Name _____ Date of Trip _____ Your Lab Section ____

GEOL 1401 Field Trip Palmview to Roma

Emergency Phone Number for Dr. Hinthorne 575-534-9586.
Emergency Phone for Dr. Rhodes 240-350-8855.

READ THESE INSTRUCTIONS AND ROAD LOG THOROUGHLY PRIOR TO TRIP.

This trip will officially begin at the HEB store parking lot in Palmview and proceed to Roma, TX, travel via Hwy 83 and return. You may arrive at HEB separately or by car pool. Be sure you have already arranged whose car you will ride in for the field trip, or make arrangements at HEB. There will be four main geology stops on this trip. Please make the most of each stop, in learning, viewing features, taking notes, making sketches, etc. On some trips there will be a lunch stop. The trip officially ends at the last stop in Roma. Most students will car pool back to the Palmview HEB.

Assignment: During the Field Trip week in your Lab syllabus, turn in this packet, your field trip **notes** and a **2-3 page report** describing the rock units and geologic features examined on the trip. In your report, organize the descriptions of the rock units seen on the trip from oldest to youngest (or youngest to oldest). Include a paragraph of Introduction at the beginning, and a paragraph of Summary at the end. You may include comments on your reaction to seeing rocks in the field, on the value of the trip to your overall education, and other items; however, the report will be evaluated on its geologic content. A collection box for reports for each Lab Section is in Room 109. Place your report in the proper box.

Notes: Only students enrolled in GEOL 1401 at UTPA this semester may go on this field trip. (Any exceptions have been pre-approved by the instructors.) Students on this field trip are expected to behave as representatives of UTPA. Any illegal, dangerous or disruptive activity will result in a failing grade for the course, and referral to appropriate authorities. ***Drivers are cautioned to strictly obey speed limits; speed traps are said to exist along the route of the field trip! Passengers should help the drivers.*** Passengers may wish to contribute for fuel expenses.

ROAD LOG

The class will meet 15-30 minutes before the scheduled start of your trip under the large HEB sign in the parking lot of the Palmview HEB (near Peter Piper Pizza); see attached maps. Cars not going on the trip may be left here. Please car pool as much as possible to reduce parking problems on trip.
This location is Stop #0, Mile 0.0. Drivers should reset the trip odometer or note the mileage reading. Get a passenger to record the mileage reading.

At the announced time of your trip the caravan will leave the parking lot; keep your place in line, and drive west on Expressway 83.

Beginning at Mile 7.0 you are driving past typical, poorly exposed, outcrops of Pliocene age poorly lithified conglomerate, in the Coastal Plain of Texas. (Check the Stratigraphy Diagram and Geologic Time Scale, below, for the absolute ages of rock units.) Most of the sediment contains abundant pebbles which are made of chert and rare, very fine-grained felsic volcanic rock.
What is chert?
Which direction would you travel to find the bedrock source for these pebbles and it's sandy matrix?
What transported the pebbles and sand to the Coastal Plain?
How many years ago?

Mile 13.2, notice the large sand and gravel mining and processing operation to the right. Most of the local "topography" you see here is a result of the mining activities.

Stop #1 at Mile 15.5. Just past the cell tower and small bridge over Arroyo Salido. Park on pavement or grass on the right in front of the "La Grulla EXIT 1/4 MILE" sign. Walk to the outcrop and along most of the length of the outcrop and note the pebbles and the layering. This outcrop shows a good view of a cross-section through the conglomerate. **You are on private property; be respectful.**
Questions to get answered here:
What is the geologic formation name?

Why are these layers so well exposed here?

Note the average, maximum and minimum size, and the degree of roundness of the pebbles.

Estimate the percent abundance of pebbles in the whole sediment.

Note the orientation of most of the flat pebbles in the outcrop.

Are most pebbles supported by other pebbles or by the fine-grained matrix?

What is the white coating on many of the pebbles, especially those at the top?

Was the white coating formed before or after deposition of this sediment?

Note modern erosional features along the length of this outcrop.

Stop #2 at Mile 21.6. Turn off the highway onto the white dirt road and drive up near the base of the large cliff face. This is a much larger outcrop so vertical variations may be observed better. **Do Not go under any overhanging rocks. You are on private property; be respectful.**
Same questions as last stop. Compare/contrast Stops 1 & 2 in your report.

How well lithified is this material compared to Stop 1?

What deposited this gravel unit?

Sketch and describe the cross-bedding, include a scale.

Why is this gravel so far above the present river level?

