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Fault Patterns at Dixie Valley, Nevada

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Panorama

Topics of Discussion

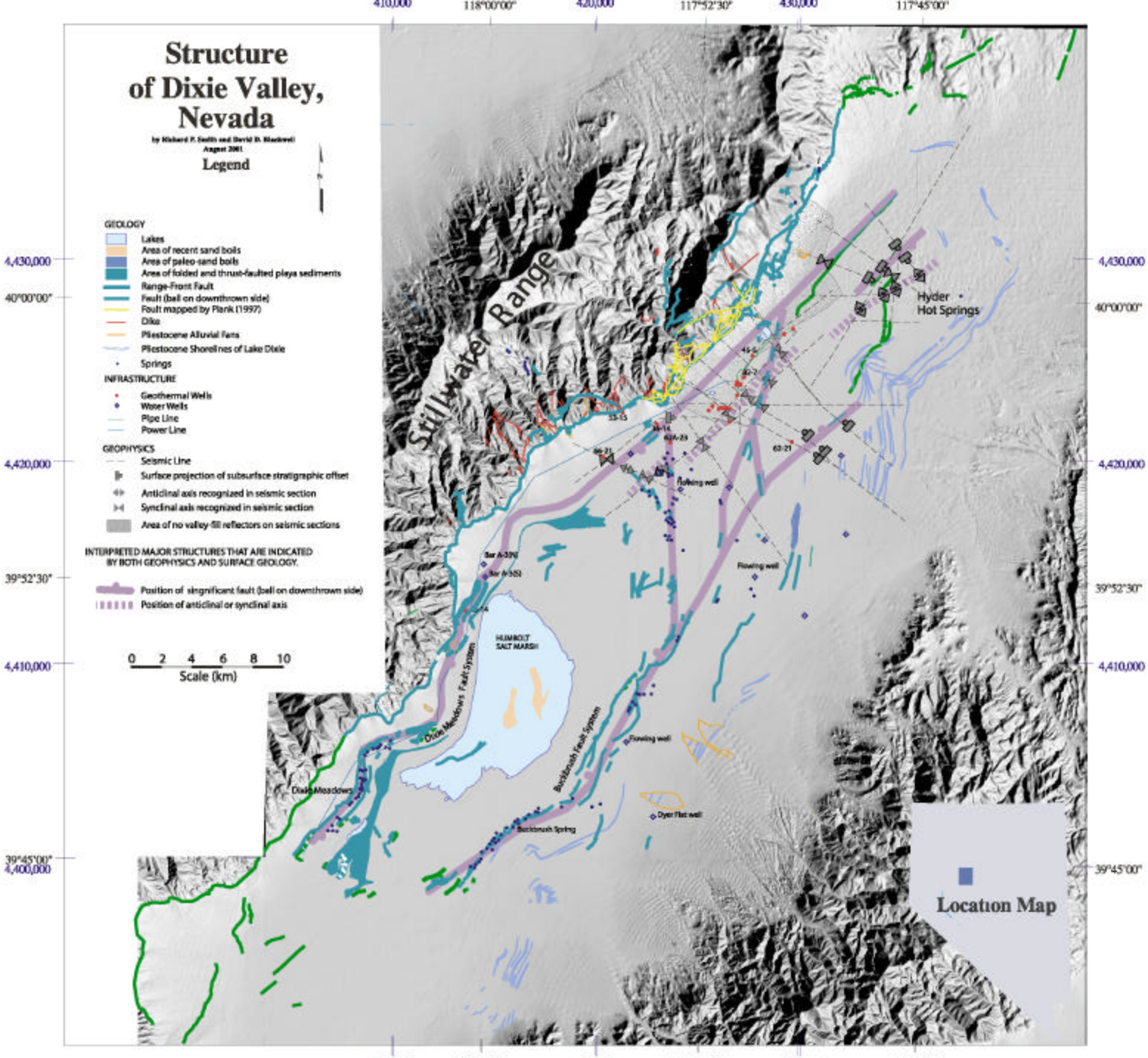
1. Surface exposures and age of intra-basin faults

2. Use of aeromag for development of a more complete fault pattern

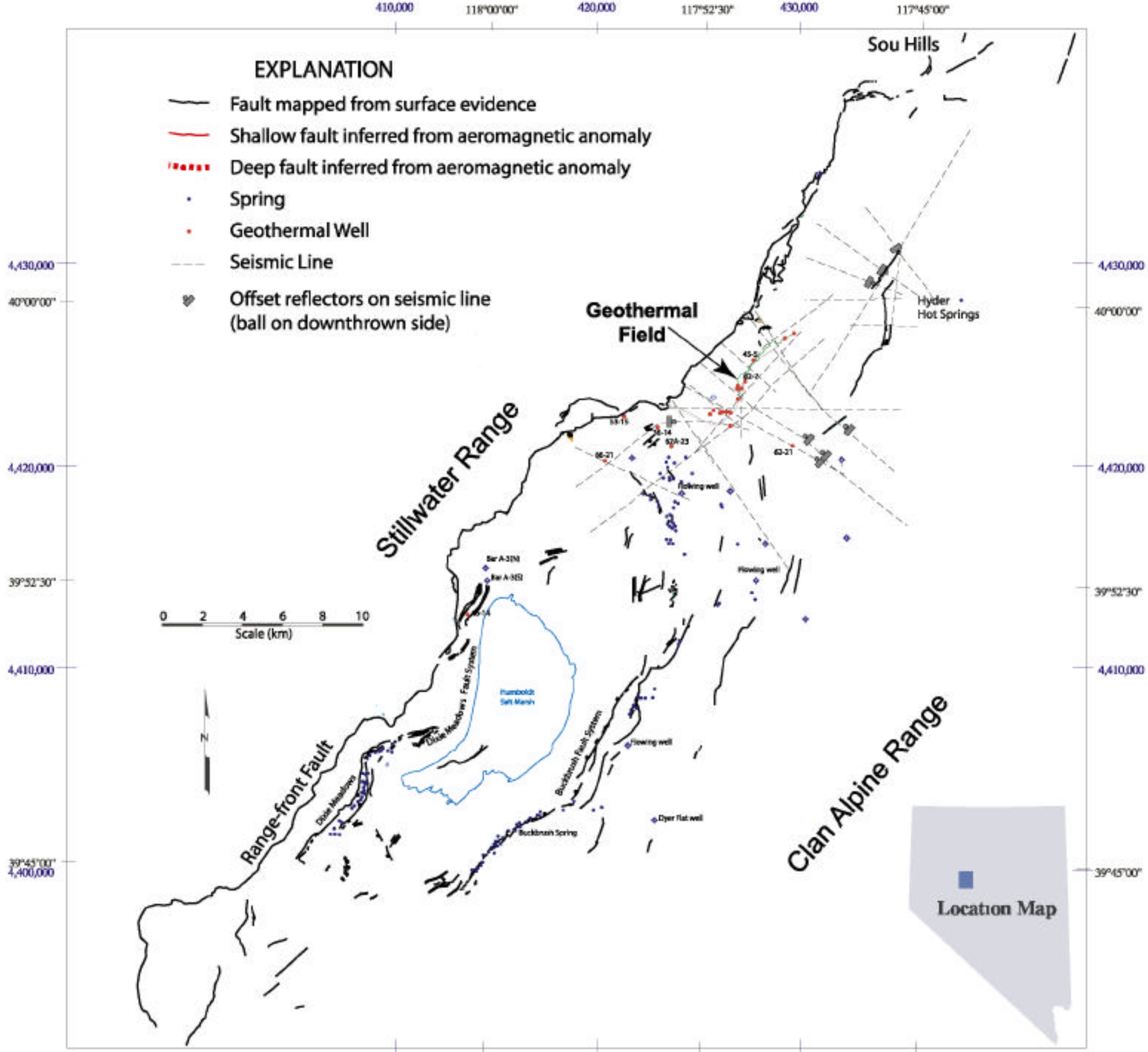
3. Range front fault system near geothermal field and at Dixie Meadows

