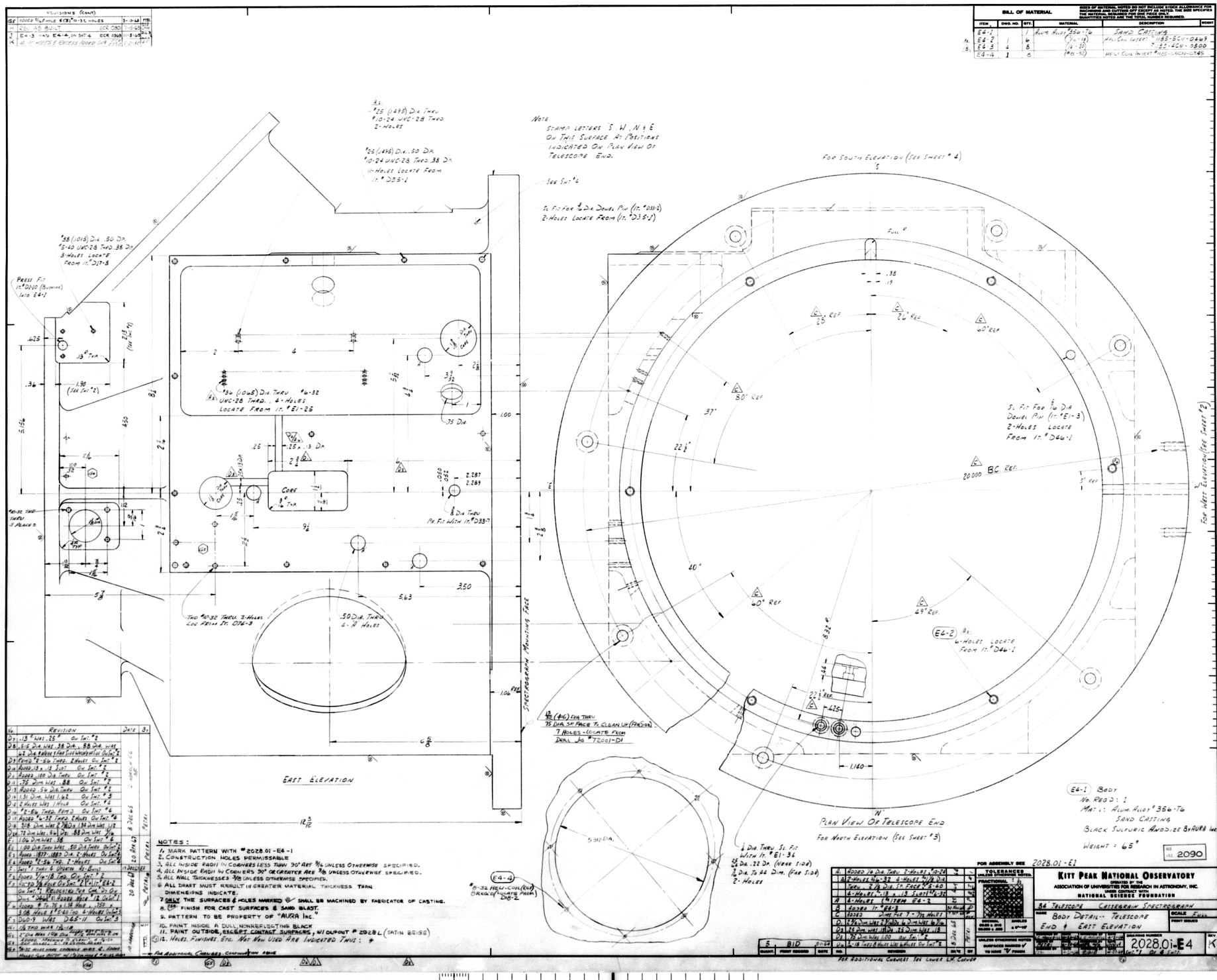
