



Ithaca: An Unclassified Scenario Suitable for International Use

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What is Ithaca?

- Derived from the USWESTCOM Joint Intelligence Center scenario – Pacifica (2003)
 - Same geography, changed names, mostly same socio-political background
 - Updated/different Order of Battle (Red, Blue, and Green)
- Required an unclassified scenario for use in two joint US-UK projects
- Not currently a complete scenario
 - Currently naval air focused
 - Land forces, ISR forces, logistics forces not currently included

Island of Ithaca

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Location in Pacific not representative, approximate center of Ithaca at 20N 165E, all coordinates shifted from actual US -10 deg by +280 deg

Background

- Primary source of revenue in Ithaca is export of ore from the Ithaca Mineral Fields (IMF) shared by Trinacria and Scheria
 - Trinacria and Scheria are uneasy partners in the IMF
 - Trinacria has dominant military and economy in Ithaca
 - Scheria plans to build infrastructure to garner a larger share of ore processing and shipping from Trinacria
- Economy of Cythera based primarily on forest products and fishing; Cythera is generally neutral
- Metals from IMF ore are vital to advanced communication technology around the world
- Trinacria seeks to retain dominant commercial role on Ithaca
 - Trinacria opposes building of Scherian infrastructure

Road to War

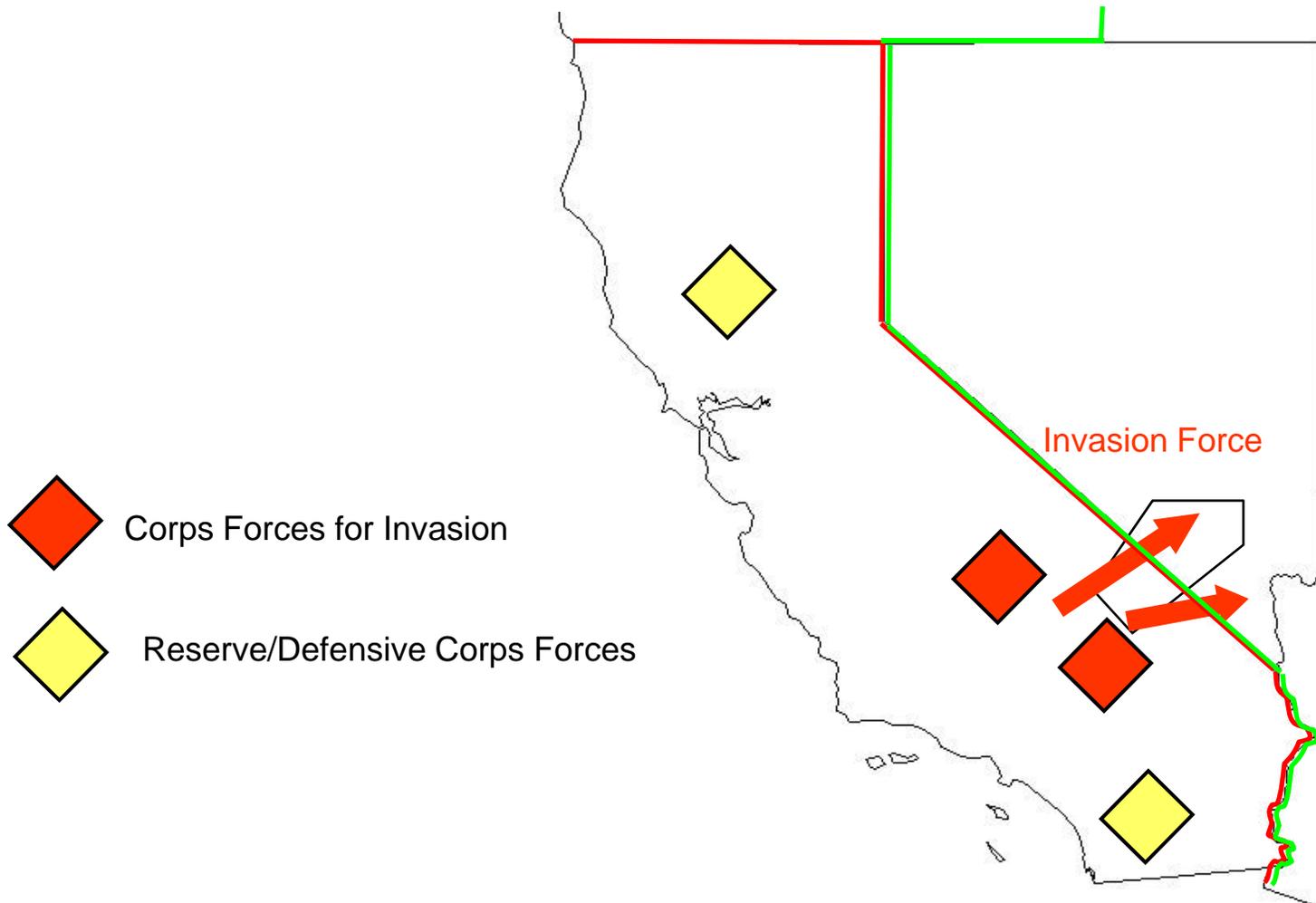
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- 24 Nov 2020 (I-Day, D-34): Trinacria moves I and VI Corps ground forces to IMF ostensibly to protect IMF from militia attacks; forces conduct exercises
- 10 Dec 2020: Trinacria stages attack by “militia” in Scheria on Trinacria portion of IMF; publicly expresses concern about security of IMF
- 11 Dec (W-Day/C-Day, D-18) – BLUE intelligence reports indicate Trinacria preparing to move into Scheria; BLUE forces repositioned
- 20 Dec 2020 (E-Day, D-9): Trinacria invades Scheria (I and VI Corps) in response to staged attack to secure IMF; Trinacria missile & air defense spotted dispersing; chatter spikes at Trinacria nuclear facilities
- 21 Dec 2020: Scheria appeals to UN, US, NATO for help
- 26 Dec 2020: US and NATO agree to assist Scheria government in expelling Trinacria forces; UN Security Council passes resolution authorizing use of force
- 29 Dec 2020 (D-Day): Trinacria threatens to attack Coalition forces near coastal waters; repositions ballistic and cruise missile launchers

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Trinacrian Ground Forces

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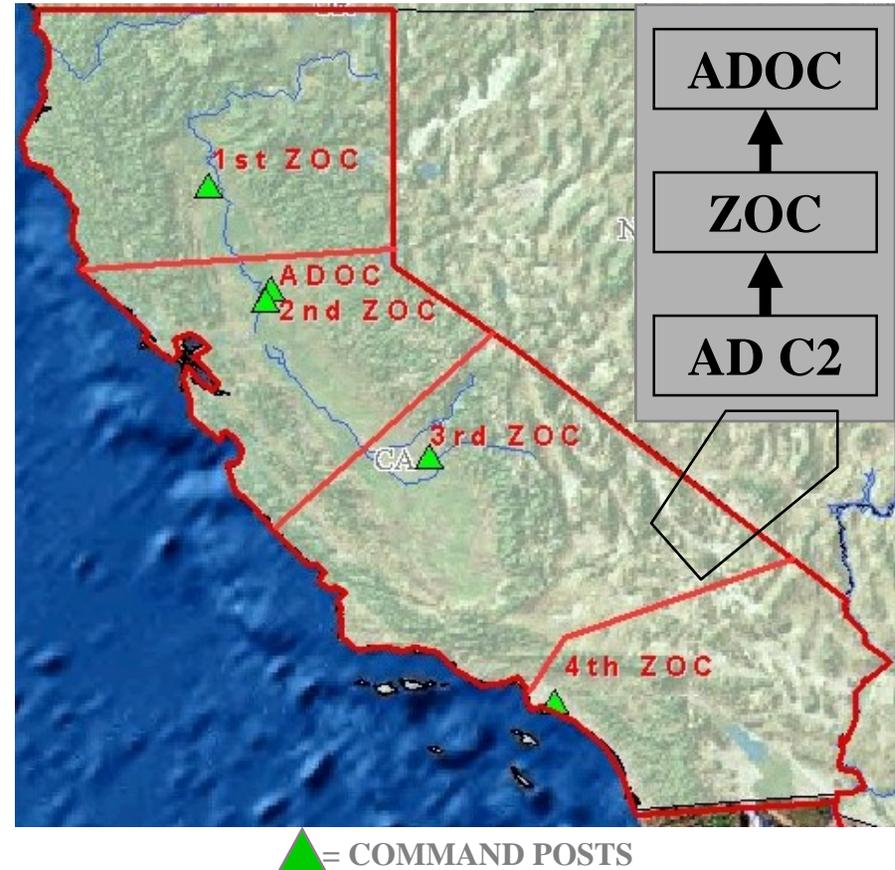


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Trinacrian IADS C³ Doctrinal Template

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- 1 Air Defense Operations Center (ADOC) maintains national picture
 - Directly control AWACS
- 4 Zone Operations Center (ZOCs) = primary battle management elements
 - Controls all air defense elements in their zone
 - Fighter Interceptors
 - Strategic SAM Batteries
 - AAA Batteries
 - EW Radar
- Air Defense C2 centers correlate regional air picture; conducts GCI
- Trinacria defensive doctrine is based on multiple layers of defenses: interceptors, surface-to-air-missiles, and AAA.



Trinacria will attempt a multiple layered defense of IMF airspace, consistent with their doctrine

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Trinacrian Air Forces

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24 x 2nd/3rd Gen Fighters

24 x 4th/5th Gen Fighters
24 x 2nd/3rd Gen Fighters

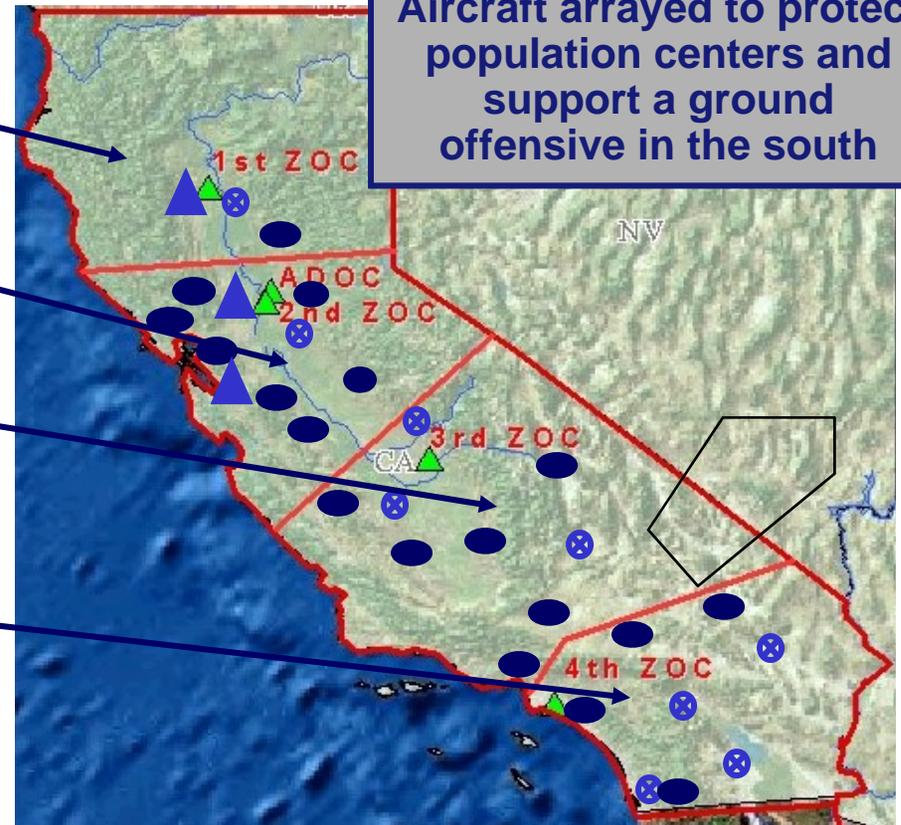
36 x 4th/5th Gen Fighters

24 x 4th/5th Gen Fighters
24 x 2nd/3rd Gen Fighters

84 x 4th /5th Generation Fighters
72 x 2nd/3rd Generation Fighters

Weapons: RF BVR and IR WVR

Aircraft arrayed to protect population centers and support a ground offensive in the south



- ▲ ADOC/ZOC
- ▲ National AF C2
- ⊗ Fighter Bases
- Other Major Airfields

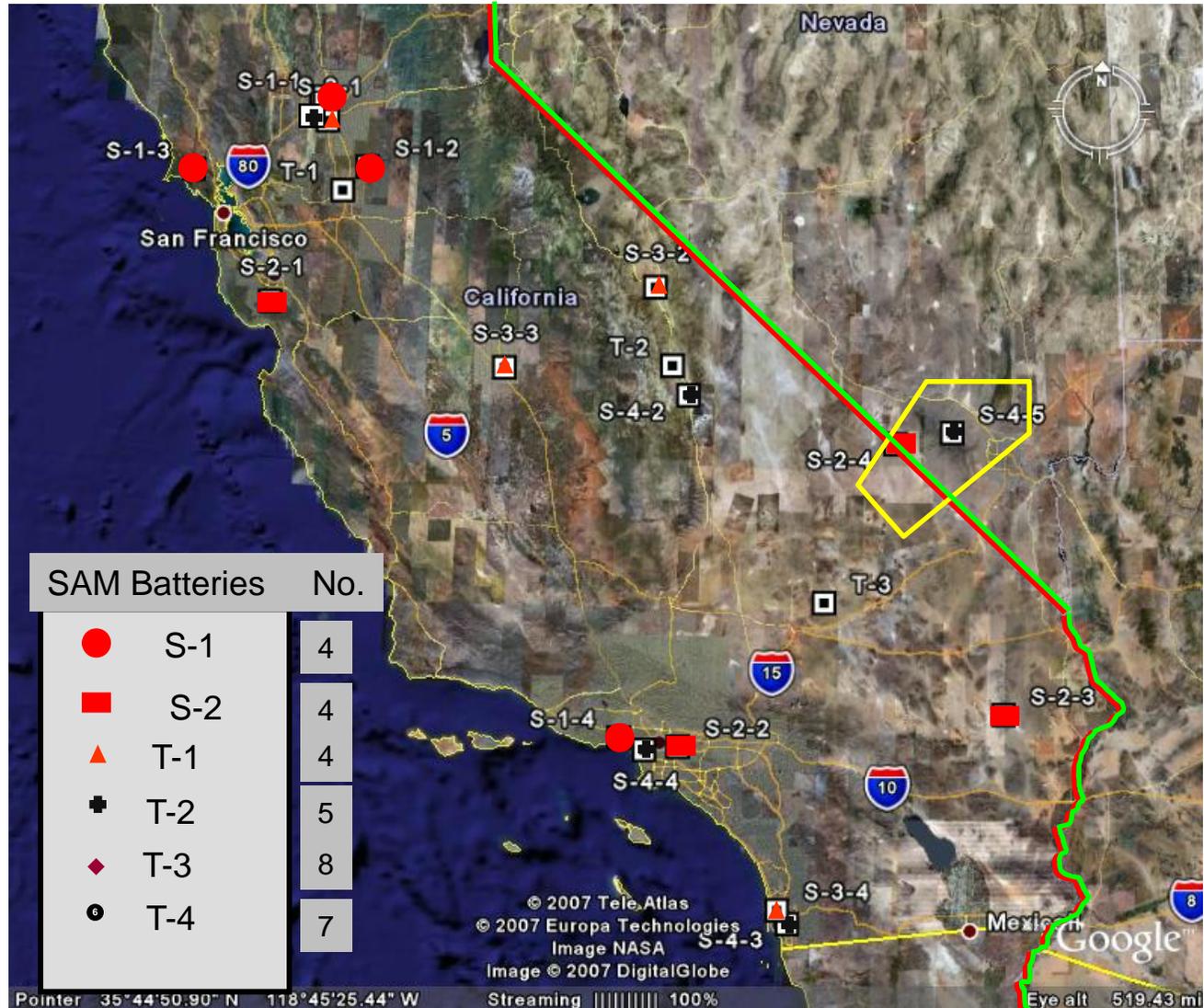
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Trinacrian Surface to Air Missile Sites

