

August 24, 2017

MEMORANDUM

To: Brian Hunt
From: Tom Grimshaw
Subject: Geologic Field Trip to Northeast Corner of Mt City and Surrounding Quads
(Elliott Ranch Area), August 17, 2017

A field trip was made on August 17 to the northeast corner of the Mountain City Quadrangle to visit outcrops and verify and revise geologic mapping. Preplanning for the field trip was provided in a memo dated August 14, 2017. About 25 stops were made as described in the list in Attachment A. A map showing the stop locations is in Attachment B. Many of the stops were recorded by you on a Google Earth image, which is shown in Attachment C. Photos taken at some of the stops are referenced in the Attachment A list and are shown in Attachment D. Observations in a portion of the area relied heavily in previous field work that you accomplished (Attachment E).

The primary focus was the complex faulting and post-Edwards outcrops of Stops 7 to 25 in the area of Elliott Ranch Development. The fault blocks with post-Edwards outcrops and are downthrown with respect to Edwards exposures both to the west and east. The down-dropped area "pinches out" to the southwest, resulting in a wedge shape to the graben. I therefore propose that we turn this overall structural feature the "Elliott Ranch Wedge Graben". This graben occurs at the north end of the transition area in which the Balcones faulting of the Mount Bonnell Fault to the north is "transferred" to the San Marcos Fault to the south and east.

Additional field stops (1 to 6) were made in the faulted area in the far north east corner of the Mountain City Quadrangle and east of the horst on the east side of the Elliott Ranch Wedge Graben.

As elsewhere in the Mountain City Quadrangle, the objective is to improve the geologic mapping to the "next level" of accuracy and sophistication. The preliminary geologic mapping in the August 14 memo is being revised to incorporate the observations made in the August 17 field trip.

I look forward to your feedback on this report of our field trip.

Attachment A.

Field Trip Stops

<u>Stop</u>	<u>Description</u>
1	Kbu outcrop upstream of bridge over Little Bear Creek on FM 1626. Fractures N130E, dip due south. Photos in Attachments D1 and D2.
2	Kgt north of FM1826 and Hardin Loop (County 311).
3	Kbu over Kdr. West on Oakwood off FM1626. Mapped by me as Ked; reexamine air photos.
4	Fault with Kdr or Kgt on west. Kdr or Kgt on east. Fault between here and Stop 1
5	Kgt west of fault, Kbu on east. Kgt observed in borrow pit by Hunt. Not Kdr as currently mapped.
6	Kbu south of fault. Observed in road ditch.
7	Kg to west side of Oak Grove Road. Marly outcrop across fence.
8	Kgt on Ked in fault block. Reinterpret previous Kdr exposed through Kbu.
9	Kbu cap on Kdr on west side of road. Photo in Attachment D3.
10	Fault with northeast trend. Kdr on west and Ked on east. Sharp vegetation demarcation to northeast. Photos in Attachment D4 and D5.
11	Kdr? exposure. Previously mapped as Kef due to siltstone flaggy pieces surrounding trees. Nearby Kgt outcrop observed by Hunt.
12	Kgt on south side of road.
13	Kgt on west side of road. Observed from vehicle.
14	Ked in drainage. Fracturing and other evidence of faulting.
15	Ked in southwest corner of intersection.
16	Kgt at intersection, with Kdr contact to east up the hill. Stratigraphic contact.
17	Kbu on east side of intersection.
18	Confirmed Kbu on hilltop.
19	Kdr in scoured channel. <i>Ilmatogyra arietina</i> specimens found. Characteristic weathered clay appearance.
20	Ked along fault. Highly fractured, with dipping beds. At or very close to fault.
21	Kbu on hilltop confirmed. BSEACD monitor well and pumphouse.
22	Kgt on west side of road. Observed from vehicle.
23	Kdr-Kbu contact crossed by road.
24	Kbu on hilltop confirmed.
25	Ked along road. No anomalies observed.

