



- 385-95 | do Tr. blk-dkbn, chT chips 4 relief pel
- 395-05 | do
- 405-75 | do
- 415-25 | Crny, uf, nz, porous, ind, foss ls
- 425-35 | do
- 435-45 | do Tr. dkbn, chT w/ relief foss
- 445-55 | do
- 455-65 | do
- 465-75 | do
- 475-4501 | N.S.
- 4501-31 | buff, uf-micro, porous, hard, gypsif dol w/ numerous small vugs + relief foss ls texture
- 4531-41 | do but more & no vugs
- 4501-91 | buff-tan, micro, hard, tight dol w/ small-ls. vugs
- 4592-22 | tan, f-zonal, tight, hard, gypsif dol
- 4622-53 | do
- 4653-85 | do
- 4686-14 | lt tan, f-zonal, porous, hard dol w/ wh, ind, gypsif micro ls
- 4715-46 | do
- 4746-77 | Crny-wh, ind, dolc ls, micro
- 4777-09 | do but foss
- 4809-40 | wh, micro, ind, porous, foss ls
- 4840-71 | do w/ tan, micro, hard, tight dol
- 4871-01 | do slightly dolc ls

4966-96 Crmp, micro, porous, hard, dolie, finely pet ls

4996-27 Crmp, micro, porous, hard, ch, finely pet ls

5027-57 | do

5057-87 | do but dolie

5087-17 | do

5117-47 | ultqny, micro, porous, ind, v slightly dolie ls

5147-77 | do

5177-07 | do

5207-37 | off wh, lumpy, ind, <sup>v finely</sup> pel ch, slightly dolie

5237-67 | do

5267-97 | do Fr. ultqny, Ang, ch

5297-27 | ch + 15% ch

5327-57 | ch + Fr. ch

5357-87 | do

5387-17 | do

5417-47 | ch As Above

5447-77 | do

5477-07 | off wh, porous, ind, slightly dolie, slightly pet ch

5507-37 | do but highly dolie

5537-67 | do

5567-97 | do but slightly dolie

5597-27 | do

5627-57 | do

5717-47 | do no E. prisms

5747-77 | do

5777-07 | do

5807-37 | off wh, ind, porous ch

5837-67 | do

5867-97 | do

5897-27 | do

5927-57 | do

5957-87 | do

5987-17 | do

6017-47 | do

6047-77 | off wh, hard, porous, faintly, pure ch

6077-07 | do

6107-37 | do Tr. E. prisms

6137-67 | do

6167-97 | do

6197-27 | do w/ abund of, euh, lt-gr, dol xrls imbedded

6227-57 | off wh, hard, porous, faintly, pure ch

6257-87 | do ± of, euh, lt-gr, imbedded dol xrls Tr. pyx

6287-17 | do

6317-47 | do w/cw dol xrls

6347-77 | v. lt-gr, ind, porous, ch w/ some of, euh, lt-gr dol xrls imbedded

6377-07 | v. lt-gr, micro, ind, porous ls w/ some imbedded of, euh, lt-gr, dol xrls & some foss

- 6467-97 | do
- 6497-27 | do no sh
- 6527-57 | do Fr. sh as above
- 6544-75 | off wh-1 buff, micr, hard, slightly foss ls
- 6575-05 | do
- 6605-35 | do Tr. F. prisms
- 6635-65 | do
- 6665-95 | do
- 6695-25 | dk bnrgny - dk gray, blocky, hard, calc sh w/ poorly developed calc. lenses & streaks
- 6725-55 | ls as (6665-95)
- 6755-85 | do
- 6786-16 | buff, micr, hard, fairly tight, arg ls + vdk bnrgny, fossiliferous calc sh w/ well developed wh calc streaks
- 6816-46 | do
- 6846-76 | do
- 6851-82 | do
- 6882-12 | vdk bnrgny - vdk gray, fossiliferous, soft, calc sh
- 6912-42 | do
- 6942-72 | do
- 6972-02 | Crmy, micr, ind, porous, dolc, foss ls
- 7002-32 | do
- 7032-62 | buff, vf-micr, hard, porous, chy dol
- 7062-92 | do but 1 tbn & vrgy

7152-82 | do

7182-36 | N.S.