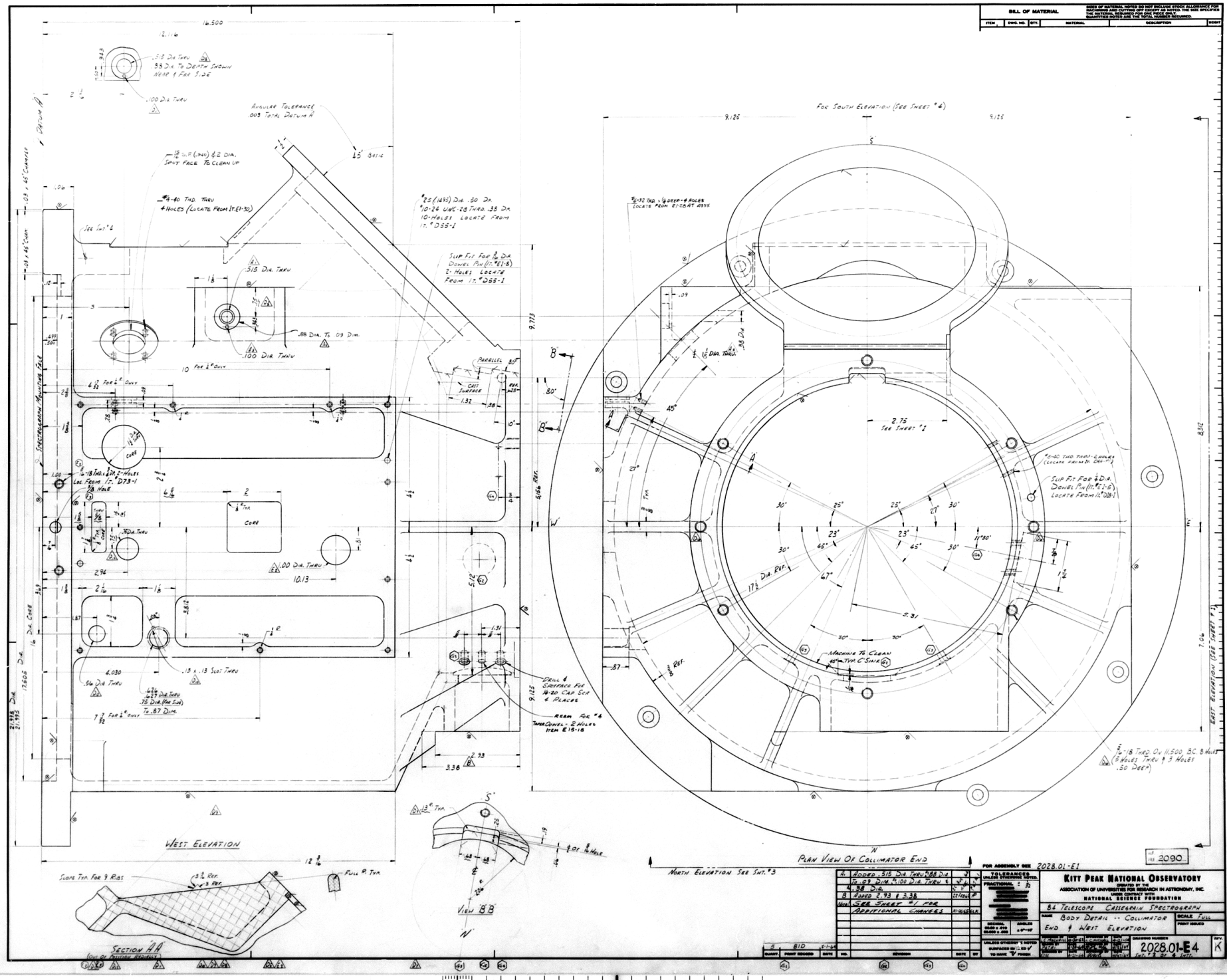

