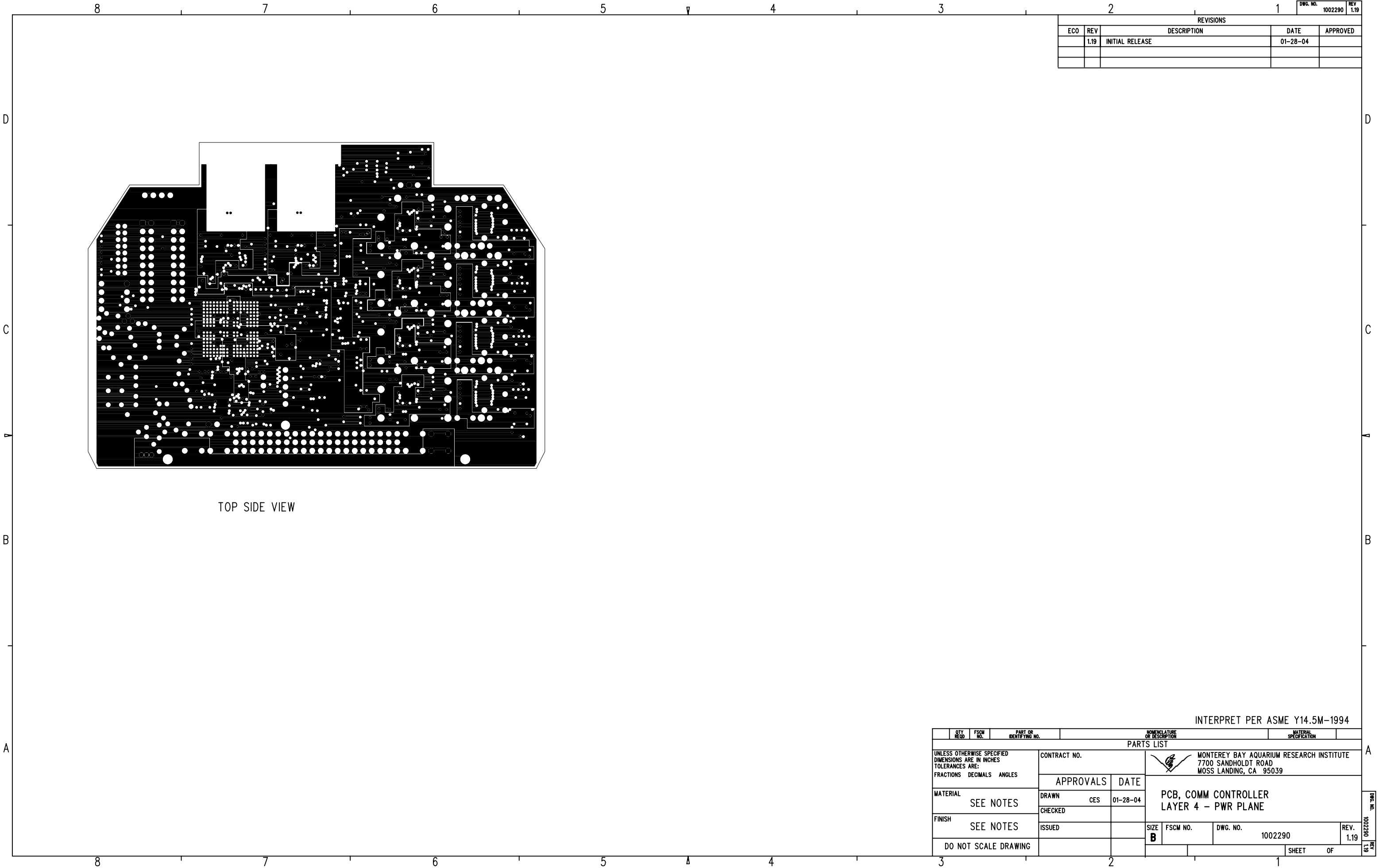
1.19

1002290

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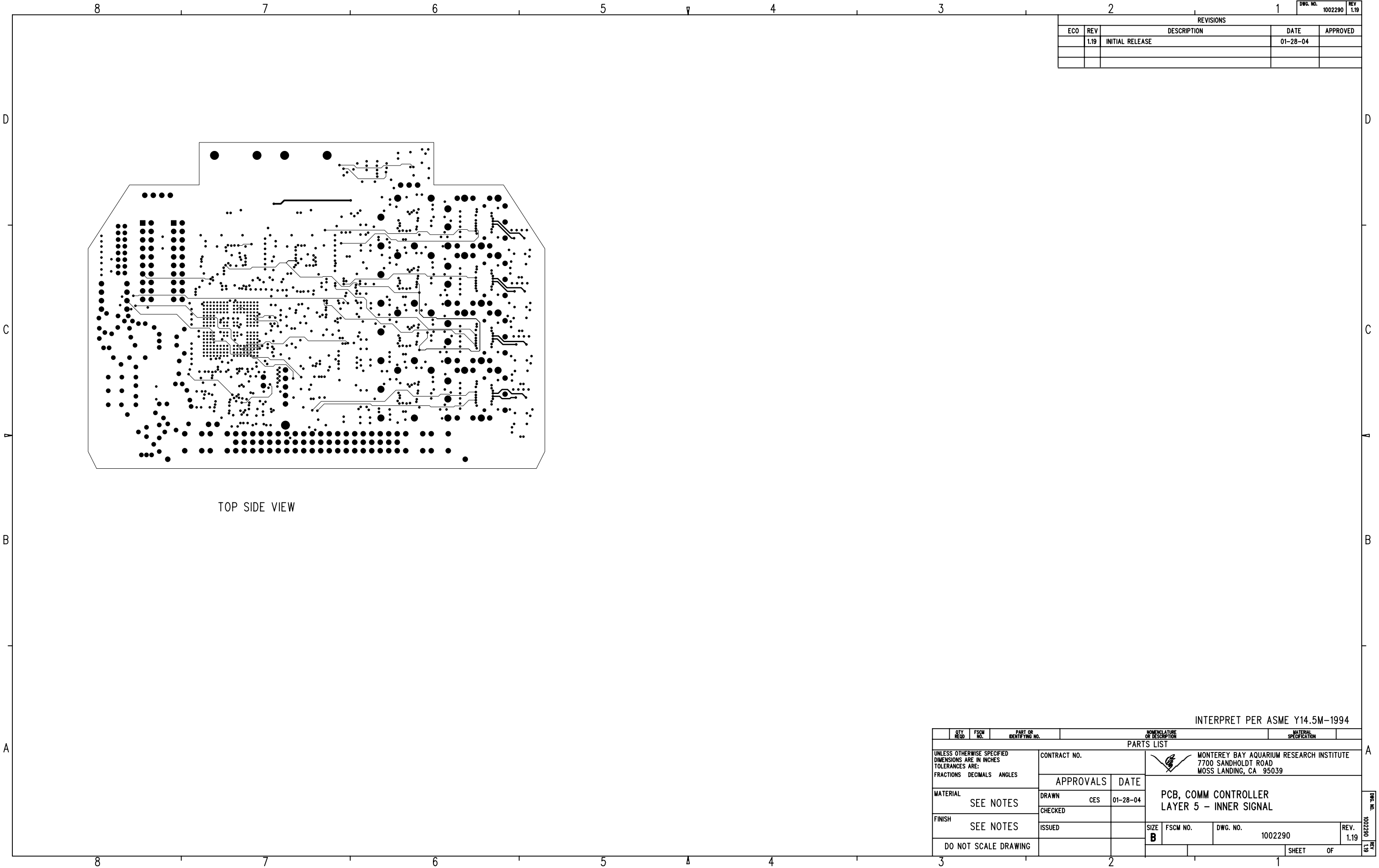