7236-65 | buff, micro, hard, porous dol

7265-94 | N.S.

7296-28 | buff-gry-brn, micro, porous, tight, hard dol w/ relict fossils texture

7328-59 | do

7359-90 | do

7390-20 | dol + wh-brn-gry, micro, hard, impure anh

7428-58 | Anh + buff-cmy, micro, hard, porous, vuggy dol w/ relict fossils texture

7458-88 | dk-brn-gry, v-f-micro, hard, porous dol

7488-18 | do

7518-48 | tan, f-M-staly, tight, hard dol + dk-gry, fissile, hard calc sh

7548-78 | dk-gry, fissile, hard calc sh

7578-08 | sh + dol as (7428-58)

7608-38 | do

7638-68 | do no vugs + dk-brn-gry

7668-98 | do

7698-28 | sh + buff, micro, tight, hard bio ls

7728-58 | do

7758-88 | do

7788-18 | sh + dk-brn-gry, f-vf-staly, porous, tight, hard, dol w/ relict bio ls texture

7818-48 | sh + wh-brn, micro, hard, impure anh

7848-78 | do

7938-68 | dol AS above

7948-95 | bnngny, micro, porous, hard dol w/ relict blk pel

7998-28 | do but f-micro

8010-70 | do

8028-58 | do

8058-88 | do

8068-18 | crmy-buff, f-micro, hard porous, ch. dol

8118-48 | do

8148-78 | do

8178-08 | buff-crmy, micr, hard, fairly tight, sypsf, slightly glassy dol ls

8208-38 | do + dk grey, fossiliferous, calc sh

Worked by Mrs. E. R. Applin

4501-31'  
Upper Lawson?

Cream colored, gypsiferous, porous limestone.

4531-61'

Limestone as above and many fragments of a light gray chalky and somewhat gypsiferous limestone.

4561-91'

Moderate dense to porous, cream colored, finely granular dolomite. Many impressions of fragmental fossiliferous material.

4593-4623'

Generally dense- cream colored finely granular dolomite.

4622-53'

Light cream colored- irregular somewhat porous- gypsiferous finely granular dolomite.

4653-85'

Dolomite as above- and about 50% fragments of a white dolomitic porous chalk- showing many impressions of fragmental fossiliferous material. Large Echinoid spines. Specimens of a Moderately small Rotolid foram noted.

4686-4714'

Mainly cream colored irregular porous dolomite.

4715-46'

Cuttings of chalk and dolomite. Molds and impressions of microfossiliferous and fragmental fossiliferous material common. Specimens of Vaughanina? sp. and Pseudorbitoides? fairly common.

4746-77'

Similar to above but chalk strongly dominant. Several large species of Lepidocyclines and fragments of Coral common.

4777-4809'

Like the preceding.

4809-40'  
Def. Lawson

White chalky, calcitic highly microfossiliferous limestone. Many specimens of Pseudorbitoides sp. and specimens of first Lepidorbitoides sp. first Sulcoperculina cosdeni.

4840-71'

Cuttings of chalky limestone and of cream colored dolomite. Comparatively few fossils noted.

Print ref. to 41410  
for top U. L.

Revised 5/21/49  
Vaughanina  
cosdeni  
Approx top  
Lower  
Lawson

Lepidocyclines

1033, 637

4871-4901'

Like the preceeding.

4901-33'

Mainly chalk, a few fragments of dolomite. Many traces of fossils, few well enough preserved to be determined. No marked change in fauna.

4996-5027'

No change.

5027-57'

No change.

5057-87'

Chalky dolomite. Dolomite crystal evenly distributed 50 to 75% of material. Few fossils noted. No marked change in fauna.

5087-5118'

Like the preceeding.

5117-47'

Similar to the above but more chalky.

5177-5207'

Dolomitic chalk as above, and very fine grained cream colored dolomite. Few fossils- those present probably caving.

5207-27'

White, highly dolomitic chalk- few fossils.

5237-57'

No change.

5267-97'

Material similar to above. Fragments of white chert, common in this sample.

5297-5327'

Like the preceeding.

