



# The Pentagon & An Ancient Mystery...

October 10, 2016

Scott Wolter, P.G.  
President

American Petrographic Services, Inc.



# The Pentagon

- Groundbreaking September 11, 1941
- Five rings, five stories
- Floors 1 & 2 continuous
- Floors 3 to 5 open between rings
- Service road between rings B & C





# **PENTAGON RENOVATION PROGRAM**

*On Cost, On Schedule,  
Built for the Next 50 Years*

<http://renovation.pentagon.mil>  
703-697-HELP (4357)

# Wedge 1 Renovations

- Steel reinforcement on outer masonry walls
- Kevlar cloth added to masonry walls
- Blast resistant windows
- Sprinklers
- Casualties low



# September 11, 2001 @ 9:38 AM

- American Airlines Flight #77
- Boeing 757
- 64 passengers and crew
- 10,000 gallons of jet fuel
- Hits on West side in Wedge 1 near grade





Sep. 12, 2001, 17:37:19

plane



Sep. 12, 2001, 17:37:19

impact





Sep. 12, 2001, 17:37:21

#2 impact



Sep. 12, 2001, 17:37:22

#3 impact



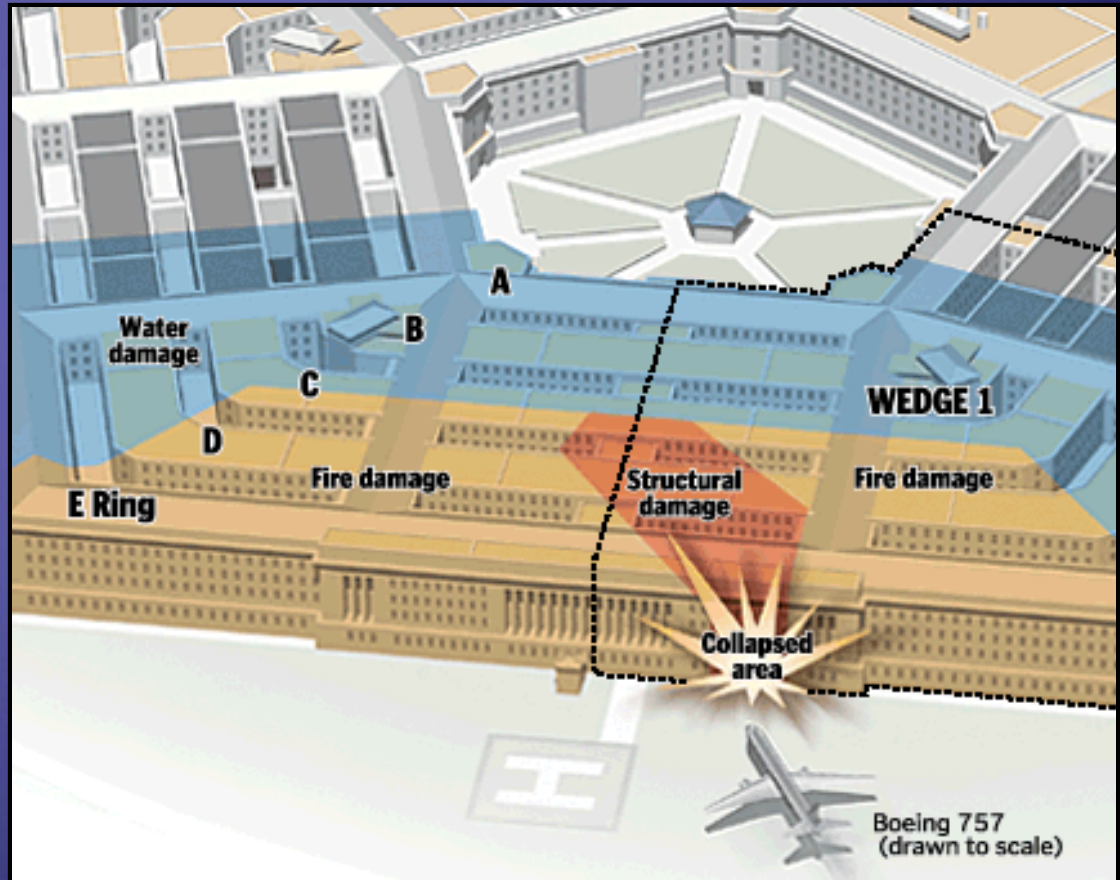
Sep. 12, 2001, 17:37:23

#4 impact



# Damage to Building

- Renovations slowed impact, reduced penetration
- Caroms into Wedge 2
- Reaches the back wall of C Ring
- Hole in C Ring back wall
- Debris in service road alley
- Explosion and fire concentrated in W-2, C Ring and first three floors



# Leo Titus / ECS

(Engineering Consulting Services)

- Structural Specialist with FEMA
- Arrived one hour after the crash
- Collapsed area had already fallen













MD  
TF-1

MD  
TF-1





# APS Contacted 9/22/01

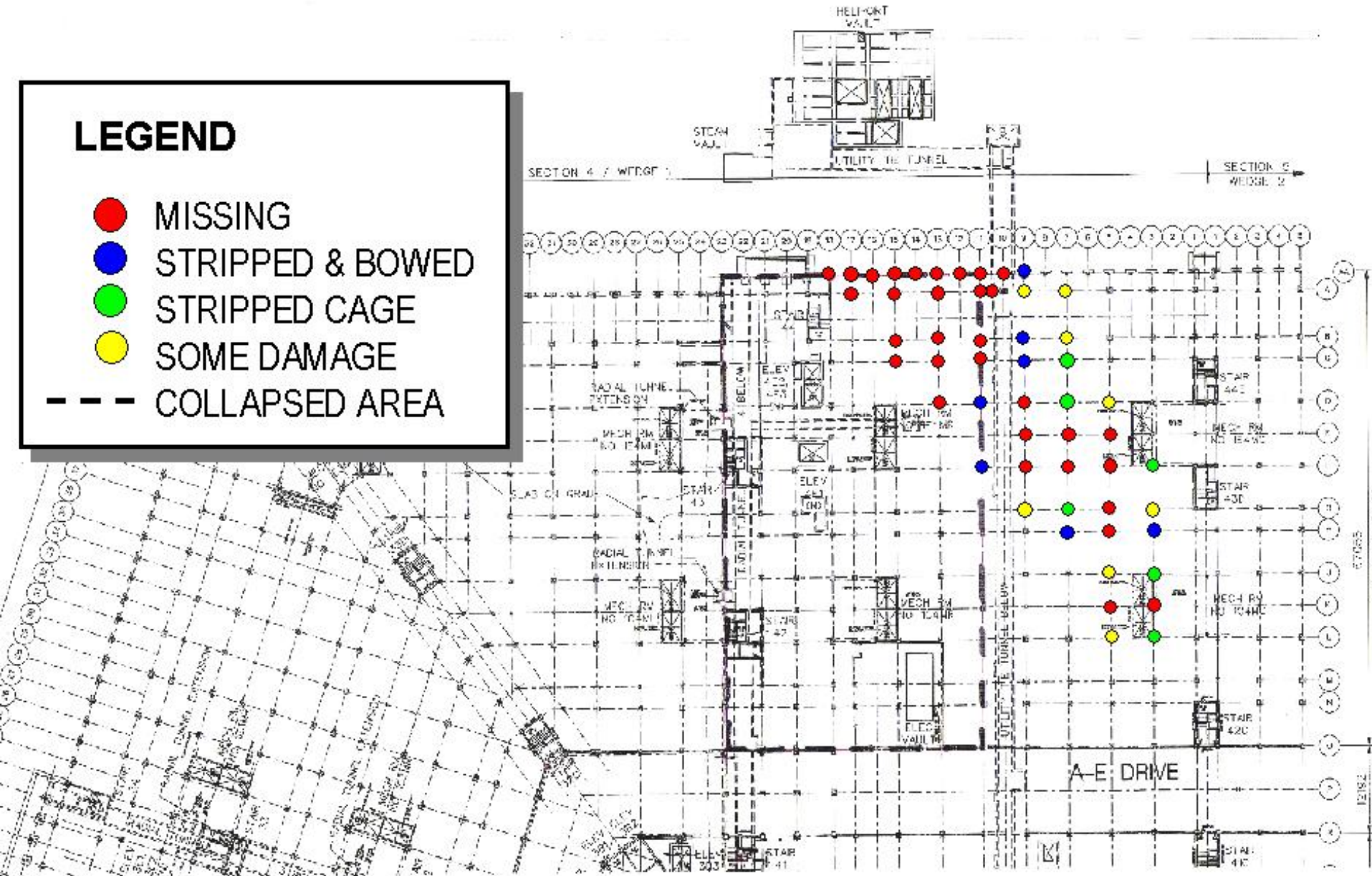
- Stan Murphy w/ECS Ltd.
- Structural columns and beams for fire damage
- Petrographic analysis on 170 concrete samples



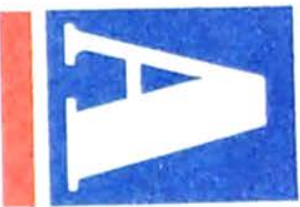
# STRUCTURAL INTEGRITY

## LEGEND

- MISSING
- STRIPPED & BOWED
- STRIPPED CAGE
- SOME DAMAGE
- - - COLLAPSED AREA







AMERICAN  
PETROGRAPHIC  
SERVICES, INC.