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S-1-# = Strategic SAM 1
 S-2-# = Strategic SAM 2
 S-3-# = Tactical SAM 1
 S-4-# = Tactical SAM 2
 T-# = TBM Op Area

S-1 SAM and S-2 SAM will have tactical operating areas and sites around their strategic operating area; T-1 SAM and T-2 SAM will remain in their tactical operating area; T-3 SAM and T-4 SAM will move tactically as necessary to provide point defense and fill gaps in coverage. AAA, MANPADS found throughout region



Trinacrian Strategic SAM CONOPs and Timeline

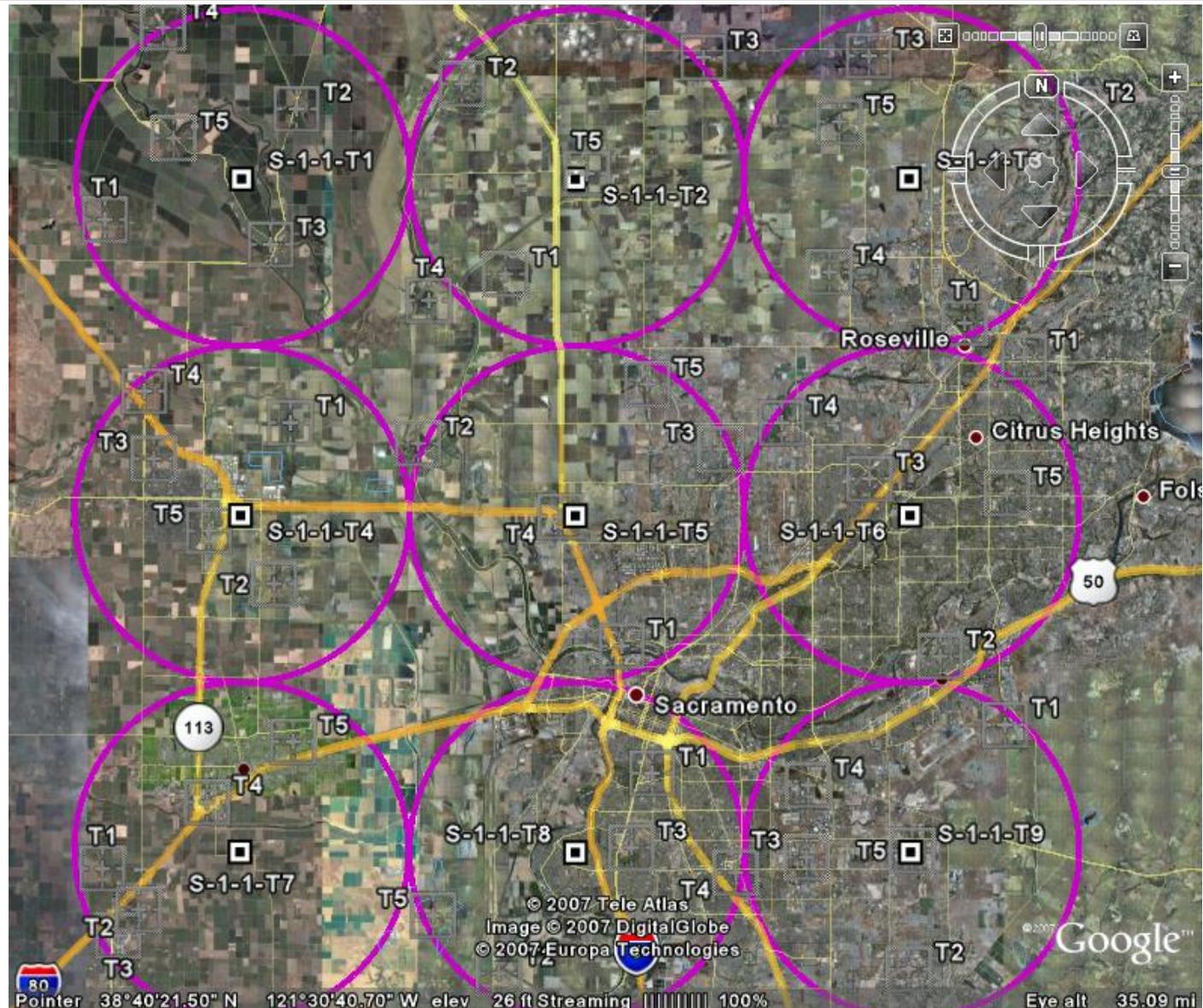
- Strategic SAMs (S-1 and S-2)
 - Have 30 nmi x 30 nmi strategic operating area per battalion
 - Have nine 10 nmi x 10 nmi tactical operating areas per strategic operating area
 - Have five surveyed sites per tactical operating area
 - Will start in a random tactical operating area (1 – 9) within the strategic operating area
 - One to three times per day will move to a new site within the same tactical operating area
 - Every 2 – 4 days will move to a new random tactical operating area within the same strategic operating area
 - Tactical operating areas may be re-visited

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Trinacrian Sample Strategic SAM Operating Area

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S-1 strategic
operating area
1 near
Sacramento

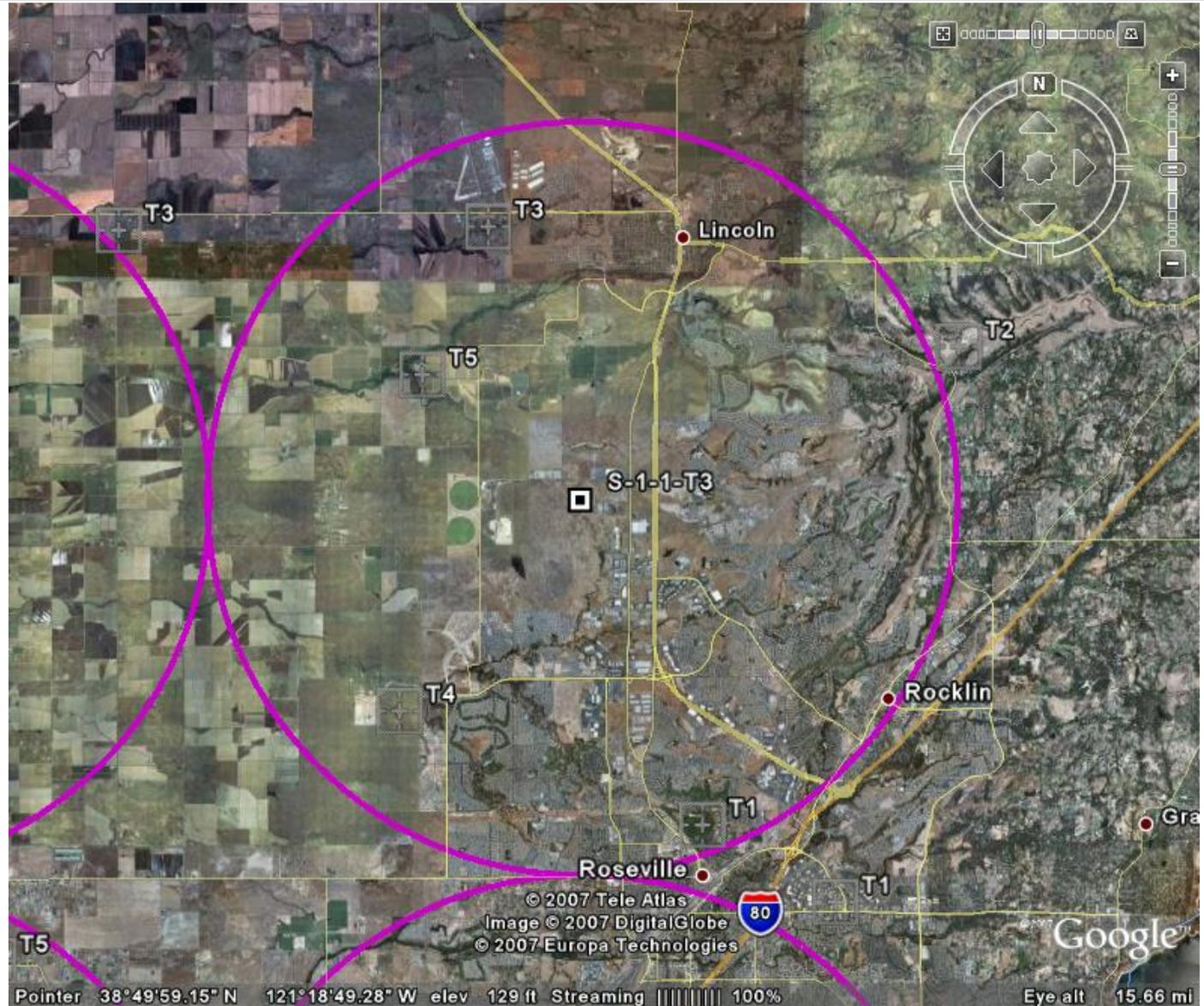


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Trinacrian Sample Tactical Operating Area

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S-1 tactical area
3, strategic
operating area 1,
near Sacramento



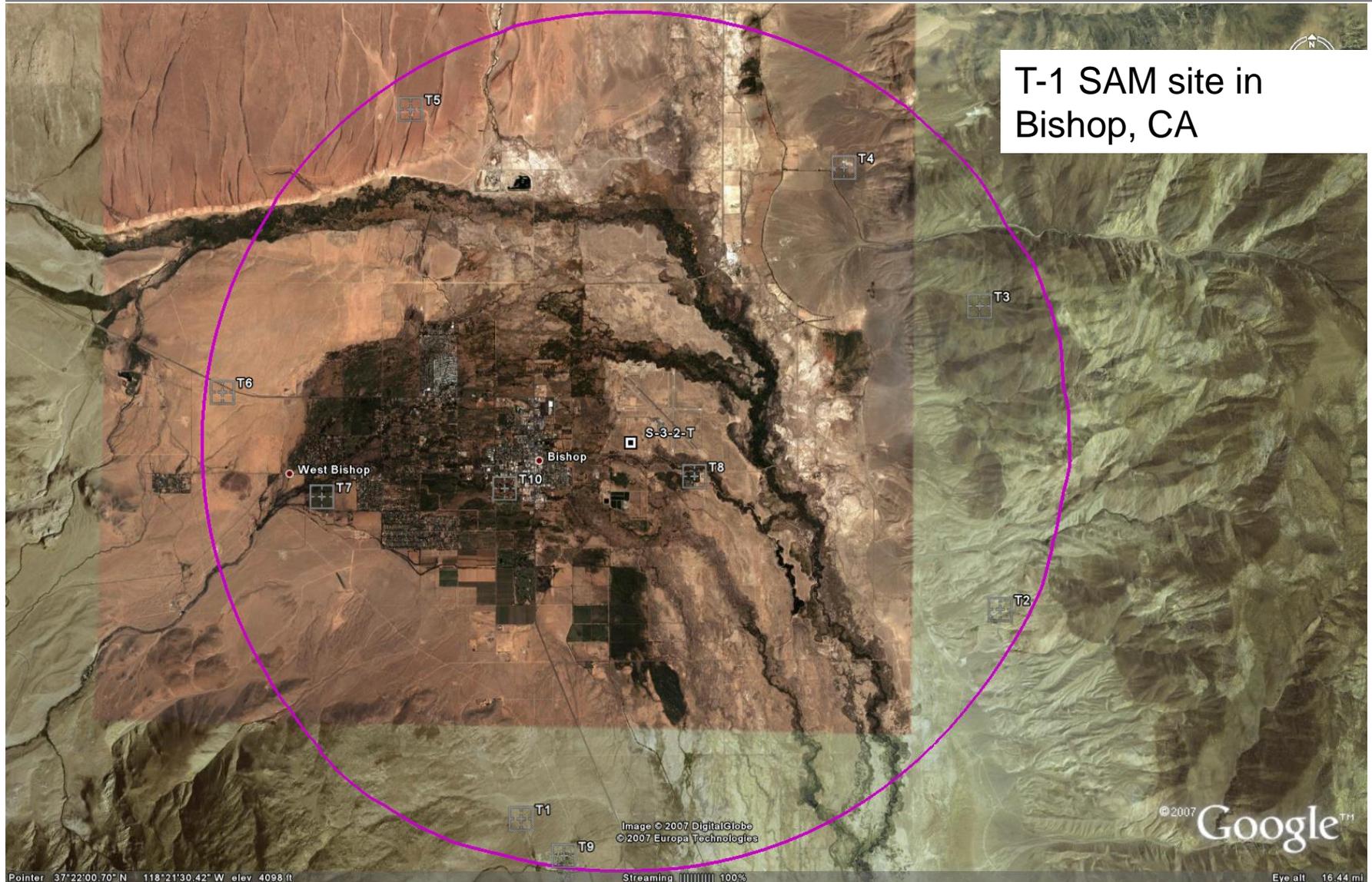
Trinacrian Tactical SAM CONOPs and Timeline