5327-57'

Light cream colored chalky dolomite. A little chert.

5357-87'

Like the preceeding.

5417-47'

Like the preceeding.

5447-77'

Like the preceeding.

5477-5507'

Like the preceeding.

5507-37'

Like the preceeding.

5537-67'

Chalky dolomite as above- a little gypsum.

5567-97'

White dolomitic chalk. A few fragmetns of Inoceramus.

5597-5627'

Like the preceeding.

5687-5717'

Material similar to above. Inoceramus fragments fairly common.

5717-47'

Like the preceding.

5777-5807'

No change.

5816-21'

White chalk. A few moderately large ~~dolomite?~~ crystals.

5821-27'

Chalk as above- some Inoceramus prisms and Ostracods.

5837-67'

White chalk.

5867-97'

White chalk.

5897-5927'

White chalk. Inoceramus prisms fairly common.

5927-57'

Like the preceding.

5957-87'

No change.

5987-6017'

No change.

6017-47'

Chalk better consolidated (less fluffy) than above. Some specimens of Anomalina cosdeni noted. Inoceramus fragments fairly common. (a Taylor species?)

6047-77'

Material like the above.

6077-6107'

No change.

6063-68'

White chalk.

6070-73'

White chalk.

6107-37'

White chalk as above- fragments of Inoceramus and a few of the chalk fragments stained dark brown and irregularly finely white streaked.

Approx Austin  
Top.

6137-67'

Like the preceding.

6167-97'

Cuttings of moderate hard white chalk. Numerous Inoceramus fragments.

6197-6207'

White chalk and dolomitic white chalk. Some Inoceramus fragments.

6215-20'

Somewhat dolomitic- moderate hard white chalk.. Dolomite in fine crystal evenly distributed about 25%

- 6257-87' Cuttings of moderate hard white chalk, irregular finely dolomitic Inoceramus fragments fairly common.
- 6287-6317' No change.
- 6317-47' No change.
- 6347-77' White, slightly dolomitic moderate hard chalk. Inoceramus fragments fairly common. A few of chalk fragments showing vein-like streaks of tarry residue.
- 6377-6407' White dolomitic chalk. Dolomite in fine, evenly distributed crystal about 25% of material.
- 6407-37' Like the preceding.
- 6437-67' No change.
- 6467-97' Material as above- some Inoceramus fragments and a few specimens of Globotruncana noted.
- 6497-6527' Like the preceding.
- 6527-57' Moderate hard slightly dolomitic chalk, many Inoceramus fragments. Chalk more microfossiliferous than above.
- 6552-57' White chalk.
- 6557-87' Like the preceding.
- 6605-35' No change.
- 6624-29' Chalk as above and also numerous fragments of a dark gray to brownish gray marl.
- 6635-65' White chalk. A few fragments of the marl as above.
- 6665-95' Material as above- irregularly stained a light brown to brownish black- due to petroliferous infiltrations.
- 6695-6725' Like the preceding.
- 6725-55' Chalk, in part stained as above. Some of the chalk fragments showing an abundance of minute spherical bodies (a common feature of part of the Austin.)
- 6755-86' Like the preceding.

6786-6816' *Sullivan*  
*Prob top of C. II*  
 Approx. top of M. Atkinson

A light tan colored marly limestone.

6811-18' Core #19

White, chalky limestone. Some vein like streaks of a dark petroliferous residue. A fragments of a Pectin?

6828-32' Core #21

Dark brownish gray somewhat light "speck" marl, a few shell fragments.

6832-42' Core #22

Dark brownish gray, somewhat light "speck" silty marl. A few shell fragments.

6842-51' Core #23

Light tan chalky limestone- some small fragments of fossil bivalves.

6851-82'

Like the preceeding.

6882-6912'

Top of ~~Woodbine~~

Woodbine

L. Atkinson

Materials as above- many fragments of light brown and brownish black- light "speck" marl and some fragments of black, flakey, slightly finely micaceous shale. The dark speck marl shows more fish teeth and scales. Fish bone fragments fairly common in this sample. A few Globogerina sp. apparently from the "speck" marl.

