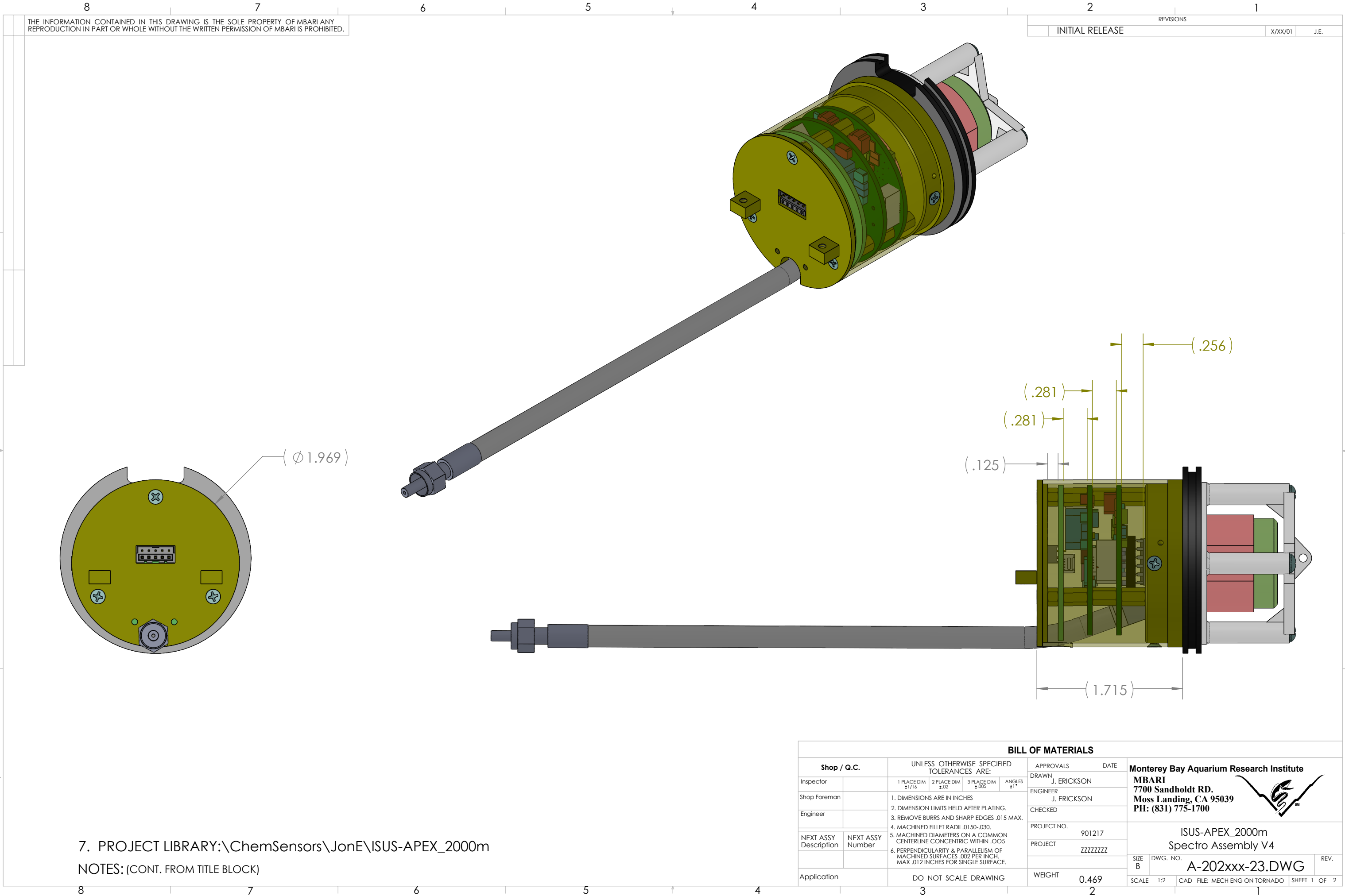