- Tactical SAMs (T-1 and T-2)
 - Have 10 nmi x 10 nmi tactical operating area per battalion
 - Have ten surveyed sites per tactical operating area
 - Will stay in the same tactical operating area
 - One to three times per day will move to a new site within the same tactical operating area
 - Sites may be revisited
 - Being used in more of an area defense role
- Tactical SAMs (T-3 and T-4)
 - Have no pre-defined operational areas
 - Move as needed to provide point defense of high value assets/targets

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Trinacrian Sample Tactical Operating Area

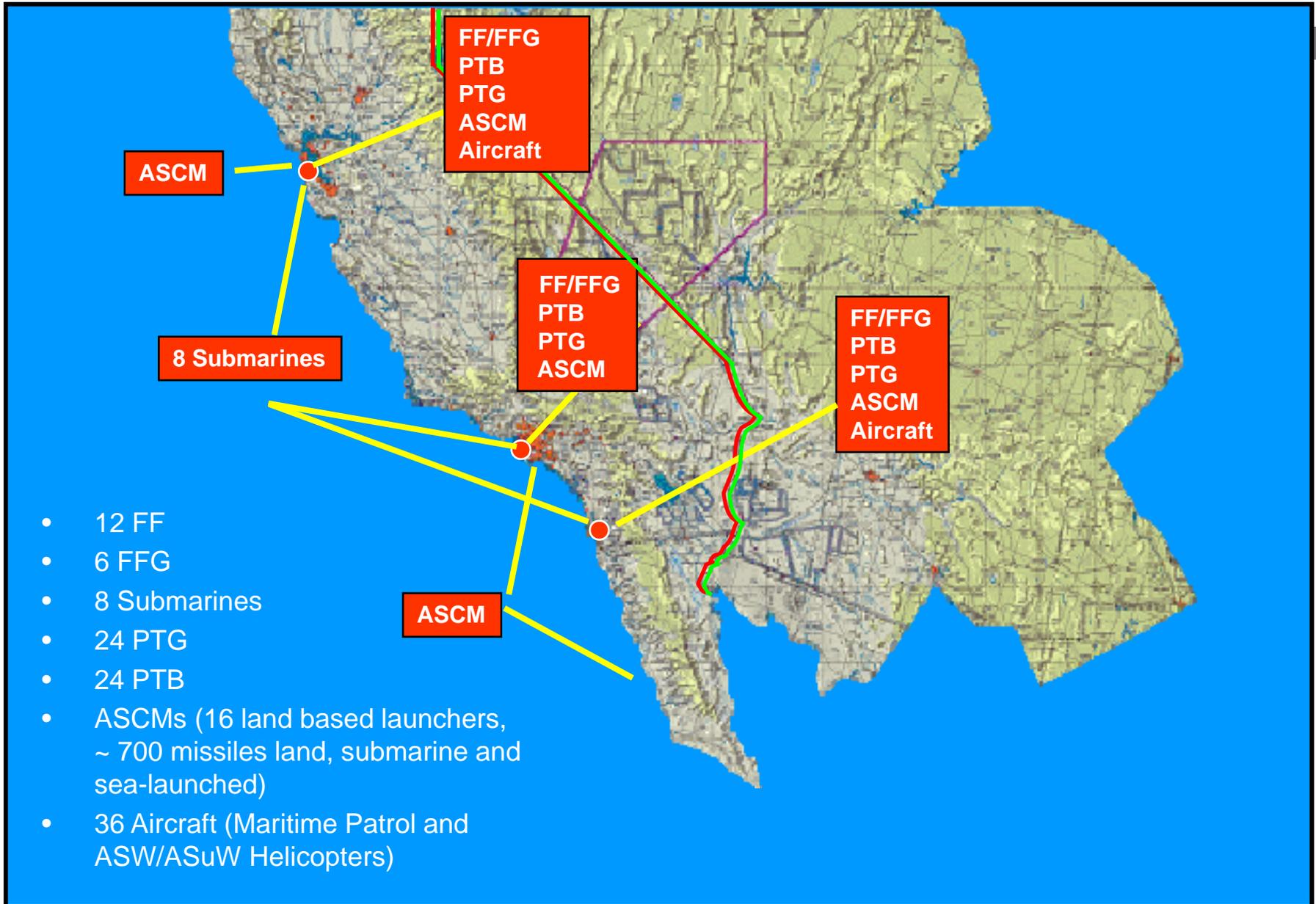
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T-1 SAM site in
Bishop, CA

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Trinacrian Naval Threats



Trinacrian Ballistic Missile Threat

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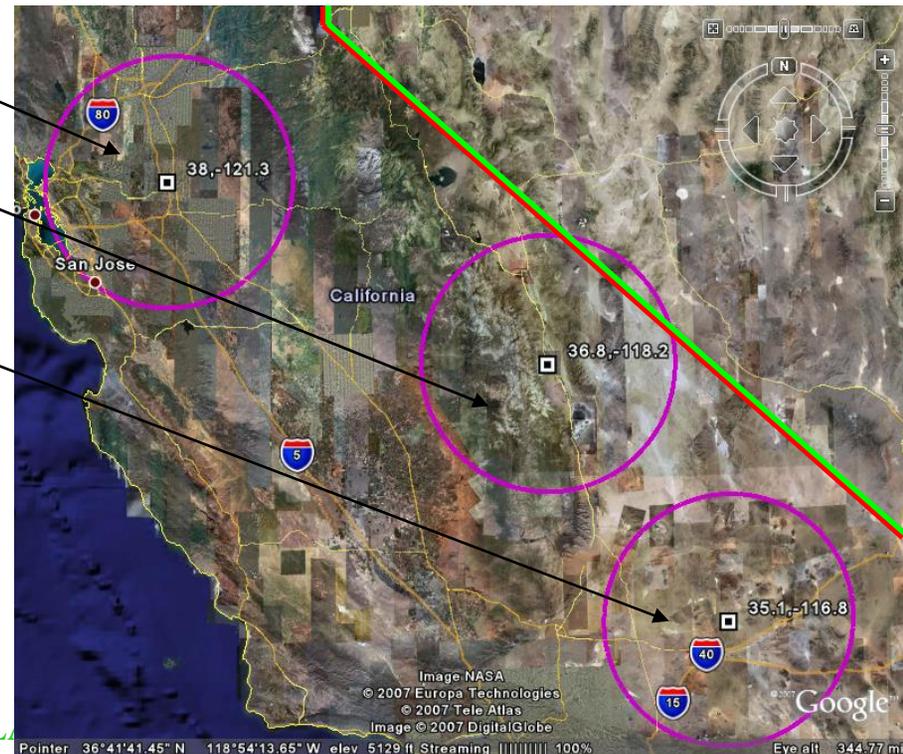
System	Status	Range	Missiles	CW Warheads	Launchers	Reloads/TEL
SRBM Type 1	OP	400km	294	None	10	29.4
SRBM Type 2	OP	700km	295	Possible	15	19.6
MRBM	OP	2,250km	121	Possible	25	4.8

TBM Area 1 = Stockton, CA (38N, 121.3W)

TBM Area 2 = Independence, CA (36.8N, 118.2W)

TBM Area 3 = Near Barstow, CA (35.1N, 116.8W)

Each area is a 50nmi (radius) circle centered on the given location (approx 7,854 nmi²)



Trinacrian TBM Launch Area Ranges

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TBM Area 1:
700km Ring
12 MRBM TELS
5 SRBM T2 TELS

TBM Area 2:
400km Ring
10 SRBM T1 TELS

TBM Area 3:
700km Ring
13 MRBM TELS
10 SRBM T2 TELS

MRBMs can reach anywhere in Ithaca

Trinacrian TBM CONOPS and Timeline

- Two launch waves per day
 - Launch wave one 0600 – 1000
 - Launch wave two 1800 – 2200
- Depart random hide site enroute to launch site
 - Timed to attempt to have all launches within a 25 minutes or less window
 - Launch site not more than 80 km (43 nmi), not less than 8 km (4.3 nmi)
 - Travel time assumed as straight line distance, average speed of 40 kph (21.5 mph)
 - Approximately 1/3 of MRBMs and 1/2 of SRBMs involved in each wave
 - No restriction on re-use of launch sites by other TELs, individual TELs will not re-use a site
- After arrival at launch site, launch occurs in:
 - 14 – 22 minutes for SRBMs
 - 25 – 35 minutes for MRBMs
 - All launch sites assumed pre-surveyed
- After launch, departure occurs in:
 - 1 – 3 minutes for SRBMs
 - 3 – 6 minutes for MRBMs
- Depart launch site for new hide site
 - Hide site not more than 80 km (43 nmi), not less than 8 km (4.3 nmi)
 - Travel time assumed as straight line distance, average speed of 40 kph (21.5 mph)
 - No restriction on re-use of hide sites by other TELs, individual TELs will not re-use a site
- Continue pattern until one of three conditions met:
 - TEL is destroyed by Blue attack
 - TEL runs out of reload missiles
 - TEL suffers irreparable malfunction and is rendered inoperable

Launch time derived from Rand Organization file [MR1408.ch3.pdf](#) "Coalition Scud-Hunting in Iraq, 1991, page 4 cites under 30 minutes. (UNCLASSIFIED Document)

TBM departure time derived from Time article "The Great Scud Hunt" dated 12/23/02 citing 6 minutes. (UNCLASSIFIED Document)

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Trinacrian TBM Launch Area 3

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115 Hide sites (H#)
230 Launch sites (L#)
13 MRBM TELs
10 SRBM Type 2 TELs

Operating area
centered near
Barstow, CA (35.1N
116.8W)



Close examination of sites may indicate a site resides in an impossible location, like a lake, however this is due to the resolution used in the coordinates, rounded degree, minute, second. Any site appearing this way should be moved slightly to an acceptable location

Trinacrian EW/GCI Radar CONOPs

- Trinacria has 35 Early Warning/Ground Control Intercept (EW/GCI) radars, most are relocatable
 - 4 fixed sites
 - 31 relocatable sites
- Each relocatable radar has 5 sites to operate from
 - ZOC 1 has 5 EW/GCI radars (25 sites)
 - ZOC 2 has 9 EW/GCI radars (45 sites)
 - ZOC 3 has 9 EW/GCI radars (45 sites)
 - ZOC 4 has 8 EW/GCI radars (40 sites)
- Any of the radars within a ZOC may use any operating site
 - Sites may be reused by different radars
 - An individual radar may not return to a site it has previously used
- Individual radars relocate at a random time interval between 30 and 72 hours
 - No restriction on distance traveled during relocation
 - Moves will be timed to maintain radar coverage, i.e. maximum of 2 radars moving at once

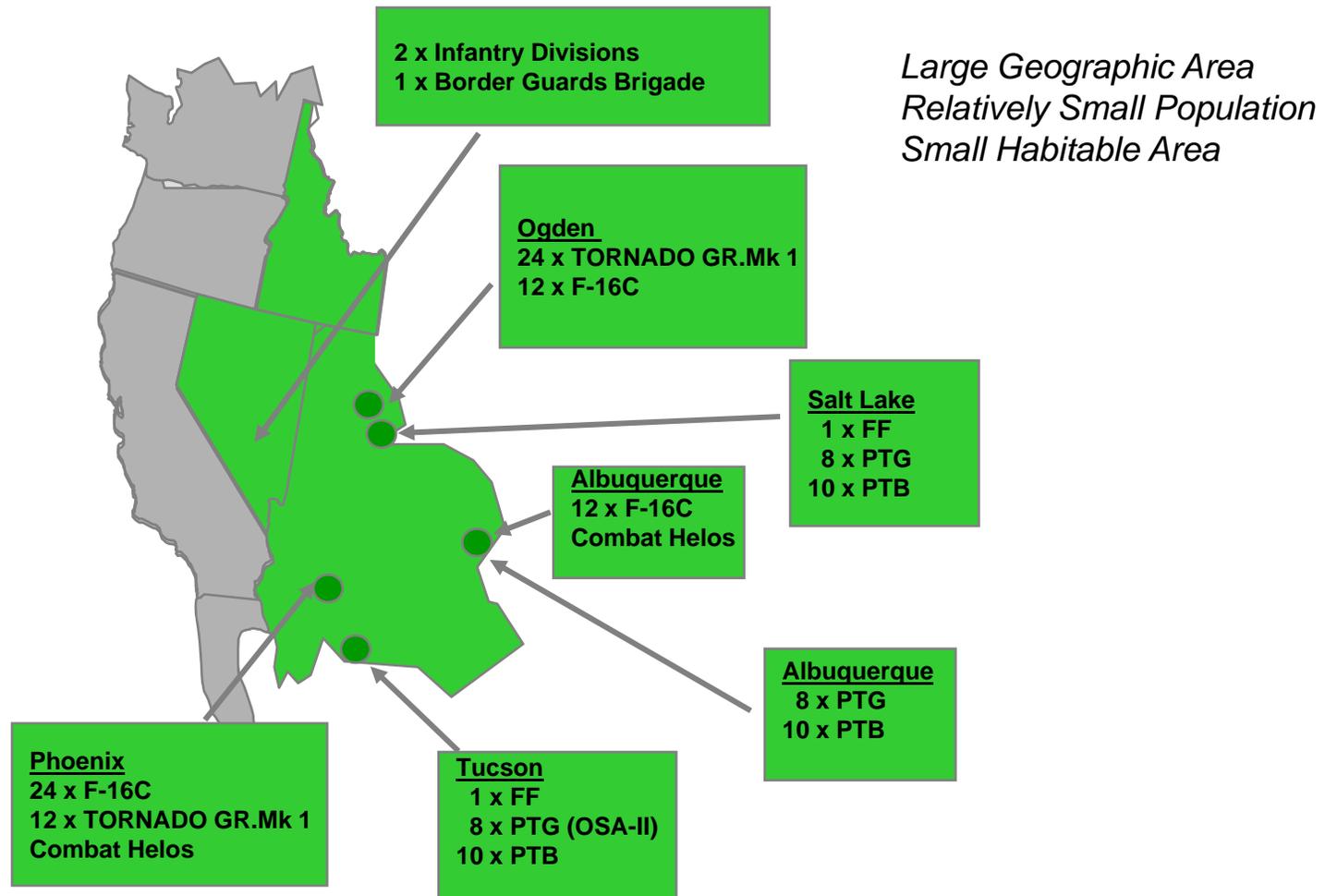
Trinacrian ASCM CONOPs

- Trinacria has 16 ASCM launchers
 - 6 in the San Francisco Bay area (Northern area)
 - 10 from Baja California to north of Los Angeles
 - 10 ASCMs have a range of 162nmi (300km) and 6 have a range of 70nmi (130km); this does not correspond to the above 6 and 10 launcher groups
- Each ASCM launcher has 5 sites to operate from
- Any of the ASCMs within an area may use any operating site
 - Sites may be reused by different ASCMs
 - An individual ASCM may not return to a site it has previously used
- ASCMs only fire/unhide when presented with a target, then relocate
 - No distance restriction on relocation within the Northern/Southern area