6912-42'

Major portion of sample black slightly micaceous shale, as in preceeding sample- smaller amount of speck shale and some fragments of chalky limestone from higher depths also present. A number of Ostracods, some fish bone fragments- a few questionable Comatulid fragments, one specimen of Ammobaculites advenus and several species of Ostracods. Fauna Woodbine in character.

6942-72'

Top of Lower Cretaceous

A few fragments of the black shale as above. Many fragments of a finely granular cream colored gray spotted dolomitic limestone- many fragments of which show sections of fragmental fossiliferous material including sections of \*Miliolids, other forams not determined. Some of the limestone fragments more finely consolidated and in part, oolitic in appearance. Nummoloculina heimi

6972-7002'

Like the preceeding.

7002-32'

No change.

7032-62'

Major portion of material a finely granular irregularly porous brown and gray dolomite. Some small impressions of micro-fossiliferous material. Some fragments of micro-fossiliferous chalky dolomitic limestone also present as above and a few fragments of gray shale. (still caving)

7062-92'

Finely granular light brown, porous dolomite. A few dolomite and chalky fragments showing many Miliolid

6882-6912  
CYPRIDIDS  
PILORIDIDS  
CYPRIDIDS SP  
MILIOLIDS  
6912-42'  
COMATULIDS  
AMMOBACULITES  
CYPRIDIDS  
PILORIDIDS

6968 h.k

6968-7020

- 7152-82' Grayish tan moderate finely gray spotted, irregular porous dolomite.
- 7236-65' Gray and tan sucrose, irregular porous dolomite. 7625-96 same.
- 7296-7328' Light tan and gray-porous dolomitic limestone. Some molds of small fossil bivalves and impressions and molds of fragmental and micro-fossiliferous material. A little glauconite present. Some fragments of the limestone oolitic. Fairly numerous dolomitic molds suggesting \*Cyclammina? sp & present\* Prob. Nummularia.
- 7328-59' Tan, porous, gray spotted dolomitic limestone similar to the above. Vague traces of fossiliferous material common.
- 7359-90' Generally dense light tan-gray-gray spotted dolomitic limestone. Dolomite extremely finely granular. A few vague traces of fossils.
- 7390-7420' Gray limestone similar to preceding in character and about 50% anhydrite.
- 7428-58' Light tan and gray-gray spotted, porous dolomitic limestone. Limestone shows a few anhydrite inclusions and a few faint traces of micro-fossils.
- 7458-88' darker gray and tan dolomite, slightly porous.
- 7488-7518' More finely cut fragments of the same.
- 7518-48' Light brown, moderately finely granular porous dolomite. A few of the fragments contain many poor molds of Alveolites? A few fragments of anhydrite also present. Nummularia.
- 7548-78' Brownish gray very finely granular dolomite.
- 7578-7608' <sup>7610' E. L.S.</sup> Porous light brown finely granular dolomite and many fragments of gray shale- possible caving.  
Approx top  
Fredericksburg.
- 7608-38' <sup>Re-top</sup> Dense light brown finely granular dolomite.  
seen
- 7638-68' Sample mainly dark gray shale, a few fragments of dolomite.
- 7668-98' Like the preceding.
- 7698-7728' Cuttings of a light brown limestone- fragmentary fossiliferous material present in this limestone.

Fredericksburg in Texas.) Same form was also common in middle of core 53'72-82' in Sun, Powell-Land, Volusia Co. Some Miliolids and a few specimens of Placopsilina sp. also noted in this limestone. \*L. subgoodlandensis

7758-88'

Limestone similar to above in general character but somewhat sandy and carrying an abundance of fragmental molds of fossiliferous material. Many fragments of gray shale as above (this probably caving from much higher depths) Some molds of several species of Ostracods- fragments of Lituola inflata and numerous specimens of Haplophragmoides? sp. subgoodlandensis

7788-18'

Brown, finely granular porous dolomite.

7818-48'

Mainly anhydrite, a few fragments of brown, finely granular gray streaked dolomite.

7818-48'A

Dense light grayish tan hard, platey limestone. Some fragments show sections of Miliolid and sections of other micro-fossiliferous and fossil fragments not determined.

7848-78'

Sample almost entirely anhydrite.