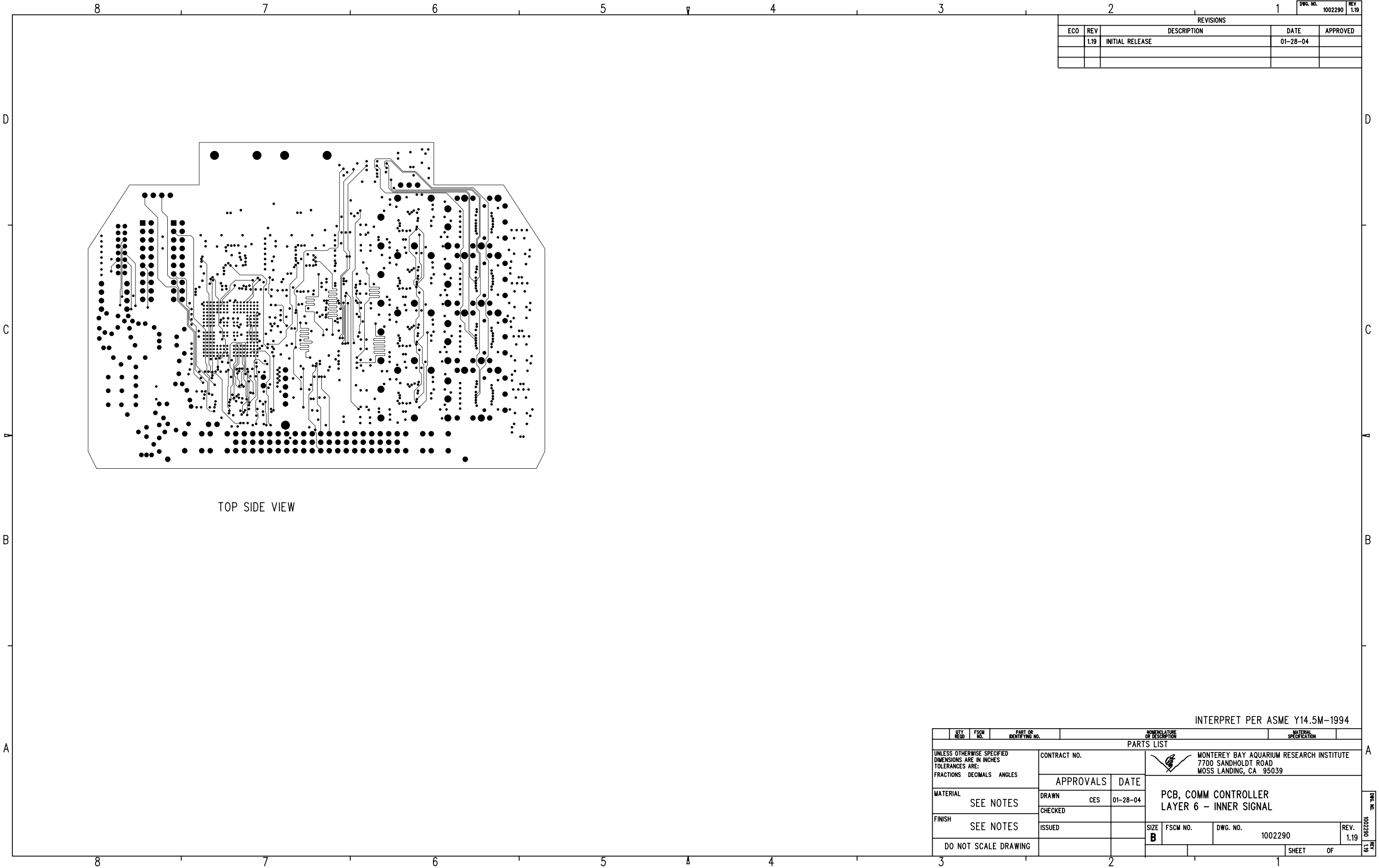


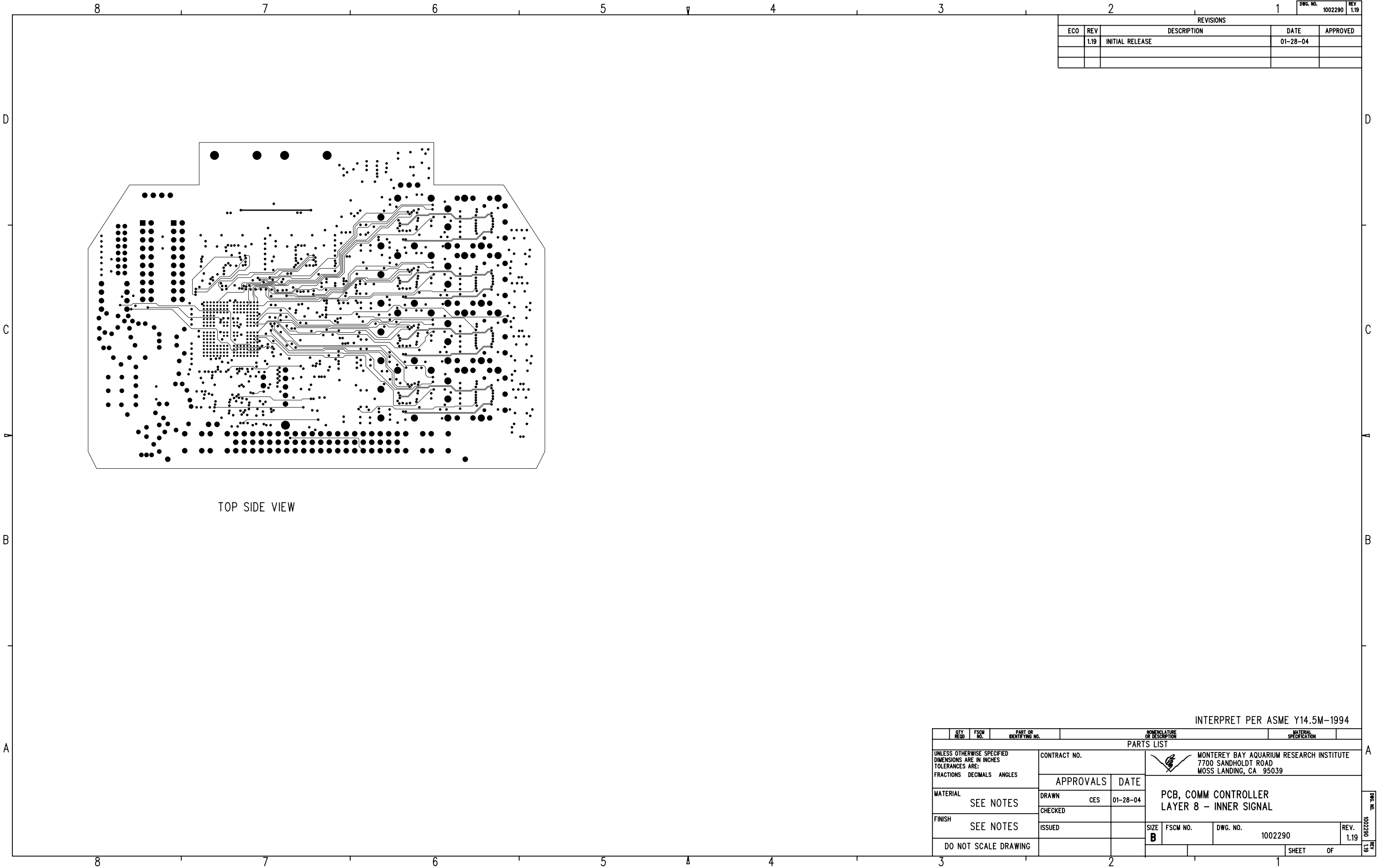
TOP SIDE VIEW

REVISIONS				
ECO	REV	DESCRIPTION	DATE	APPROVED
	1.19	INITIAL RELEASE	01-28-04	

INTERPRET PER ASME Y14.5M-1994									
QTY REQD		FSCM NO.	PART OR IDENTIFYING NO.		NOMENCLATURE OR DESCRIPTION			MATERIAL SPECIFICATION	
PARTS LIST									
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES			CONTRACT NO.		 MONTEREY BAY AQUARIUM RESEARCH INSTITUTE 7700 SANDHOLDT ROAD MOSS LANDING, CA 95039				
			APPROVALS						
MATERIAL			DRAWN		CES		01-28-04		PCB, COMM CONTROLLER LAYER 4 - PWR PLANE
FINISH			CHECKED						
DO NOT SCALE DRAWING			ISSUED						
SIZE		FSCM NO.		DWG. NO.		1002290		REV. 1.19	
B									





