

WALKING THE FORTY ACRES

Waller Creek Wilderness Trails and Adjuncts



BY: S.P. ELLISON, JR., JOSEPH JONES, and KEITH YOUNG

Walking the Forty Acres

**Prepared for Members of the University of Texas at Austin
Retired Faculty-Staff Association**

May 10, 1983 / General Meeting of the Association

This walk will consume thirty minutes to an hour or more, depending on your gait and degree of curiosity. It is planned from south to north but of course can be taken the other direction. It covers three divisions:

- (1) **MLK to 21st St.** -- plus-or-minus forest primeval, with plenteous ongoing geology,
- (2) **21st to 24th St.** -- nature modified, partly manicured and given "landscape" treatment,
- (3) **24th to 26th St.** -- for the most part, technologicobarbarian rubblebumble.

A cane, or some kind of walking stick, will prove handy; and if you are undertaking this walk during the growing season for poison ivy and ragweed, be advised that both these plants are all too plentiful along Waller Creek. Wear comfortable shoes.

We commence at Santa Rita No. 1, just east of San Jacinto Boulevard and just north of MLK Boulevard. It is well to pause and offer thanks at this shrine, recalling the prophetic words of Dr. Ashbel Smith a century ago: "*Smite the rocks with the rod of knowledge and fountains of unstinted wealth will gush forth*". Santa Rita, drilled by the Big Lake Oil Co., was not intended to be drilled on the site it occupied. The equipment was being hauled in by horse-power -- quite literally -- and when the teams became mired down it was decided to begin the operation at that spot, since time was running out and anyhow (one surmises) it was so wild a wildcat venture that one place would be about as good as another. Drilling was done by the percussion method of lifting the bit up and dropping it several times a minute using the walking beam and the large "bull wheel". A typical well-log of the Big Lake field shows the bit making its way through Cretaceous limestone down into Triassic and Permian red shales and sandstones; then through a thick layer of salt into more red shale, then into a mixture of salt and red shale, and finally through Middle Permian limestone and production from a porous and permeable layer called Texon pay (as the appended diagram shows). Pay it did, and here's the kicker; had it been drilled on the site originally chosen, it would have been a dry hole!

Proceed west now across Waller Creek over the bridge on MLK Blvd. Looking down between the MLK and San Jacinto bridges (beautiful pieces of masonry, both of them) you will note that the Creek exposes a floor of Austin limestone (Upper Cretaceous, about 75 millions years old), on top of which is a lot of stream debris in the form of cobbles, boulders, etc.

Saunter on to a large windowless brick edifice labeled "Central Chilling Station No. 3", where a smaller sign informs you that the paved track-sidewalk heading north is the Waller Creek Hike and Bike Trail. Take this for only a short distance to where a large pecan tree stands at the curve in the running track of Clark Field (formerly Freshman Field: Clark finally made it into the Upper Division and is due to graduate in another year or so).

1) Into the Creekbed

Look east -- to the right -- and you will see a sloping bank (muddy in wet weather, brushy and weedy most of the time), which leads down to the remnant of a former flight of cut-stone stairs, washed out in high water. Step onto native limestone, then cross the current to a large slab of concrete sewer-cover, and once again to the native Austin limestone, (which extends downward for at least 150 feet), on the east bank. (The City of Austin built the sewer line down the creek bed in the 1950's.) From this point on north you will begin to notice a series of geological features, commingled with miscellaneous engineering structures mostly to direct drainage and hold up San Jacinto Blvd.

Heading north under a footbridge (whose main function is to carry utility pipes across the creek), pick your way through some irregular stream debris boulders to where a path edge-dotted with rocks takes you up the slope to a point where you look down, to the north, upon a partially washed-over concrete platform. This is a forget-me-not from World War II, part of an obstacle course then located on Waller Creek.

2) Geology Lesson

Descending again to the creek bed through an exposed root-system (be careful not to trip) and heading north again, still below the east bank, you pass near some rather dramatic overhangs of the limestone where almost horizontal layers allow large slabs to be dislodged and tipped into the Creek. One or two layers have dark brown hand-sized nodule-like masses of brown limonite (rust to you) scattered in the limestone. The center of these limonite nodules may be made of brass-colored crystalline iron sulfide, metallic and heavy, called marcasite (a close relative of pyrite or "fool's gold").