METRIC

1

2

3

4

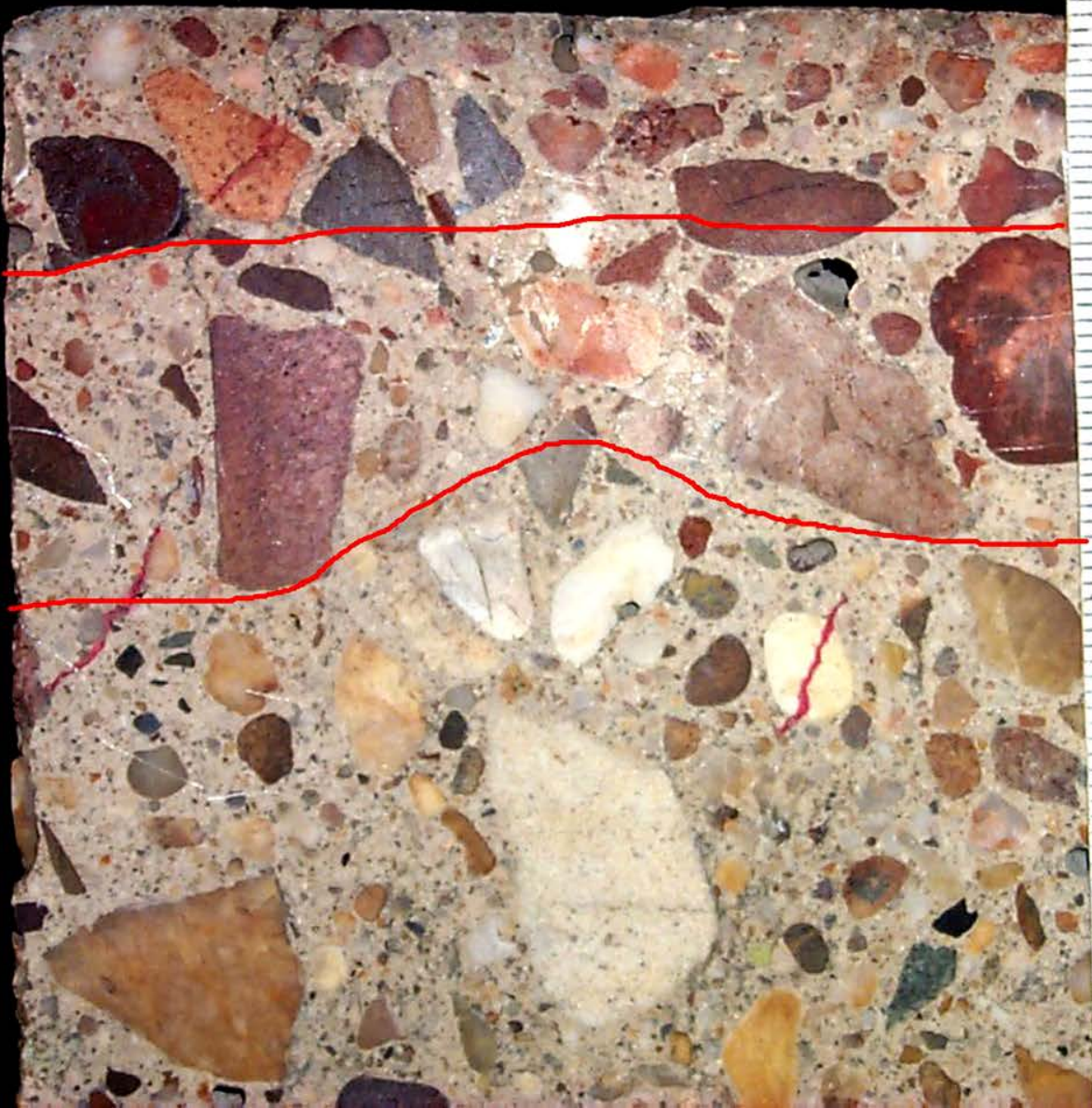
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6

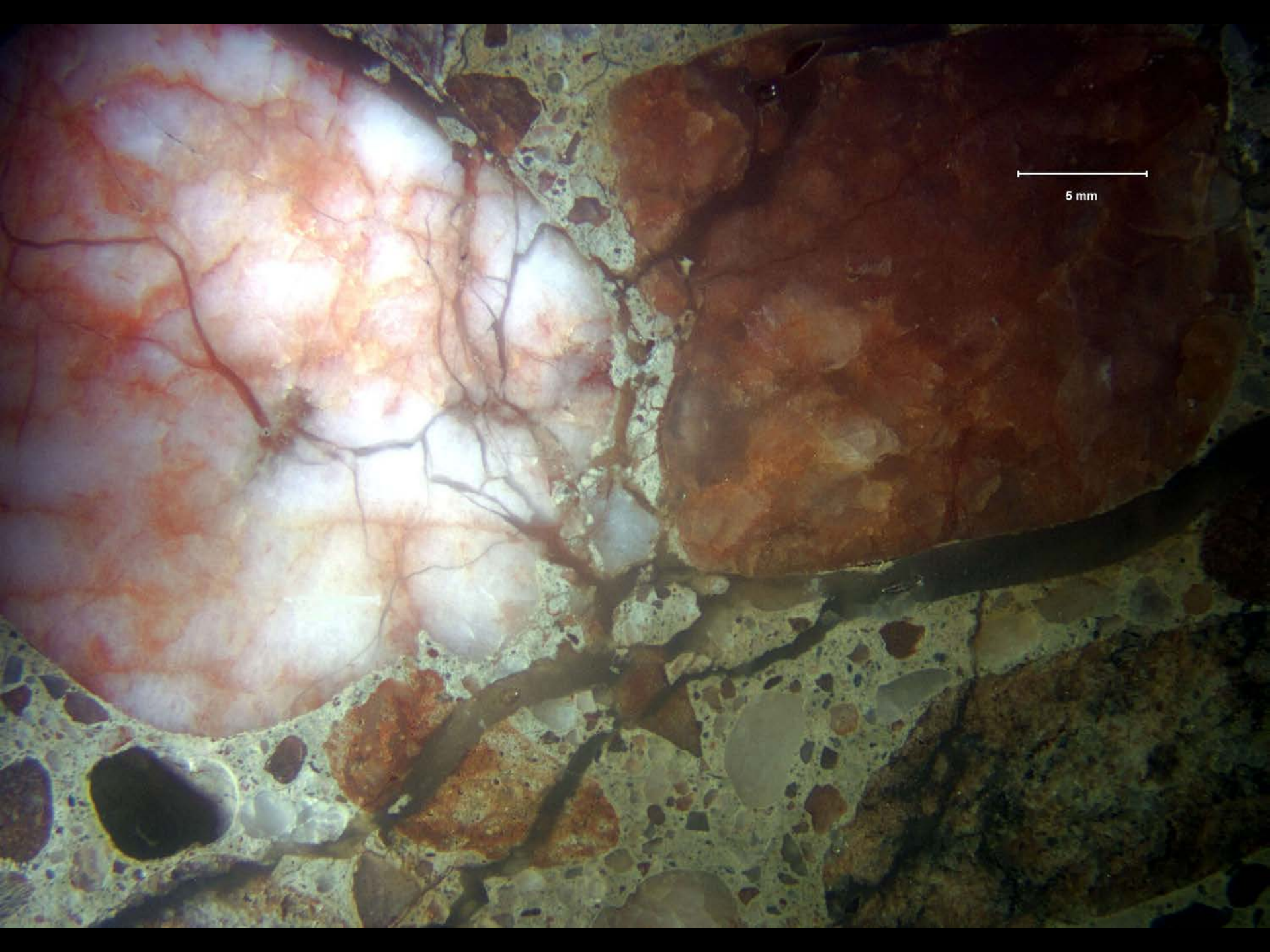
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573C