4. Coherent block under Humboldt Salt Marsh

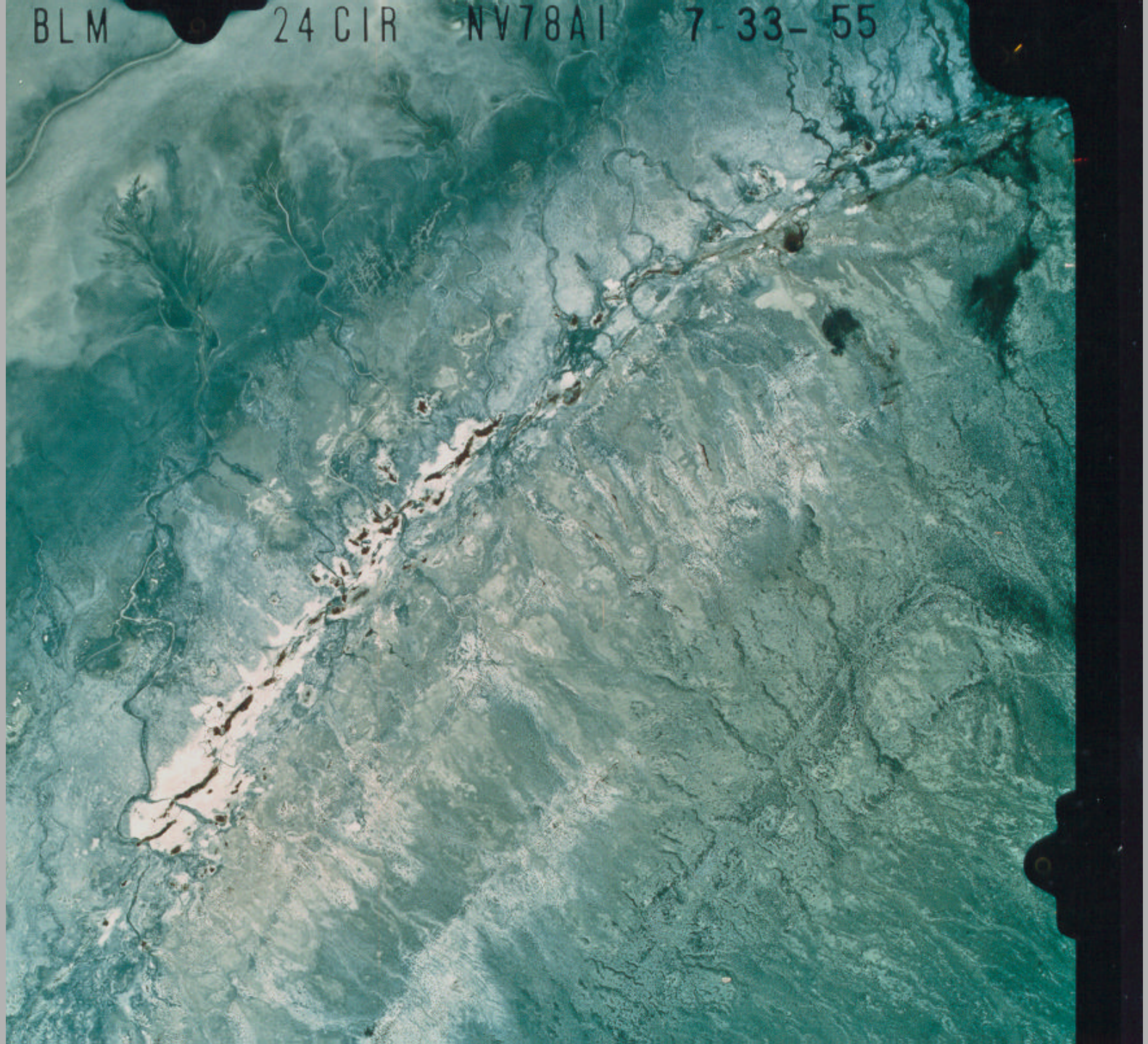
5. Pattern of faulting in relation to the geothermal field


Structure of Dixie Valley, Nevada
Legend
GEOLOGY
Lakes
Area of recent sand boils
Area of paleo-sand boils
Area of folded and thrust-faulted playa sediments
Range-Front Fault
Fault (ball on downthrown side)
Fault mapped by Plank (1997)
Dike
Pliestocene Alluvial Fans
Pliestocene Shorelines of Lake Dixie
Springs
INFRASTRUCTURE
Geothermal Wells
Water Wells
Pipe Line
Power Line
GEOPHYSICS
Seismic Line
Surface projection of subsurface stratigraphic offset
Anticlinal axis recognized in seismic section
Synclinal axis recognized in seismic section
Area of no valley-fill reflectors on seismic sections
INTERPRETED MAJOR STRUCTURES THAT ARE INDICATED BY BOTH GEOPHYSICS AND SURFACE GEOLOGY.
Position of significant fault (ball on downthrown side)
Position of anticlinal or synclinal axis
0 2 4 6 8 10
Scale (km)
Stillwater Range
Hyder Hot Springs
HUMBOLDT SALT MARSH
Dixie Meadows Fault System
Buckbrush Fault System
Dixie Meadows
Buckbrush Spring
Dyer Flat well
Flowing well
Location Map
410,000
118°00'00"
420,000
117°52'30"
430,000
117°45'00"
4,430,000
40°00'00"
4,420,000
39°52'30"
4,410,000
39°45'00"
4,400,000