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Scheria Forces

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Coalition Campaign Objectives

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- Defeat Trinacria's attack into Scheria and Expel Trinacrian forces
- Restore Internationally Recognized Border and Restore Control of Ithaca Mineral Fields to Status Quo Ante
- Neutralize Trinacria's Offensive Capabilities, Including WMD if Present

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Proposed Target List

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Target	Total
Maneuver/Relocatable	
Air Defense Artillery	1750
APC/IFV	1640
Artillery	2000
MRL	970
Infantry Divisions	15
Special Brigades	10
Tanks	1600
Combat Support Vehicles	3000
Radars	104
Tactical SAM TELARs	46
Total	11135
Maritime	
Ships (FF, FFL)	18
Patrol Craft	48
Submarines	8
Total	74
Strategic Fixed Targets	
Airfield	27
EW/GCI Radars	4
SATCOM Antennas	10
GPS Jammers	15
Highway Bridges	200
Conv. Wpn Production/Storage	100
POL Distribution/Storage	110
Air Defense C2	40
Telecom Facilities	250
Electric Power Distribution	104
CBRNE Production/Storage	25
National C2 Facilities	40
Road Chokepoints	30
Rail Chokepoints	30
Missile Support Facilities	20
Combat Service Support Base	90
Total	1095
Listed on other Worksheets	
Strategic SAM TEL	40
Tactical SAM TELARs	54
Ballistic Missile Launchers	50
ASCM Launchers	16
EW/GCI Radars	31
Total	191
Grand Total	12495

Each Target May Have Multiple Components/ Aimpoints

Each Strategic Fixed Target site has coordinates in actual US reference and in shifted "Ithaca" reference in the Pacific Ocean

Each of the sites "Listed on other Worksheets" have multiple sets of coordinates in US reference and "Ithaca" reference

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Target Coordinate Sets

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- 1,095 Fixed Sites
- 450 SAM Sites
- 750 TBM Sites
- 155 EW/GCI Sites
- 80 ASCM Sites
- **2,530 TOTAL**

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Initial Infrastructure Site Descriptions

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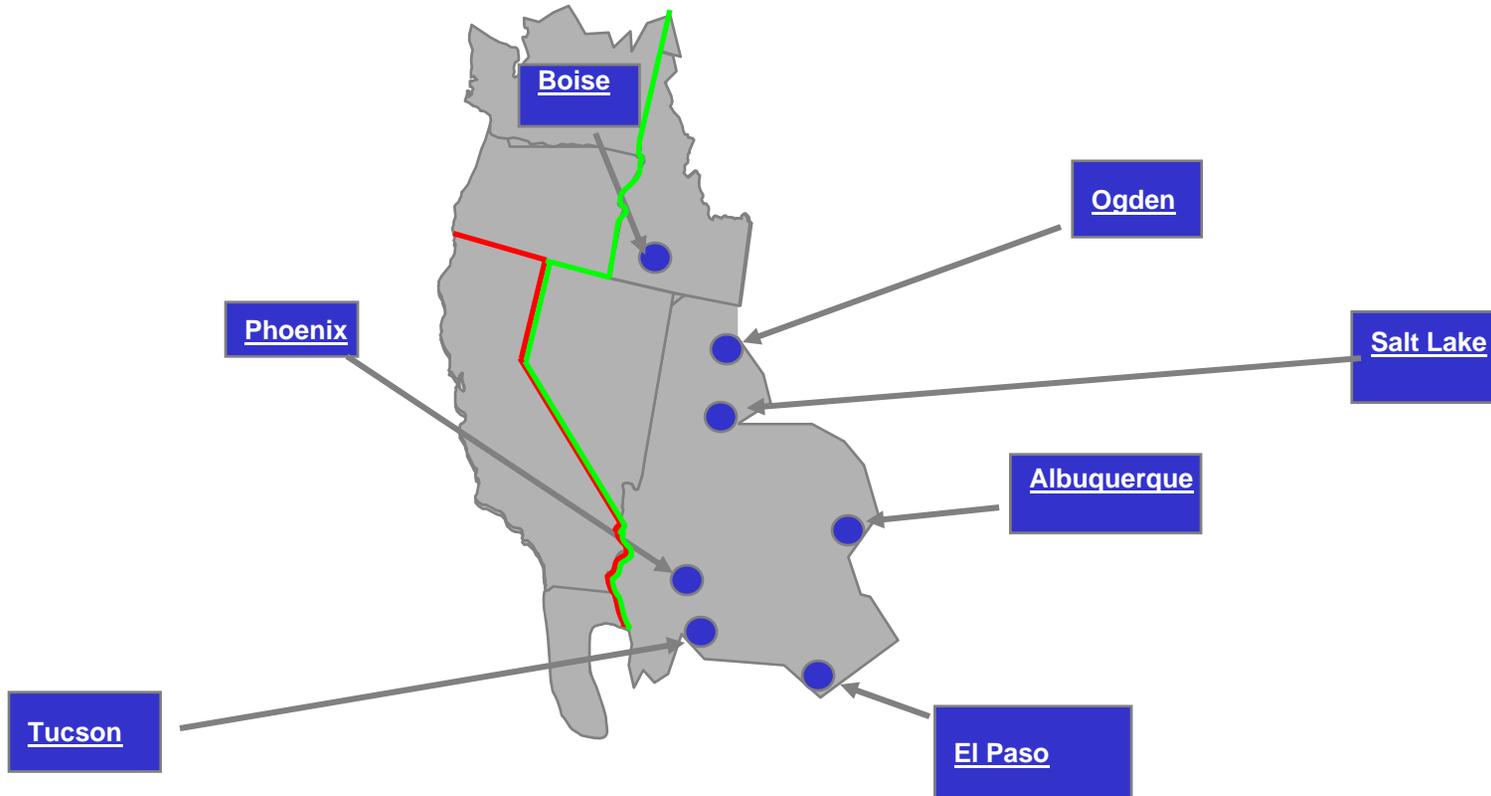
Site Name	Site Element	Number of Elements
Airfield	Underground Steel POL Storage Tank	0.4
	Steel Aircraft Hangar	3.5
	Hardened Aircraft Bunker	5
	POL Storage Tank (aboveground)	7
	Runway, 12-in Concrete	1
	Storage/Support Facility Bunker	8.5
	Taxiway, 12-in Concrete	0.75
	Aircraft in Revetment	1
	Helicopter on Ground	3.5
	Conventional Weapon Production/Storage	JMEM Type 3c Building
JMEM Type 4b Building		7
JMEM Type 3e Building		0.5
Area of Munitions in the Open		0.5
Storage Bunker		2
POL Distribution/Storage	POL Pumphouse	1
	POL Storage Tank (aboveground)	8
Air Defense C2 Facility	JMEM Type 3b Building	1
	JMEM Type 4b Building	1
	Communications Antenna	1
	C2 Bunker	0.5
Electrical Power Distribution Facility	Switching Station/Transformer Yard 40 MVA	0.5
	Switching Station/Transformer Yard 280 MVA	0.5
CBRNE Production/Storage	JMEM Type 1c Building	0.5
	Storage/Support Facility Bunker	1
	Transformer Yard 40 MVA	0.1
	JMEM Type 3c Building	0.5
	Large Industrial Building	0.5
	JMEM Type 4b Building	0.5
National C2 Facility	JMEM Type 3b Building	1
	JMEM Type 4b Building	1
	Communications Antenna	1
	C2 Bunker	0.5
Missile Support Facility	JMEM Type 3b Building	1
	JMEM Type 3d Building	2
	Large Industrial Building	1
Combat Service Support Base	Area of Inert Supplies in Open	0.5
	Area of Munitions in the Open	0.5
	JMEM Type 3d Building	5
	Storage/Support Facility Bunker	5

Site descriptions are initial assessments and are open to discussion. Bunkers are a mixture of more and less challenging hardness. C2 bunkers, CBRNE bunkers and some portion of ammunition bunkers at CSS sites and airfields are harder and the rest of the bunkers are less challenging as a starting position.

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Coalition Air Bases Available

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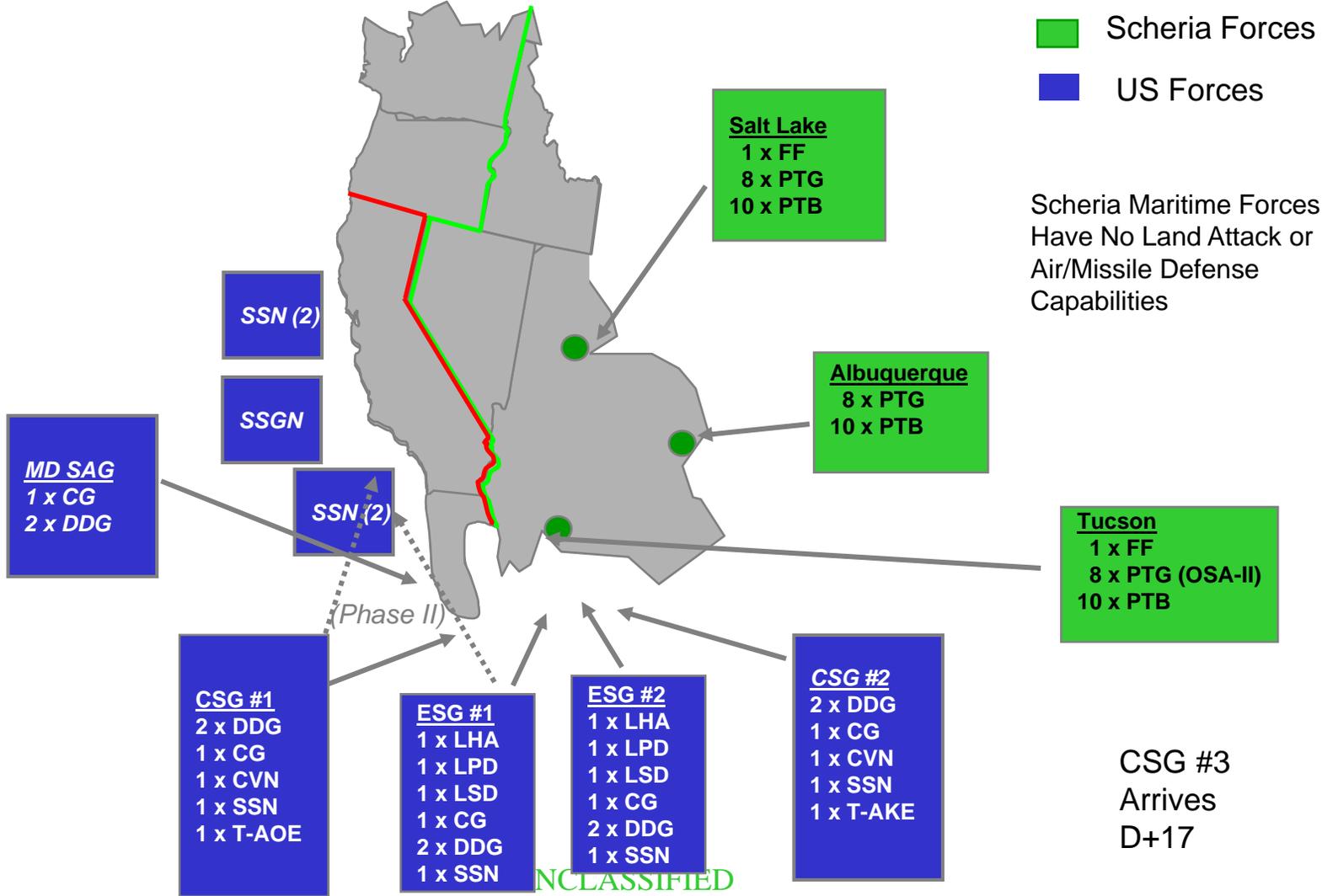
Notional US Naval Forces in Theater (D-Day)

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- 2 x CSG (CSG #3 Arrives D+17)
 - 1 CVN, 1 CG, 2 DDG, 1 SSN, 1 T-AKE
 - 44 Strike/Fighters (F-18E/F, F-35) Per Airwing + 10 UCAV
- 2 x ESG
 - 1 LHA(R), 1 LPD, 1 LSD, 1 CG, 1 DDG, 1 DD(X), 1 SSN
 - 6 Strike/Fighters (F-35) Per LHA(R)
- USMC Shore-Based Strike Fighters: 60 (F-35)
- 4 x SSN
- 1 x SSGN
- 1 x MDSAG
 - 1 CG, 2 DDG

US, Scheria Maritime Forces in Theater, D-Day

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USN/USAF D-Day Air Forces

- USAF
 - 254 Total Fighter/Strike Aircraft
 - 24 F-16CJ
 - 173 F-35
 - 58 F-22
 - 30 Total Bombers
 - 10 B-1B
 - 10 B-2
 - 10 B-52H
- USN
 - 88 Total Fighter/Strike Aircraft
 - 48 F-18E/F, 40 F-35 in 2 CSGs
 - 20 Total UCAV
 - In 2 CSGs
- USMC
 - 72 Total Fighter/Strike Aircraft
 - 12 F-35 in 2 ESGs
 - 60 F-35 Ashore

USAF has 61.3% of Fighter/Strike aircraft (not including UCAV) and 100% of dedicated bombers. If UCAV is included in total, then USAF has 58.5% of Fighter/Strike aircraft on D-Day. Phase III with CSG #3 (44 more fighters and 10 more UCAV) – USAF has 55.5% without UCAV, 52% with UCAV