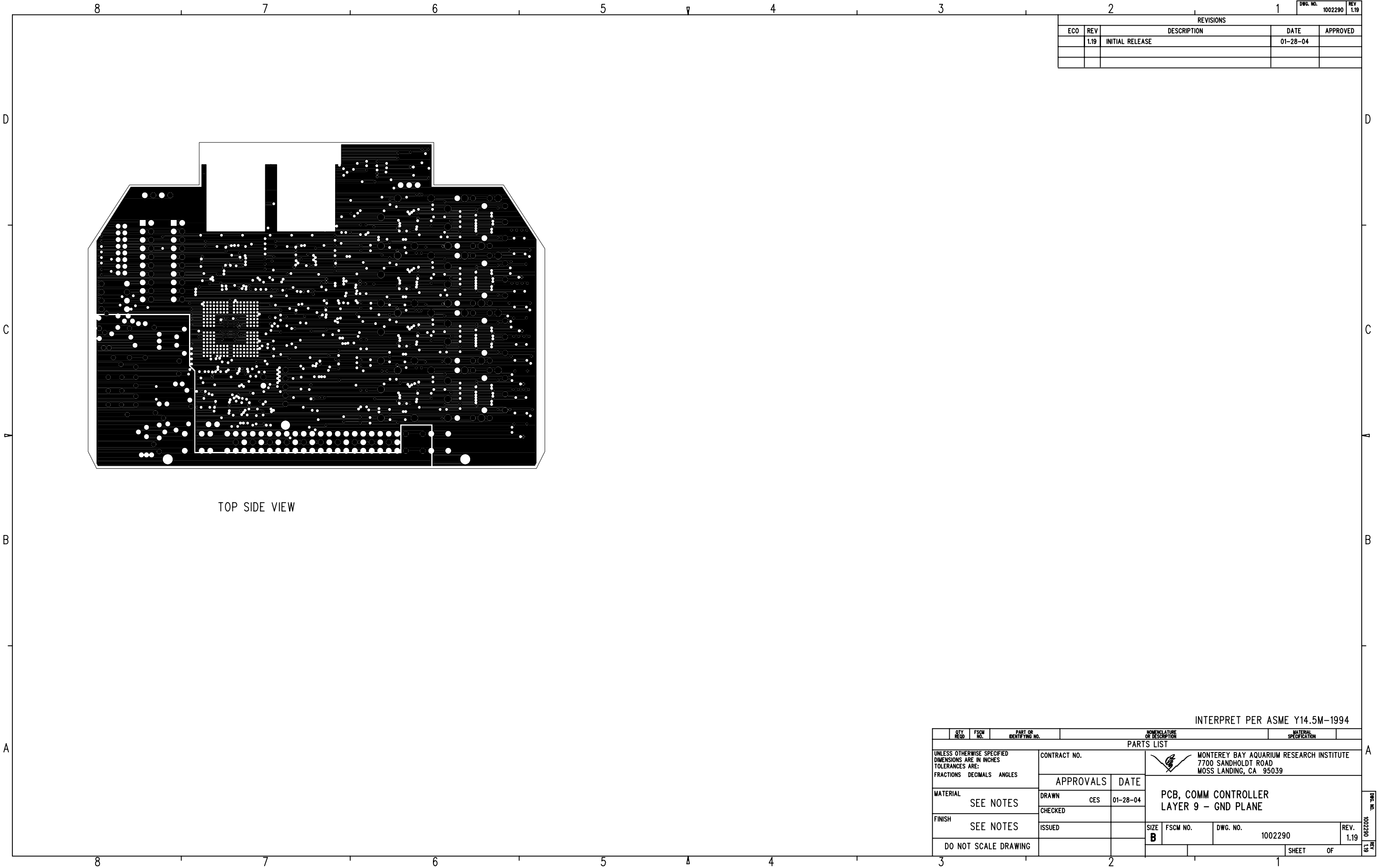


TOP SIDE VIEW

REVISIONS				
ECO	REV	DESCRIPTION	DATE	APPROVED
	1.19	INITIAL RELEASE	01-28-04	

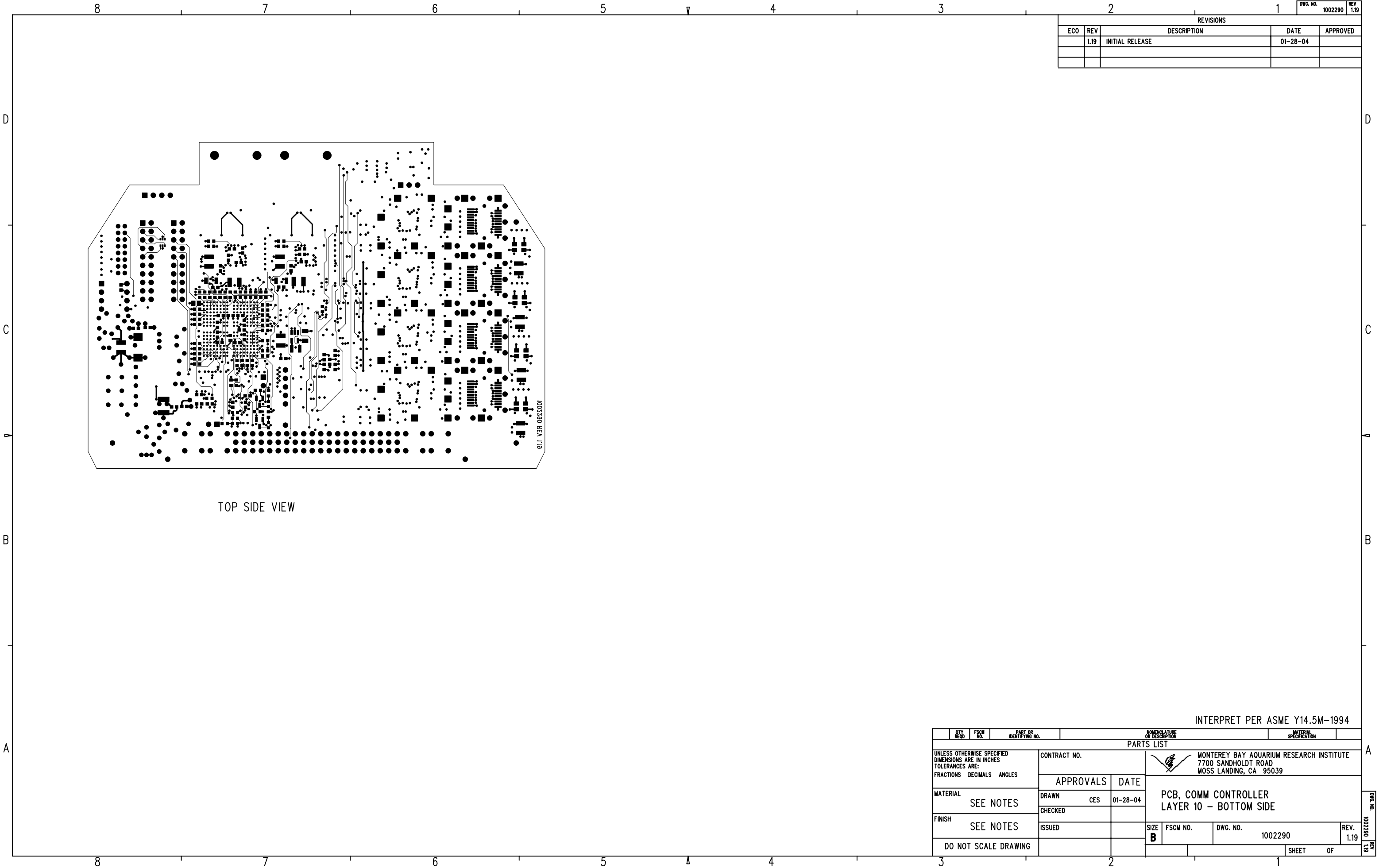
INTERPRET PER ASME Y14.5M-1994

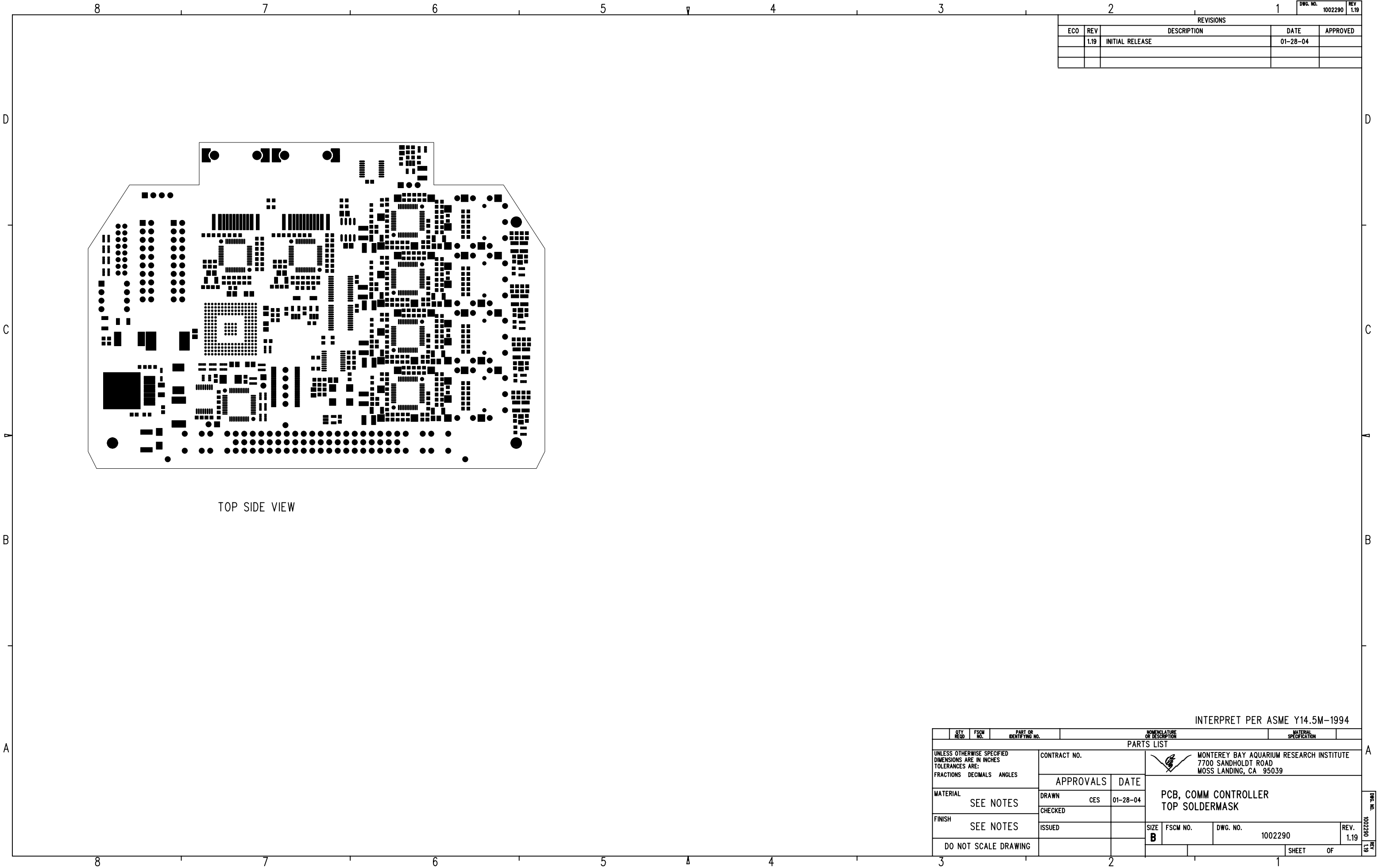
QTY REQD	FSCM NO.	PART OR IDENTIFYING NO.	NOMENCLATURE OR DESCRIPTION		MATERIAL SPECIFICATION	
PARTS LIST						
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES		CONTRACT NO.		 MONTEREY BAY AQUARIUM RESEARCH INSTITUTE 7700 SANDHOLDT ROAD MOSS LANDING, CA 95039		
		APPROVALS				
MATERIAL		DRAWN	CES	DATE	PCB, COMM CONTROLLER LAYER 8 - INNER SIGNAL	
FINISH		CHECKED				
DO NOT SCALE DRAWING		ISSUED				
		SIZE	B	FSCM NO.	DWG. NO.	REV.
					1002290	1.19
				SHEET	OF	