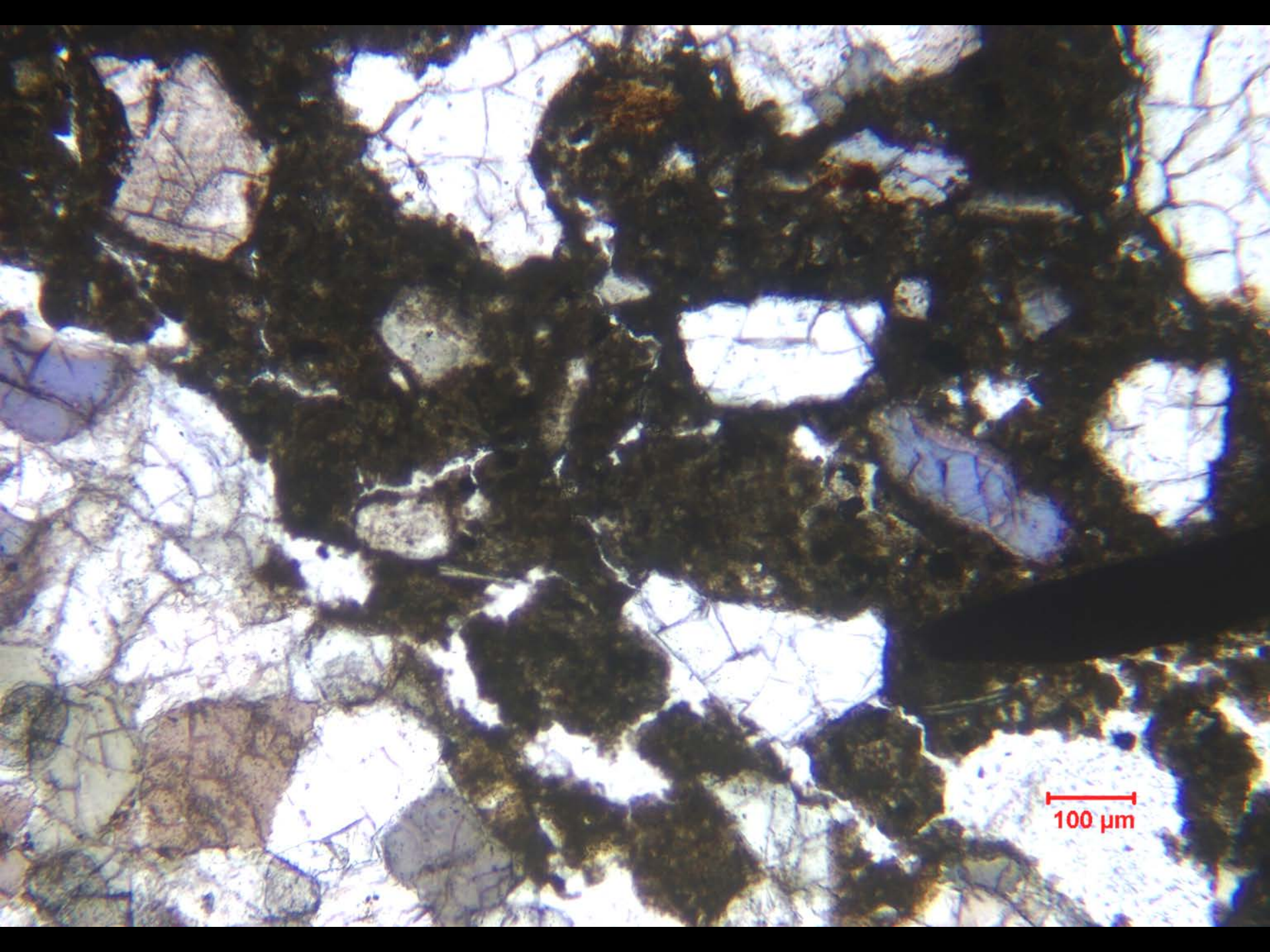
250C



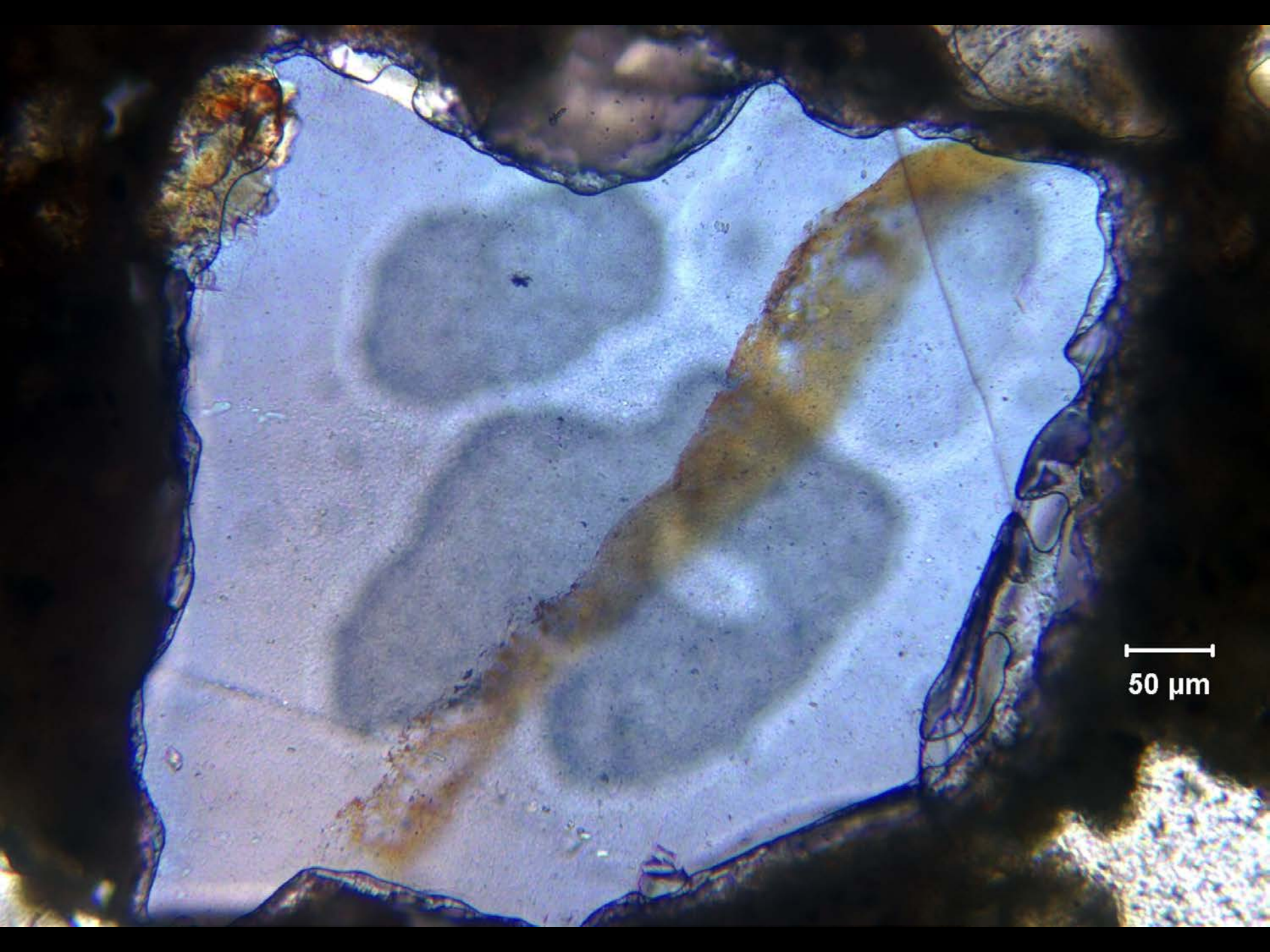




5 mm



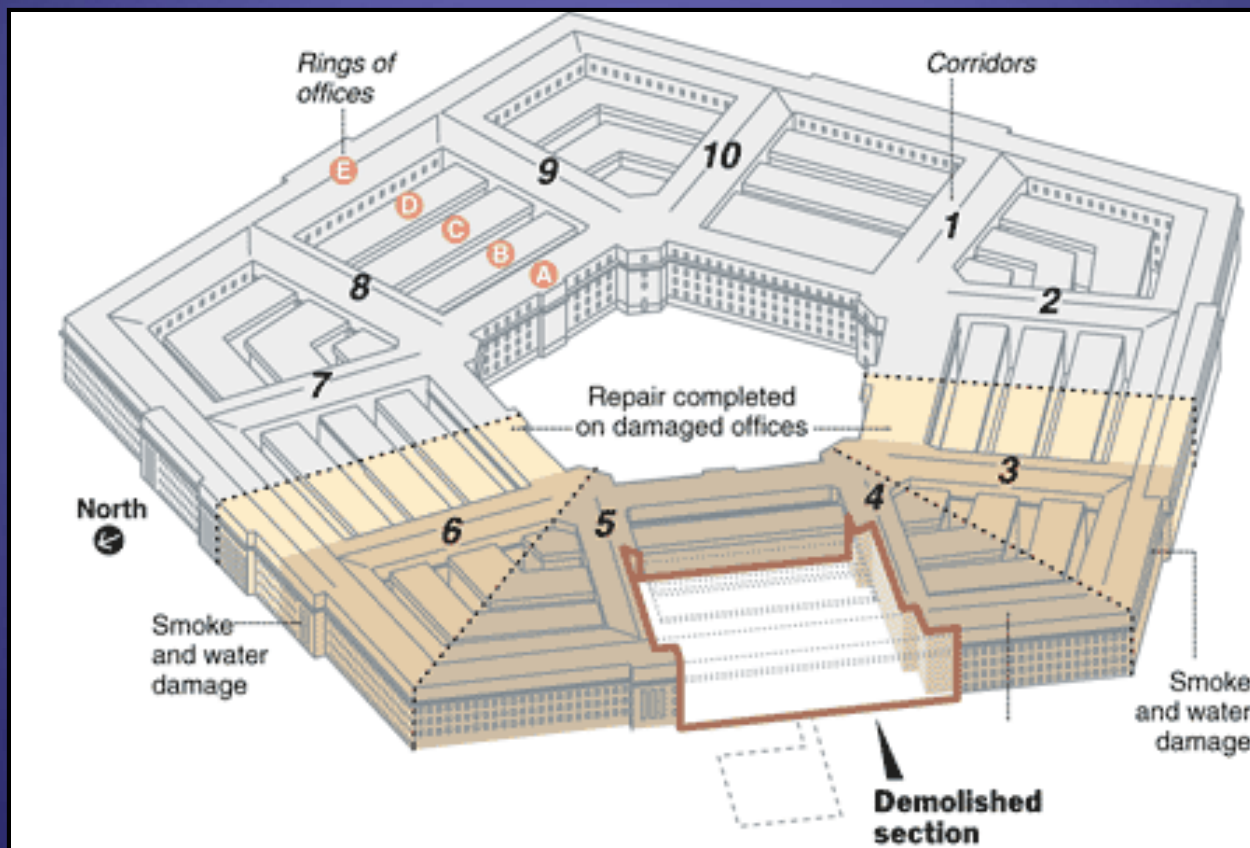
100  $\mu\text{m}$



50  $\mu\text{m}$

# Tour of Reconstruction 01/21/02

Logical tear-out along expansion joints



# Completion by 9-11-2002













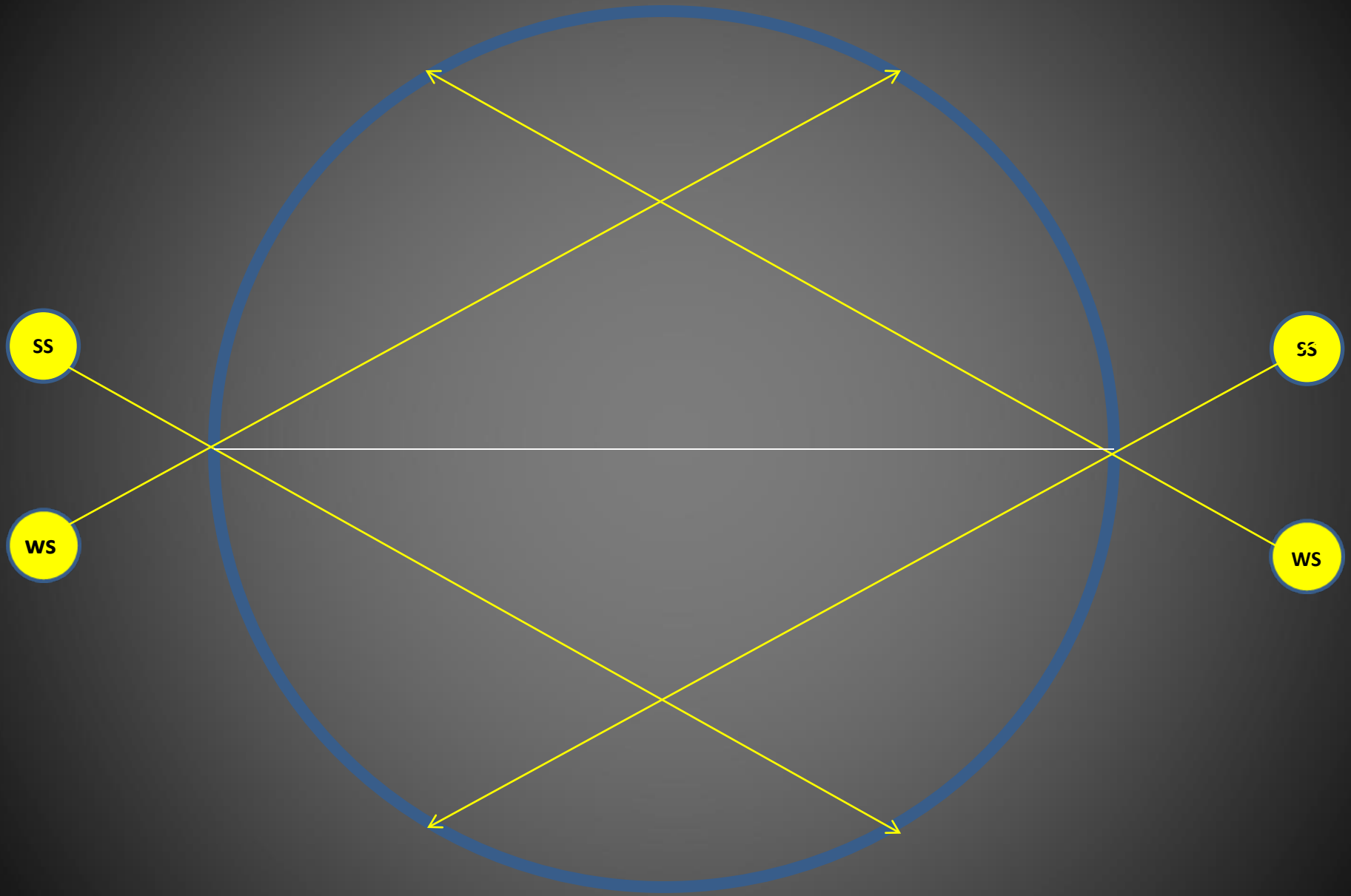


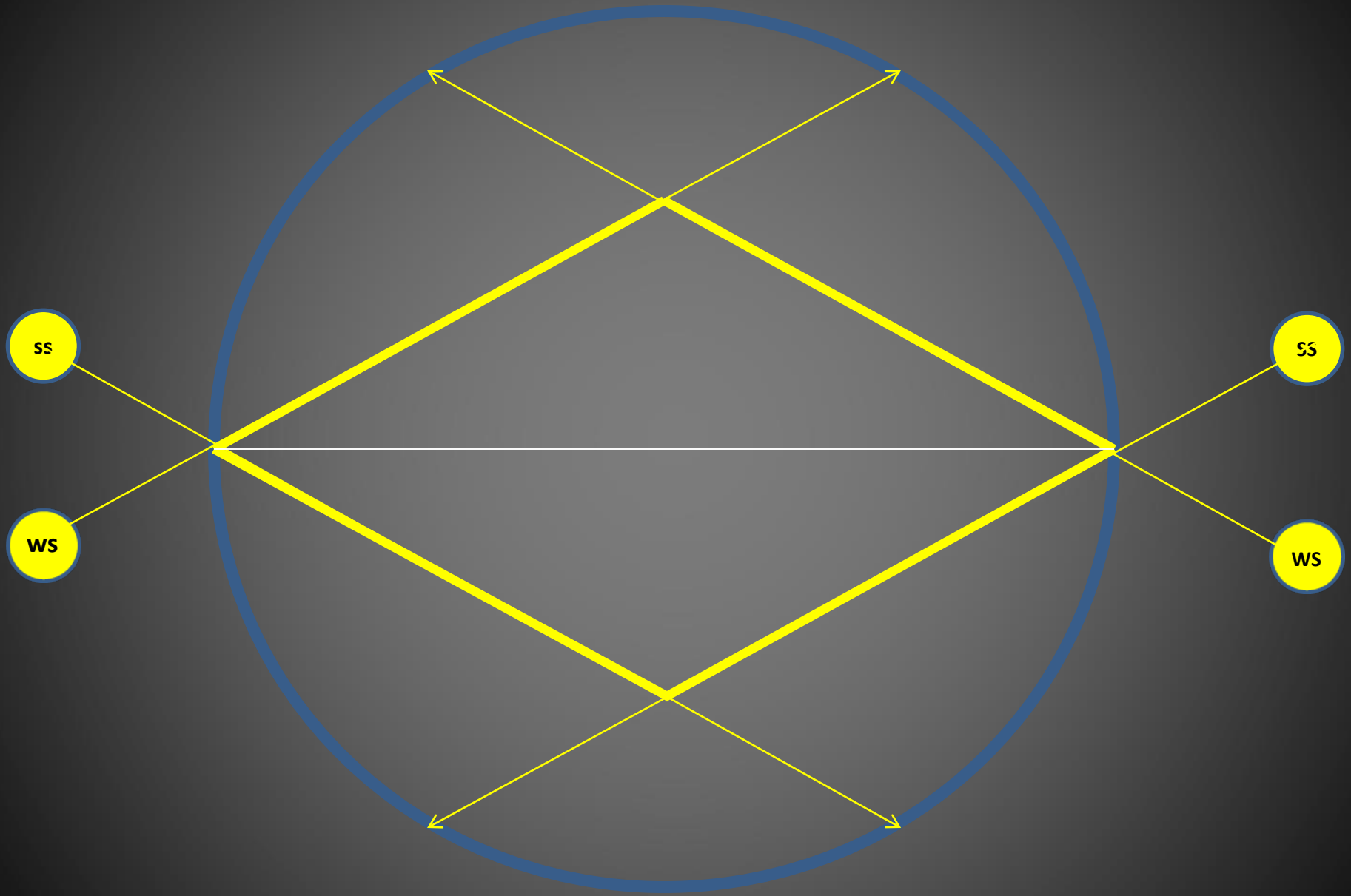




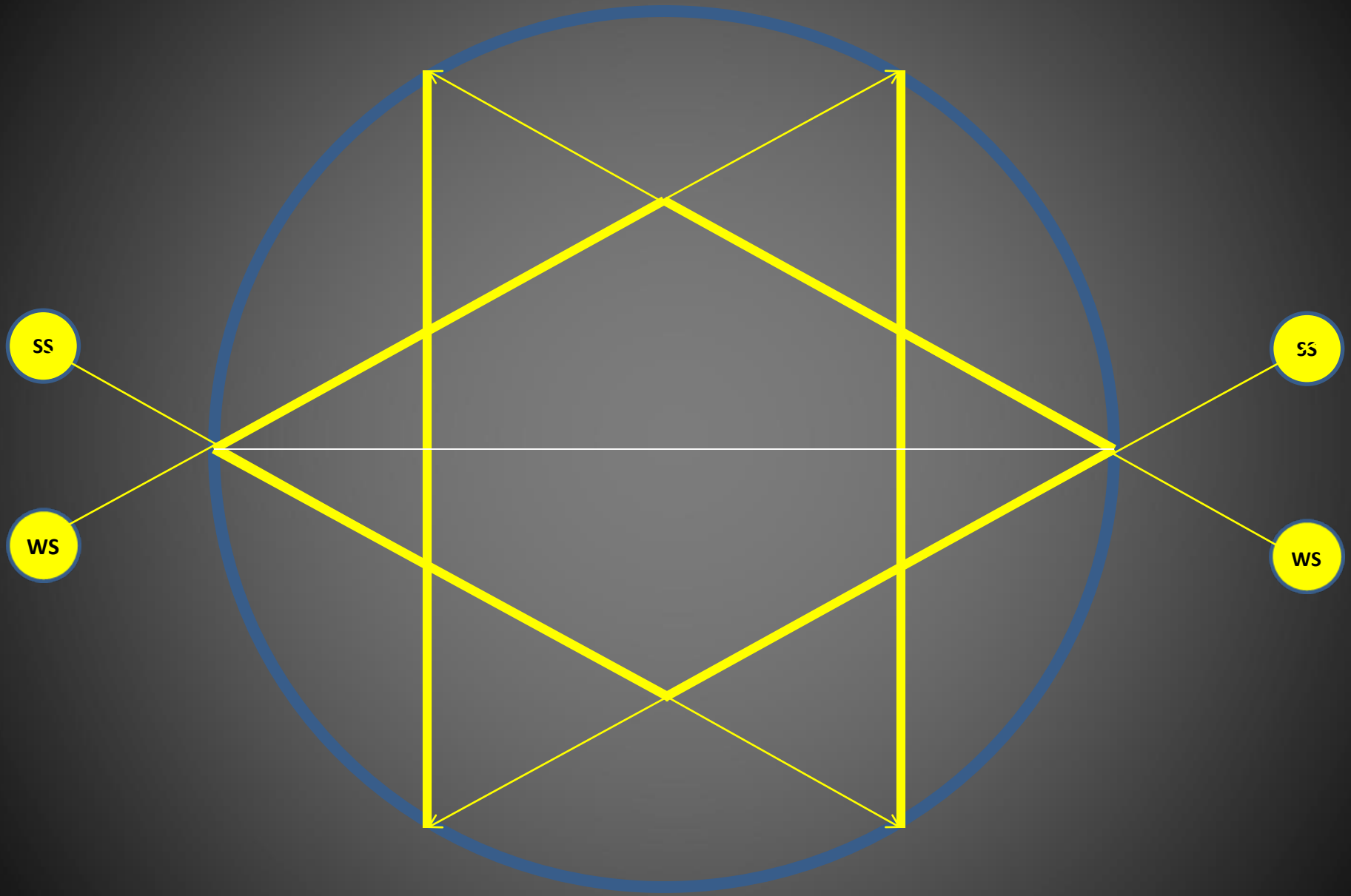


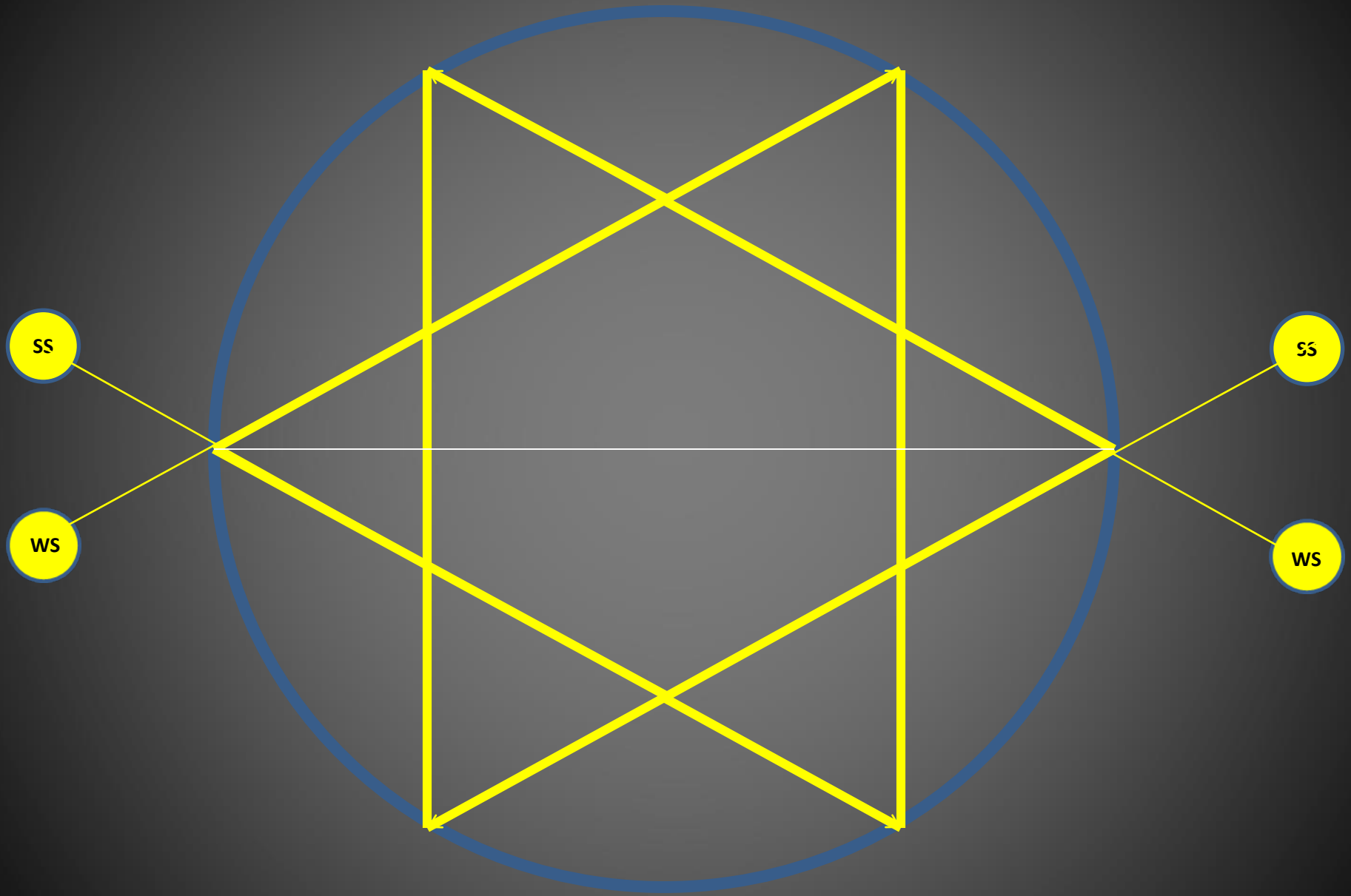
Paul Wesley Ambrose	AA FL 77	Amelia Fields	Pentagon	Shelley Marshall	Pentagon	Lt. Col. Dave Scales	Pentagon
Craig S. Amundson	Pentagon	Gerald P. Fisher	Pentagon	Teresa Martin	Pentagon	Cmdr. Robert A. Schlegel	Pentagon
Melissa Rose Barnes	Pentagon	Darlene 'Dee' Flagg	AA FL 77	Ada Mason	Pentagon	Janice M. Scott	Pentagon
Max Beilke	Pentagon	Wilson 'Bud' Flagg	AA FL 77	Dean Mattson	Pentagon	Michael L. Selves	Pentagon
Yemen Betru	AA FL 77	Matthew Flocco	Pentagon	Lt. Gen. Timothy Maude	Pentagon	Marian H. Serva	Pentagon
Kris Romeo Bishundat	Pentagon	Sandra Foster	Pentagon	Robert Maxwell	Pentagon	Cmdr. Daniel F. Shanower	Pentagon
Carrie Blagburn	Pentagon	Richard Gabriel	AA FL 77	Renee A. May	AA FL 77	Antionette Sherman	Pentagon
Canfield D. Boone	Pentagon	Capt. Lawrence D. Getzfred	Pentagon	Molly McKenzie	Pentagon	Diane Simmons	AA FL 77
Mary Jane Booth	AA FL 77	Cortz Ghee	Pentagon	Dora Menchaca	AA FL 77	Don Simmons	Pentagon
Donna Bowen	Pentagon	Brenda C. Gibson	Pentagon	Patricia E. (Patti) Mickley	Pentagon	George Simmons	AA FL 77
Allen Boyle	Pentagon	Ron Golinski	Pentagon	Maj. Ronald D. Milam	Pentagon	Cheryle Sincock	Pentagon
Bernard Brown	AA FL 77	Ian J. Gray	AA FL 77	Gerard P. 'Jerry' Moran	Pentagon	Gregg Harold	Pentagon
Christopher Lee Burford	Pentagon	Diane Hale-McKinzy	Pentagon	Odessa V. Morris	Pentagon	Smallwood	Pentagon
