

Object	Date	Time	Seeing	Filters	Opacity	Location	Equipment	Description
<b>Required Objects to Observe</b>								
Great Rift	8/10/2010	9:29 PM	Good	None	3-5	Keota, CO - Moderately Dark Sky.	NE	A nice dark swath of sky separating 2 arms of Milky Way. Goes from tip of Cygnus past Ophiuchus. Opacity 3-5.
B 142	7/21/2008	1:27 AM	Great	None	3	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm. B142 is to the right of B 143 and 1/2 FOV away. It too is 3/4 FOV high and is fatter at top than at bottom. Very bright field star on bottom of B142. Very few field stars on either void and both are obvious.
B143	7/21/2008	1:27 AM	Great	None	3	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm. B143 forms a "U" with prongs going up and rhs B143 fatter than lhs. Not many stars on this void in star rich field. Its 3/4 FOV high and fills FOV nicely.
B 34	9/25/2011	2:45 AM	Fair	None	3	Okie-Tex Star Party. Kenton, OK. Very dark skies.	20x80 Binoculars	20x80 Binocs – A larger area, boxy, void of right stars. See a few very faint stars on void.
B 160	7/29/2011	12:09 AM	Good	None	2 or 3	Fox Park, WY. Very dark skies.	20x80 Binoculars	A medium sized oval area with this should be. Lots of faint stars on void but not as many as surrounding the void.
B 161	7/29/2011	12:05 AM	Good	None	4 or 5	Fox Park, WY. Very dark skies.	20x80 Binoculars	A small, darker oval area bounded by 4 brighter stars in a rhombus shape. Couple of faint stars seen on void.
B 171	7/29/2011	12:01 AM	Good	None	3 or 4	Fox Park, WY. Very dark skies.	20x80 Binoculars	A darker rectangular shaped area bonded by a line of bright stars around rectangle edge.
B 365	7/29/2011	12:21 AM	Good	None	3	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – An area that is void of lots of stars, yet there are many stars on void. Bounded by much brighter stars. Fills FOV nicely.
B 144	7/29/2011	10:50 PM	Great	None	1 or 2	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	55mm – A noticeable thick dark ring. Has few stars in void and has a tail that comes off the lower right side that is the same thickness.
B 145	7/29/2011	10:53 PM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	55mm – A small oval void of stars in a very star rich field.
B168	7/29/2011	11:29 PM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A long, fat void approx 3-4 FOVs long, snakes up and down as I pan to right and then opens up to a much larger void on right had side. Some stars on void here and there.
B 352	7/29/2011	11:23 PM	Great	None	3 or 4	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A fat chevron shaped void pointing to upper left. Some stars in void.

B 353	7/29/2011	11:38 PM	Great	None	1 or 2	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A large circular void with lots of stars on void but not as many as surround star rich field.
B 361	7/29/2011	11:25 PM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – An oval shaped dark area void of stars. Bounded by star rich field stars.
LDN 935	7/28/2011	11:56 PM	Good	None	4 or 5	Fox Park, WY. Very dark skies.	20x80 Binoculars	A nice, dark lane that has a dog leg kink in it. Easy to see in FOV. Dark. Few stars on void.
LG3	7/28/2011	11:48 PM	Good	None	4	Fox Park, WY. Very dark skies.	NE	Large dark area north of Deneb down Milky Way. Like northern coalsack. Has some stars in void but not like Milky Way near it.
Northern Coalsack	7/28/2011	11:46 PM	Good	None	4	Fox Park, WY. Very dark skies.	NE	A very large, dark patch with some stars seen on void.
B 37	9/26/2011	4:25 AM	Good	None	3	Okie-Tex Star Party. Kenton, OK. Very dark skies.	20x80 Binoculars	A kidney bean shaped area with many stars in this area. Bounded by a star rich area of winter Milky Way. Lots of stars outside area.
B 44	7/28/2011	9:58 PM	OK	None	2	Fox Park, WY. Very dark skies.	20x80 Binoculars	Nice. Long area void of stars.
B 64	7/28/2011	10:16 PM	OK	None	2 or 3	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – M9 is awesome. To left and in same FOV is this larger area of darkness in a very star rich area. Has a few stars on void.
B 78	7/28/2011	10:07 PM	Good	None	4 or 5	Fox Park, WY. Very dark skies.	20x80 Binoculars	Fills FOV nicely. Very dark and has a couple of stars in void. For most part, starless.
Stem	7/28/2011	10:04 PM	OK	None	3	Fox Park, WY. Very dark skies.	20x80 Binoculars	A long, narrow dark area bounded by bright stars. Left to right in FOV and 1.5 FOVs long. Few faint stars seen on void.
Fish's Mouth	9/25/2011	2:57 AM	Fair	None	5	Okie-Tex Star Party. Kenton, OK. Very dark skies.	12.5" f/8 Newtonian	32mm – A long dar void that hooks into M42 and heads towards the trapezium.
Flame	9/26/2011	3:38 AM	Fair	None	4 or 5	Okie-Tex Star Party. Kenton, OK. Very dark skies.	12.5" f/8 Newtonian	15mm - Bisceting the flame nebula is this darker area. Can see tentacles coming off right side into nebula.
B 275	7/28/2011	10:01 PM	OK	None	3 or 4	Fox Park, WY. Very dark skies.	20x80 Binoculars	A narrow, chevron looking dark patch west of M6. Couple of faint stars seen in void.
B 103	7/28/2011	11:39 PM	Good	None	2 or 3	Fox Park, WY. Very dark skies.	20x80 Binoculars	A triangular darker area in amongst stars with more stars on void. Bounded by Milky Way stars.