REVISIONS				
ECO	REV	DESCRIPTION	DATE	APPROVED
	1.19	INITIAL RELEASE	01-28-04	

INTERPRET PER ASME Y14.5M-1994															
QTY REQD		FSCM NO.	PART OR IDENTIFYING NO.		NOMENCLATURE OR DESCRIPTION				MATERIAL SPECIFICATION						
PARTS LIST															
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES			CONTRACT NO.		 MONTEREY BAY AQUARIUM RESEARCH INSTITUTE 7700 SANDHOLDT ROAD MOSS LANDING, CA 95039										
			APPROVALS							DATE					
			MATERIAL		DRAWN		CES		01-28-04		PCB, COMM CONTROLLER LAYER 9 - GND PLANE				
			FINISH		CHECKED										
		ISSUED													
DO NOT SCALE DRAWING							SIZE		FSCM NO.		DWG. NO.		REV.		
							B				1002290		1.19		

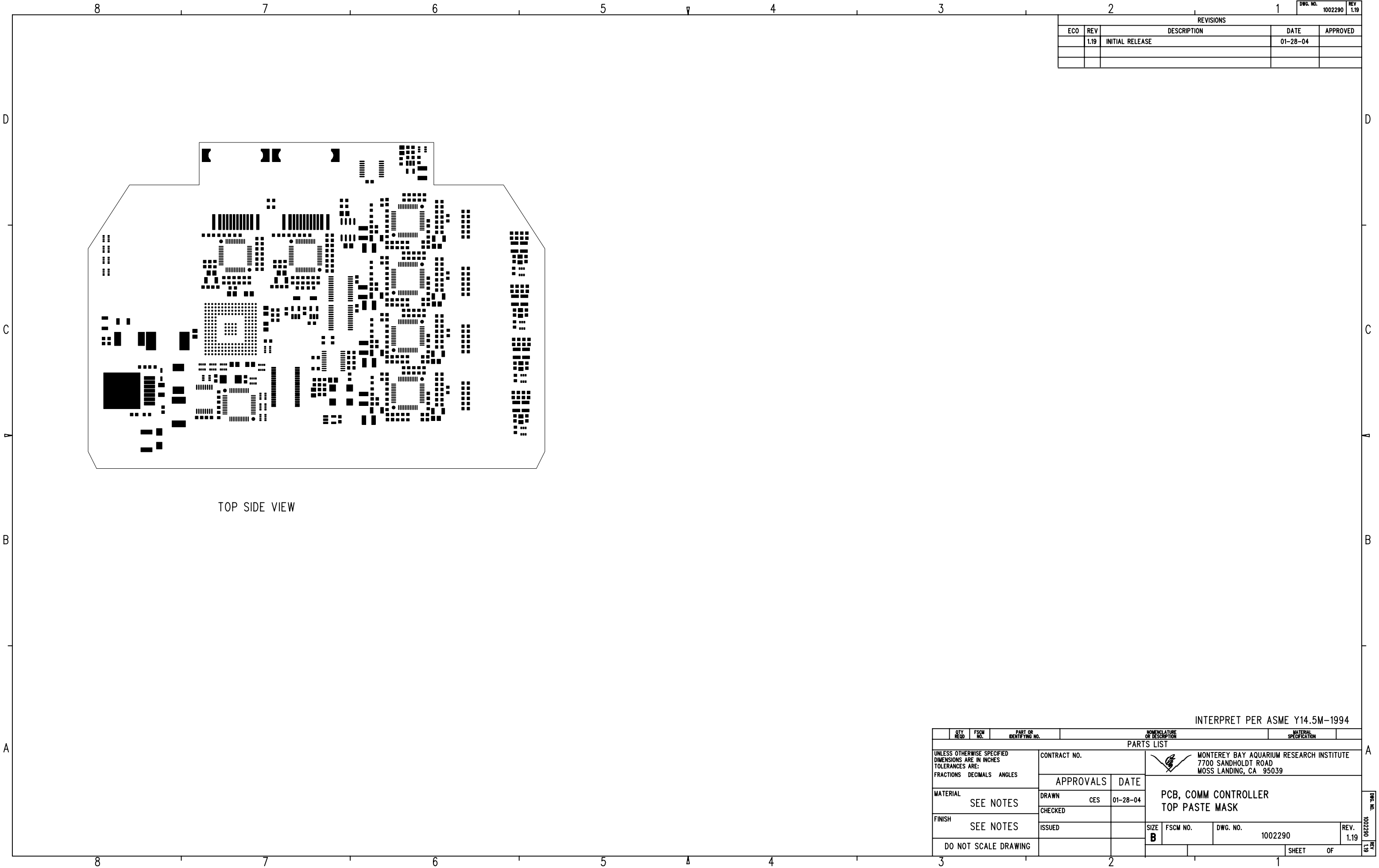


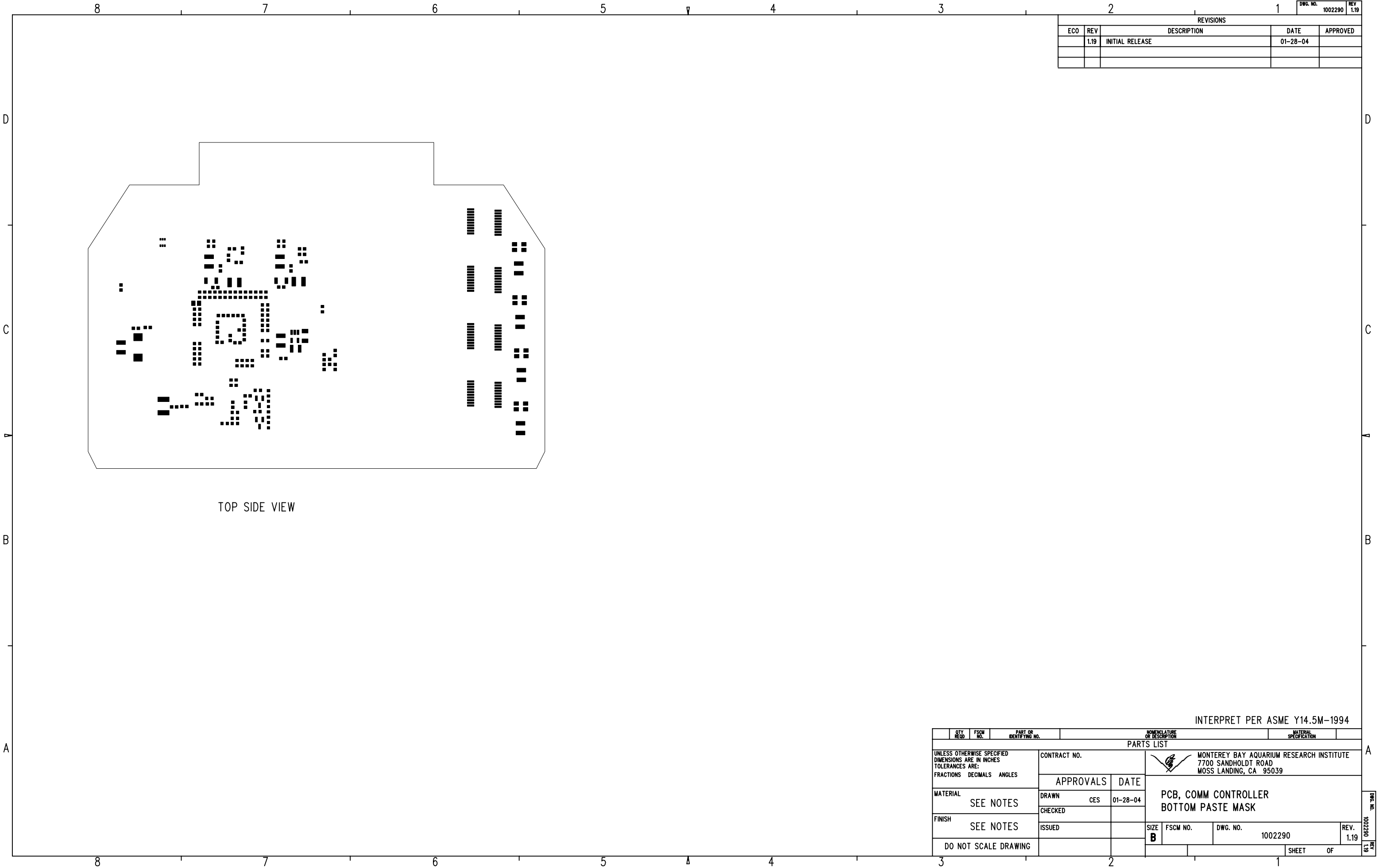


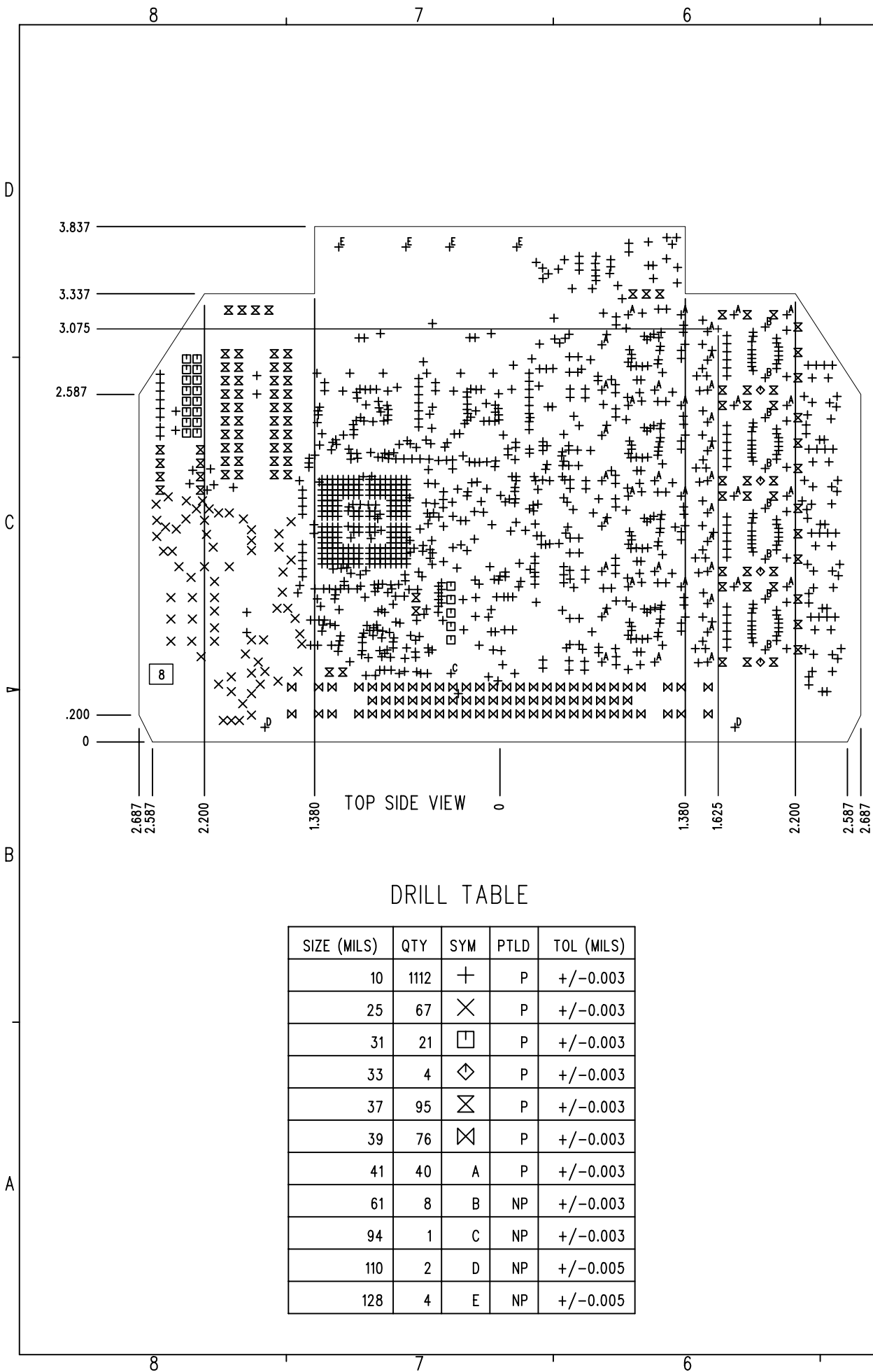
TOP SIDE VIEW

REVISIONS				
ECO	REV	DESCRIPTION	DATE	APPROVED
	1.19	INITIAL RELEASE	01-28-04	

INTERPRET PER ASME Y14.5M-1994																
QTY REQD		FSCM NO.	PART OR IDENTIFYING NO.		NOMENCLATURE OR DESCRIPTION			MATERIAL SPECIFICATION								
PARTS LIST																
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES			CONTRACT NO.		 MONTEREY BAY AQUARIUM RESEARCH INSTITUTE 7700 SANDHOLDT ROAD MOSS LANDING, CA 95039											