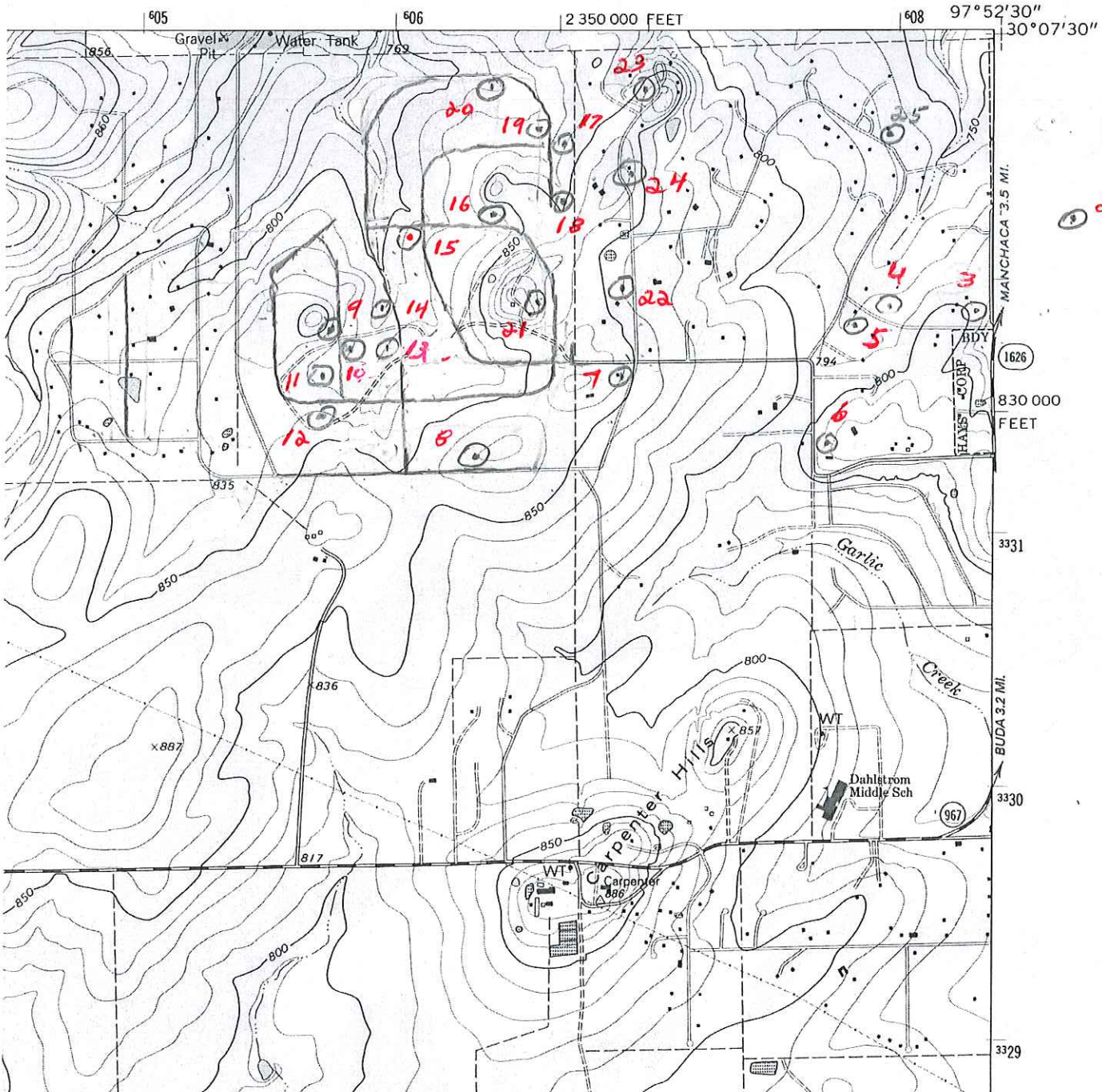
Attachment B.