B 111	7/28/2011	11:24 PM	Good	None	2	Fox Park, WY. Very dark skies.	20x80 Binoculars	A large, darker area above the open cluster M11. There are stars on void but void bounded by tons of Milky Way stars.
B 119a	7/28/2011	11:24 PM	Good	None	2 or 3	Fox Park, WY. Very dark skies.	20x80 Binoculars	To right of B111. A long, large, slender dark area bounded by Milky Way stars with some stars on void.
B 85	8/10/2010	22:10	Great	None	4	Keota, CO - Moderately Dark Sky.	12.5" f/8 Newtonian	134x - A set of dust lanes that divide M20 into 3 pieces. Very subtle yet easy to see.
B 86	5/12/2010	4:22	Great	None	5	Ft. Davis, TX - Dark Skies	20x80 Binoculars	A small area of a star rich Milky Way void of stars.
B 92	7/28/2011	10:33 PM	OK	None	5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – In same FOV as B93, B92 is more vertical linear shaped and not as dark as B93. Has less boundary definition. Could see both B92 and B93 in 20x80 binocs at top of M24.
B 93	7/28/2011	10:33 PM	OK	None	6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – This is a dark, round area with a couple of stars on void.
Lagoon	7/28/2011	10:39 PM	OK	None	3	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A darker area above and to the right of the heart of M8. Brighter nebulosity surrounds this. Small. Has few stars on void.
Swan's Neck	7/28/2011	11:44 PM	OK	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A small, dark oval void of stars with nebulosity over it forming swan's neck. Very dark.
B 22	9/25/2011	2:53 AM	Fair	None	3	Okie-Tex Star Party. Kenton, OK. Very dark skies.	20x80 Binoculars	A larger area void of but a couple of faint stars.
<b>Optional Objects to Observe</b>								
B88	7/28/2011	10:39 PM	OK	None	2	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Very small. Subtle darkening of bright nebula glow above M8.
B89	7/28/2011	10:39 PM	OK	None	2	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Very small. Subtle darkening of bright nebula glow above M8.
Be 157	7/28/2011	10:51 PM	OK	None	3 or 4	Fox Park, WY. Very dark skies.	20x80 Binoculars	A large area, easily seen in FOV that is void of all stars. Circular in shape.
B50	7/29/2011	9:59 PM	Great	None	5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A kidney bean shaped void with brighter stars bounding void. No stars on void.
B90	7/29/2011	10:29 PM	Great	None	6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Small dark patch, void of stars in a star rich area.