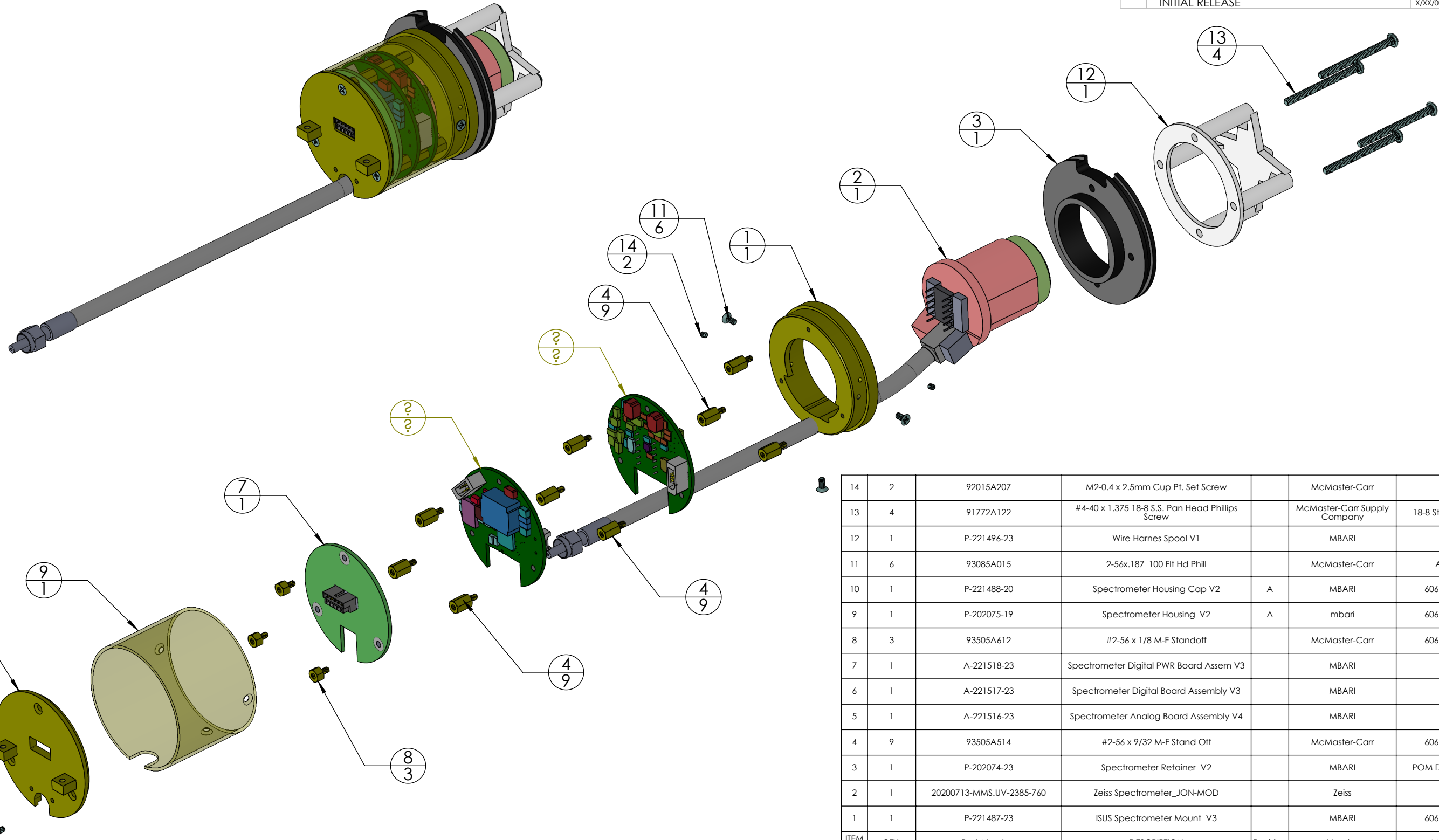




THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MBARI ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MBARI IS PROHIBITED.

| REVISIONS |                 |         |          |
|-----------|-----------------|---------|----------|
| REV.      | DESCRIPTION     | DATE    | APPROVED |
|           | INITIAL RELEASE | X/XX/00 | J.E.     |



|          |      |                          |                                                 |          |                              |                      |
|----------|------|--------------------------|-------------------------------------------------|----------|------------------------------|----------------------|
| 14       | 2    | 92015A207                | M2-0.4 x 2.5mm Cup Pt. Set Screw                |          | McMaster-Carr                |                      |
| 13       | 4    | 91772A122                | #4-40 x 1.375 18-8 S.S. Pan Head Phillips Screw |          | McMaster-Carr Supply Company | 18-8 Stainless Steel |
| 12       | 1    | P-221496-23              | Wire Harness Spool V1                           |          | MBARI                        | ABS                  |
| 11       | 6    | 93085A015                | 2-56x.187_100 Flt Hd Phill                      |          | McMaster-Carr                | AISI 304             |
| 10       | 1    | P-221488-20              | Spectrometer Housing Cap V2                     | A        | MBARI                        | 6061-T6 Alloy        |
| 9        | 1    | P-202075-19              | Spectrometer Housing_V2                         | A        | mbari                        | 6061-T6 Alloy        |
| 8        | 3    | 93505A612                | #2-56 x 1/8 M-F Standoff                        |          | McMaster-Carr                | 6061-T6 Alloy        |
| 7        | 1    | A-221518-23              | Spectrometer Digital PWR Board Assem V3         |          | MBARI                        |                      |
| 6        | 1    | A-221517-23              | Spectrometer Digital Board Assembly V3          |          | MBARI                        |                      |
| 5        | 1    | A-221516-23              | Spectrometer Analog Board Assembly V4           |          | MBARI                        |                      |
| 4        | 9    | 93505A514                | #2-56 x 9/32 M-F Stand Off                      |          | McMaster-Carr                | 6061-T6 Alloy        |
| 3        | 1    | P-202074-23              | Spectrometer Retainer V2                        |          | MBARI                        | POM Delrin (Black)   |
| 2        | 1    | 20200713-MMS.UV-2385-760 | Zeiss Spectrometer_JON-MOD                      |          | Zeiss                        |                      |
| 1        | 1    | P-221487-23              | ISUS Spectrometer Mount V3                      |          | MBARI                        | 6061-T6 Alloy        |
| ITEM NO. | QTY. | Part_Number              | DESCRIPTION                                     | Revision | Vendor                       | MATERIAL             |

BILL OF MATERIALS

| Shop / Q.C.           |                  | UNLESS OTHERWISE SPECIFIED TOLERANCES ARE:                                                                                                                                                                                                                                                                                                      |                     |                               |               | APPROVALS       |             | DATE                                                                                                                                                                                                                                                                |  |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------------|---------------|-----------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Inspector             |                  | 1 PLACE DIM<br>±1/16                                                                                                                                                                                                                                                                                                                            | 2 PLACE DIM<br>±.02 | 3 PLACE DIM<br>±.005          | ANGLES<br>±1° | DRAWN           | J. ERICKSON | <div>Monterey Bay Aquarium Research Institute</div> <div>MBARI</div> <div>7700 Sandholdt RD.</div> <div>Moss Landing, CA 95039</div> <div>PH: (831) 775-1700</div> <div></div> |  |
| Shop Foreman          |                  | 1. DIMENSIONS ARE IN INCHES<br>2. DIMENSION LIMITS HELD AFTER PLATING.<br>3. REMOVE BURRS AND SHARP EDGES .015 MAX.<br>4. MACHINED FILLET RADII .0150-.030.<br>5. MACHINED DIAMETERS ON A COMMON CENTERLINE CONCENTRIC WITHIN .005<br>6. PERPENDICULARITY & PARALLELISM OF MACHINED SURFACES .002 PER INCH, MAX .012 INCHES FOR SINGLE SURFACE. |                     |                               |               | ENGINEER        | J. ERICKSON |                                                                                                                                                                                                                                                                     |  |
| Engineer              |                  |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               | CHECKED         |             |                                                                                                                                                                                                                                                                     |  |
| NEXT ASSY Description | NEXT ASSY Number |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               | PROJECT NO.     | 901217      |                                                                                                                                                                                                                                                                     |  |
|                       | INTERNALS_V3     |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               | PROJECT         | CHEM S.     |                                                                                                                                                                                                                                                                     |  |
| Application           |                  | DO NOT SCALE DRAWING                                                                                                                                                                                                                                                                                                                            |                     |                               |               | WEIGHT          | 0.469 lb.   | ISUS-APEX_2000m<br>Spectro Assembly V4                                                                                                                                                                                                                              |  |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               | SIZE B          | DWG. NO.    | REV.                                                                                                                                                                                                                                                                |  |
|                       |                  |                                                                                                                                                                                                                                                                                                                                                 |                     |                               |               | A-202xxx-23.DWG |             |                                                                                                                                                                                                                                                                     |  |
|                       |                  | SCALE 1:4                                                                                                                                                                                                                                                                                                                                       |                     | CAD FILE: MECH ENG ON TORNADO |               | SHEET 2 OF 2    |             |                                                                                                                                                                                                                                                                     |  |

Monterey Bay Aquarium Research Institute  
MBARI  
7700 Sandholdt RD.  
Moss Landing, CA 95039  
PH: (831) 775-1700



ISUS-APEX\_2000m  
Spectro Assembly V4

7. PROJECT LIBRARY:\ChemSensors\JonE\ISUS-APEX\_2000m

NOTES: (CONT. FROM TITLE BLOCK)