BILL OF MATERIAL
ITEM
DWG. NO.
QTY.
MATERIAL
DESCRIPTION
WEIGHT
E4-1
1
ALUM. ALLOY 356-T6
SAND CASTING
E4-2
1
6
(1/4-20)
E4-3
4
8
(#6-32)
E4-4
1
6
NOTE
STAMP LETTERS S, W, N & E ON THIS SURFACE AT POSITIONS INDICATED ON PLAN VIEW OF TELESCOPE END.
FOR SOUTH ELEVATION (SEE SHEET # 4)
FOR WEST ELEVATION (SEE SHEET # 2)
EAST ELEVATION
SPECTROGRAPH MOUNTING FACE
PLAN VIEW OF TELESCOPE END
FOR NORTH ELEVATION (SEE SHEET # 3)
E4-1 BODY
NO REQ'D: 1
MAT'L: ALUM. ALLOY 356-T6
SAND CASTING
BLACK SULFURIC ANODIZE BY AURA Inc.
WEIGHT = 65#
E4-2
6-HOLES LOCATE FROM LT. #D46-1
E4-4
#6-32 HELI-COIL (R.H.) DRILL & LOCATE FROM D46-2
NOTES:
1. MARK PATTERN WITH # 2028.01-E4-1
2. CONSTRUCTION HOLES PERMISSABLE
3. ALL INSIDE RADII IN CORNERS LESS THAN 90° ARE 3/16 UNLESS OTHERWISE SPECIFIED.
4. ALL INSIDE RADII IN CORNERS 90° OR GREATER ARE 3/8 UNLESS OTHERWISE SPECIFIED.
5. ALL WALL THICKNESSES 3/16 UNLESS OTHERWISE SPECIFIED.
6. ALL DRAFT MUST RESULT IN GREATER MATERIAL THICKNESS THAN DIMENSIONS INDICATE.
7. ONLY THE SURFACES & HOLES MARKED ▽ SHALL BE MACHINED BY FABRICATOR OF CASTING.
8. 125 FINISH FOR CAST SURFACES & SAND BLAST.
9. PATTERN TO BE PROPERTY OF "AURA Inc."
10. PAINT INSIDE A DULL NONREFLECTING BLACK
11. PAINT OUTSIDE, EXCEPT CONTACT SURFACES, W/ DUPONT # 2028 L (SATIN BEIGE)
12. HOLES, FINISHES, ETC. NOT NOW USED ARE INDICATED THUS: *
FOR ASSEMBLY SEE 2028.01-E1
KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION
84 TELESCOPE CASSEGRAIN SPECTROGRAPH
BODY DETAIL - TELESCOPE END & EAST ELEVATION
SCALE FULL
DRAWING NUMBER 2028.01-E4
REV K
SHEET 1 OF 4 SHEETS
TOLERANCES UNLESS OTHERWISE NOTED
FRACTIONAL ± 1/64
DECIMAL .XX ± .010 .XXX ± .005
ANGLES ± 0°-30'
UNLESS OTHERWISE NOTED SURFACES MARKED ▽ TO HAVE 125 FINISH
5 BID 2-1-84
DRAWN
TRACED
CHECKED
APPROVED
DATE