2002map



Mapped faults

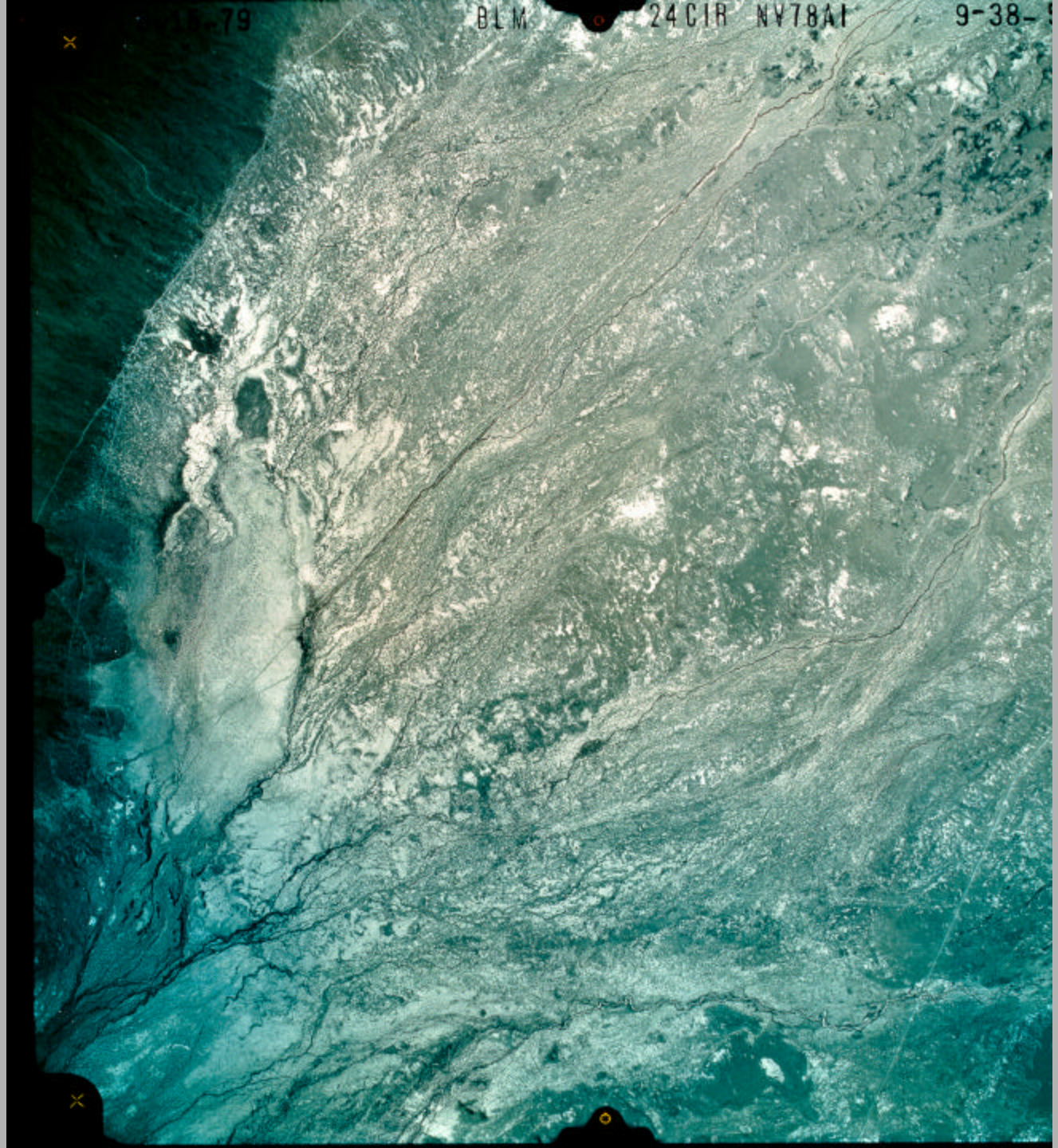


BuckbrushFlt

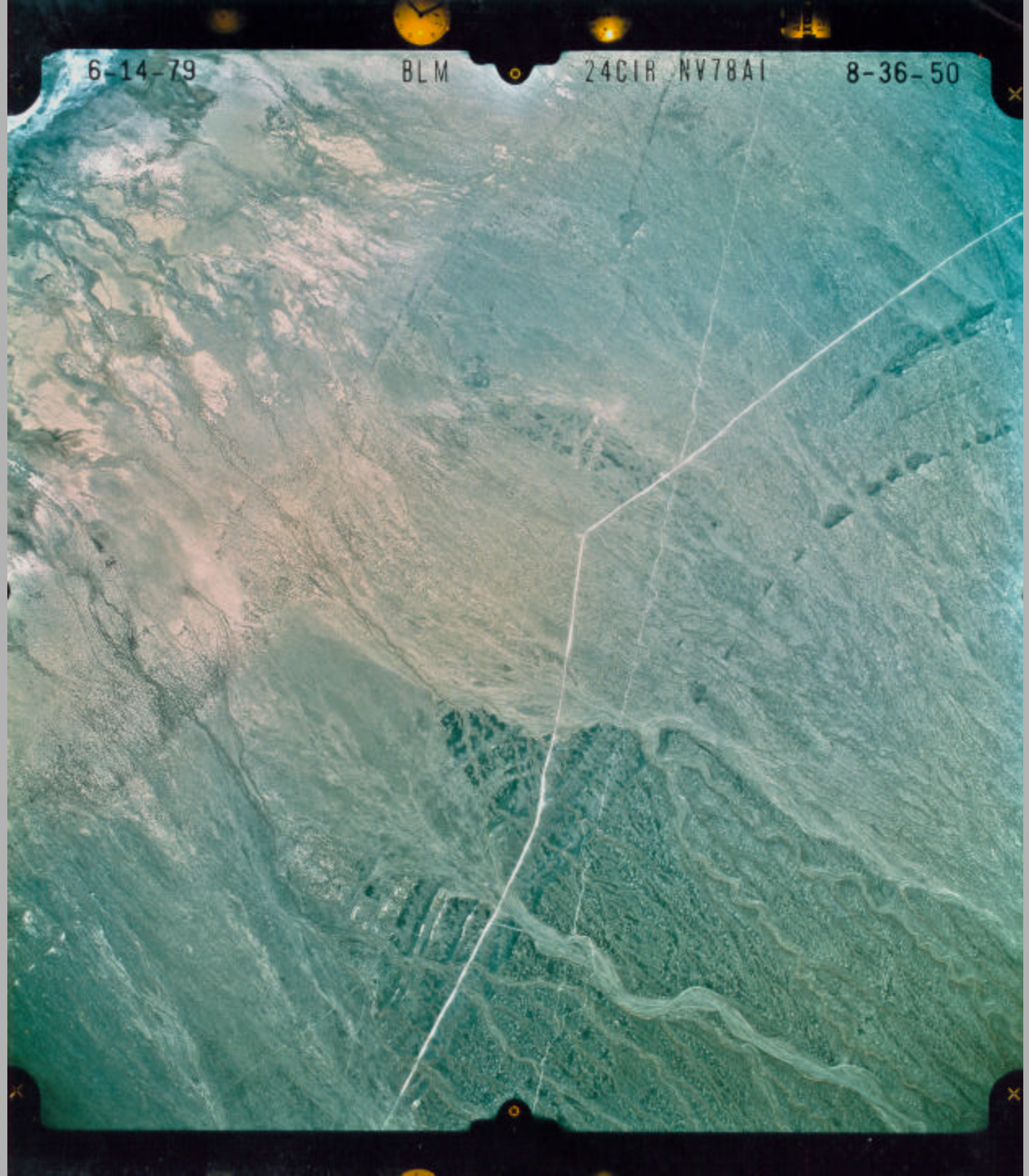
BuckbrushGrab.