Locations of Field Trip Stops

Field Trip Stop Locations

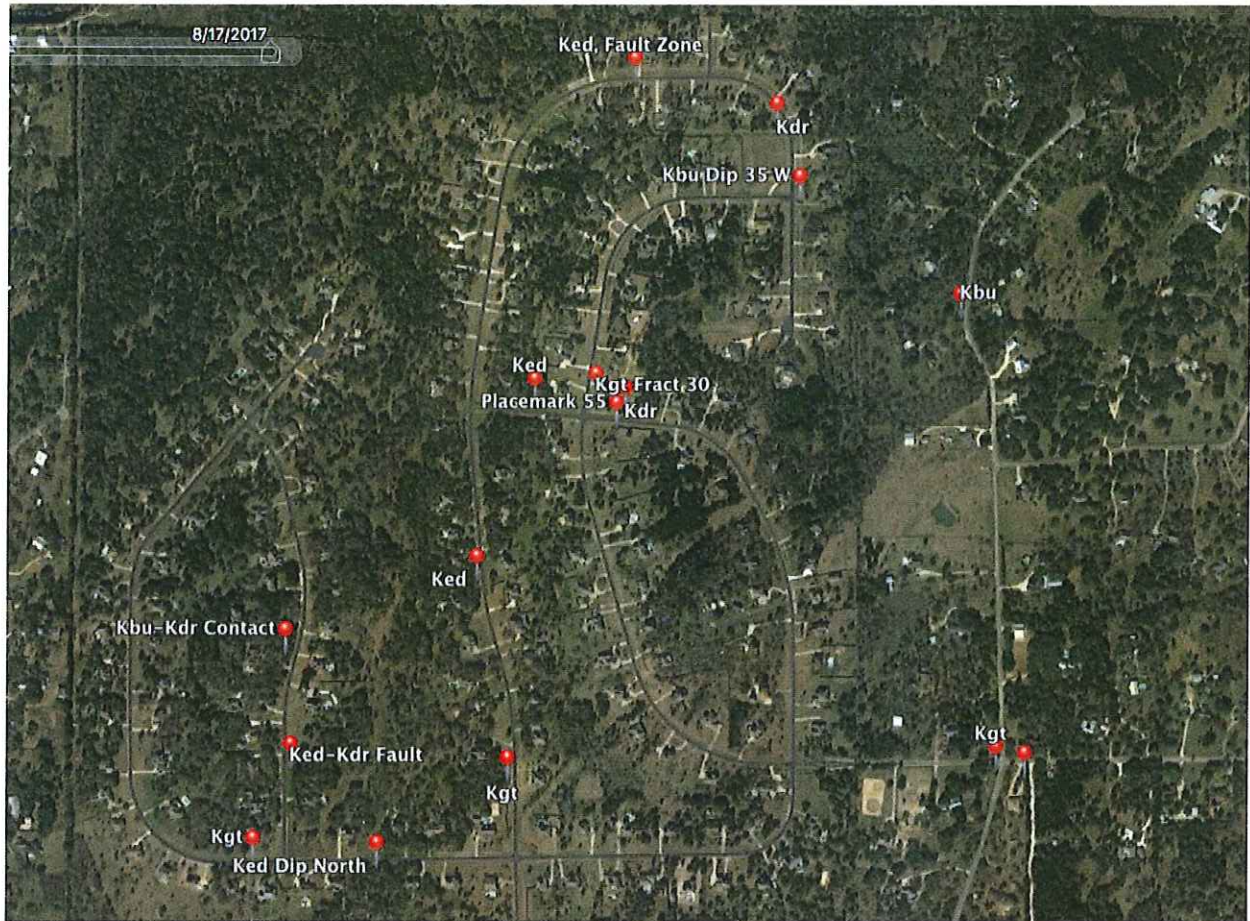
MOUNTAIN CITY QUADRANGLE
TEXAS-HAYS CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)

(OAK HILL)