Charles Burlingame	AA FL 77	Stanley Hall	AA FL 77	Brian Anthony Moss	Pentagon	Lt. Col. Gary Smith	Pentagon
Daniel Martin Caballero	Pentagon	Carolyn Halmon	Pentagon	Teddington Hamm Moy	Pentagon	Mari-Rae Sopper	AA FL 77
Jose Orlando Calderon	Pentagon	Michelle Heidenberger	AA FL 77	Patrick Jude Murphy	Pentagon	Robert Speisman	AA FL 77
Suzanne Calley	AA FL 77	Sheila Hein	Pentagon	Christopher C. Newton	AA FL 77	Pat Statz	Pentagon
Angelene C. Carter	Pentagon	Ronald John Hemenway	Pentagon	Khang Nguyen	Pentagon	Edna L. Stephens	Pentagon
Sharon S. Carver	Pentagon	Maj. Wallace C. Hogan Jr.	Pentagon	Michael Allen Noeth	Pentagon	Norma Lang Steuerle	AA FL 77
William Caswell	AA FL 77	Jimmie Ira Holley	Pentagon	Barbara K. Olson	AA FL 77	Sgt. Maj. Larry Strickland	Pentagon
John Chada	Pentagon	Angela Houtz	Pentagon	Ruben Ornedo	AA FL 77	Hilda E. Taylor	AA FL 77
Rosemary Chapa	Pentagon	Brady Kay Howell	Pentagon	Diana Padro	Pentagon	Kip Paul Taylor	Pentagon
David Charlebois	AA FL 77	Peggie Hurt	Pentagon	Chin Sun Pak	Pentagon	Leonard Taylor	AA FL 77
Sarah M. Clark	AA FL 77	Lt. Col. Stephen Neil	Pentagon	Jonas Martin Panik	Pentagon	Sandra Taylor	Pentagon
Julian Cooper	Pentagon	Hyland Jr.	Pentagon	Clifford Patterson	Pentagon	Sandra D. Teague	AA FL 77
Asia Cottom	AA FL 77	Robert Hymel	Pentagon	Robert Penniger	AA FL 77	Karl W. Teepe	Pentagon
Eric Allen Cranford	Pentagon	Sgt. Maj. Lacey Ivory	Pentagon	Robert R. Ploger III	AA FL 77	Sgt. Tamara Thurman	Pentagon
Ada Davis	Pentagon	Bryan C. Jack	AA FL 77	Zandra Cooper Ploger	AA FL 77	Otis Vincent Tolbert	Pentagon
James Debeuneure	AA FL 77	Steven D. 'Jake' Jacoby	AA FL 77	Lt. J.G. Darin H. Pontell	Pentagon	Willie Q. Troy	Pentagon
Gerald F. DeConto	Pentagon	Lt. Col. Dennis Johnson	Pentagon	Scott Powell	Pentagon	Lt. Cmdr. Ronald J. Vauk	Pentagon