B303	7/29/2011	10:32 PM	Great	None	4	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – An oval patch void of stars. Not as dark as last 2 I've seen.
B84	7/29/2011	10:43 PM	Great	None	5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A larger oval area bounded by a ring of brighter stars. No stars seen in void.
B83a	7/29/2011	10:43 PM	Great	None	5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Above B84 and in same FOV is this shield shaped void outlined with very faint stars on bottom that forms the shield look.
B164	7/29/2011	11:43 PM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A roughly arrow head shaped void bounded by a line of brighter stars. Some faint stars on void on right hand side.
B362	7/29/2011	11:51 PM	Great	None	5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Roughly a thick arrow pointing to lower left. Has a line of 4 evenly spaced stars down the middle of the arrow. Otherwise, void of stars. Fills FOV nicely.
B343	7/29/2011	11:54 PM	Great	None	2 or 3	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Roughly circular with some stars seen on void.
LDN 889	7/29/2011	11:56 PM	Great	None	3	Fox Park, WY. Very dark skies.	20x80 Binoculars	A circular area with some stars on void. Centered on Gamma Cygnus. Surround void is star rich Milky Way area.
B334	7/30/2011	12:05 AM	Great	None	3 or 4	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A round void to upper right of a bright star with some stars in void.
B336	7/30/2011	12:05 AM	Great	None	3 or 4	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Above B334 are 2 longer, linear patches B336 and B337. Very similar to each other with some stars on void.
B337	7/30/2011	12:05 AM	Great	None	3 or 4	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Above B334 are 2 longer, linear patches B336 and B337. Very similar to each other with some stars on void.
B335	7/30/2011	12:08 AM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A fat Y shaped void. Y opens to left. Some stars on void and void bounded by line of brighter stars. In lower right part, void bisected by arc chain of faint stars, very close to each other.
B137	7/30/2011	12:10 AM	Great	None	2	Fox Park, WY. Very dark skies.	20x80 Binoculars	A large void with some stars seen on void. Fills FOV nicely.
LDN 617	7/30/2011	12:12 AM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	20x80 Binoculars	A larger, dark area approx 2 FOV in size and somewhat linear from left to right in FOV. Some brighter field stars seen on void. Pretty dark.
LDN 582	7/30/2011	12:14 AM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	20x80 Binoculars	A long void with some stars seen on void. Approx 1 FOV wide and a little over 1 FOV in length.

LDN 557	7/30/2011	12:15 AM	Great	None	5	Fox Park, WY. Very dark skies.	20x80 Binoculars	Fills FOV nicely. A dark void with few stars seen on void.
B139	7/30/2011	12:18 AM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A small boxy void with no stars on void.
B135	7/30/2011	12:21 AM	Great	None	4	Fox Park, WY. Very dark skies.	20x80 Binoculars	A larger void. Fills center of FOV nicely. Few stars seen on void.
B132	7/30/2011	12:27 AM	Great	None	5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A roundish void with 1 bright star in center.
B127	7/30/2011	12:28 AM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm - A small round void circled by 8 faint stars.
B129	7/30/2011	12:28 AM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – Below B127 is this long, fat, hot dog shaped void with no stars seen in void.
B104	7/30/2011	12:33 AM	Great	None	6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	19mm – A small oval void.
B108	7/30/2011	12:35 AM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	19mm – A dark heart shaped void. Very faint stars outline void with bottom of heart to left.
B112	7/30/2011	12:36 AM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	19mm – A small, oval void. No stars on void.
B115	7/30/2011	12:38 AM	Great	None	5 or 6	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	19mm – A horizontal void bounded by a circle of faint stars.
B118	7/30/2011	12:39 AM	Great	None	4	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	19mm – An irregular void with 1 brighter stars and 10-20 very faint stars on void.
B314	7/30/2011	12:42 AM	Great	None	3 or 4	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A larger void that fills FOV nicely with some stars seen on void.
B100	7/30/2011	12:44 AM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A larger void that fills FOV nicely. Couple of stars seen on void.
B97	7/30/2011	12:46 AM	Great	None	5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A larger void that overwhelms FOV. 5-10 brighter stars on void.
B95	7/30/2011	12:48 AM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A roughly circular void with few stars on void.

B162	7/30/2011	12:51 AM	Great	None	4 or 5	Fox Park, WY. Very dark skies.	12.5" f/8 Newtonian	32mm – A vertical rectangular shaped void bounded by stars.
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**Observational Statistics:**

Observed 35 of 35 (Required)  
35 of 35 (Optional)  
70 of 70 Seen

**Magnifications Used:**

9mm 282x  
10mm 254x  
15mm 173x  
19mm 134x  
32mm 80x  
55mm 46x

**Abbreviations:**

AV - Adverted Vision  
FOV - Field of View of Eyepiece  
DV - Direct Vision