			APPROVALS							DATE						
			MATERIAL			DRAWN		CES		01-28-04		PCB, COMM CONTROLLER TOP SOLDERMASK				
			FINISH			CHECKED										
			ISSUED													
DO NOT SCALE DRAWING							SIZE		FSCM NO.		DWG. NO.		REV.			
							B				1002290		1.19			
											SHEET		OF			
3			1		2		1									
TMR. NO.	1002290	REV.	1.19													





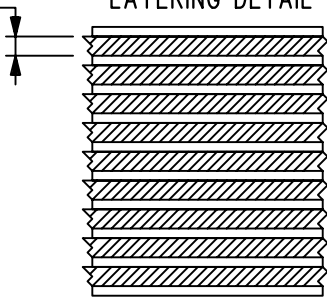


DRILL TABLE

SIZE (MILS)	QTY	SYM	PTLD	TOL (MILS)
10	1112	+	P	+/-0.003
25	67	×	P	+/-0.003
31	21	□	P	+/-0.003
33	4	◇	P	+/-0.003
37	95	⊠	P	+/-0.003
39	76	⊠	P	+/-0.003
41	40	A	P	+/-0.003
61	8	B	NP	+/-0.003
94	1	C	NP	+/-0.003
110	2	D	NP	+/-0.005
128	4	E	NP	+/-0.005

0.006 ±0.003 TYP

LAYERING DETAIL



- LAYER 1 - TOP SIDE
- LAYER 2 - GND PLANE
- LAYER 3 - INNER SIGNAL/CLK
- LAYER 4 - PWR PLANE
- LAYER 5 - AGND/DGND PLANE
- LAYER 6 - INNER SIGNAL
- LAYER 7 - GND PLANE
- LAYER 8 - INNER SIGNAL
- LAYER 9 - GND PLANE
- LAYER 10 - BOTTOM SIDE

13. CERTIFICATE OF COMPLIANCE TO BE PROVIDED ON ALL SHIPMENTS.
12. EACH LOT MUST INCLUDE ONE SOLDER SAMPLE.
11. BOARDS TO BE 100% NET LIST TESTED FOR OPENS AND SHORTS.
10. FABRICATE PER IPC-6012, CLASS II.
9. ACCEPTABILITY CRITERIA TO BE PER IPC-A-600, LATEST ISSUE.