RAF contribution has been placed at 48 Typhoons + 12 UCAV

WARGAME Lessons Learned

- Not detailed enough for traditional wargame
 - Suited for Military Judgment Panel (MJP)
 - Was found to have value in context of MJP
- Alternative scenario determined, but not played
 - Start with some Blue ground and land based air forces already in Scheria due to Flexible Deterrent Options, D-7
 - Southern portion of Scheria defects to Trinicria and claims IMF, Trinicria initiates movement into IMF, D-Day
 - Altered Red forces:
 - Add 24 B-6 Bombers with air launched cruise missiles, precision guided munitions, and stand-off weapons
 - Changed TBM mix for fewer MRBM (15 launchers/60 TBMs), more SRBM (20 Type 1 SRBM launchers/350 TBMs, 15 Type 2 SRBM launchers/300 TBMs)
 - Added more SAMs to allow extending IADS into newly annexed territory (1 S-1, 2 S-2, 2 S-3, 3 S-4)

BACKUP

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Airfields

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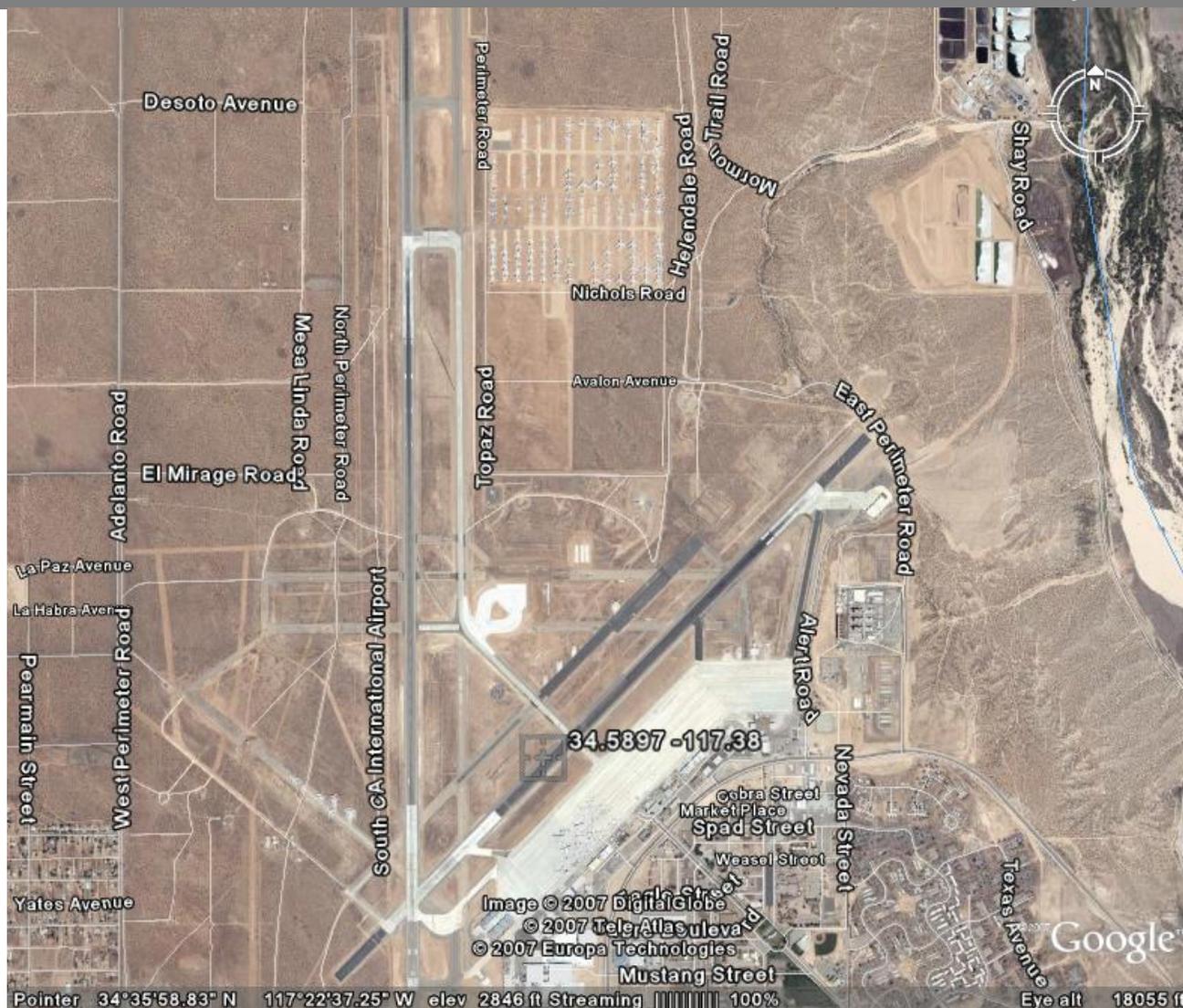


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Redding, CA

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Airfields - 2



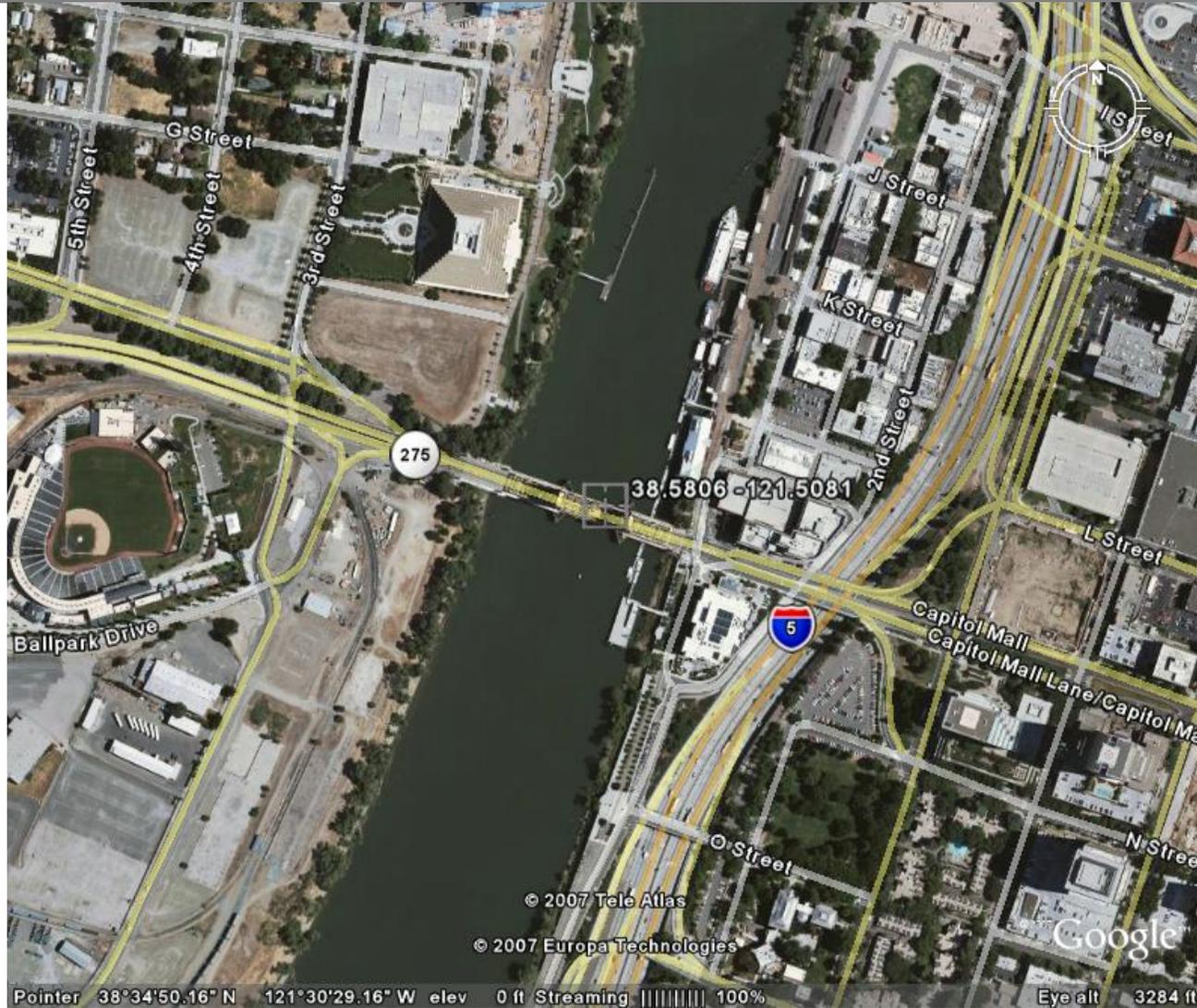
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Adelanto Logistics Field

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Highway Bridge

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Tower Bridge, Sacramento

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Highway Bridge - 2

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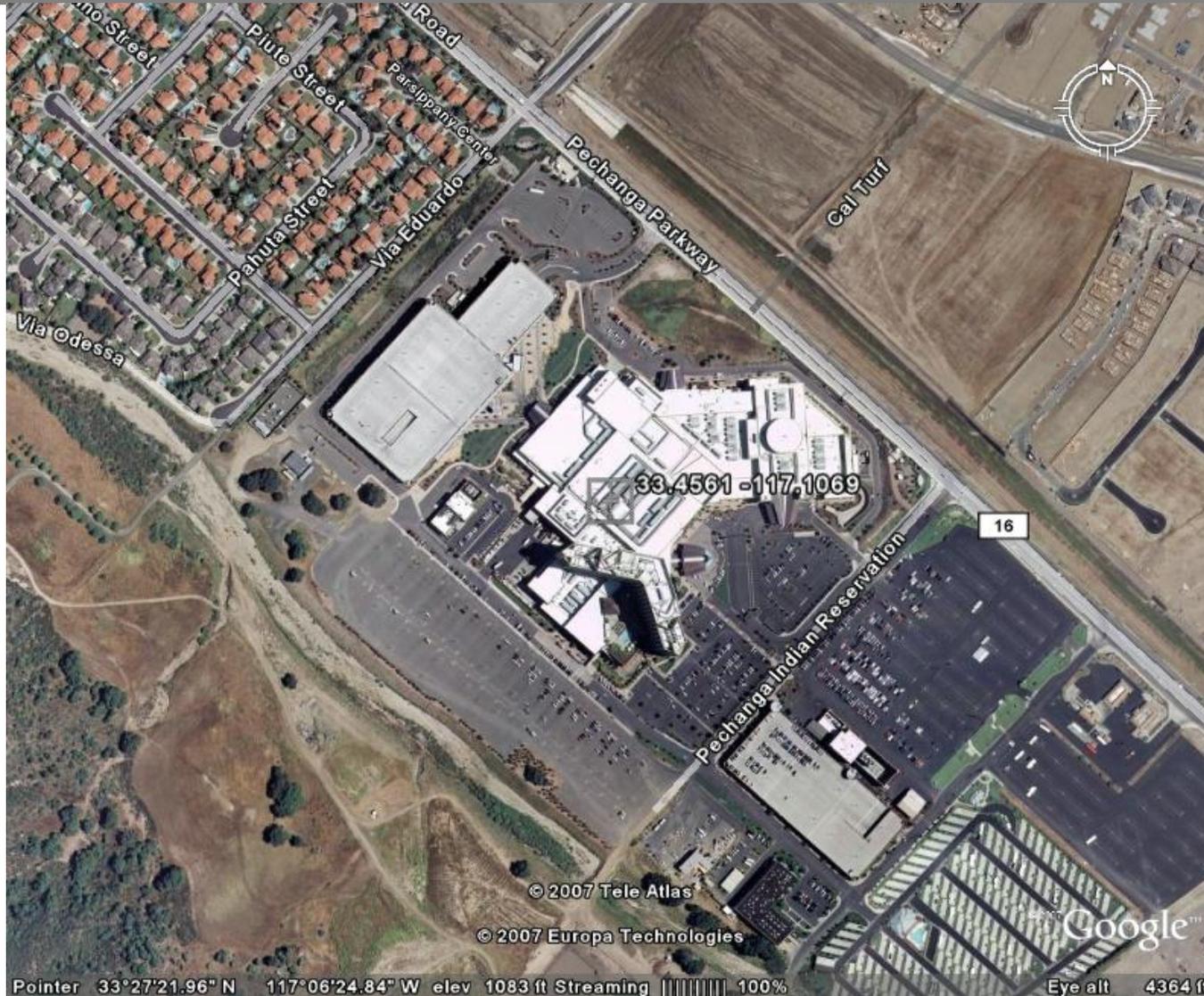


Pacific Coast Highway, HWY 1

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Conventional Weapon Production/Storage

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Temecula, CA

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Conventional Weapon Production/Storage - 2