7878-7908'

Mainly anhydrite, some dolomite and some gray shale.(caving?)

7908-38'

Anhydrite and some very finely granular dense, light tan dolomite- a few fragments of which are sandy.

7938-68'

Like the preceding.

7954-60'

Brown, finely granular irregular porous black streaked and spotted dolomite. Vague traces of fragmental fossiliferous material.

7938-44' core #35

Light brown anhydritic dolomitic (finely granular) many vein-like streaks of petroliferous residue.

7944-54' core #36

Light brown dolomite, somewhat gray spotted and showing some Miliolid sections and many dolomitic molds of other fossils and fossiliferous material not determinable.

7960-70' core #38

Tan, thickly gray streaked and spotted dolomite. Some fragments and traces of fossiliferous material.

7970-80' core 39'

Top 4': tan, sucross dolomite, thickly streaked, and spotted with a dark brown (petroliferous residue). A few sections of Miliolids.

Another sample: light brown, thickly gray spotted somewhat anhydritic dolomite.

Another sample: gray dolomitic limestone with thin lenses of black shale and carrying fragments of

anhydrite, some fragments of fossil bivalves and many poor molds of micro-fossils, Miliolids and Alveolinids (?)  
*Mammilloeculina* Fred. var.

- 8000-10' core #42 A light gray, somewhat glauconitic limestone which contains fragmentary fossiliferous material. Sample has a lense (on both sides) of brownish black petroliferous shale which contains rolled molds of micro-fossiliferous material and fragments.
- 8010-20' core #43 Brown, very finely granular (sucrose) dolomite.
- 8020-30' core #44 Brown, sucrose, somewhat anhydritic dolomite, showing some streaks of brownish black petroliferous residue.
- 8030-40' core #45 Light grayish tan sucrose dolomite.
- 8040-50' core #46 Light tan chalky limestone composed largely of masses of micro-fossiliferous and fragmental fossiliferous material. Several species of Miliolids common.
- 8050-60' core #47 X Tan chalky dolomite thickly streaked with a reddish brown and black shaley material. Limestone contains a large amount of fragmental fossil material.
- 8060-70' core #48 Light brown, succros dolomite thickly dark gray streaked and spotted.
- 8070-80' core #49 Similar to preceding- also somewhat glauconitic.
- 8080-88' core #50 A brown and gray finely granular dolomite which contains many fragments of fossil bivalves and micro-fossiliferous molds, including sections of Miliolids which could be recognized. Material somewhat glauconitic.  
Another sample from the same depth- a white chalky limestone which has an oolitic appearance since it is formed mainly of molds of small micro-fossils and fossil fragments. Sections of Miliolids common and one section of a form suggesting Cuneolina sp. The fossil molds are in part pyritic and in some cases glauconitic.  
as in Fred. Mexico)
- 8088-98' core #51 Cream, gray mottled, moderately soft chalky limestone- composed mainly of chalky and fragmental fossiliferous material. Sections of Miliolids, having a structural pattern similar to Periloculina fairly common. The limestone is somewhat anhydritic.
- 8098-08' core #52 Cream colored, somewhat anhydritic limestone having an oolitic appearance, mainly due to abundance of Miliolid sections and other fragmental fossiliferous material of which the limestone is largely composed.

and fragmental fossil material. Miliolids common as before.  
A trace of glauconite.

8118-28' core #54 Hard, dense, brown, succros dolomite somewhat gray spotted and mottled. A few Miliolid sections noted. A few anhydrite inclusions.

8128-38' core #55 Brown, hard, moderately fine grained dolomite. Small chalk inclusions, probably representing remnants of fossil material common.

8138-45' core #56 dense, brown, finely granular dolomite.

8145-55' core #57 light brown, gray spotted finely granular chalky dolomite.

8155-65' core #58 White, very finely granular (succros dolomite) some small particles of carbonaceous material present.

8165-75' core #59 light tan, somewhat gray spotted dense, succros dolomite.

<sup>35</sup>  
<sup>85?</sup>  
8165-75' core #60 Dense, brown, finely granular dolomite.