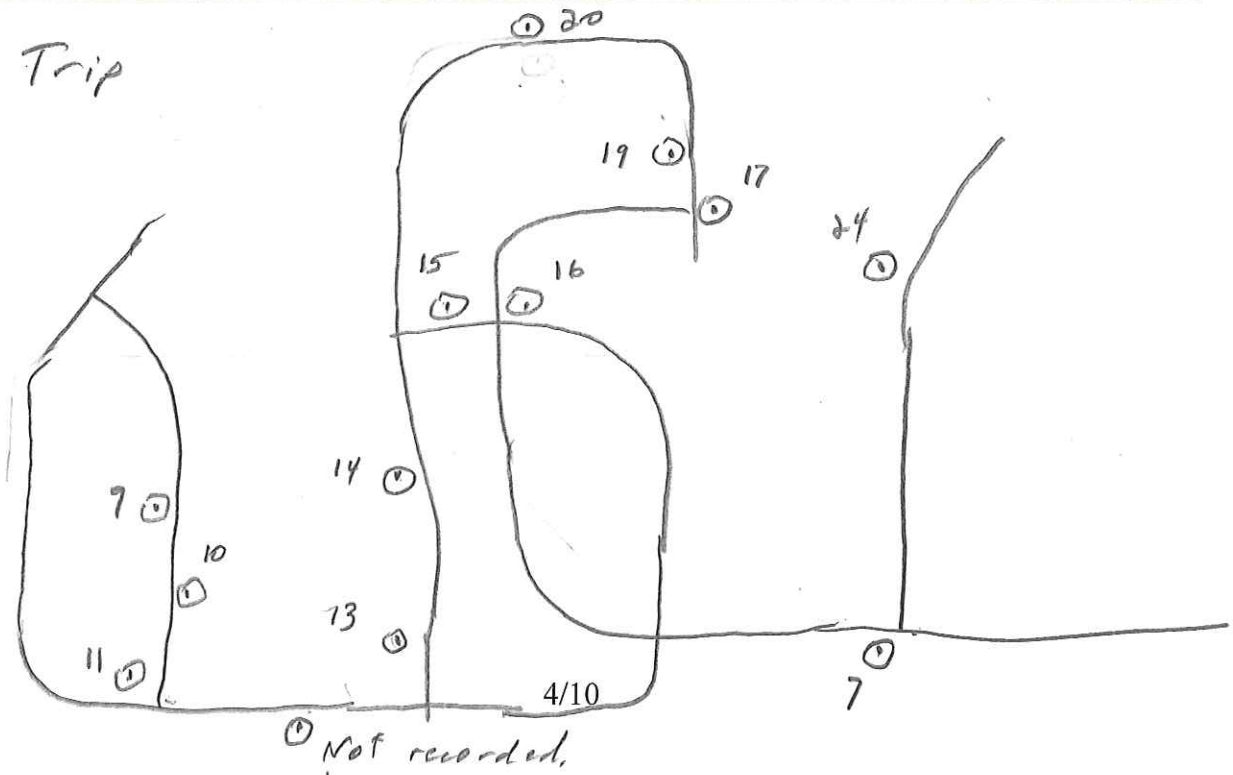


Attachment C.

Field Notations by Brian Hunt



Field Trip
Stops



Attachment D.

Photos Taken at Field Trip Stops

D1. Stop 1. Downstream View of Kbu Outcrop in Channel of Little Bear Creek.
FM 1626 bridge can be seen in background. Note beds dipping to right (south)



D2. Stop 1. Upstream View of Kbu Outcrop near FM1626 Bridge over Little Bear Creek



D3. Stop 9. Kdr Outcrop on West Side of Road at Stop



D4. Stop 10. Outcrop of Fault between Ked on Left and Kdr on Right in Front of Brian Hunt.