Rodney Dickens	AA FL 77	Judith Jones	Pentagon	Jack Punches	Pentagon	Karen J. Wagner	Pentagon
Jerry D. Dickerson	Pentagon	Ann Judge	AA FL 77	Joseph John Pycior Jr.	Pentagon	Meta Waller	Pentagon
Eddie Dillard	AA FL 77	Brenda Kegler	Pentagon	Lisa Raines	AA FL 77	Sandra White	Pentagon
Johnnie Doctor Jr.	Pentagon	Chandler Keller	AA FL 77	Deborah A. Ramsaur	Pentagon	Staff Sgt. Maudlyn White	Pentagon
Cmdr. Robert Edward Dolan	Pentagon	Yvonne Kennedy	AA FL 77	Rhonda Sue Ridge	Pentagon	Leslie A. Whittington	AA FL 77
William Howard	Pentagon	Norma Khan	AA FL 77	Rasmussen	Pentagon	Ernest M. Willcher	Pentagon
Donovan Jr.	Pentagon	Karen A. Kincaid	AA FL 77	Marsha D. Ratchford	Pentagon	David L. Williams	Pentagon
Charles Droz	AA FL 77	Michael 'Scott' Lamana	Pentagon	Martha Reszke	Pentagon	Maj. Dwayne Williams	Pentagon
Patrick Dunn	Pentagon	David Laychak	Pentagon	Todd Reuben	AA FL 77	Marvin Roger Woods	Pentagon
Edward Thomas Earhart	Pentagon	Dong C. Lee	AA FL 77	Cecelia E. Richard	Pentagon	John D. Yamnicky Sr.	AA FL 77
Barbara G. Edwards	AA FL 77	Jennifer Lewis	AA FL 77	Edward Veld	Pentagon	Vicki Yancey	AA FL 77
Robert Randolph Elseth	Pentagon	Kenneth Lewis	AA FL 77	Rowenhorst	Pentagon	Shuyin Yang	AA FL 77
Charles S. Falkenberg	AA FL 77	Samantha Lightbourn-Allen	Pentagon	Judy Rowlett	Pentagon	Kevin Wayne Yokum	Pentagon
Dana Falkenberg	AA FL 77	Stephen Vernon Long	Pentagon	Robert E. Russell	Pentagon	Donald McArthur Young	Pentagon
Zoe Falkenberg	AA FL 77	James T. Lynch	Pentagon	William Ruth	Pentagon	Edmond Young	Pentagon
Jamie Lynn Fallon	Pentagon	Terence Michael Lynch	Pentagon	Charles E. Sabin	Pentagon	Lisa Young	Pentagon
James Joe Ferguson	AA FL 77	Nehamon Lyons IV	Pentagon	Marjorie C. Salamone	Pentagon	Yuguang Zheng	AA FL 77
				John Sammartino	AA FL 77		