8. VENDORS UL ID, RECOGNIZED COMPONENT SYMBOL, 94V-0 RATING PER UL796 AND DATE CODE TO APPEAR IN THIS AREA ONLY ON FAR SIDE.
7. FABRICATION DRAWING TAKES PRECEDENCE OVER ARTWORK AND/OR PURCHASE ORDER(S).
6. PROCESS TO BE SOLDER MASK OVER BARE COPPER (SMOBC).
5. SIGNAL LAYERS TO BE 1 OZ. COPPER.
PLANE LAYERS TO BE 2 OZ. COPPER.
4. SILK SCREEN LEGEND TO BE WHITE, NON-CONDUCTIVE EPOXY INK.
3. SOLDER MASK BOTH SIDES LPI (LIQUID PHOTO-IMAGEABLE) PER IPC-SM-840.
2. MATERIAL IS GLASS EPOXY, TYPE GFN PER IPC-4101, GREEN OR NATURAL, OVERALL THICKNESS TO BE 0.062 +/-0.007.
1. TOLERANCE: XX=+/-0.03; XXX=+/-0.010.

INTERPRET PER ASME Y14.5M-1994									
QTY REQD	FSCM NO.	PART OR IDENTIFYING NO.		NOMENCLATURE OR DESCRIPTION				MATERIAL SPECIFICATION	
PARTS LIST									
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ARE: FRACTIONS DECIMALS ANGLES				CONTRACT NO.		 MONTEREY BAY AQUARIUM RESEARCH INSTITUTE 7700 SANDHOLDT ROAD MOSS LANDING, CA 95039			
MATERIAL SEE NOTES				APPROVALS		DATE		PCB, COMM CONTROLLER DRILL DRAWING	
				DRAWN CES		01-28-04			
FINISH SEE NOTES				CHECKED				SIZE B	
				ISSUED					
DO NOT SCALE DRAWING								FSCM NO. DWG. NO. 1002290 REV. 1.19	
								SHEET OF	