How, you may wonder, did deposits of iron compounds find their way into a very thick and solid formation built up by marine animal remains -- such as, for instance, the fragments of thick-shelled fossil clams known as Inoceramus labiatus (whose shells are made up of parallel prisms of the common mineral calcite)? The marcasite developed in the calcareous sea floor mud millions of years ago, in the presence of abundant life, including marine organisms which -- with their prisms -- were encased in the mud that later became limestone. Weathering of the marcasite gives off sulfuric acid which in turn dissolves the surrounding limestone and converts the iron sulfide into iron hydrous oxide or limonite. Bleeding limonite streams off the nodules under weathering and colors the limestone - - not inappropriately, for this location -- rusty orange as against white. Oaks, elms, cypresses, pecans, and willows, along with one or two ambitious sycamores, are the dominant trees of this area, with vines in profusion invading a fair number of trees to the point of strangulation.

Upstream from the pipeline bridge you can observe a series of small fractures or faults on the east bank. The first one is upthrown on the south side of the fracture about 7 inches. Some 100 feet or so north of the pipeline bridge is a giant tangle of cypress tree roots, to the east of which the Austin limestone is faulted several times. The first fault shows a vertical movement of around two and a half feet upthrown on the south side; the next one, approximately a foot, upthrown on the north side. Several other smaller faults are to be seen along this reach.

Stream action gives flow-shapes and a knobby surface to the limestone in the valley floor. Stream-moved debris of cobbles and boulders prevails on the west bank, while in the east cliff a weathered or soft zone of the Austin limestone is only a few feet from the floor of the stream. Near the Alumni Center to the north, by contrast, this zone is about fifteen feet above the stream floor.

3) Along the West Bank

After inspecting this Upper Cretaceous geology you will need to reconnoiter to discover the best way of crossing over to the west bank. There are usually enough large, irregular rocks to serve as stepping stones, but they were not deposited there with your convenience in mind and you had better take it slow in making use of them. A cane, or some sort of staff, will be of real help here.

Once across, look for a small cairn of stones which marks the resumption of a stone-marked trail. Should you along this stretch be challenged by natives, snakes, or jungle animals, bear in mind that only a few steps up the bank to the left is the

smooth sanctuary of the hike-and-bike trail, along which you may proceed with as much safety as the modern university campus customarily affords. This portion of "forest primeval" continues to be the depository of large-size debris of various sorts, chiefly from the Memorial Day flood of 1981. Make your way along a narrow path between a bank of piled rocks on your left (going north, that is) and a row of willows on your right -- much too close together, in need of thinning and trimming of lower branches to keep them from catching masses of floating debris. (The channel narrows here because San Jacinto Boulevard was crowded against the creek bed and actually cantilevered over it in the rocked-over stretch sometimes called "Erwin's Bend", site of the 1969 Waller Creek Riot).

4) Alumni Center Area

When you reach the 21st St. bridge notice the palmetto "escape" living and perhaps slowly growing in the water and gravel just under the west end, downstream side. From here it will be necessary to leave the creek bed (from which the creek is nearly always seen to best advantage) and take up your journey on the hike-and-bike trail. Cross 21st Street, walk towards Alumni Center, and turn left to join the section of the trail which takes you back of the Alumni Center on a raised platform. At the end of the platform you may pause to look across the creek to the west bank, the site of a dream-theater (Greek) filling the rubble-strewn gully and incorporating permanently the now temporary -- demonstration -- waterfall, ad-hoc named "Jessen Cascade", which uses the waste water from Gregory Gym swimming pool's filter system. This feature of the landscape has turned burnt-orange -- blushed deeply that symbolic hue in the very shadow of Memorial Stadium -- not because its limestone is full of marcasite nodules but because the drain pipe through which its water is delivered is cast iron, over a foot in diameter, and well rusted. You can stroll about on the limestone here, but be careful of the very, very slimy algae under foot at places. Notice the undercutting on the west bank which results from the commingling of soft limestone with harder strata of the same substance.