H	Added .515 Dia. Thru .88 Dia. To .09 Dim. & .100 Dia. Thru &				
G	Added .38 Dia.				
F	Added 2.93 & 3.38				
Was	See Sheet #1 for Additional Changes				
QUANT.	ITEM REQUIRED	DATE	NO.	REVISION	DATE	BY
5	BID	5-1-64				

TOLERANCES UNLESS OTHERWISE NOTED: FRACTIONAL ± 1/64; DECIMAL .XXX ± .010, .XXXX ± .005; ANGLES ± 0°-15'. UNLESS OTHERWISE NOTED SURFACES 125 µ IN √ TO HAVE √ FINISH

FOR ASSEMBLY SEE 2028.01-E1

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

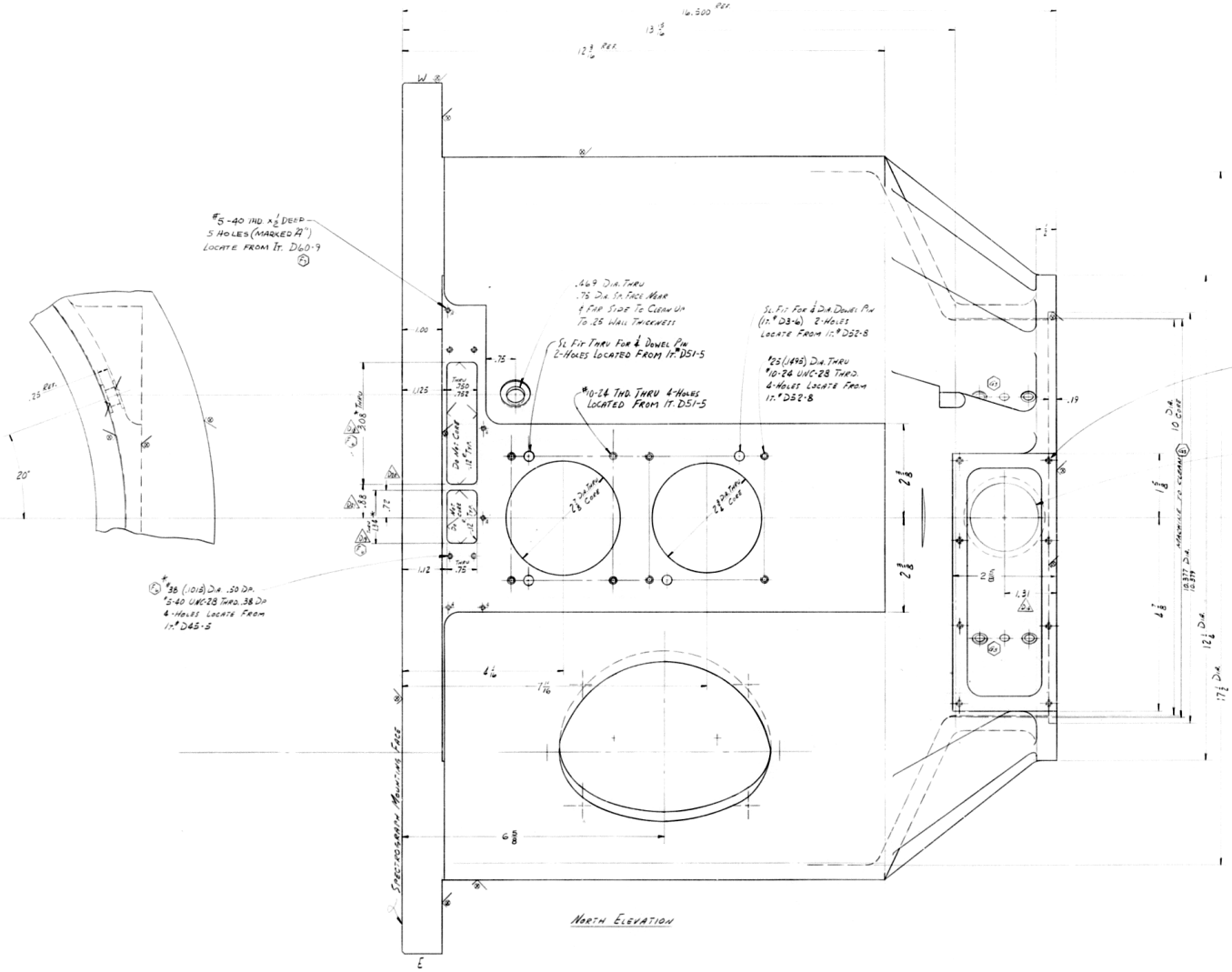
84 Telescope Cassegrain Spectrograph
Body Detail -- Collimator End & West Elevation

SCALE Full | PRINT ISSUED

DRAWN BY	TRACED BY	DESIGNED BY	CHECKED BY	APPROVED BY	DATE
Lou	Lou	Lou	Lou	Lou	5/1/64

DRAWING NUMBER 2028.01-E4 Sht. 2 Of 4 Sheets REV. K

Int 2090



BILL OF MATERIAL					
ITEM	DTG. NO.	QTY.	MATERIAL	DESCRIPTION	WEIGHT

SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING AND CUTTING OFF EXCEPT AS NOTED. THE SIZE SPECIFIED THE MATERIAL REQUIRED FOR FINAL PIECE OR PIECES SUBMITTED. BOTH ARE THE TOTAL AMOUNT REQUIRED.