8185-95' core #61 Anhydrite and impure very fine grained, grayish tan dolomite, with small gray inclusions, some of which are also glauconitic. These may represent remnants of fossiliferous material.

8195-05' core #62 Dense, grayish tan, impure succros dolomite. Slightly glauconitic.

7980-90' Light brown, finely granular irregularly porous- gray spotted dolomitic material highly streaked with dead oil.

7990-00' Dolomite similar to preceding but more porous and with some anhydrite inclusions.

8010-20' Light brown, finely granular dolomite finely thickly banded with streaks of a petroliferous residue.

8020-30' Like the preceding.

8030-40' Hard, gray, porous, dolomitic limestone.

8040-50' (core?) <sup>46</sup> Dark grayish brown, finely granular dolomite. A trace of glauconite and a few small inclusions of anhydrite. Gray color, due to abundance of small gray spots which apparently represent remnants of micro-fossils and fragmental fossil material.

8050-60' (core?) <sup>47</sup> Light gray succros dolomite, some fine dark gray spotting.

- 8058-88' Cuttings of several types of light brown, finely granular in part, porous dolomite.
- 8060-90' Core(?) Highly gray (dead oil) streaked. Finely granular dolomite.
- 8070-80' (core?) <sup>49</sup> Highly gray (dead oil) streaked, finely granular dolomite.
- 8080-88' <sup>50</sup> Light brown, gray spotted, very finely granular dolomite which contains an abundance of fossil material.
- 8088-98' (core?) <sup>51</sup> White dolomitic chalk irregular somewhat streaked with a petroliferous residue. The chalk contains some fragmental fossiliferous material, not determinable.
- 8098-18' Cuttings of several types of light brown, gray spotted dolomitic limestone, usually in the form of poor and fragmental molds- many sections of Miliolid forams noted.
- 8118-48' Mainly tan, very finely granular irregularly porous dolomite.
- 8148-78' Light brown, very finely granular porous dolomite. Some gray spots and a trace of anhydrite.
- 8165-75' (core?) <sup>59</sup> Light grayish tan and dark gray, very finely granular (succros) dolomite.
- 8185-95' (core?) <sup>61</sup> White, somewhat dolomitic limestone which contains a large amount of micro-fossils and fragmental fossil material- usually in the form of gray pyritic mold. A few sections show shape and structure suggesting Orbitolina? and Coskinolin? Molds of several small gastropods, a few Ostracods.  
*check this place*
- 8195-05' <sup>62</sup> White dolomite (dolomite about 50% of material) limestone thickly streaked with vein-like inclusions of dark (petroliferous) residue. Sections of Miliolids common in parts of this limestone.
- 8208-38' Cuttings of tan succros dolomite and of white, highly gray spotted dolomitic limestone which contains a large amount of micro-fossiliferous and fragmental fossiliferous material- generally not determinable. Some Miliolid sections noted. A small amount of glauconite in fossiliferous limestone.
- 8238-68' Like the preceding. Many of the limestone fragments contain abundant specimens of Miliolids and some Alveolinids?
- 8268-98' Sample?
- 8298-28' <sup>63</sup> Grayish tan, very finely granular (succros) dolomite.

8200-0414  
(Sensitivity) Beude  
8414-19' core #63  
Top of Trinity.

and a small amount of glauconite.

8419-24' core #64

Dark gray, shaley fine-grained sandstone. Many small streaks and inclusions of limonite.

8414-19 (?) <sup>63</sup>

Light gray limestone irregularly interlaminated with greenish gray marl. Materials contain many worn and broken fragments of fossil bivalves. Miliolids common in the hard marl.

8419-48'

Light tan succros dolomite, gray streaked and spotted. A few miliolids.

8448-78'

Shale as at 8414'. Tan, succros dolomite and some gray spotted, highly micro-fossiliferous (poor molds and mold fragments). Cream colored limestone, a little anhydrite.

8478-08'

Brown and greenish gray shale and brown succros dolomite, some fragments of which are finely streaked with a black, (petroliferous?) residue.

8508-38'

Shale as above and about 50% fragments of a white limestone which shows many sections of Miliolids.

8538-68'

Light tan succros dolomite, slightly anhydritic.