BuckbrushSpg

DeadSprings



StraightStream

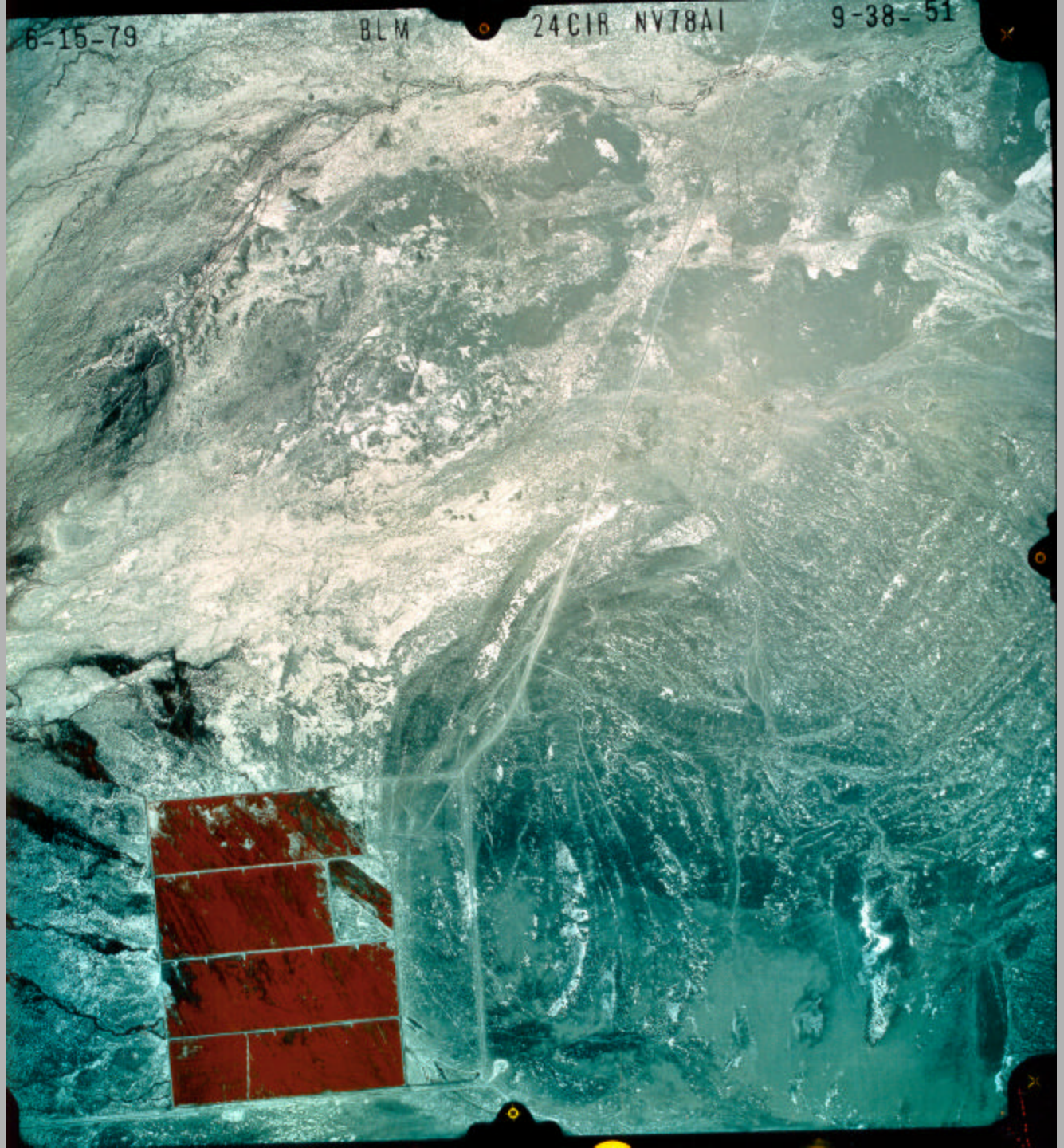


Shorelines1

Shorelines2

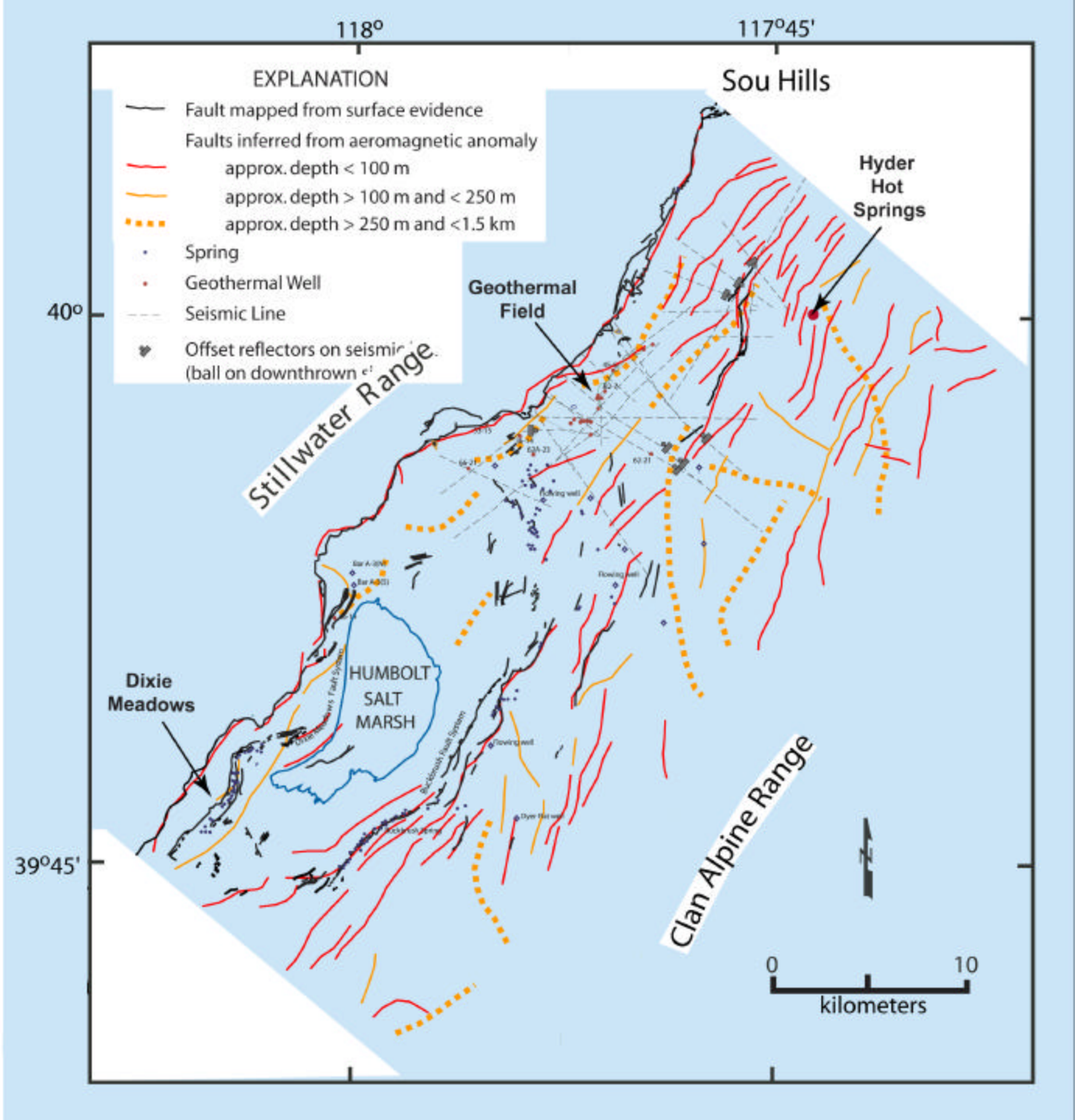
ShoreGround

Pebbles

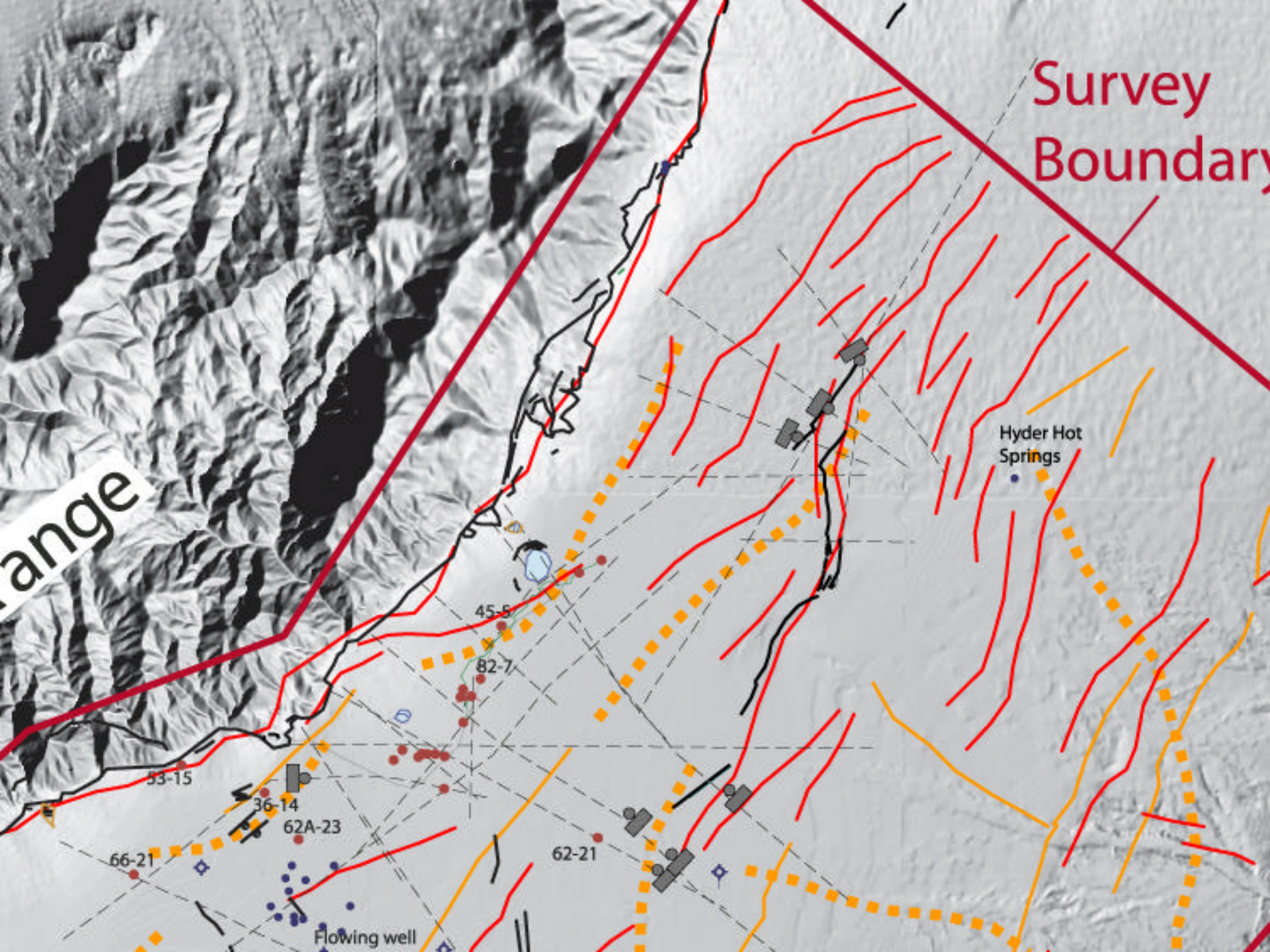


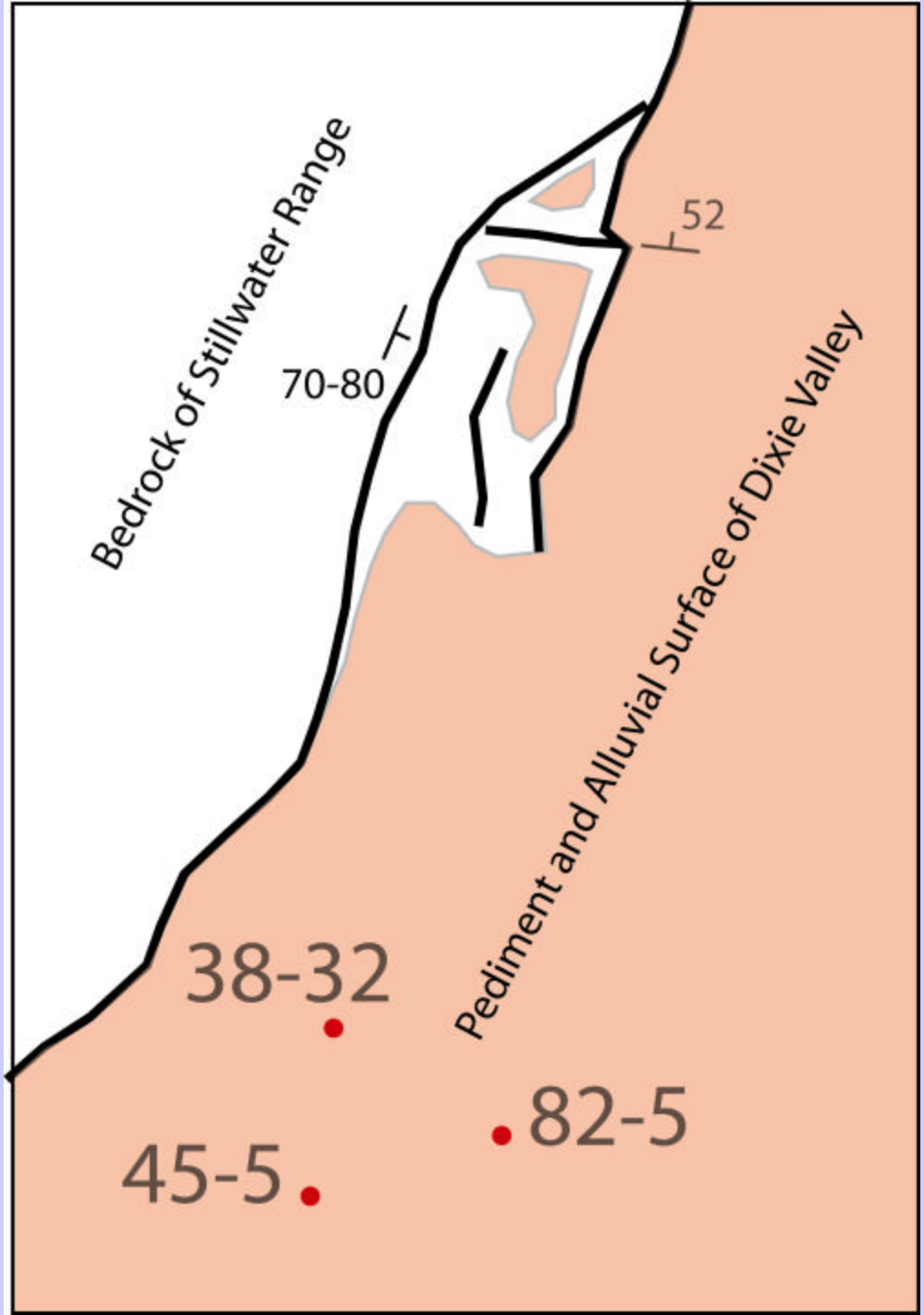
FltCutsShoreline

