

May 28, 2017

# MEMORANDUM

To: Brian Hunt, Kevin Thuesen, Justin Camp  
From: Tom Grimshaw  
Subject: Notes for Geologic Field Trip to Sky Ranch, May 22, 2017

Thank you for participating in our field trip to the Sky Ranch Tract on May 22. This trip was made as part of our ongoing initiative for geologic mapping of the Mountain City Quadrangle. The main objective was to look for evidence of previously-mapped faults (by others) by visiting outcrops, mostly along Onion Creek. The bedrock of the Sky Ranch Tract consists of strata of the Edwards Group, in which Balcones faults are difficult to map using aerial photographs.

We met at the gate on FM967 at 9:30 AM and left the field about 1:30 PM. We made six stops, which are shown in Attachment A and are described below.

## Stop 1. Borrow Pit Area (Attachment B)

- Observed evidence of major intra-Edwards fault
- Consisted primarily of gently dipping beds and other signs of structural disturbance
- Appears to be and I'll crop of the Regional Dance Member
- Extension of fault mapped in Rutherford Ranch

## Stop 2. Breached Impoundment (Attachment C)

- Embankment and impoundment were washed out during a recent flood
- The stream channel is scoured, exposing outcrops of Edwards limestone
- Prominent "honeycomb" texture was observed

## Stop 3. Southwest Corner of Sky Ranch near Rutherford Ranch Property

- Affirmed previously noted evidence of faulting, which was discovered on the north side of Onion Creek during a previous field visit to Rutherford Ranch

## Stop 4. Borrow Pit in Onion Creek Alluvium

- Observed reddish-brown mud with high plasticity
- Also noted calichified aggregate
- No bedrock seen; brief stop

## Stop 5. Outcrop Examination on South Bank of Onion Creek (Attachment D)

- No evidence of faulting observed in outcrops along Onion Creek
- Continuous, uninterrupted strata noted
- Fault maybe located further north in Sky Ranch

#### Stop 6. Low Water Crossing over Onion Creek (Attachment E)

- No evidence of faulting was seen on in the ravine west of the crossing on the south side of the crossing
- However, good evidence of a fault was seen in the ravine on the east side on the south side
- Primarily dipping beds and discontinuous strata

Air photo stereo pairs that had been mapped before the field trip were re-examined after the trip and are shown in Attachment F. A short lineation was noted where we saw evidence of faulting at Stop 6, but it was not observed to extend northward across Onion Creek.