Stop #3 at Mile 24.0 (approx.). Park at the auto body shop. (First driveway after water tower at west end of reinforced road cut—drive slow.) **You are on private property; be respectful.**
Why did the road cut need to be reinforced and finished this way?

Walk to the large white outcrop behind the business.

What is this white material?

What is its origin?

How long ago?

Geologic age? Formation name?

How widespread is this unit?

How thick is it?

Any special small features?

What is on top of it?

What is under it?

Stop #4 at Mile 27.6. Wal-Mart parking lot in Rio Grande City. Eat lunch, etc., as you need to. 30 minutes, then reassemble at north-east corner of the Wal-Mart parking lot. Then the caravan will proceed west about 15 miles to town of Roma. (Some groups may not stop for lunch.)

Stop #5 in Roma. On Hwy 83 West, go past the turnoff to the International Bridge about 2 blocks. Turn left to arrive at the visitor's river-viewing platform at the base of the old water tower. Park where convenient and gather at the river viewing platform.
What rock formation is the platform built on?

Note the water level and river channel characteristics of this stream.

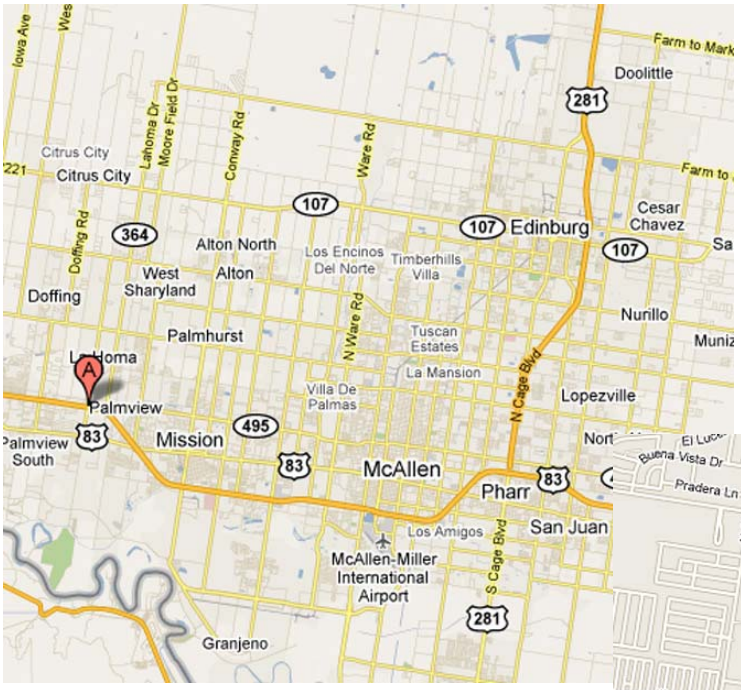
Following the instructor, walk east and down the steps toward the river. Just to the left of the steps is a large outcrop of this rock unit. There are two types well exposed, a "massive" unit above, and a well-stratified unit below. Describe both types and the contact between them.

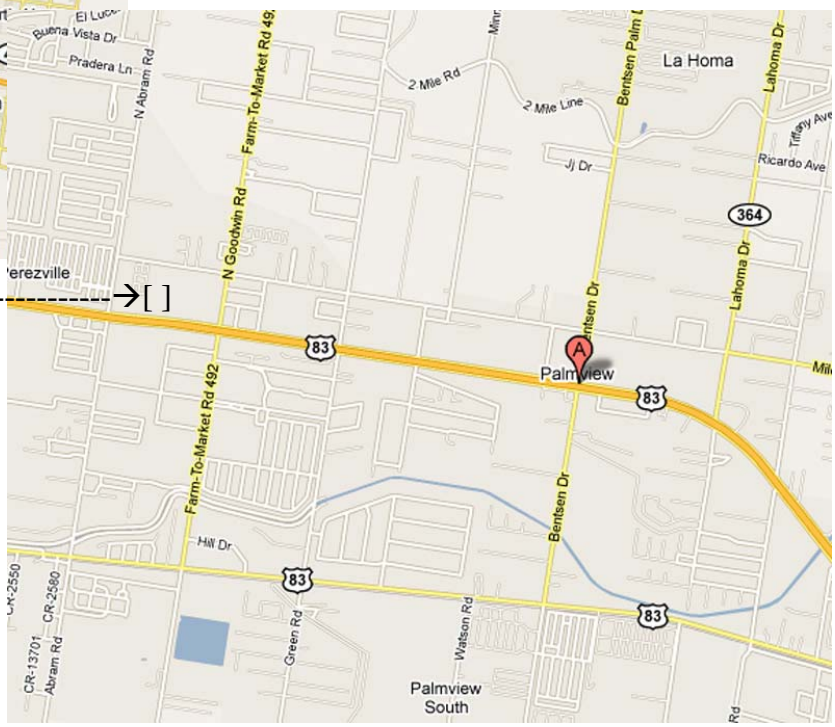
What was the transportation mechanism and depositional environment for this material?