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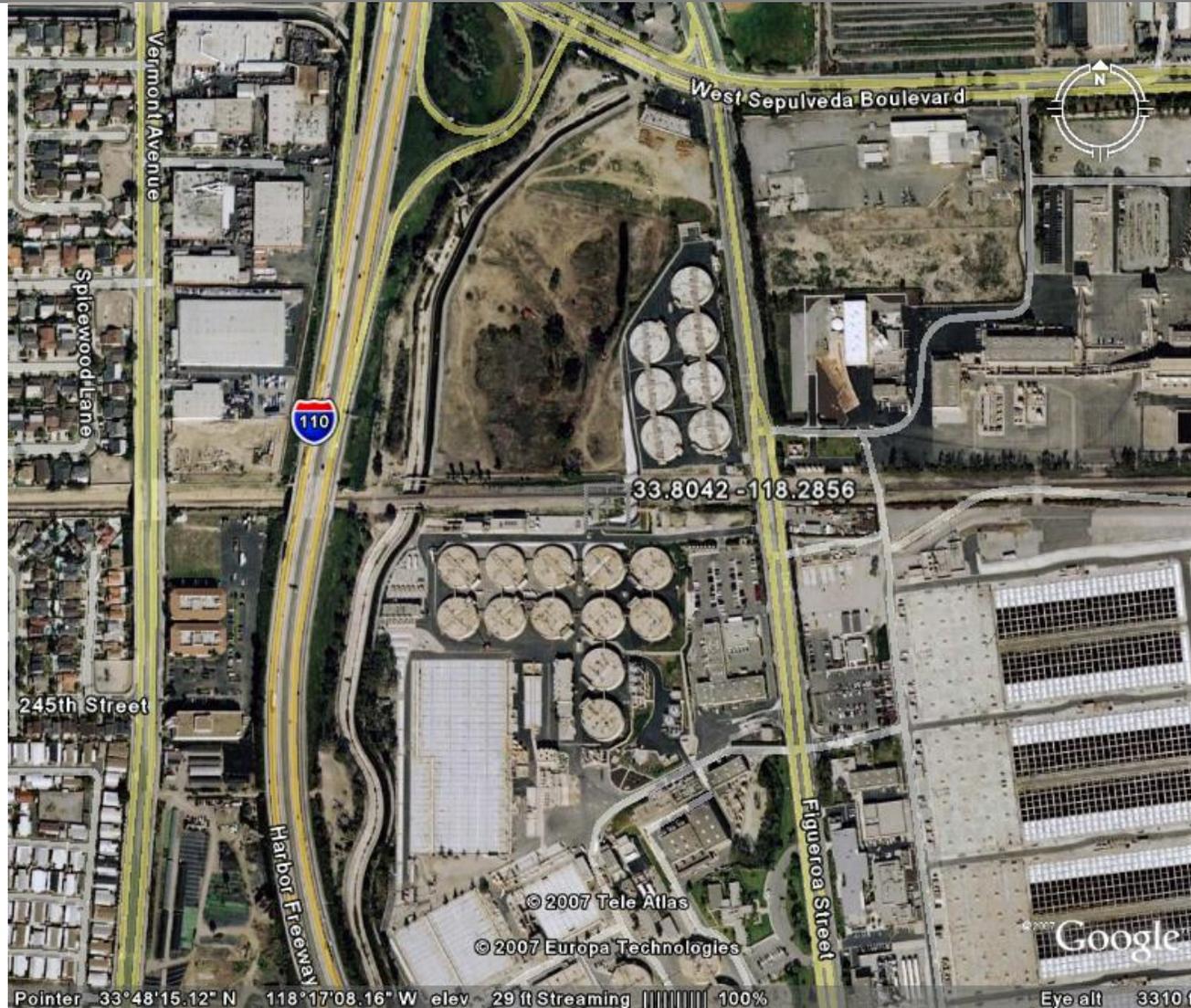


Rosarita, Mexico

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POL Production/Storage

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West Carson, CA

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POL Production/Storage - 2

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South of Taft, CA

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Air Defense C2

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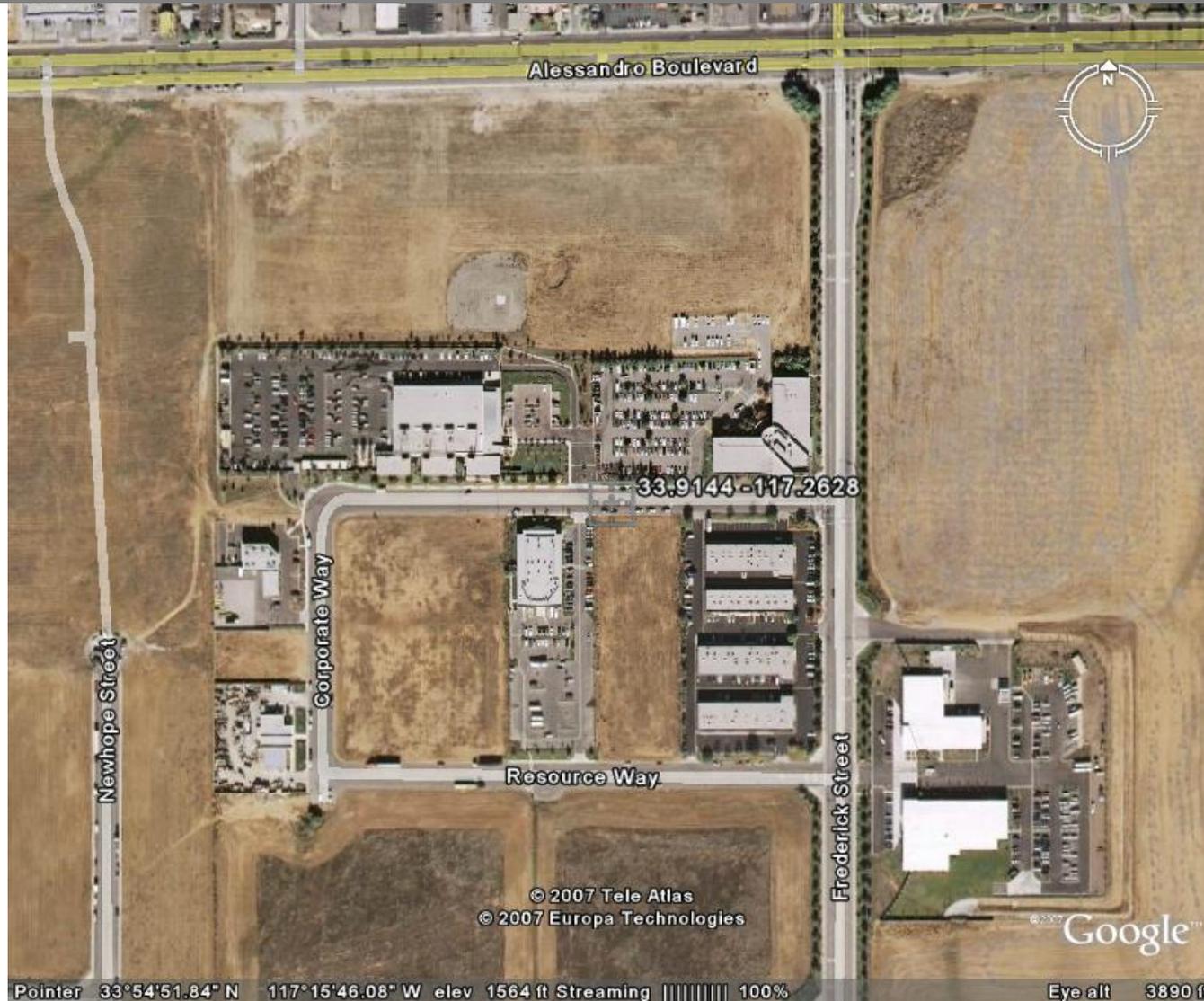


UNCLASSIFIED
Chico, CA

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Air Defense C2 - 2

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March AFB, CA

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Telecom

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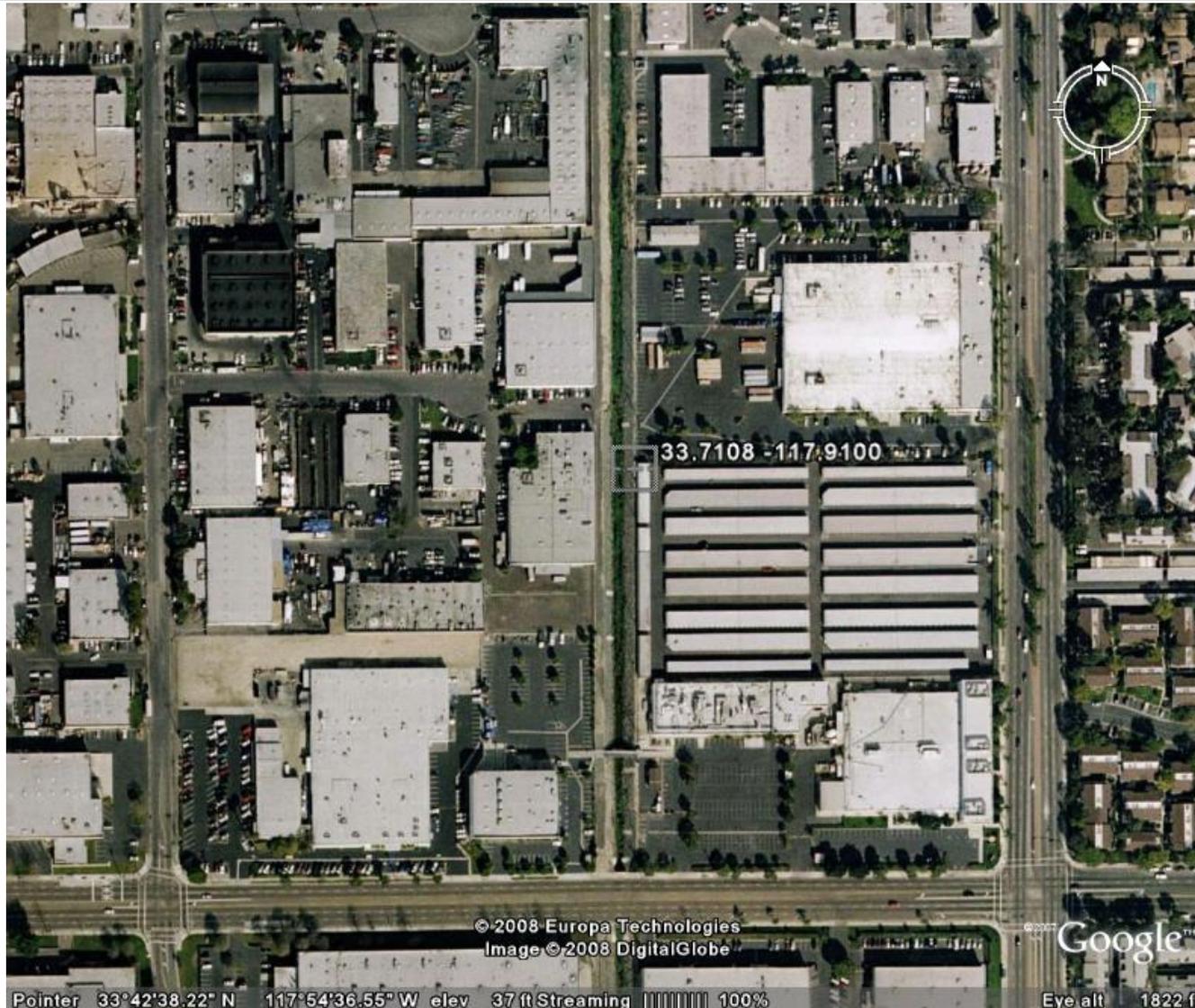


Victorville Tower, 156 m

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Telecom - 2

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Santa Ana Tower, 18.3 m

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Electric Power Distribution

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La Paloma Power Project

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Electric Power Distribution - 2

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Kramer's Junction Transformer Yard

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CBRNE Production/Storage

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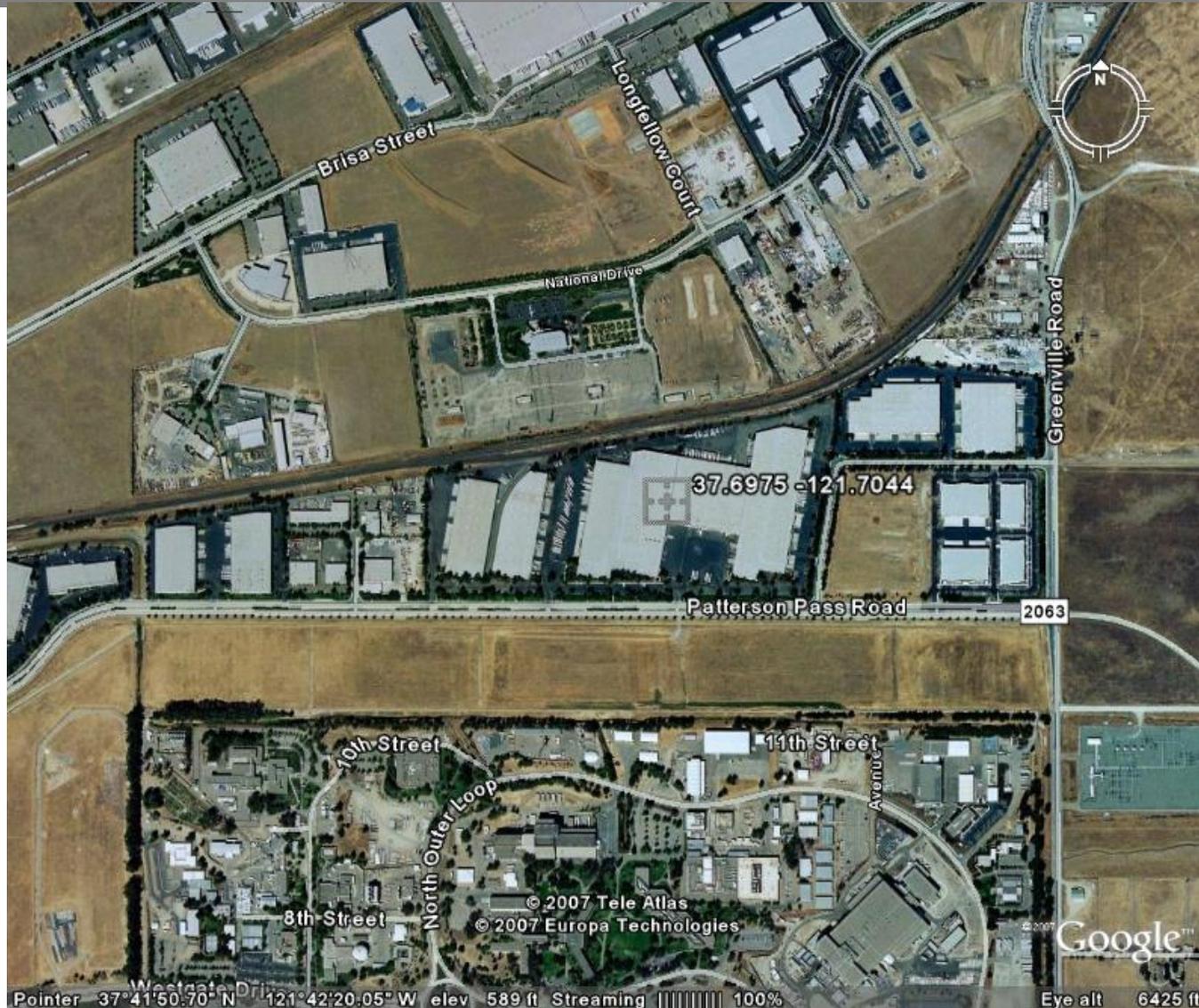


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China Lake, CA

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CBRNE Production/Storage - 2