8568-98'

Gray and greenish gray shale and gray spotted cream colored dolomitic limestone, some of limestone anhydritic.

8598-08'

Gray and greenish gray shale fragments. (one of the green-gray shale fragments contained some chara fruit cases) and fragments of a limestone which contained a large amount of fragmental molds of fossil material and a small amount of glauconite and anhydrite.  
↳ Atopachara.

8608-28'

Sample?

8628-58'

Materials as above- molds of several small pelecypods and numerous specimens of a large, unornamented species of Ostracods common at this depth. (Cytherellascotti?, Cytherella comanchensis? and Cytherolteron sp. also present)

8658-85'

Cuttings of dark gray-green shale and some fossiliferous limestone like the preceding. A few Ostracods present.

8748-78'

Cuttings of light tan colored limestone which contains a large amount of micro-fossiliferous and fragmental fossil molds (mainly non-determinable) Many sections of miliolids and Ophthalmididae noted.

8778-08'

Like the preceeding.

8808-68'

Limestone fragments as above, also many fragments of dark gray, some of dark blue-green and dull gray-brown shale.

8838-68'

Mainly anhydrite and some tan succros dolomite which is apparently interbedded with it.

8868-98'

Anhydrite, cream colored hard limestone and some gray shale (prbbably caving.)

8898-28'

Hard brown limestone, showing Miliolid sections, anhydrite and gray shale.

8928-58'

Mainly anhydrite and light brown gray spotted, very finely granular (succros) dolomite. Some gray shale.

8958-88'

Mainly anhydrite, some limestone and gray shale.

8988-18'

Like the preceeding.

9018-48'

Anhydrite, gray and some greenish gray shale- a little limestone interbedded with anhydrite.

9048-78'

Like the preceeding.

Approx base  
Punta Gorda

Another sample. Same depth, shale, gray, dark blue-green, a few light reddish brown- some of green shale fragments- have a few irregular shaped sideritic nodule.

9078-08'

Dark gray dark blue-green, reddish brown streaked shale.

9108-38'

Shale as in preceeding- many fragments of anhydrite, some of light borwn finely granular gray spotted dolomite.

9138-68'

Sample.

9168-73'

(core)

Light gray, very finely granular, finely black streaked and spotted impure dolomite. The dark gray material seems to be due to presence of a large amount of finely shredded carbonaceous material.

9173-78'

(core?)

Dark gray and greenish gray somewhat snady shale. This shale is also finely and thickly streaked with dark brownish gray pyritic carbonaceous material.

see sample  
8785 on  
p. 10

Top - Punta Gorda  
8840

Beds of  
Early Trinity  
age.

- spotting- carbonaceous.
- 9168-73' core #65 Gray, impure succros dolomite many small fragments of carbonaceous material.
- 9173-78' core #67 Material similar to preceeding. Some inclusions of anhydrite some thin fragments carbonaceous material.
- 9198-28' Cuttings of several types of limestone noted at higher depths and some fragments of anhydrite and gray shale.
- 9230-34' (core) Moderately hard green-gray shale.
- 9234-42' Light gray finely carbonaceous impure, dolomitic limestone-slightly sandy.
- 9230-34' core #68 Dark gray shale- a few small fragments of carbonaceous material
- 9234-42' core #69 Light cream colored succros dolomite- a few anhydrite inclusions
- 9228-58' Cuttings light brown finely granular gray spotted dolomite and gray shale.
- 9258-88' Light tan dolomitic limestone, some gray and greenish gray shale. Limestone highly gray spotted and apparently composed largely fragmental fossil material too highly altered to be determined.
- 93 9288-18' Blue-green, and light beddish brown shale.
- 9292-94' (core) 70' Gray green shale, which contains some fragments of fossil bivalves and some nodules of pink anhydrite.
- 9318-48' Blue green and dull reddish brown shale and some fragments of a tan colored sandy siltstone which is slightly glauconitic.
- 9345-55 core 71 Dark gray, moderate, hard shale.
- 9348-88' Dark gray and dull reddish brown shale and a few fragments of gray spotted micro-fossiliferous limestone. (Fossil material fragmental). Latter probably caving.
- 9315-75' Gray shale with abundant fragments of fossil bivalves. Ostra? Some fragments of pink anhydrite.
- 9355-65' 72 Greenish gray hard carbonaceous shale, showing many thin streaks of carbonaceous material and carrying some fragments of fossil bivalves.
- 9375-85' (core) 74 Gray, silty, calcareous shale which contains a large amount of fragmental fossil material, mainly fragments