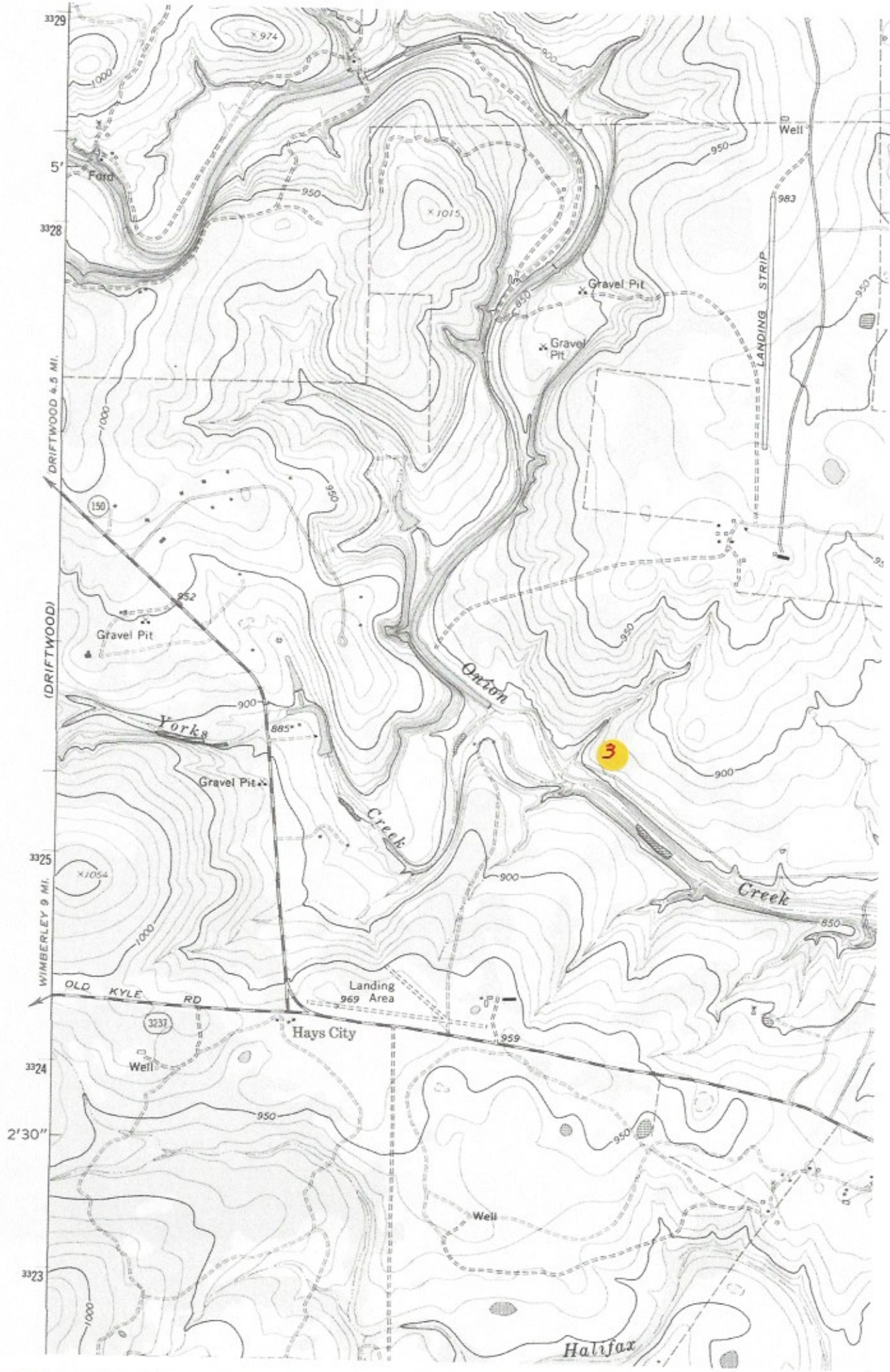
Aside from this verified fault, and the major previously-mapped fault observed in Stop 1, no other fault evidence was found on Sky Ranch. However, possible faults that appear as lineations on the air photos have been mapped, but without field verification.

Attachment G presents a geologic map of the Sky Ranch area on a topographic base.

Please let me know if you have comments or questions about this report.

Attachment A.

Sky Ranch Field Trip Stops









Attachment B.

Stop 1 Photos



Structural Disturbance along Fault. Justin Camp (Left), Brian Hunt, and Kevin Thuesen.



Outcrop of Apparent Regional Dense Member. Beds Are Dipping into the Hill in Front of Justin.

Attachment C.

Stop 2 Photos



Breached Embankment, Shown on the Left, and Scoured Channel (Right) Resulting from a Flood Event.



Bedrock in Scoured Channel, Showing Burrowed (Honeycomb) Edwards Limestone Beds. Brian Hunt on Right.



Attachment D.

Stop 5 Photos



Southwest View across Onion Creek, Showing Cliff of Edwards Limestones. Kevin Thuesen on Right.



Closer View of Edwards Limestone Outcrop on South Bank of Onion Creek. Note Flat-Lying Strata (No Fault Evidence)



Attachment E.

Stop 6 Photos



Evidence of Fault in Ravine Southwest of Low Water Crossing. Justin Camp in Foreground. The Fault Appears to Be Above and to the Left of Justin.



Another View of the Fault, Showing Truncation of the Limestone Beds on the Left. Outcrop Showing Beds That Are Dipping into the Side of the Small Stream. Brian Is Examining the Fault Evidence.





Outcrop Showing Beds That Are Dipping Into the Bank of the Small Stream. Brian Is Examining the Fault Evidence



Closer View of Outcrop, Showing Possible Fault Gouge as Conglomerate. Photo Courtesy of Brian Hunt.



Attachment F.

Air Photo Mapping of the Sky Ranch Tract

215 1372MCS USAF 15APR58 114COFT AF-58-4 ROLL-3

268

58004 K-3



APR 15 1958

58004

114COFT



232.1372MCS. USAF 4MAY58. 11400FT. AF-58-4 ROLL 5

584

5800 4 5-6



5800 4 5-6

Attachment G.

Geologic Map of the Sky Ranch Tract (Topographic Base)