e offset

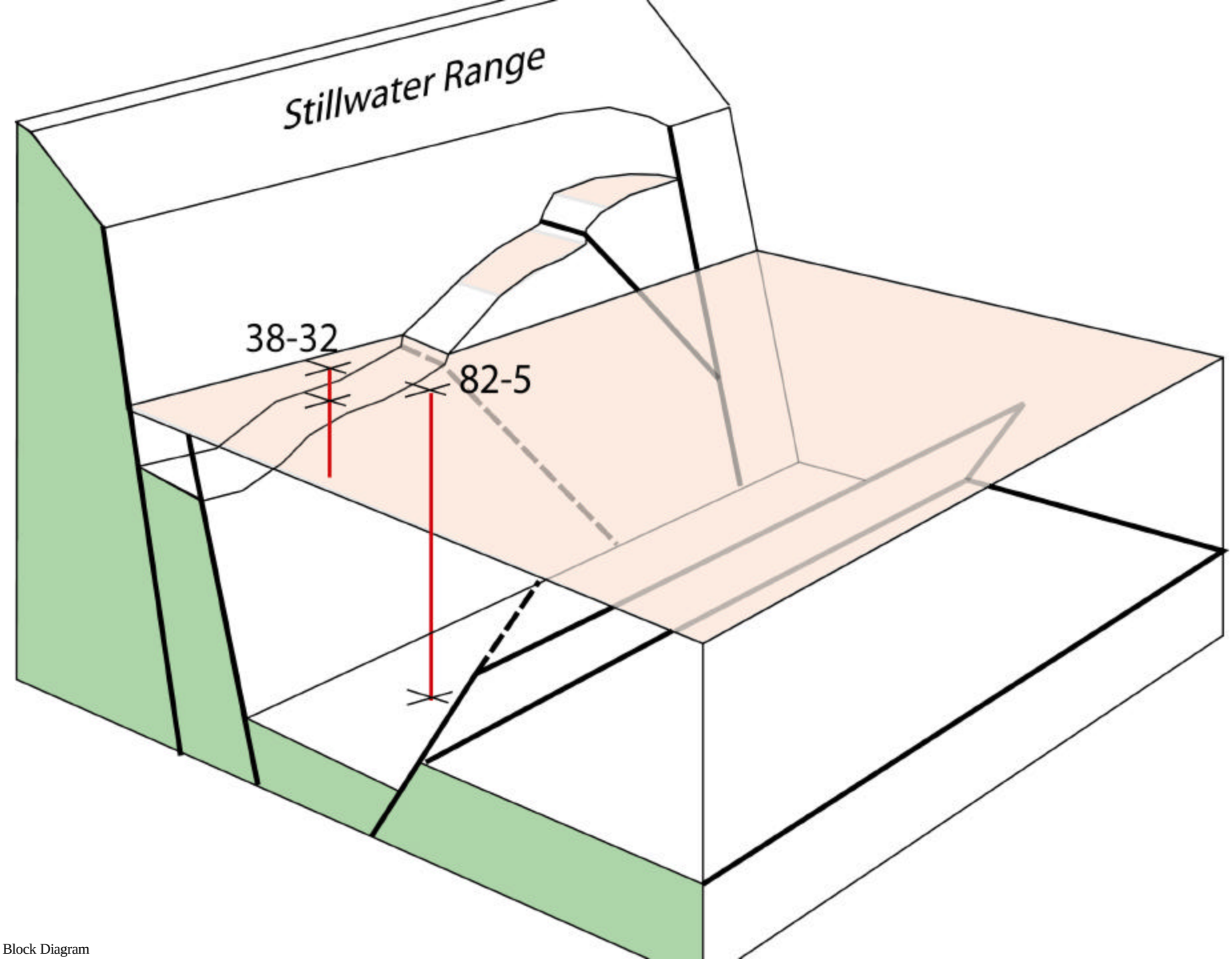


Map&mag Flts4


Survey
Boundary
ange
Hyder Hot
Springs
45-5
82-7
53-15
36-14
62A-23
66-21
62-21
Flowing well


Bedrock of Stillwater Range
52
70-80
Pediment and Alluvial Surface of Dixie Valley
38-32
82-5
45-5