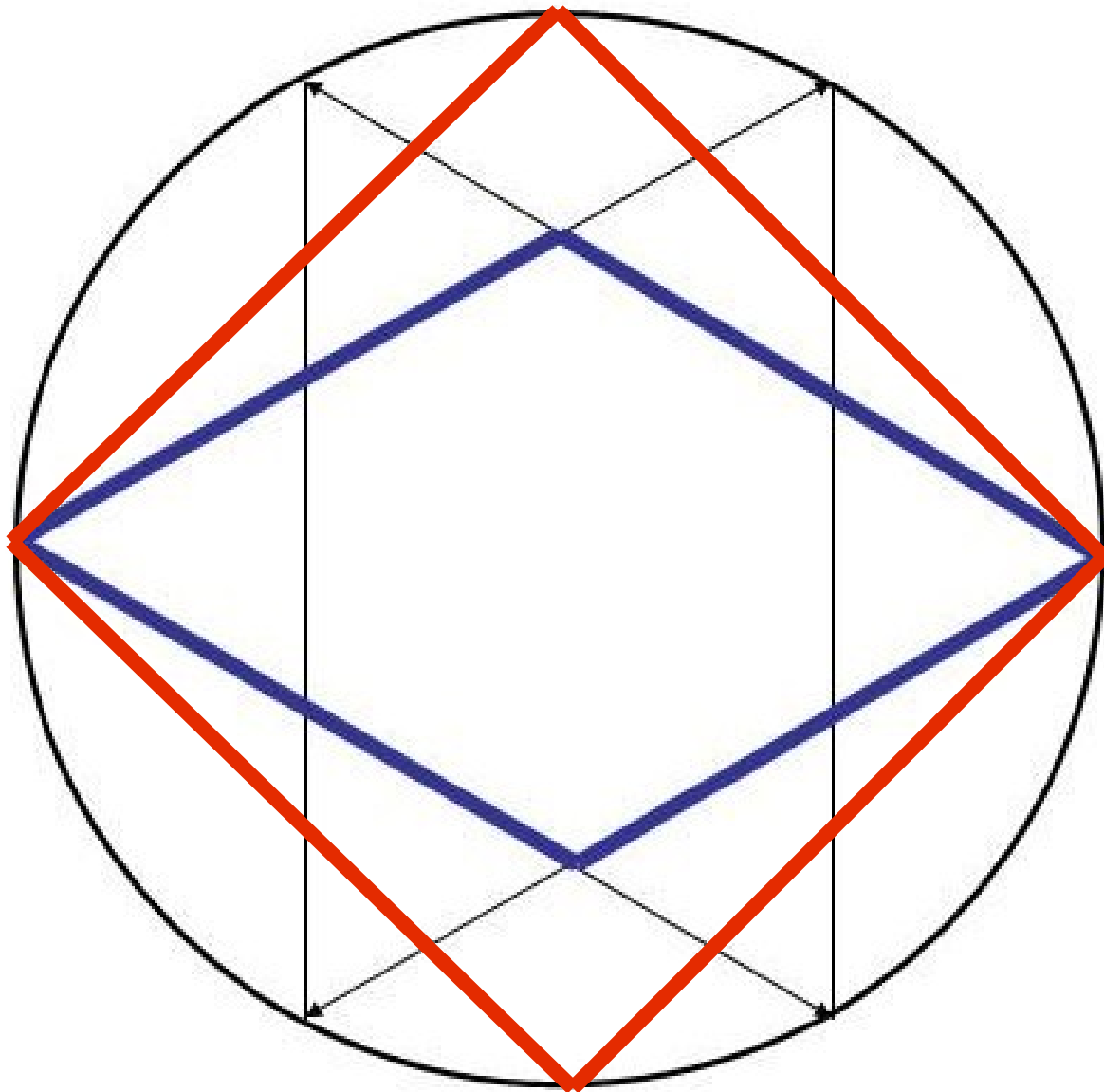


# Seal of Solomon

Jerusalem Latitude:  $31.78^{\circ}$  N



**West**



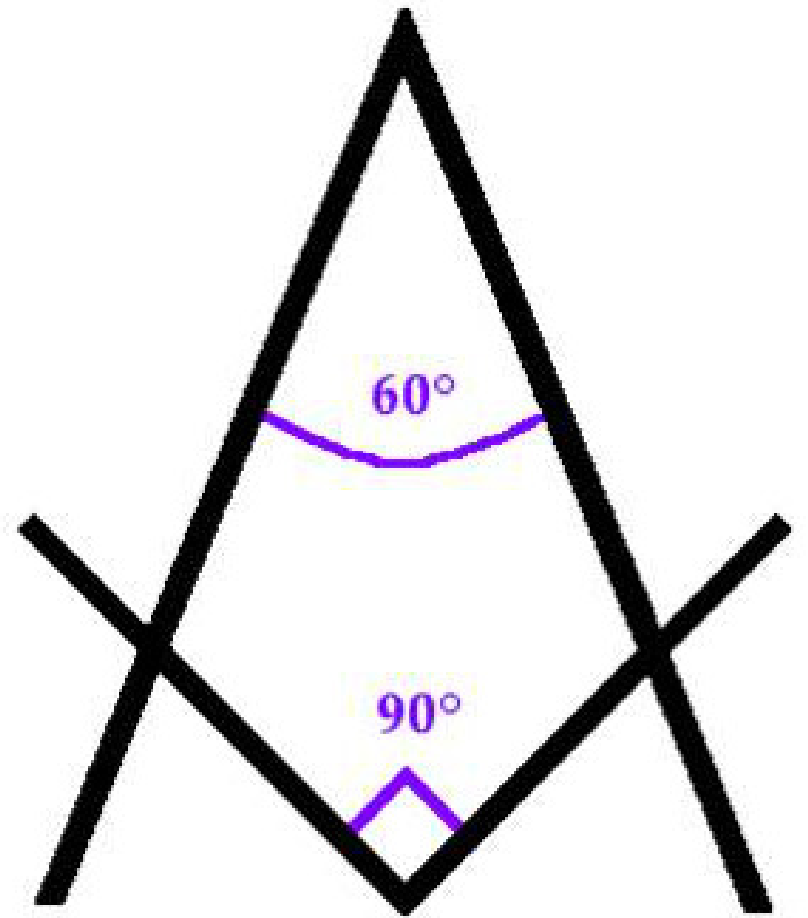
**Summer  
Solstice**

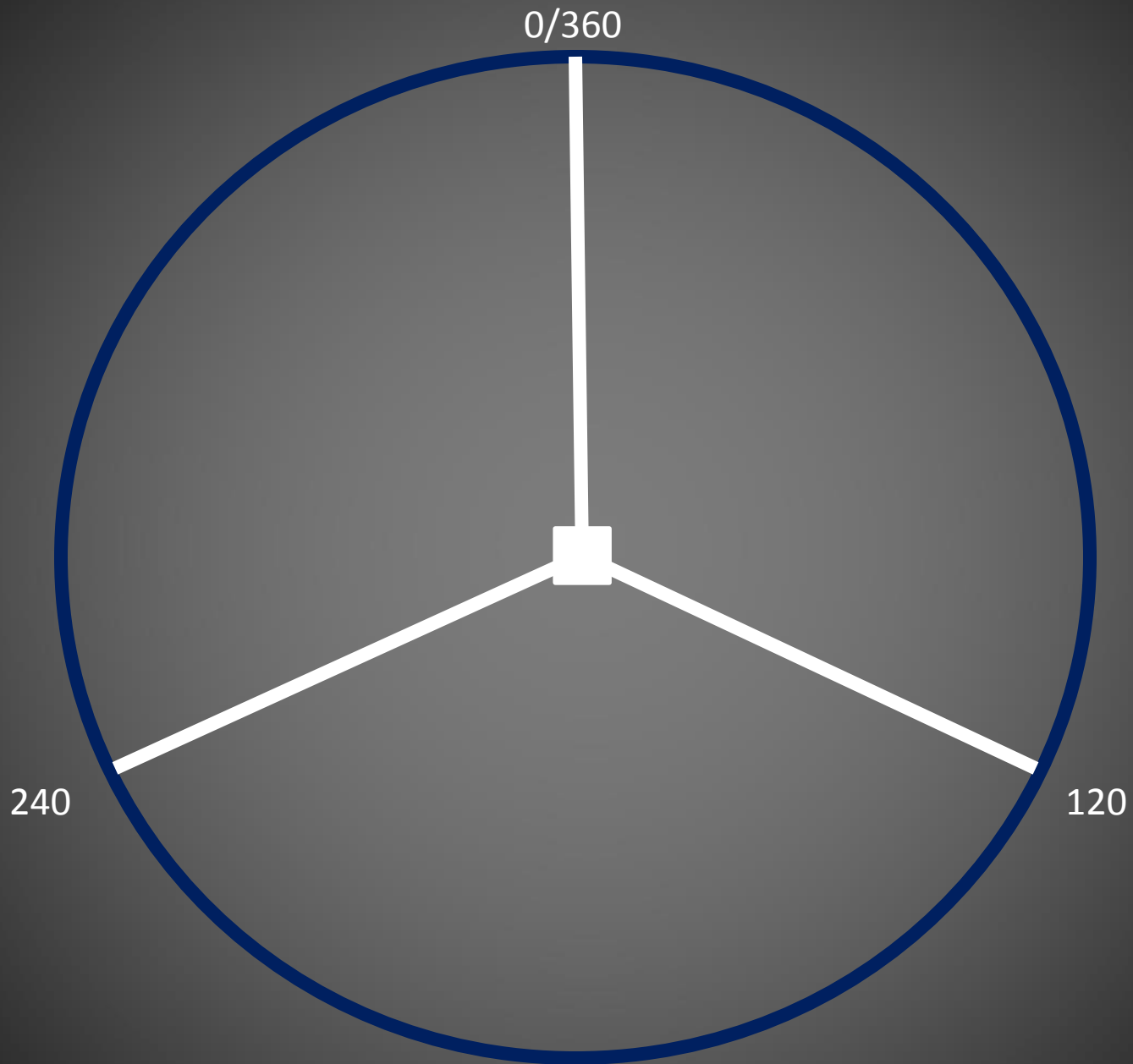
**East**

**Winter  
Solstice**

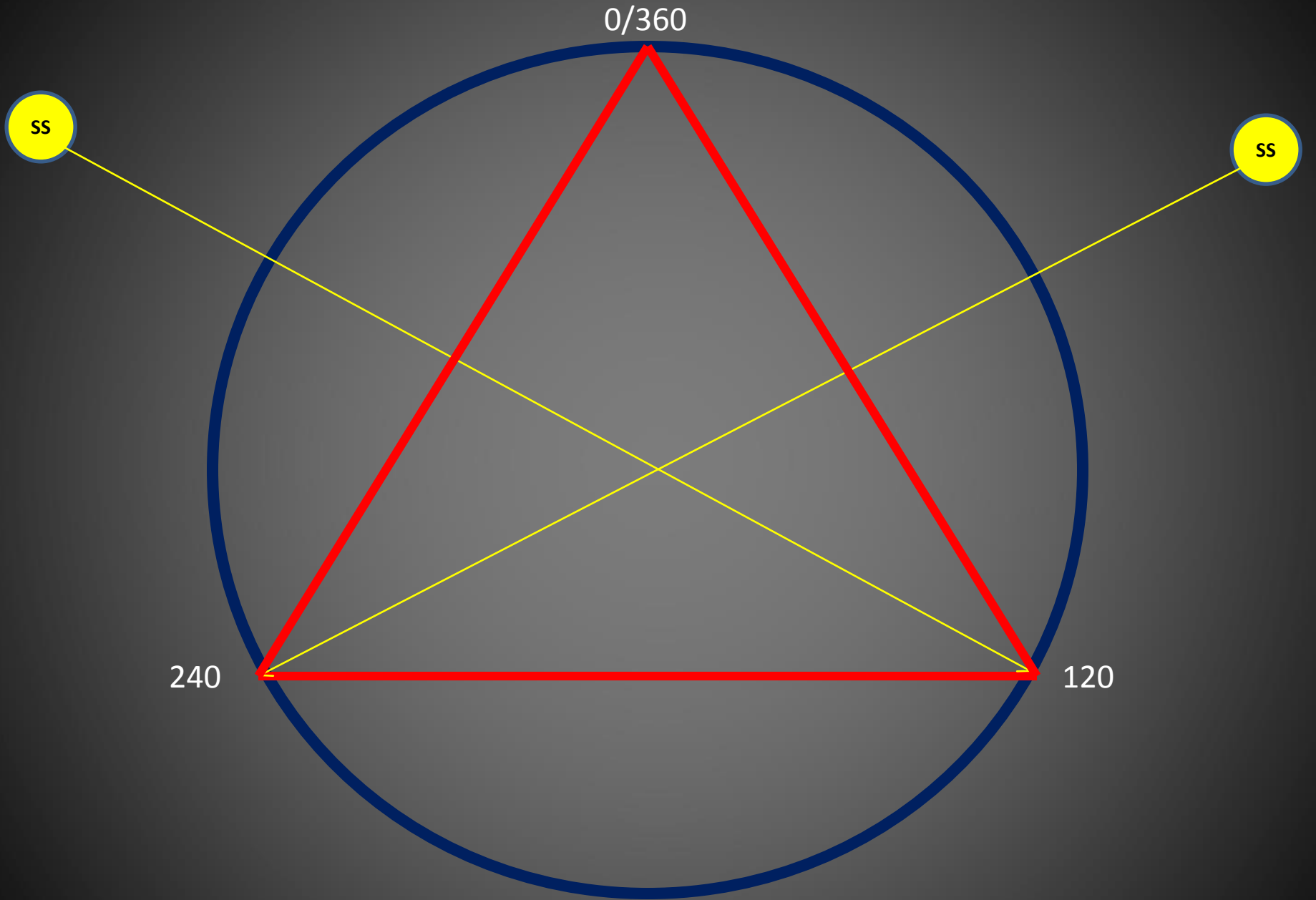