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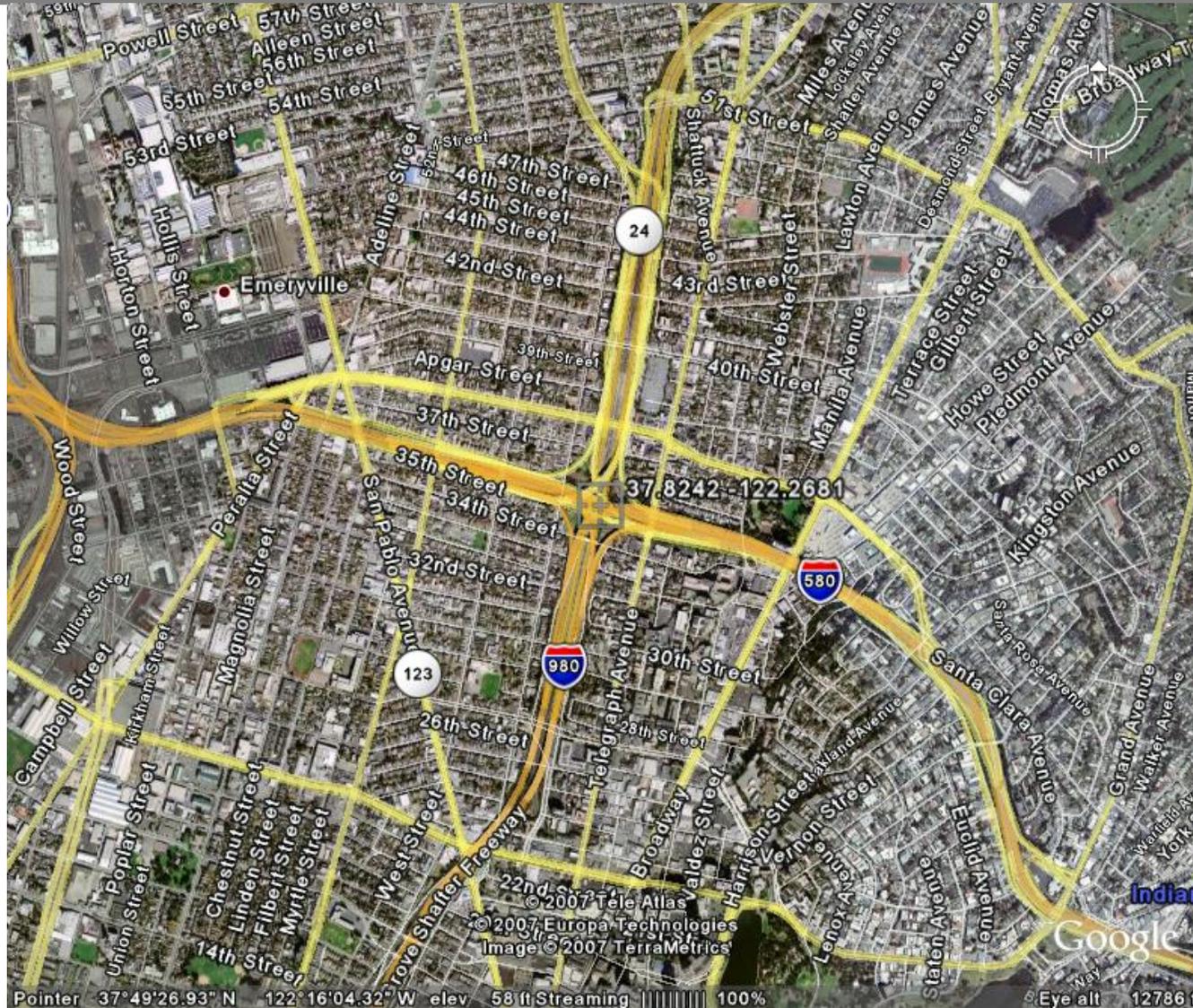


Livermore, CA

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Road Chokepoint

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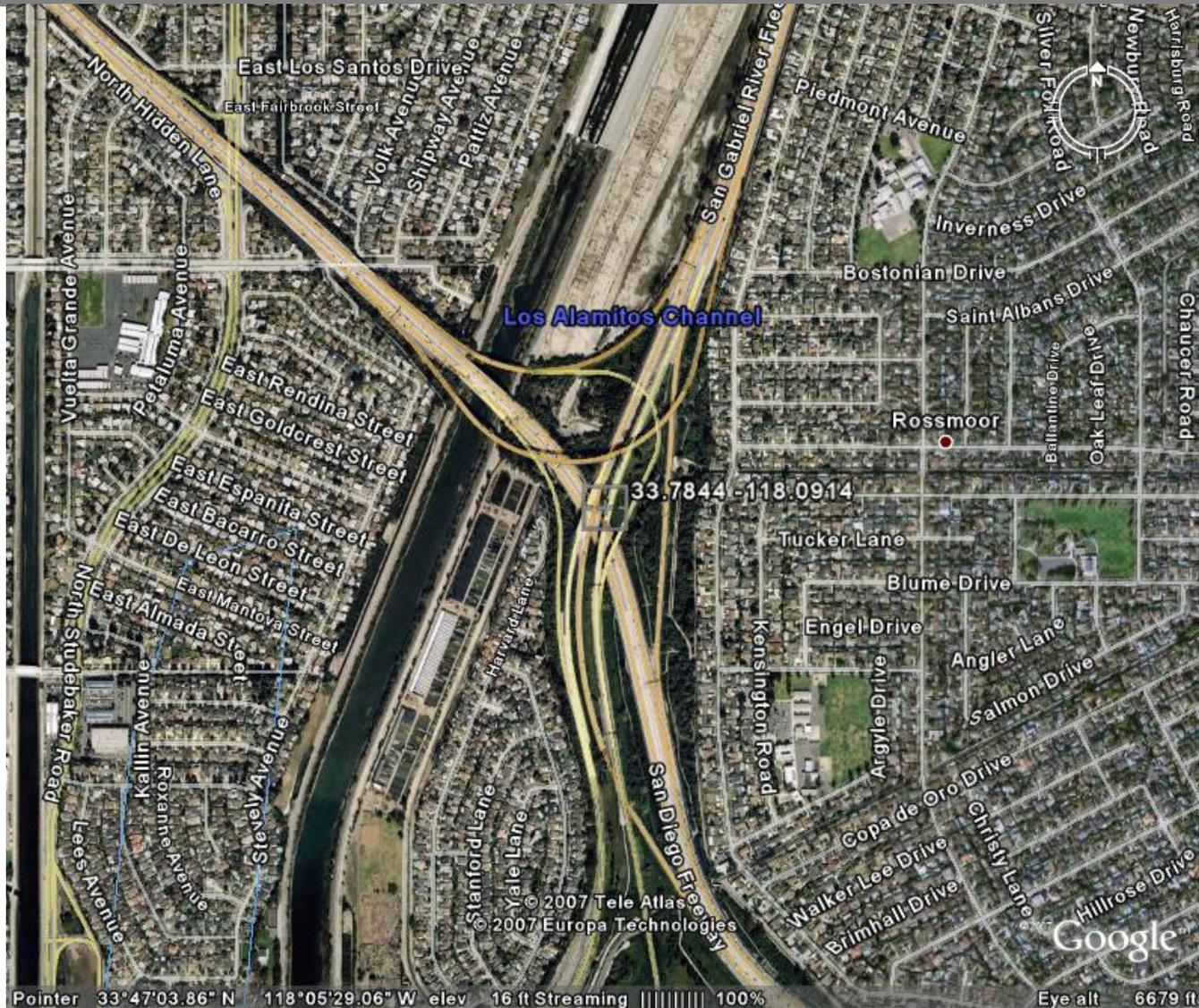


I-580/980 Oakland, CA

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Road Chokepoint - 2

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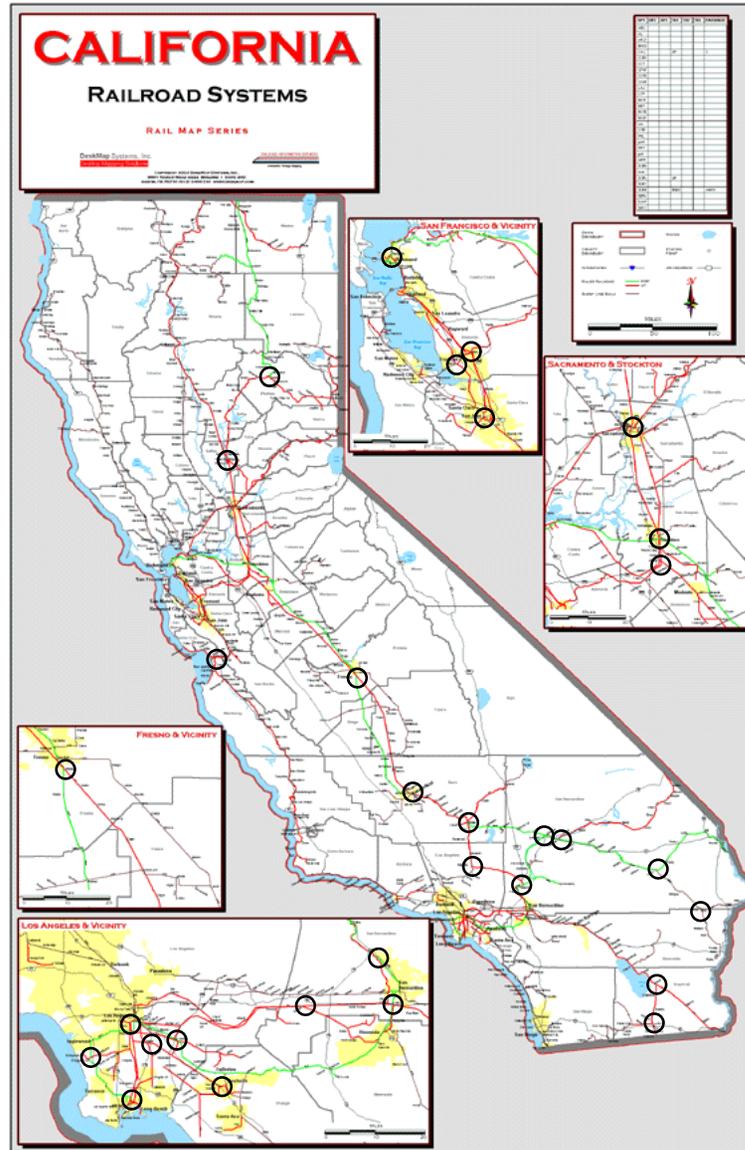


I-405/605 Los Alamitos, CA

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Rail Chokepoint

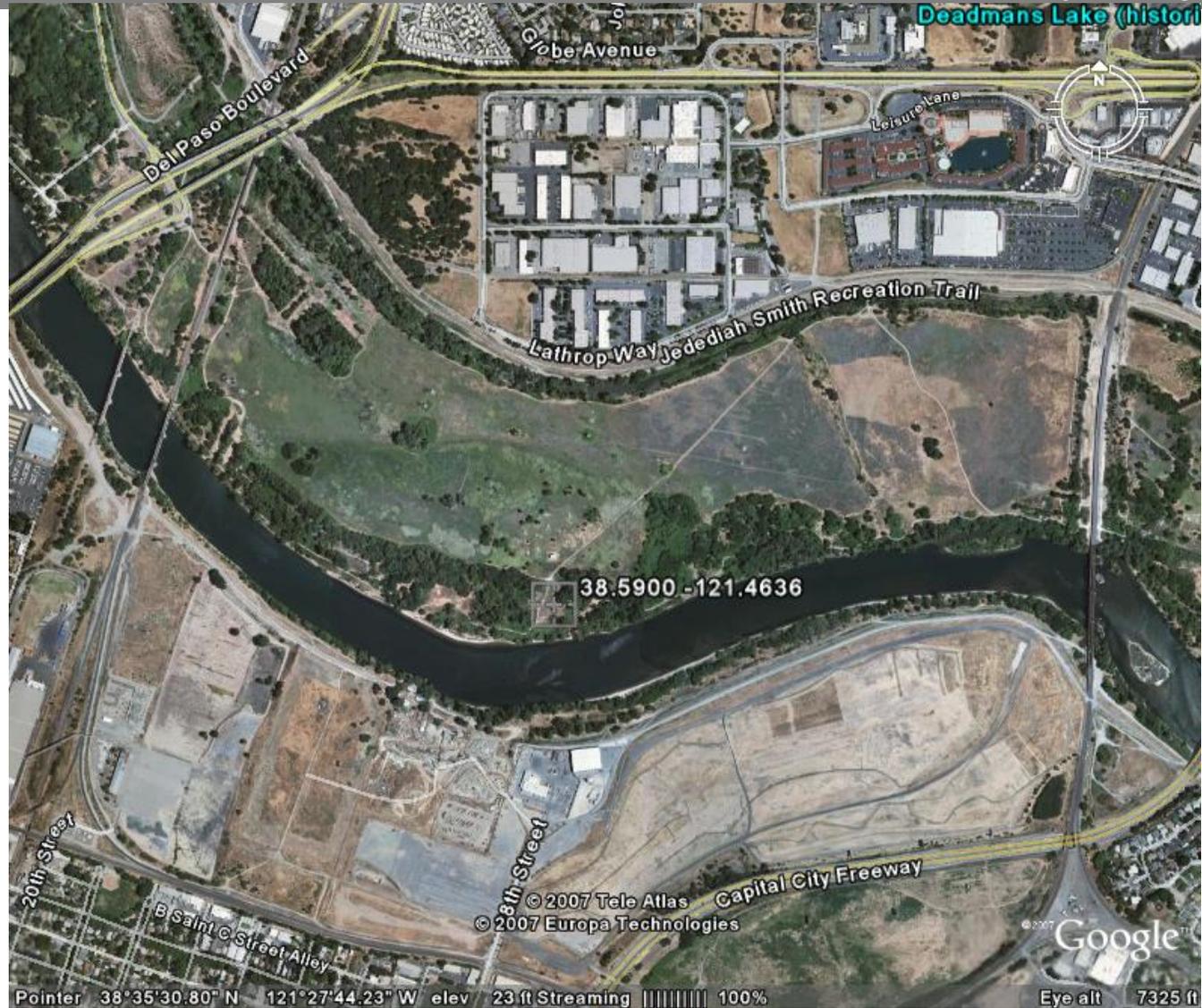
NAVAIR Warfare Analysis and Integration Department