Immediately north of 21st St. bridge the Austin limestone forms up to 35 feet of the steep west bank of Waller Creek. Solution-shaping of the limestone is common, and you will notice that the soft zone seen in the faults to the south is now much higher. Inoceramus impressions and marcasite-limonite nodules are common. No major fracturing or displacement can be discerned as far north as "Jessen Cascade". Just above, about directly west of two twin-like cypresses on the island and in the very

bottom of the valley floor (usually under water), is the exterior impression of a large cephalopod, Protexanites planatus (Lasswitz, 1904). This fossil is known by paleontologists from the Upper Coniacian rocks in the Austin and Georgetown areas of central Texas. Its occurrence here means that the rocks in which it occurs are strata ranging from 100 to 150 feet above the base of the Austin limestone. Using the international terms for rock ages in the Cretaceous, the lower part of the Austin limestone is Coniacian and the middle part is Santonian. A small part of the uppermost part is Campanian.

5) 22nd St. to 24th St.

Proceed now towards 22nd St. bridge, a handsome old structure of creamy yellow limestone. Immediately to the southwest of this bridge you will see the outlet to a large concrete drain pipe. Through this, highly variable amounts of wastewater are discharged to trickle or waterfall down the limestone cliff to form "Peace Cascade" (so named because it was being excavated, literally, at the time of the Camp David agreement). Cross now to the west bank via the 22nd St. Bridge, from where you can look at the creekscape both north and south -- views presenting quite different aspects. A few yards south of the 23rd St. bridge (which is near the Winship Drama Building and, opposite, to the east, the Art Building -- both well worth taking time to visit) stands the Forty Acres' most patriarchal tree, the ancient pecan sometimes called "Old Geronimo". How old? The experts say much older than Texas or the United States; probably it celebrated *its* hundredth birthday a couple of hundred years ago or even much earlier. Now dying back to little more than a trunk, in its full foliage forty or fifty years ago it was a magnificent sight. As for other trees along the creek, your reporters beg innocence of very much botanical savvy, but do know that you can count on such familiar ones as willow, oak (live, Spanish, etc.), elm (several species), pecan, bois-d'arc, sycamore, mulberry, hackberry, retama, acacia and raintree, in addition to the lordly cypresses. The fact that we have on the campus well over a hundred different varieties of trees (yet most of us can identify no more than a dozen or so) underscores the desirability of establishing a natural science park along Waller Creek, where the vegetation could be labeled as in botanical gardens and where much else in both the life and earth sciences could receive expert attention. (Were we to achieve this highly desirable development, the Greek theater proposed earlier would serve ideally as a central mustering station and outdoor lecture hall for tour groups, field trips,

and the like, in addition to providing steps up the bank for numerous students taking the short cut from Belmont Hall via the creek bed, to Gregory Gym, PCL, or other buildings in that general direction.) The Geology Building, immediately west of Drama, has copious displays in many wall cases: fossils, maps, minerals, models, special aspects of geology and much else. Returning to the creek bank to proceed on north, cross over the footbridge to the housing for the gauging-station instruments, which can be seen through the glass door.

Between 23rd and 24th streets you can walk along the margin of the creek, if you choose, through mowed grass. There was once a looping meander in this area, but after flooding in the 1950's the channel was straightened. Across San Jacinto Boulevard take note of Proctor's fine "Mustangs" statue at the west entryway to Texas Memorial Museum.

6) 24th St. to 26th St.

Use the east bank sidewalk (or walk near the margin if you like) from 24th St. to 26th, where the journey ends. In this stretch the main branch of Waller Creek (flowing under San Jacinto Blvd) is joined by the West Branch, up which you will continue to 26th St. Some other day you may wish to follow the West Branch on up to 30th St., where it comes out of an open conduit of rock and mortar. We take you along this portion of the creek not to show you beauty, but ugliness. Here you will find not the kind of debris created and left by nature in the stream but by man (super-educated, academic man) on the bank, discarded and dumped here: large pieces of concrete curbing, sidewalk, and the like, together with waste mortar poured down the bank like lava from a crater; structures trespassing boldly on the flood-plain (and getting flooded, too) -- in short, engineering hash of a very dubious quality. We respectfully suggest the Centennial year as the proper time to look closely at such sectors with rehabilitation in mind.

We hope you have enjoyed this excursion enough to want to make others in the vicinity (farther along the Main Branch, for instance), which brings us to our final word: we hope also that volunteers will step forward to plan and describe other campus walks. *Adios!* (April 1983)

VERTICAL SKETCH OF SANTA RITA NUMBER 1

REAGAN COUNTY, TEXAS