# Jerusalem Rosslyn Chapel





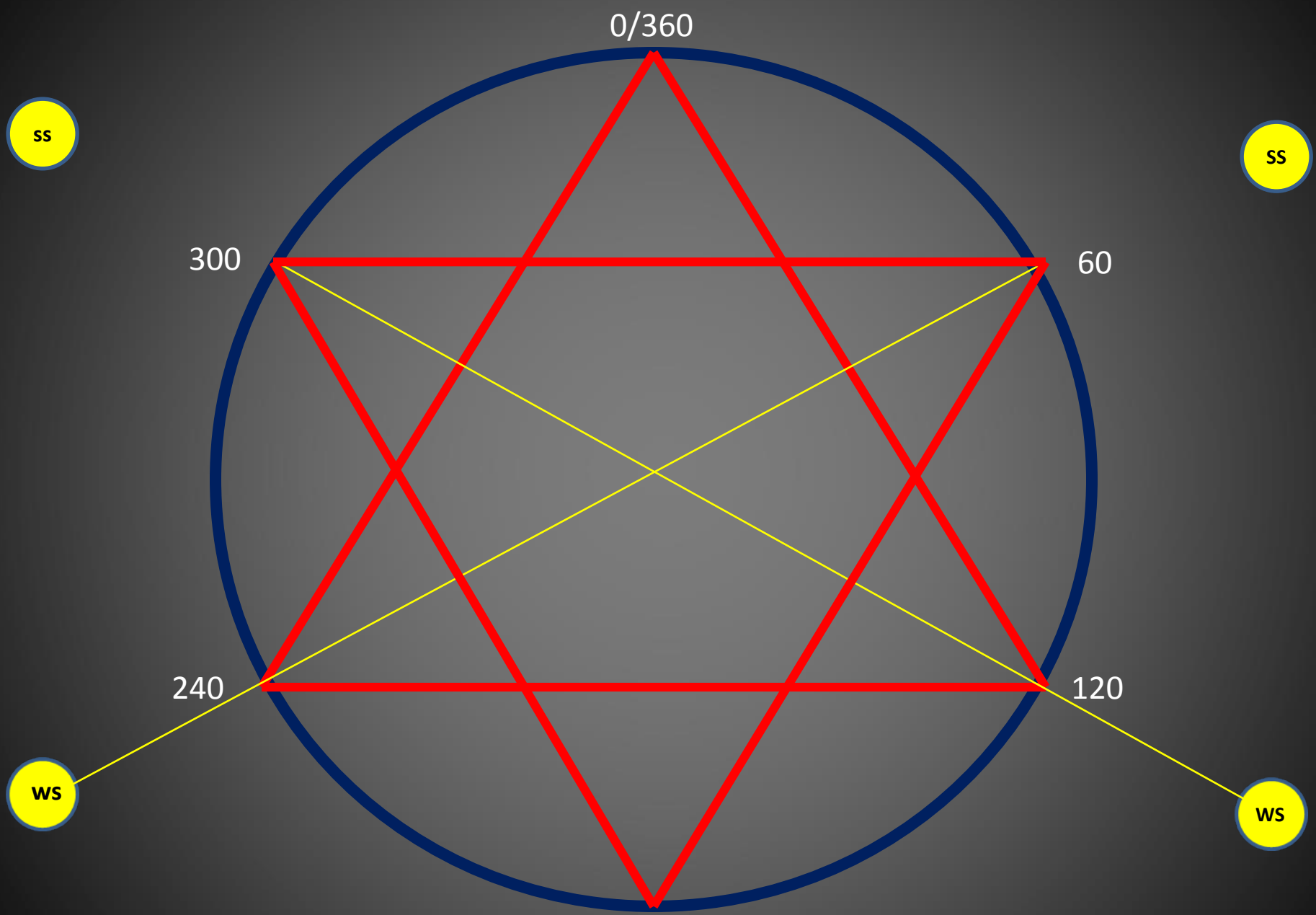


Washington D.C.



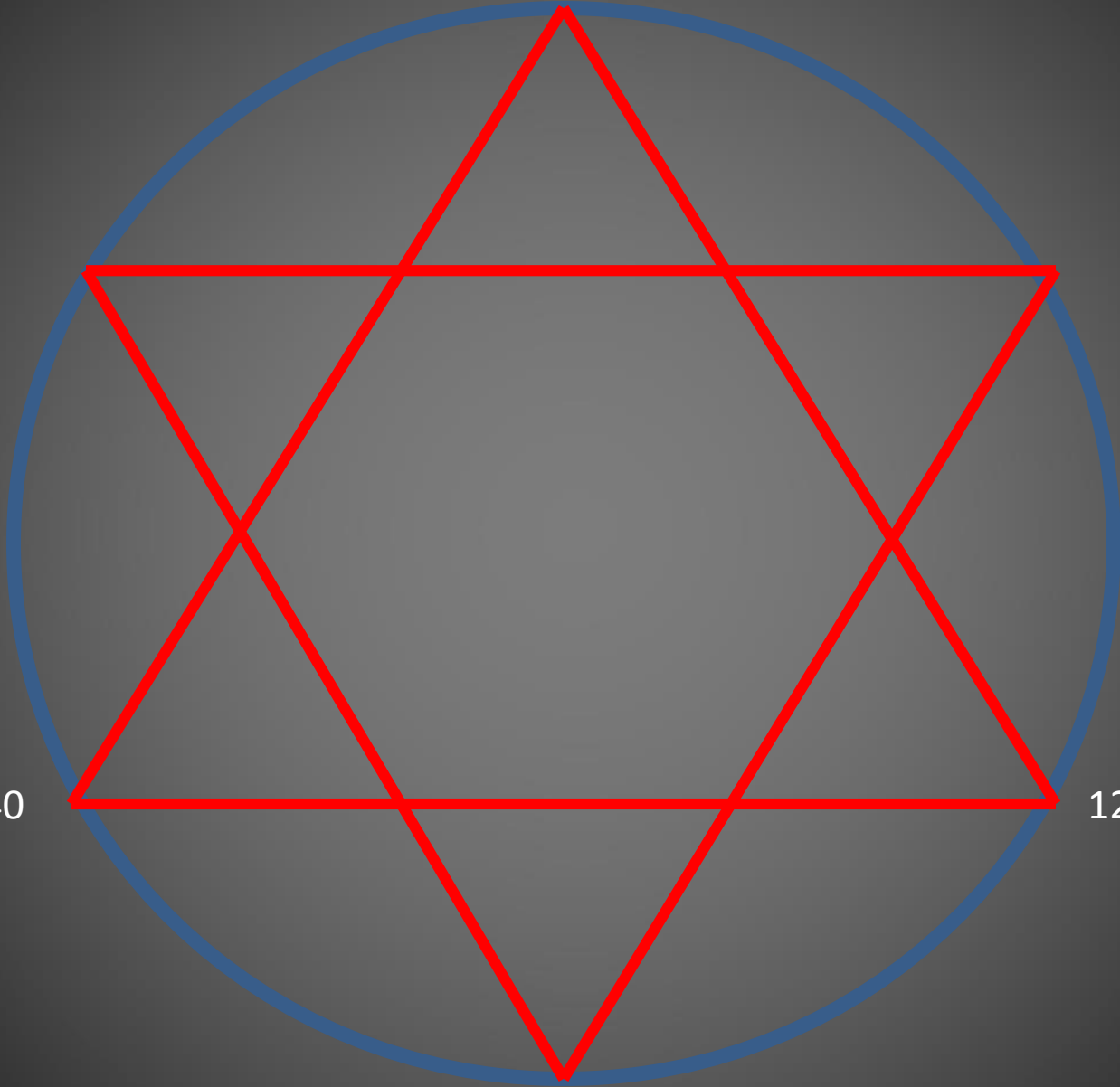
Washington D.C.





Washington D.C.

0/360



Washington D.C.

# Seal of Solomon

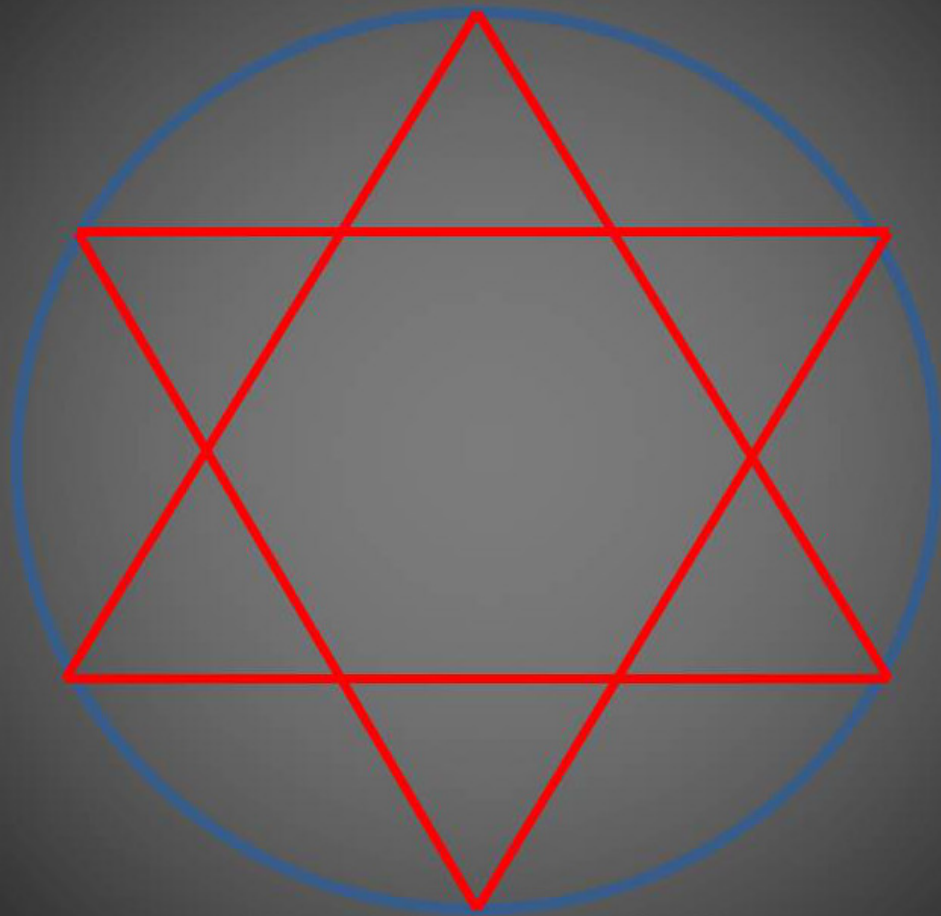
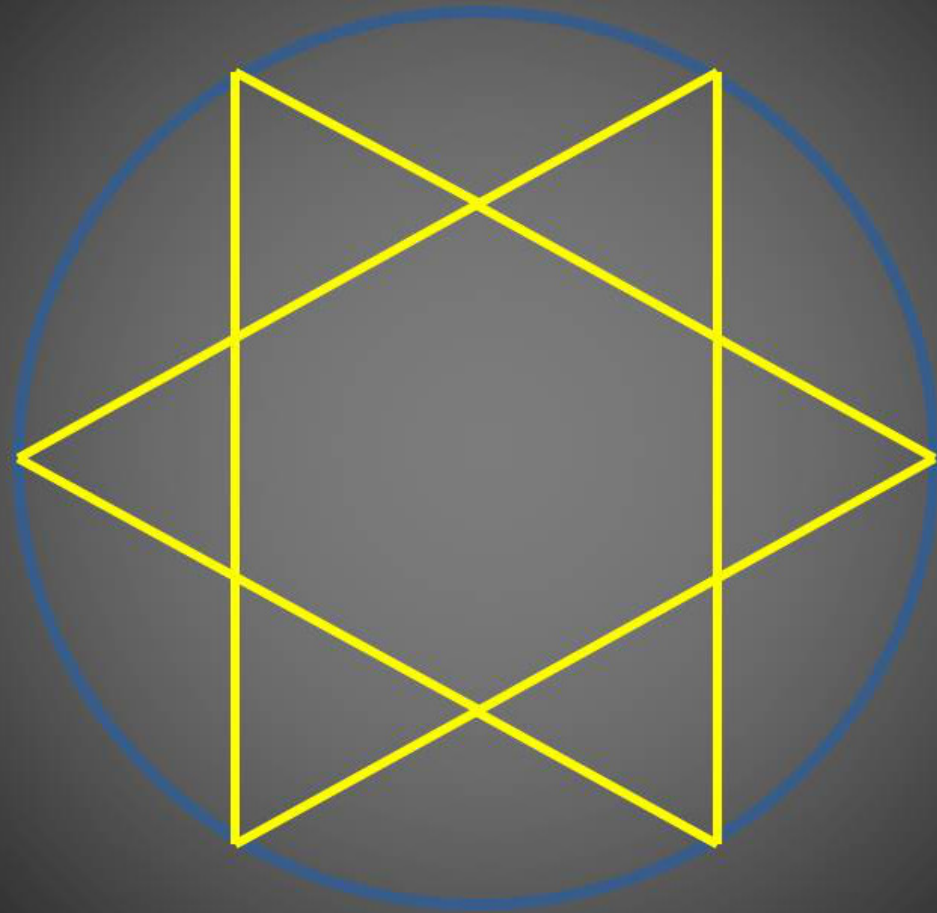
- Washington, D.C.