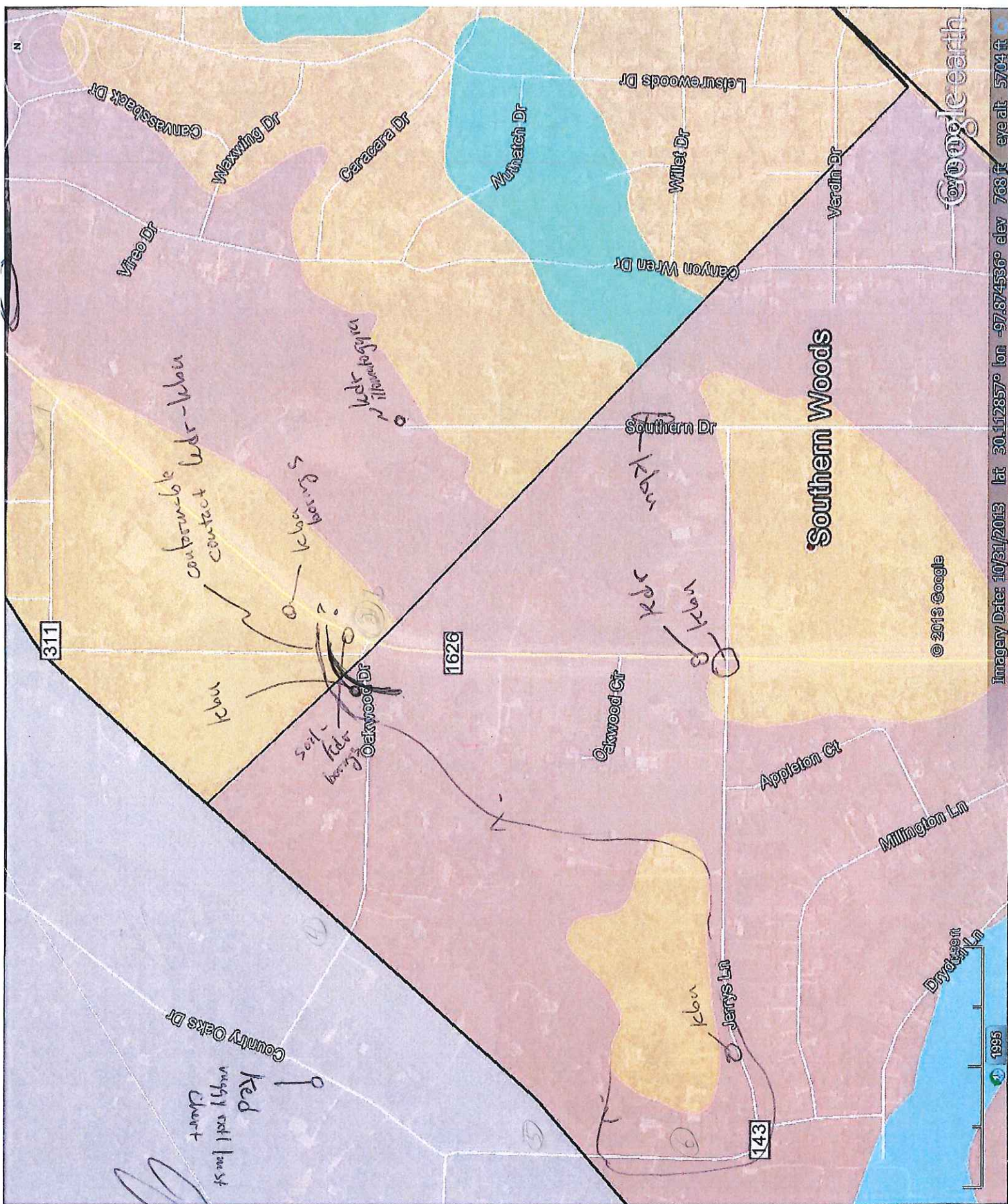


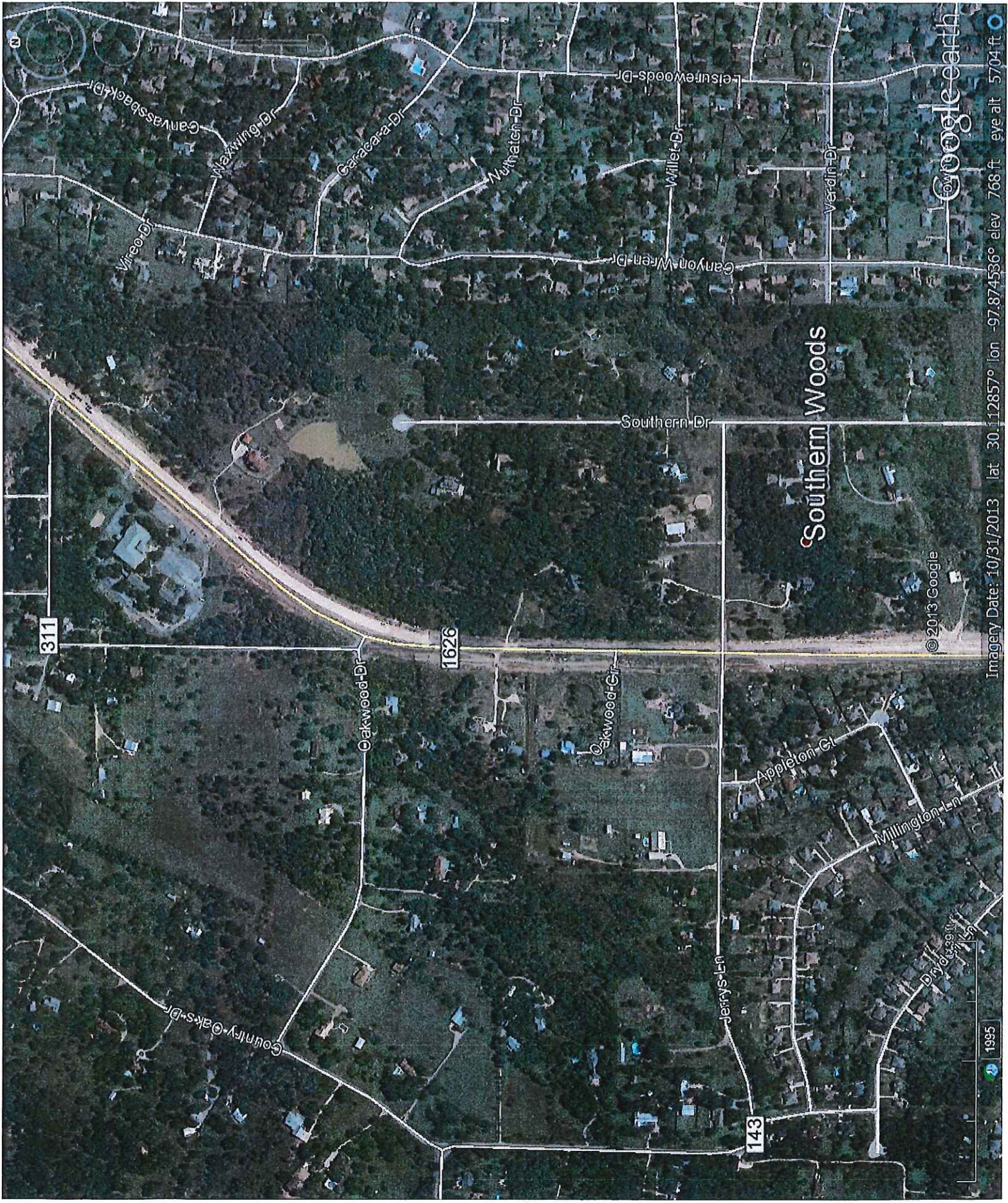
D5. Stop 10. Closer View of Fault in Figure E3, with Ked on Left under Rock Hammer and Kdr on Right.



Attachment E.

Previous Geology Work by Brian Hunt