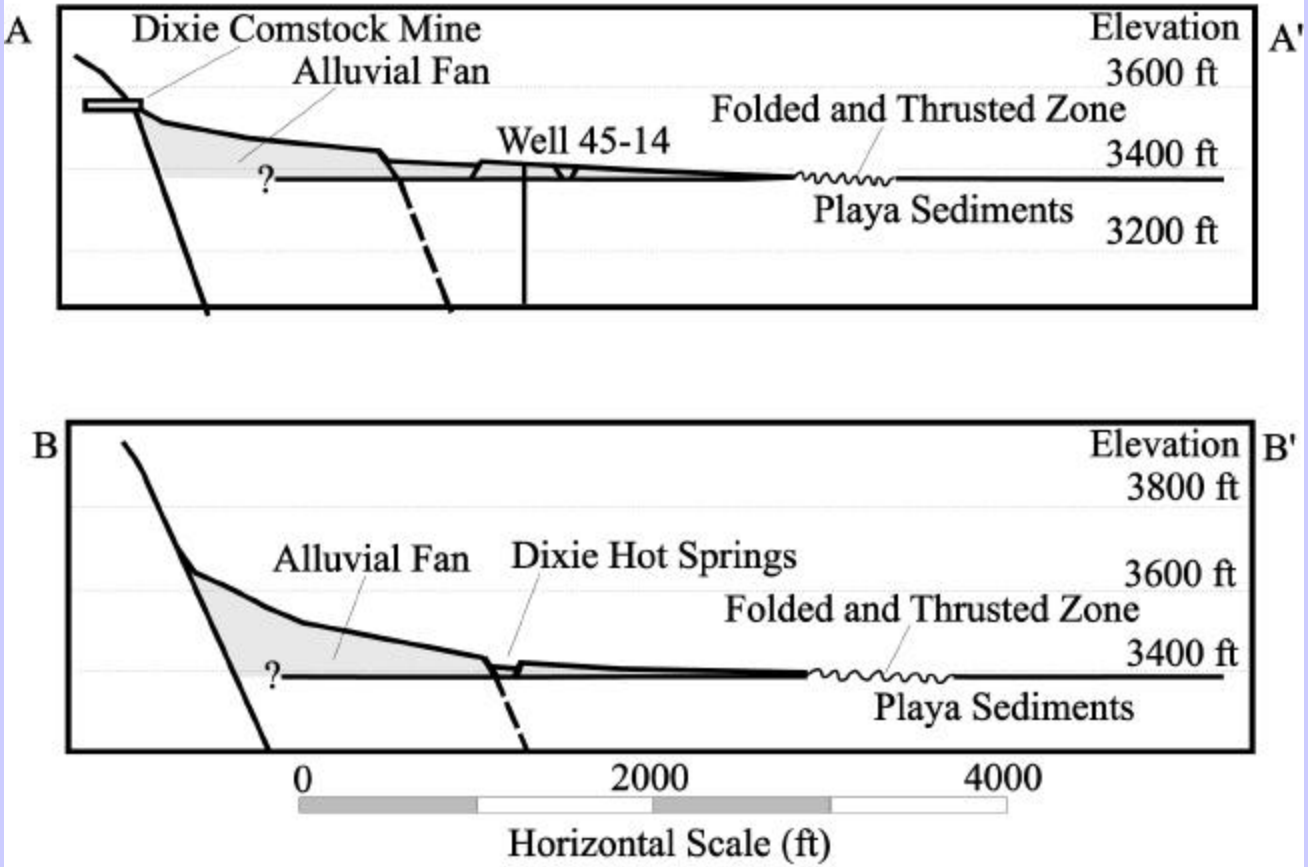
MapBlowup

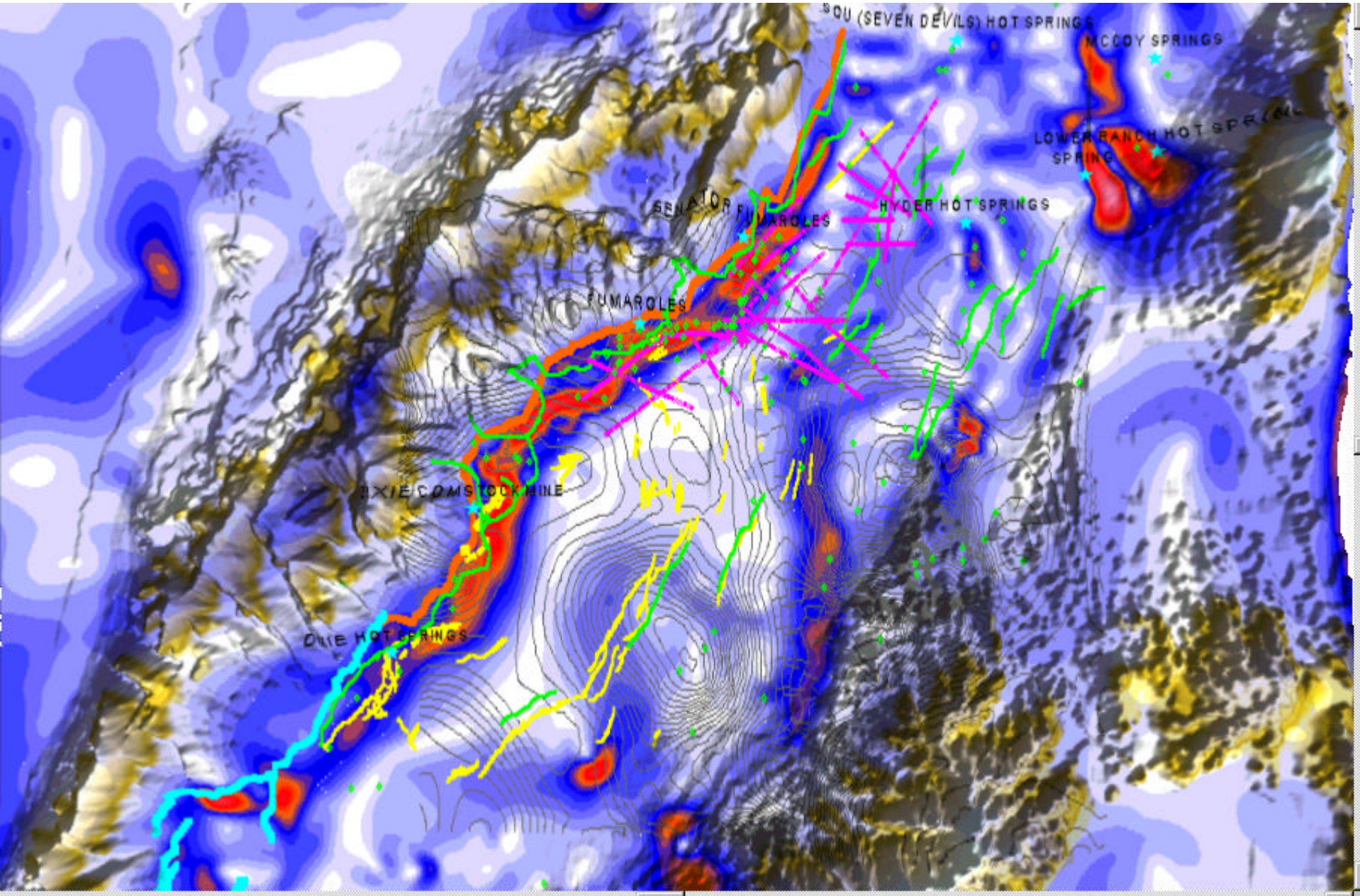


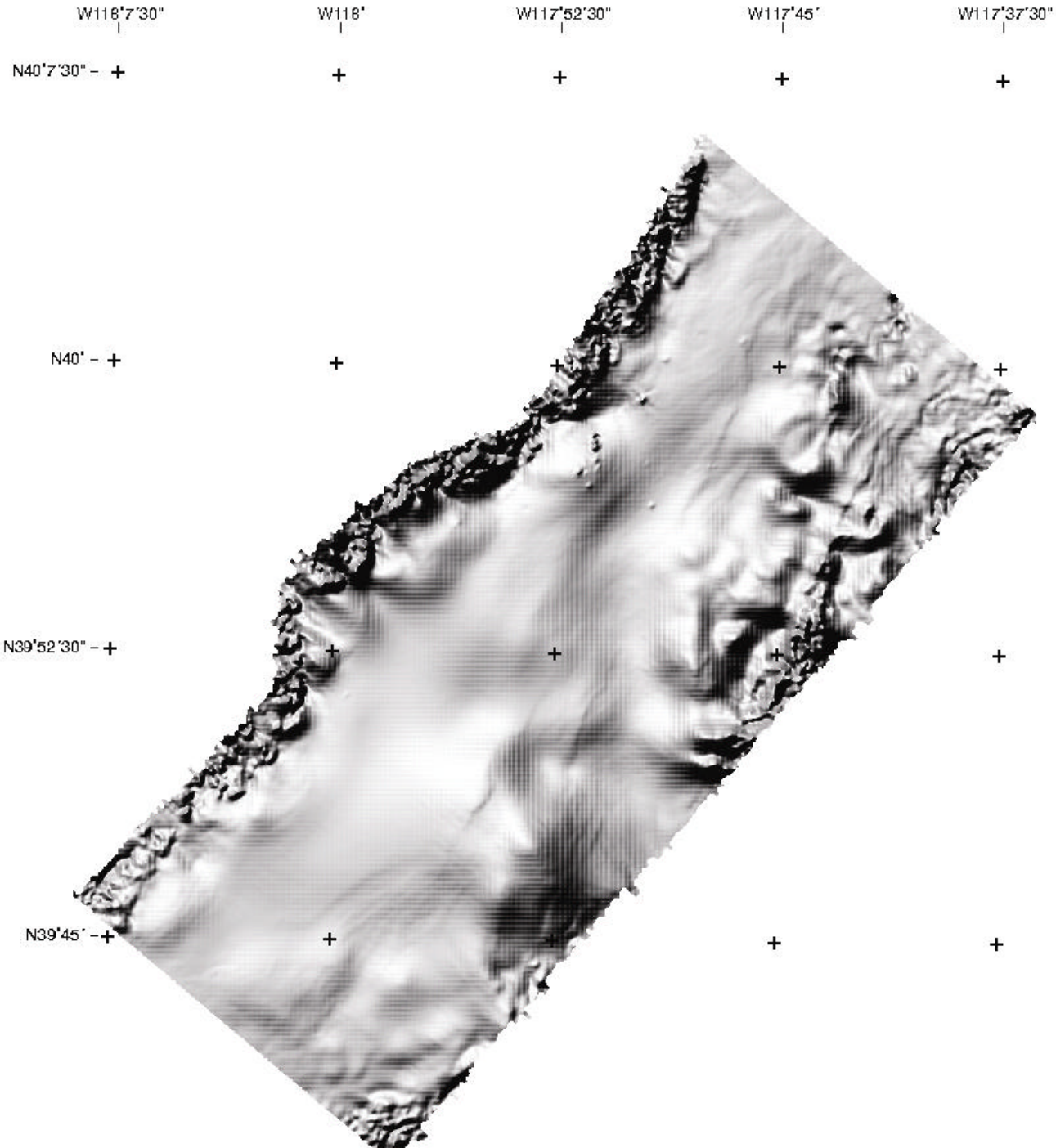
Block Diagram

DixMeadAir

Overthrust

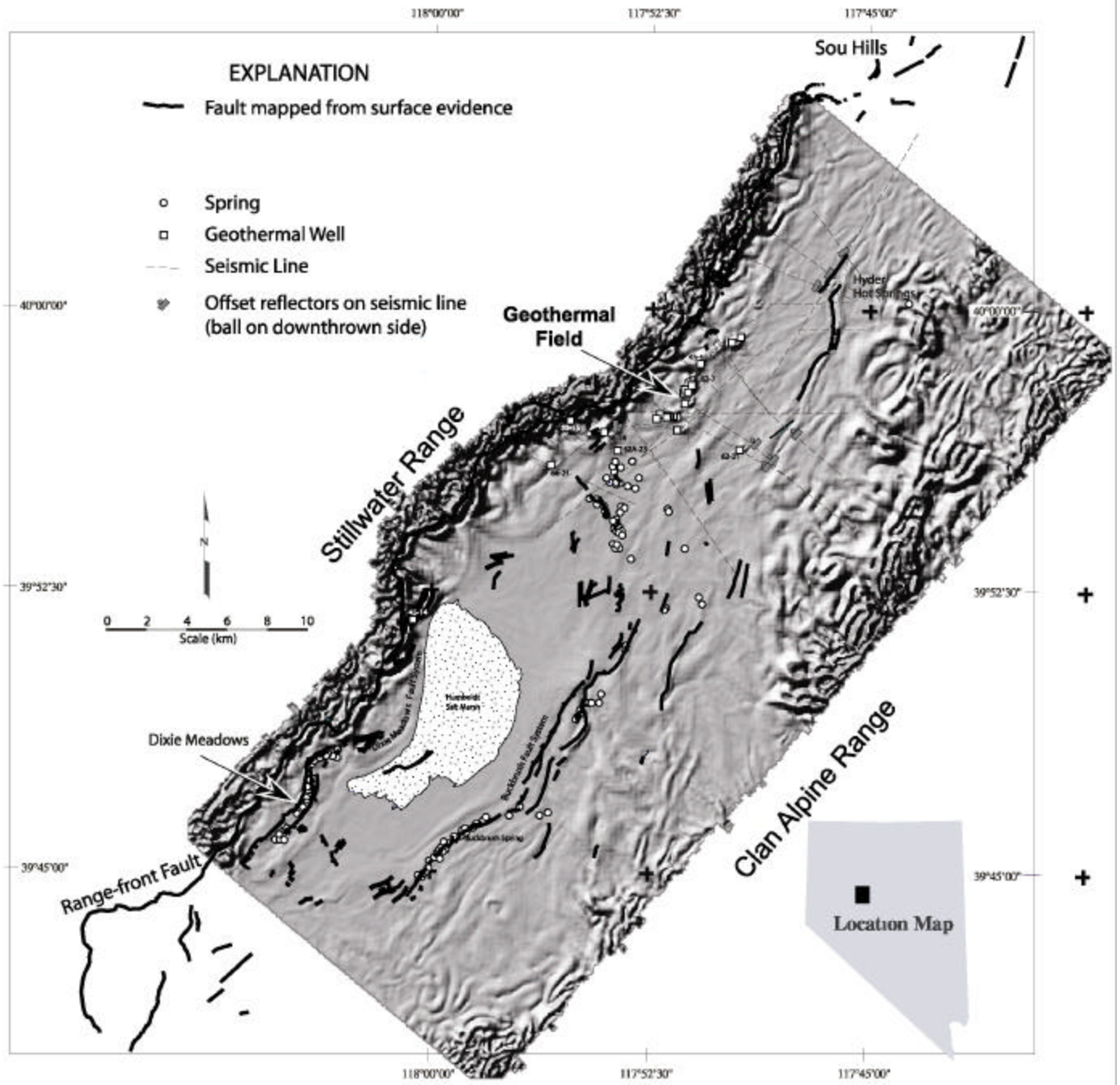

A
Dixie Comstock Mine
Alluvial Fan