Latitude:  $38.90^{\circ}$  N

- Jerusalem

Latitude:  $31.78^{\circ}$  N

Jerusalem



Washington D.C.

# The Summerhouse

Built in 1879; Olmstead designed





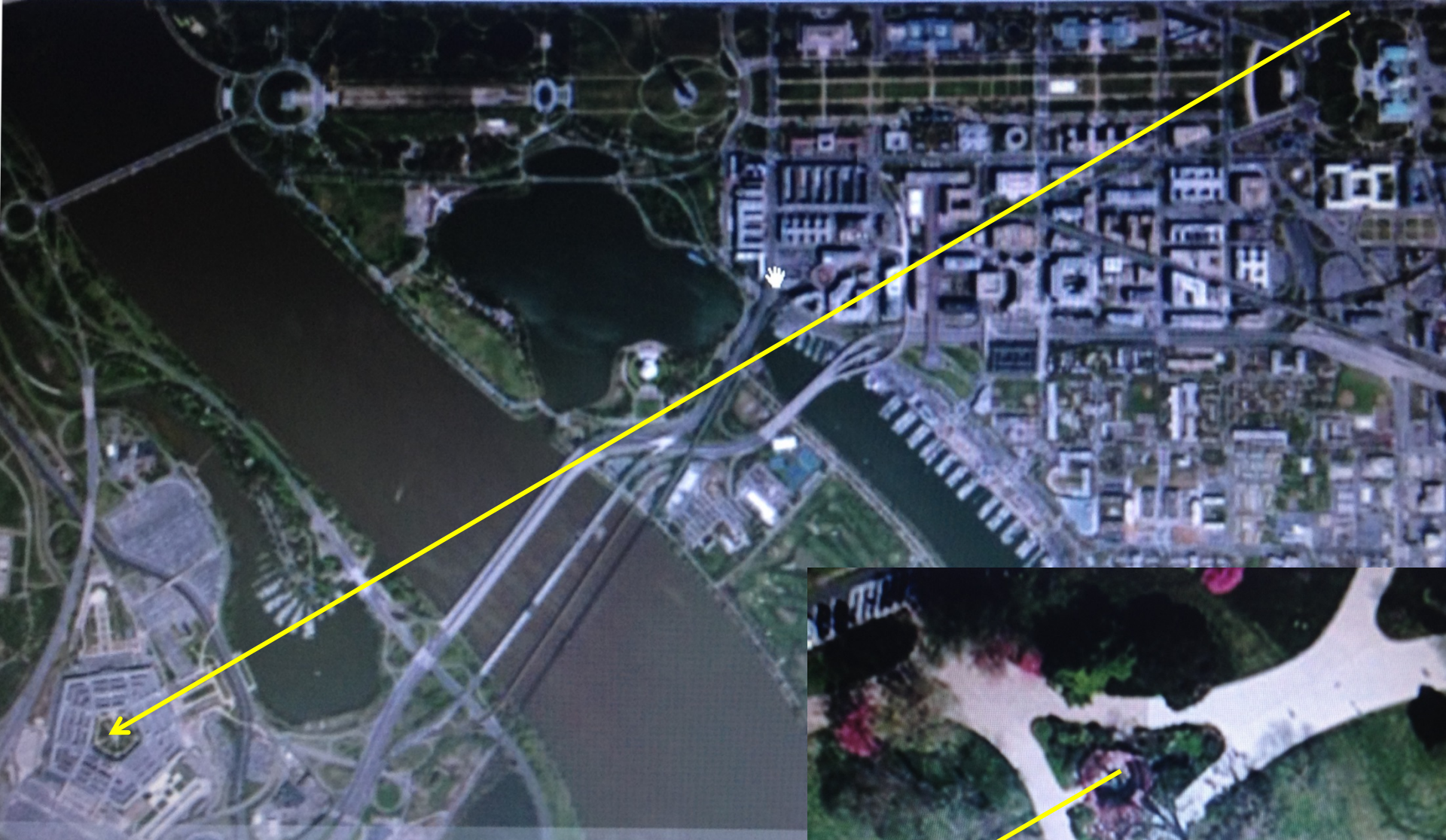
1879

# The "Grotto"

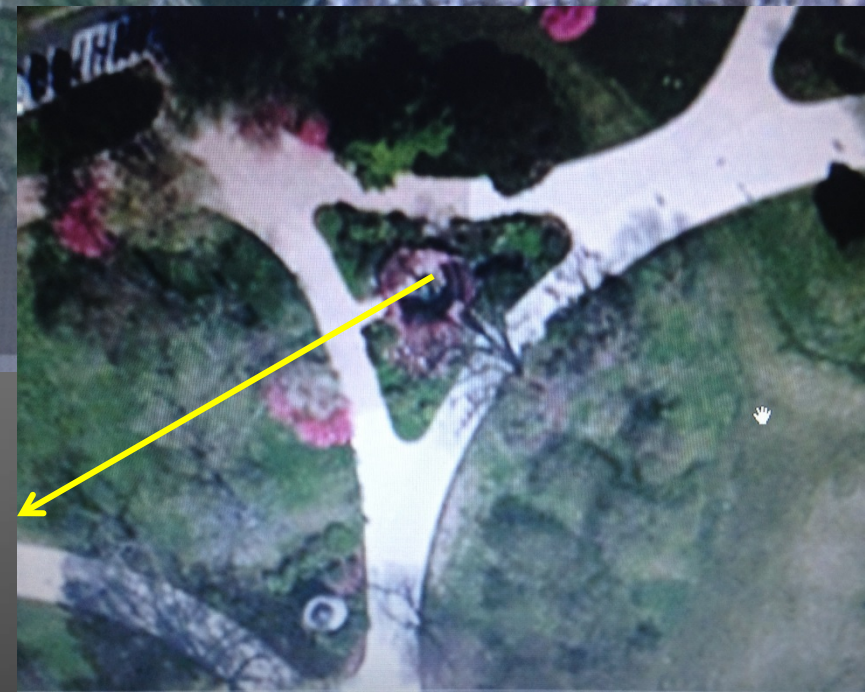






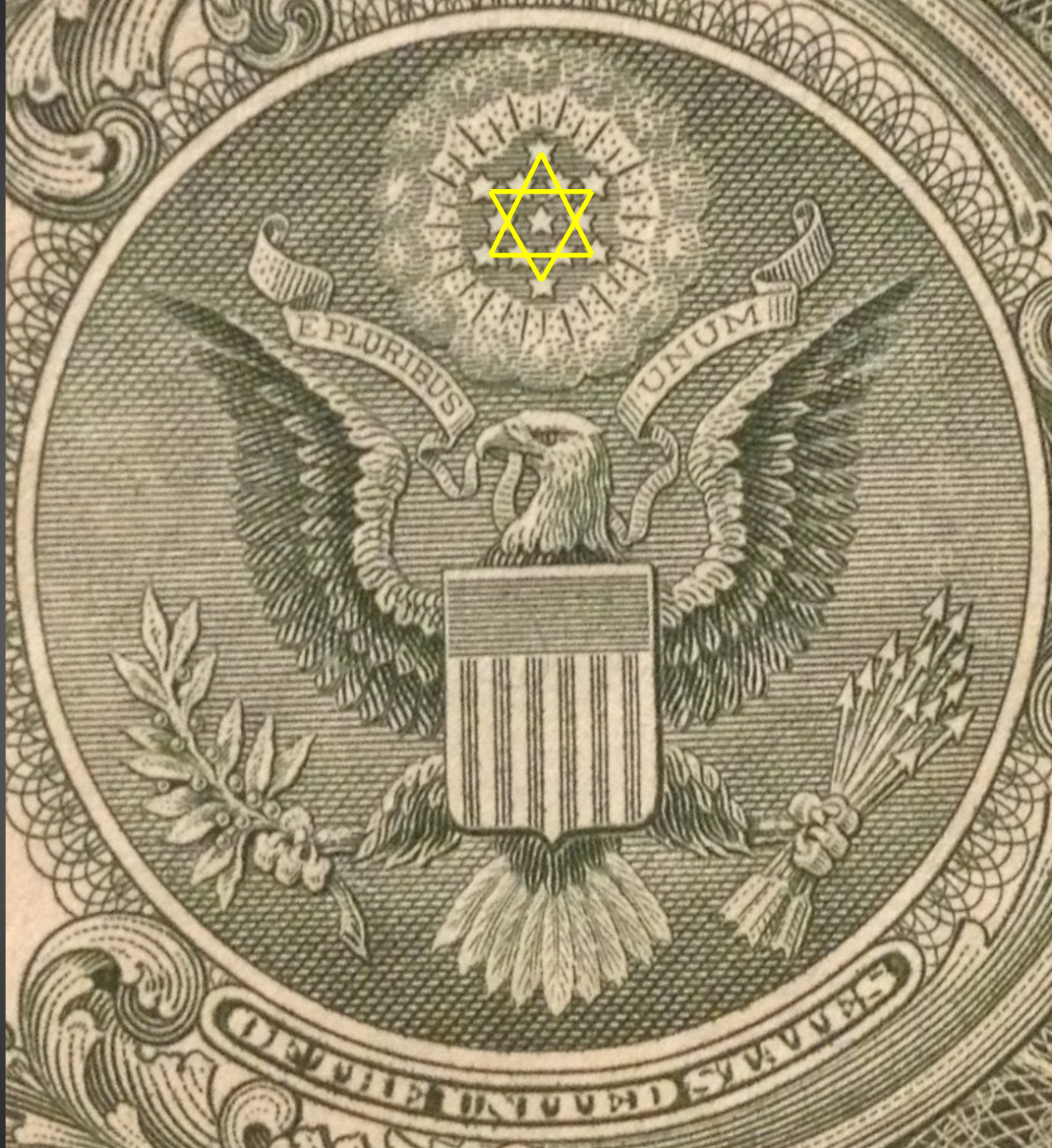



Winter Solstice  
Sunset Alignment











SCOTT F. WOLTER

HOST OF *AMERICA UNEARTHED*™ AND AUTHOR OF *THE HOOKED X*

AKHENATEN TO THE  
FOUNDING FATHERS

THE MYSTERIES OF THE HOOKED X



THE HOOKED X

KEY TO THE SECRET HISTORY OF NORTH AMERICA

SCOTT F. WOLTER