5	B10	6-1-65		
QUANT.	PRINT RECORD	DATE	NO.	REVISION

SEE SHEET #1 FOR ALL CHANGES			DATE	BY

TOLERANCES UNLESS OTHERWISE NOTED
FRACTIONAL ± 1/64
DECIMAL 0.000 ± .010, 0.0 ± .005
ANGLES ± 0°-15'
UNLESS OTHERWISE NOTED SURFACES MARKED √ TO HAVE √ FINISH

FOR ASSEMBLY SEE 2028.01 - E1

KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH NATIONAL SCIENCE FOUNDATION

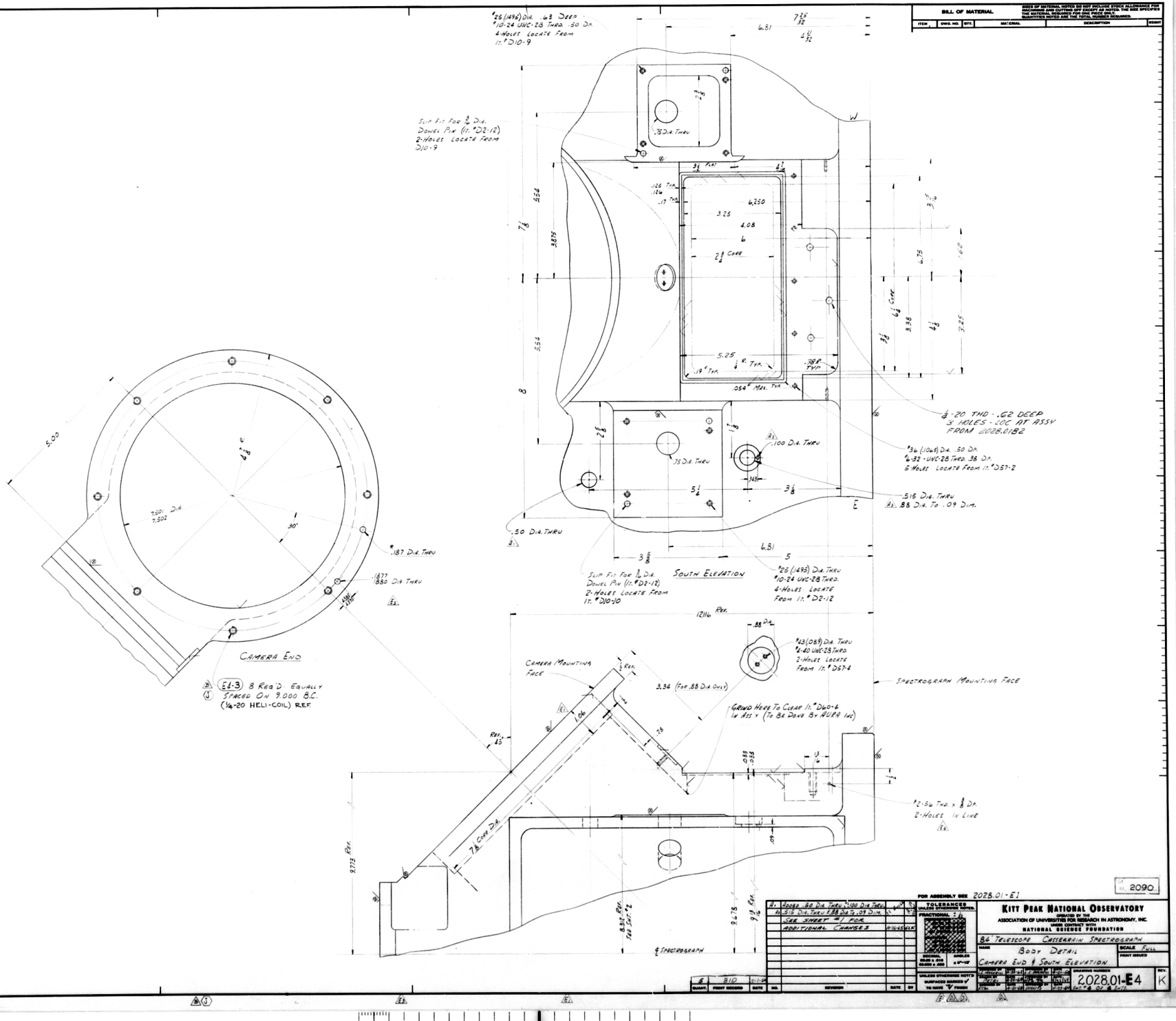
84 TELESCOPE -- CASSEGRAIN SPECTROGRAPH

NAME: BODY DETAIL
NORTH ELEVATION

SCALE: FULL
FIRST ISSUED:

DRAWING NUMBER: 2028.01-E4
REV.: K

LIST: 2090


BILL OF MATERIAL
ITEM | DWG. NO. | QTY. | MATERIAL | DESCRIPTION | WEIGHT
SIZES OF MATERIAL NOTED DO NOT INCLUDE STOCK ALLOWANCE FOR MACHINING OR CUTTING OF EXCEPT AS NOTED. THE SIZE SPECIFIED THE MATERIAL REQUIRED FOR ONE PIECE ONLY.
QUANTITIES NOTED ARE THE TOTAL NUMBER REQUIRED.
#25 (.1495) DIA. .63 DEEP
#10-24 UNC-2B THRD. .50 DP.
4 HOLES LOCATE FROM
Lt. #D10-9
SLIP FIT FOR 3/16 DIA. DOWEL PIN (Lt. #D2-12)
2 HOLES LOCATE FROM D10-9
.75 DIA. THRU
3 1/2 FLAT
.126 THR.
.124
.17 THR.
6.250
3.25
4.08
6
2 3/4 CORE
5.25 R. TYP.
.19 R. TYP.
.78 R. TYP.
.054 MAX. THR.
6.81
7 25/32
4 11/32
5.64
3.875
7 1/8
8
2 1/8
6 3/4 CORE
3.38
4 1/8
3.25
1.62
3 1/8
.100 DIA. THRU
.75 DIA. THRU
.343
5 1/4
3 1/8
.515 DIA. THRU
A1. .88 DIA. TO .09 DIM.
.50 DIA. THRU
5
E
3 5/8
#36 (.1065) DIA. .50 DP.
#6-32 UNC-2B THRD. .38 DP.
5 HOLES LOCATE FROM Lt. #D57-2
1/4-20 THD. .62 DEEP
3 HOLES. LOC AT ASSY
FROM 2028.0182
SLIP FIT FOR 3/16 DIA. DOWEL PIN (Lt. #D2-12)
2 HOLES LOCATE FROM
Lt. #D10-10
SOUTH ELEVATION
#25 (.1495) DIA. THRU
#10-24 UNC-2B THRD.
4 HOLES LOCATE
FROM Lt. #D2-12
5.00
4 1/8 R.
7.501 DIA
7.502
30°
.187 DIA. THRU
.1877
.1880 DIA. THRU
.496
.495
CAMERA END
E4-3 8 REQ'D EQUALLY
SPACED ON 9.000 B.C.
(1/4-20 HELI-COIL) REF.
12.116 REF.
.88 DIA.
#43 (.089) DIA. THRU
#4-40 UNC-2B THRD.
2 HOLES LOCATE
FROM Lt. #D57-4
SPECTROGRAPH MOUNTING FACE
CAMERA MOUNTING FACE
1/2 REF.
3.34 (FOR .88 DIA. ONLY)
GRIND HERE TO CLEAR Lt. #D40-6
IN ASS'Y (TO BE DONE BY AURA INC)
1.04
.75
.088
.055
1/2
#2-56 THD. X 1/4 DP.
2 HOLES IN LINE
7 3/4 CORE DIA.
9.773 REF.
8.312 REF.
SEE SHT. #2
9.675
9 1/8 REF.
℄ SPECTROGRAPH
FOR ASSEMBLY SEE 2028.01-E1
2090
A1. ADDED .88 DIA. THRU & .100 DIA. THRU
A1. .515 DIA. THRU & .88 DIA. TO .09 DIM.
SEE SHEET #1 FOR
ADDITIONAL CHANGES
8-14-85 KLK
TOLERANCES UNLESS OTHERWISE NOTED.
FRACTIONAL ± 1/64
DECIMAL .XX ± .010 .XXX ± .005
ANGLES ± 30'-00"
UNLESS OTHERWISE NOT'D SURFACES MARKED √ TO HAVE √ FINISH
KITT PEAK NATIONAL OBSERVATORY
OPERATED BY THE ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC. UNDER CONTRACT WITH THE NATIONAL SCIENCE FOUNDATION
84 TELESCOPE CASSEGRAIN SPECTROGRAPH
NAME BODY DETAIL
CAMERA END & SOUTH ELEVATION
SCALE FULL
POINT ISSUED
DRAWING NUMBER 2028.01-E4
REV. K
SHEET 4 OF 8 SHTS
#. BID
QUANT. PRINT RECORD DATE
REVISION DATE BY