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Rail Chokepoint - 2

NAVAIR Warfare Analysis and Integration Department

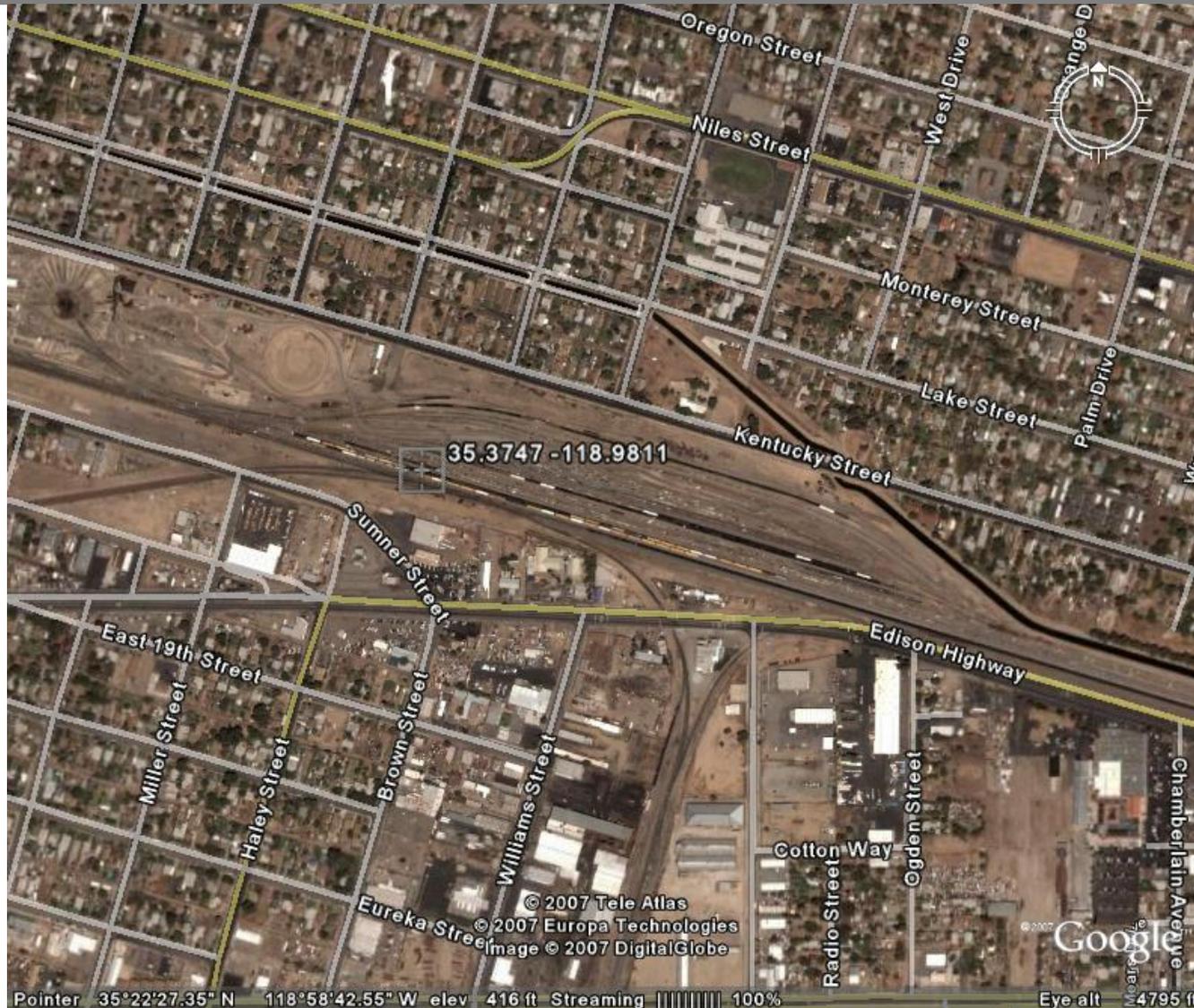


Sacramento, CA

UNCLASSIFIED

Rail Chokepoint - 3

NAVAIR Warfare Analysis and Integration Department



Bakersfield, CA

UNCLASSIFIED

Missile Support Facility (TBM)

NAVAIR Warfare Analysis and Integration Department



Cartago, CA

UNCLASSIFIED

Missile Support Facility (SAM)

NAVAIR Warfare Analysis and Integration Department



Lone Pine, CA

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Combat Service Support Base

NAVAIR Warfare Analysis and Integration Department



Off I-8 CA

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Combat Service Support Base - 2

NAVAIR Warfare Analysis and Integration Department



Sierra Army Depot, CA

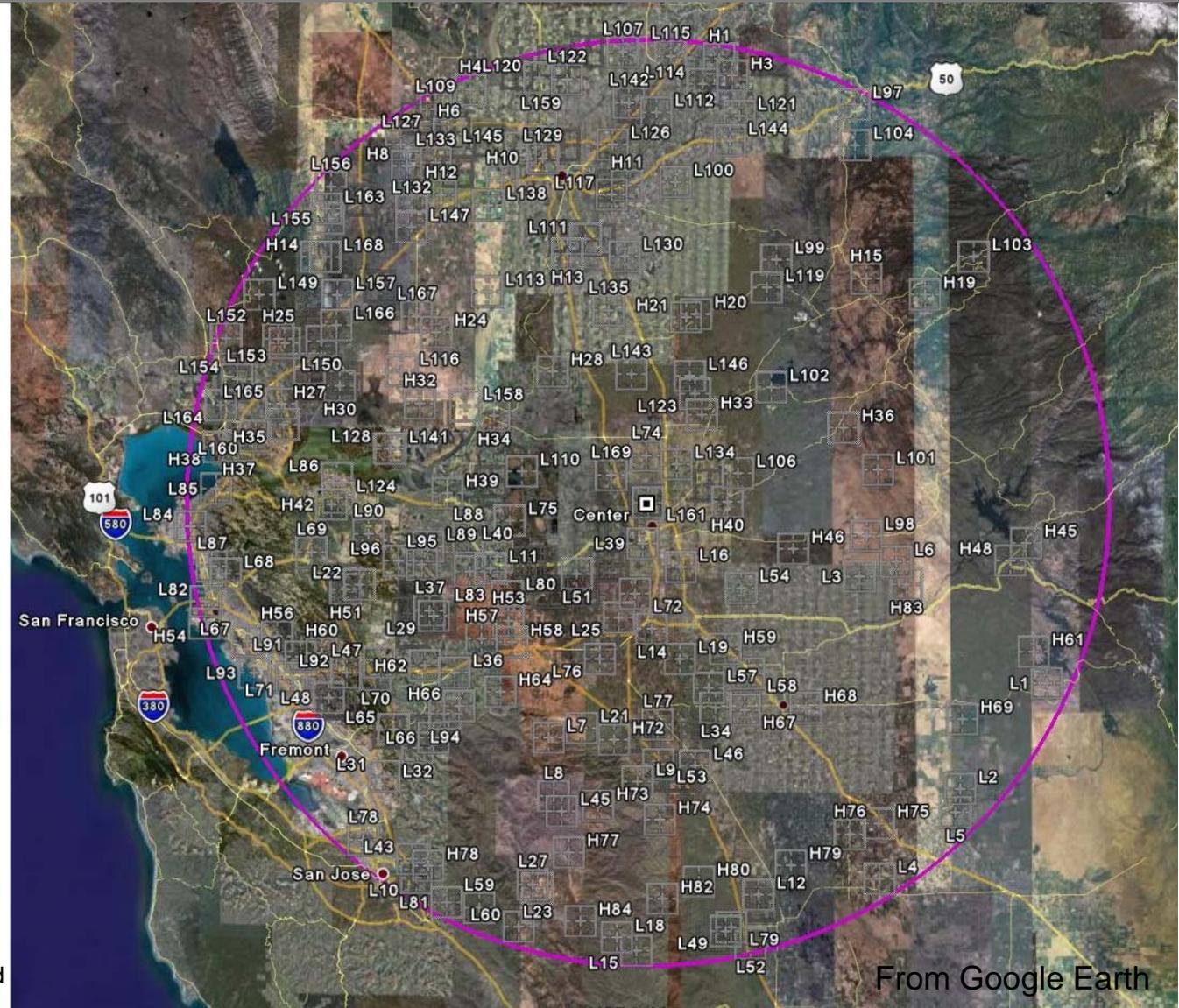
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Trinacrian TBM Launch Area 1

NAVAIR Warfare Analysis and Integration Department

85 Hide sites (H#)
170 Launch sites (L#)
12 MRBM TELs
5 SRBM Type 2 TELs

Operating area
centered on Stockton,
CA (38.0N 121.3W)



Close examination of sites may indicate a site resides in an impossible location, like a lake, however this is due to the resolution used in the coordinates, rounded degree, minute, second. Any site appearing this way should be moved slightly to an acceptable location

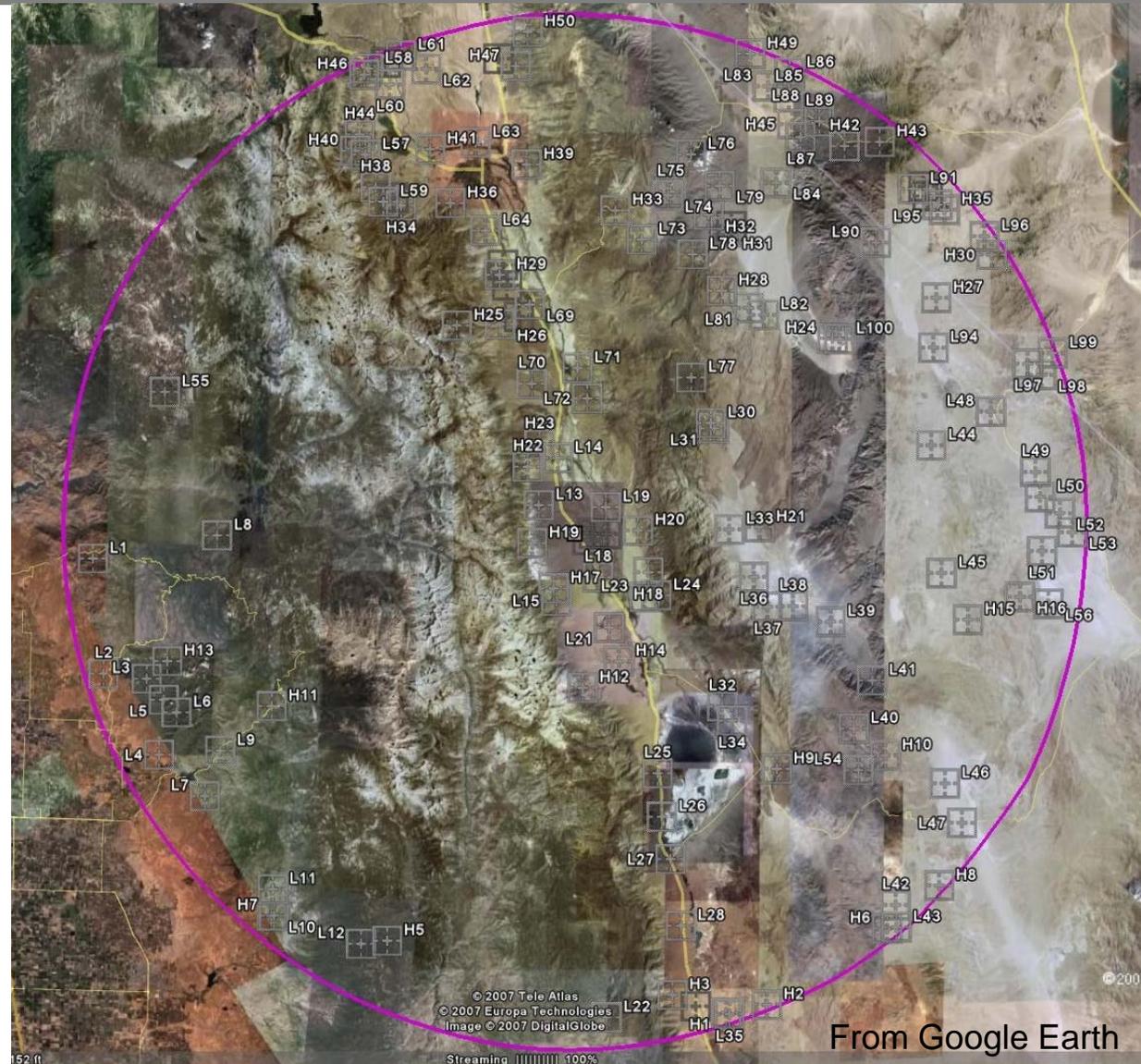
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Trinacrian TBM Launch Area 2

NAVAIR Warfare Analysis and Integration Department

50 Hide sites (H#)
100 Launch sites (L#)
10 SRBM Type 1 TELs

Operating area
centered on
Independence, CA
(36.8N 118.2W)



Close examination of sites may indicate a site resides in an impossible location, like a lake, however this is due to the resolution used in the coordinates, rounded degree, minute, second. Any site appearing this way should be moved slightly to an acceptable location

Campaign Concept of Operations

NAVAIR Warfare Analysis and Integration Department

C-Day	D-Day		Boundary Restored
PHASE I: DETER /DEPLOY/DEFEND	PHASE II: SEIZE INITIATIVE	PHASE III: DOMINATE	PHASE IV/V: STABILIZE
<p>PHASE I: Objectives</p> <ul style="list-style-type: none"> • Deploy Forces (Air/Sea/Land) • Protect Forces • Collect Intelligence • Maintain air superiority over Scheria (DCA) • Conduct Deterrence Operations 	<p>PHASE II: Objectives</p> <ul style="list-style-type: none"> • Expand air/space superiority into Trinacria • Reduce Strength of Trinacrian Forces in Scheria • Destroy Key Trinacrian C2 and War-Related Infrastructure • Destroy WMD delivery 	<p>PHASE III: Objectives</p> <ul style="list-style-type: none"> • Counterattack to destroy Trinacrian forces • Restore boundary • Maintain air and space superiority • Neutralize Trinacria's Offensive Capabilities 	<p>PHASE IV/V: Objectives</p> <ul style="list-style-type: none"> • Redeploy • Assist in monitoring compliance (UN Control of IMF) • Conduct DCA/ Enforce No-Fly Zone

Derived From Joint Publication 5-0: Joint Operations Planning