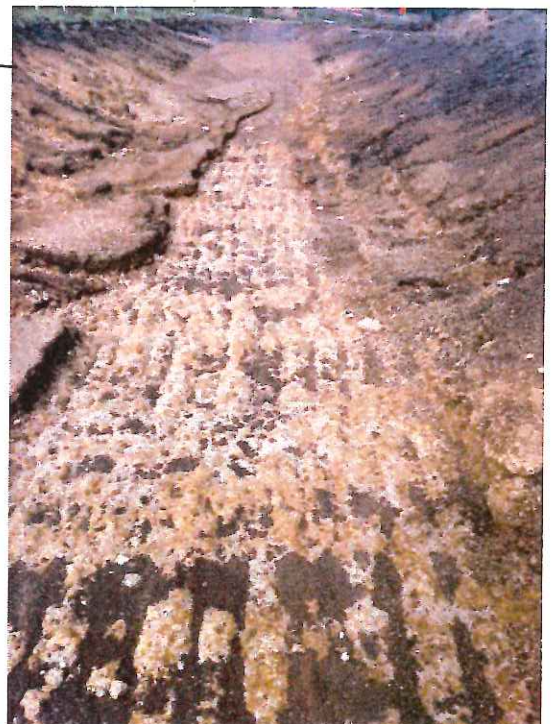
© 2013 Google

Imagery Date: 10/31/2013 lat 30.12857° lon -97.874536° elev 768 ft eye alt 5704 ft

1995

Geologic Observations and Map, Burke Property, Buda, Texas





- Buda
- Del Rio Clay
- Georgetown
- Edwards