Elevation
3600 ft
A'
Folded and Thrusted Zone
Well 45-14
3400 ft
?
Playa Sediments
3200 ft
B
Elevation
3800 ft
B'
Alluvial Fan
Dixie Hot Springs
3600 ft
Folded and Thrusted Zone
3400 ft
?
Playa Sediments
0
2000
4000
Horizontal Scale (ft)


SQU (SEVEN DEVILS) HOT SPRINGS
MCCOY SPRINGS
LOWER RANCH HOT SPRING
SPRING
SENATOR FUMAROLES
HYDER HOT SPRINGS
FUMAROLES
DIXIE COMSTOCK MINE
OLIE HOT SPRINGS

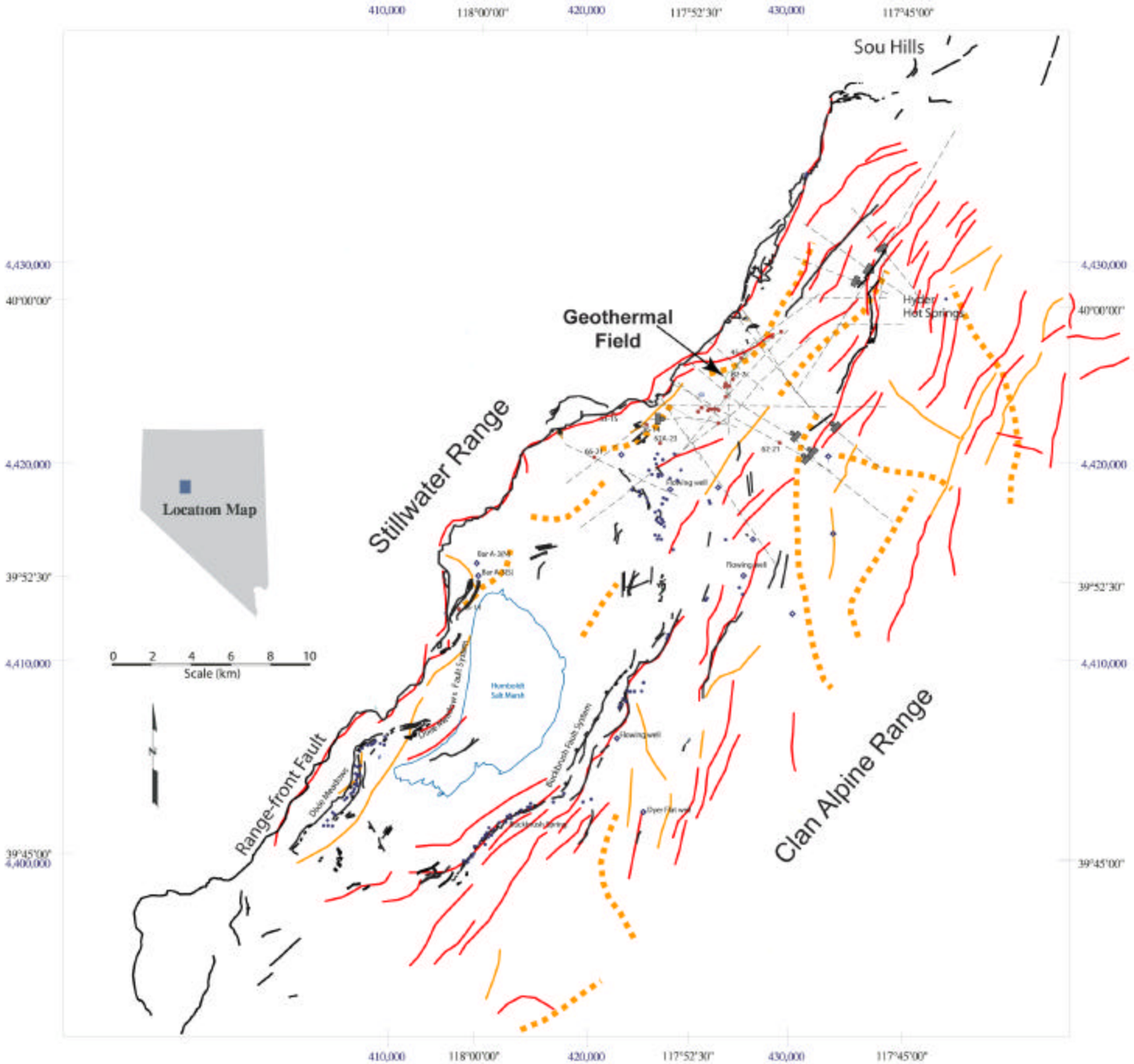


B&WtotalField

HGM



MapFltsOnHGM



Map&magFlts3