END OF FIELD TRIP. Return to Palmview/UTPA/home on your own schedule. Turn in your report soon.

Map #1. General Location of Trip: Palmview (A) west to Roma on Highway 83.

Map #2. Location of Palmview





Map #3. Location of HEB ----------→[ ]

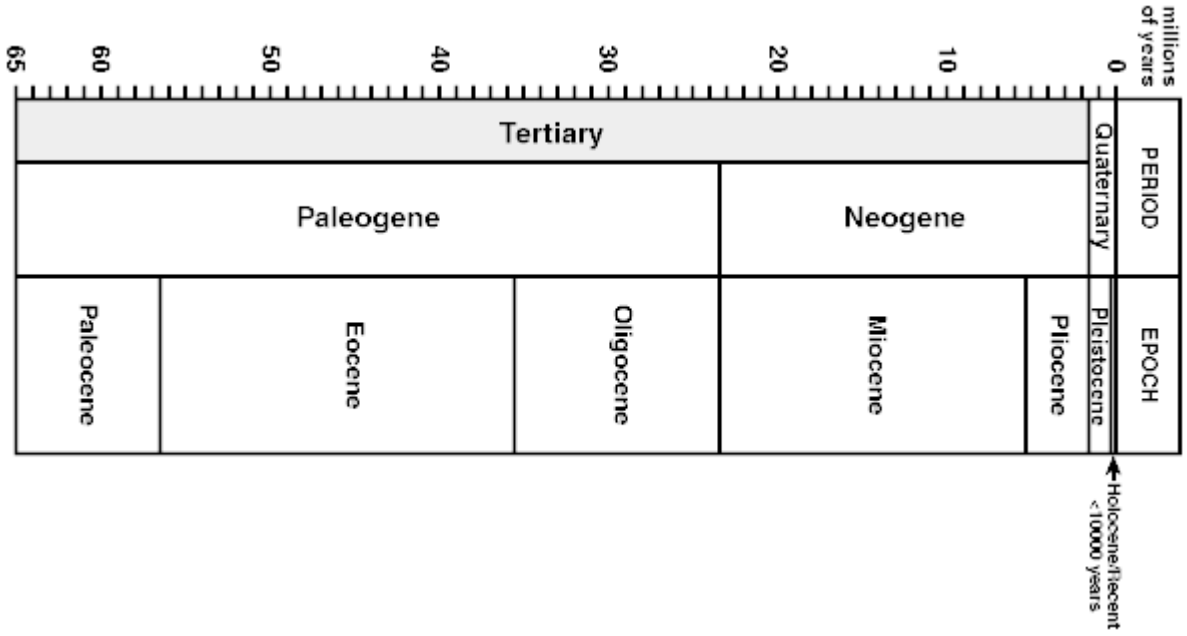
Exit 83 westbound at Goodwin/ Abrams.
Drive frontage road to HEB, about 0.5 miles.

Use this diagram to find the age and formation name of rock units.

STRATIGRAPHIC SECTION – SOUTH TEXAS

AGE	GROUP	FORMATION		LITHOLOGICAL ZONE
		SURFACE	SUBSURFACE	
PLEISTOCENE	HOUSTON	BEAUMONT		CLAY
		LISSIE		
PLIOCENE	CITRONELLE	GOLIAD		**GRAVEL** – SAND
MIOCENE	FLEMING	LAGARTO		SHALE
		OAKVILLE		SAND – CLAY
OLIGOCENE	CATAHOULA	UPPER CATAHOULA		SHALE
				SAND
				Volcanics
				SAND
		LOWER CATAHOULA (FRIO)		SAND – SHALE
	VICKSBURG		SUBSURFACE	SAND
EOCENE	JACKSON	WHITSETT	COLE	SAND
		McELROY	HOCKLEY	
			GOV'T WELLS	SAND
		CADELL	LOMA NOMA	**"Roma Sandstone"**
			MIRANDO	SAND
	CLAIBORNE		PETTUS	SAND
		YEGUA		SAND
		COOK MOUNTAIN	CROCKETT SPARTA	SANDY CLAY & SHALE NON-MARINE SAND

Use this diagram to convert Geologic Time divisions to absolute ages.



JH 2/14/1