- 9355-65' core #72 Dark greenish gray shale, some fragments of fossil bivalves.
- 9365-75' core #73 Dark gray shale.
- 9375-85' core #74 ~~Dark~~ Dense, dark gray dolomitic limestone, some fragments of fossil bivalves- traces of micro-fossils. A highly fossiliferous zone of *Chonetes* present. many *Chonetes* - (E. - little may 31-56) common.
- 9395-05' core #75 } Dark gray, irregular highly and finely sandy hard silty clay. (dolomitic?) A trace of glauconite. Chop. present.
- 9405-15' core #76 } Hard, dark greenish gray marly and irregular sandy limestone, many fragments of fossil bivalves. Chop. present.
- s.s. Also p. 16 on overcut  
9481-86' core #78 } Moderately hard, white, argillaceous, very fine grained sandstone, slightly micaceous- colorless mica.
- 94 30 7  
9486-90' core #79 } Moderately hard, fine grained argillaceous white sandstone.
- 9490-00' core #80 } Hard bluish green, irregularly sandy shale- with red-brown ferruginous markings.  
locus.
- 9500-06' core #81 } Light tan gray highly sandy moderately hard clay, shale, sand grains- generally very fine, but some fine to moderate coarse grains present.  
Another sample. Light greenish gray, light reddish brown streaked and mottled highly sandy clay shale.
- 9506-16' core #82 } Moderately hard light greenish gray argillaceous fine grained sandstone with dull red brown ferruginous streaks.  
Another sample. Moderately hard argillaceous sandstone moderately fine grains. Sandstone irregularly streaked with gray green sand shale. Some pinkish yellow tinted grains present.  
Another sample. Light tan, moderately soft sandstone, sand grains moderately fine, mainly clear quartz- many grains showing one or more uncut crystal faces. Some yellowish pink grains present. Little cement.
- 9516-21' core #83 } Moderately hard sandstone. Light gray with some greenish gray mottled. Sand argillaceous moderately fine, yellowish pink grains present.
- 9521-31' core #84 } White, moderately hard argillaceous sandstone. Similar to preceding in general character but size of grain moderately fine to very coarse.
- 9531-41' core #85 } Light greenish gray, dull red-brown, mottled, hard, somewhat very finely sandy clay.
- 9541-51' core #86 } Light greenish gray argillaceous fine to moderately fine grained

labeled?)

9551-61' core #87 Light blue-green and dull purplish brown mottled fine to moderately fine grained argillaceous sandstone. Cement shaly in character.

9561-69' core #88 Sandstone similar to above. Sand grains fine to very fine.

9569-79' core #89 Top 3': Light green dull brownish red mottled moderately hard, argillaceous fine to very coarse grained sandstone.  
Bot 3': Hard green shale with scattered <sup>grains</sup> sandstone, generally moderately coarse in size, Many grains of chalcedony

9573-83' core #? Anhydrite.

9579-89' core #90 Top 4½": Dull, light reddish tan argillaceous sandstone or hard sandy clay. Sand grains fine to coarse.  
Bot 5½': Moderate hard dull reddish brown somewhat green mottled silty clay and blue green shale with some scattered sand grains.

9589-99' core #91 Light reddish tan micaceous siltstone and a reddish brown finely sandy, moderately hard clay. Sand about 25%.  
Top 5': Dull brownish red, slightly light green mottled, silty to finely highly sandy clay shale.

9599-09' core #92 Dull dark brownish red, highly and finely sandy, somewhat micaceous clay shale.

9609-19' core #93 Bright greenish blue mottled dull reddish brown, micaceous shaley sandstone. Sand grains fine to moderately fine.

9619-25' core #94 Light blue green moderately hard shale irregularly sparsely to highly sandy. Sand grains fine to moderately coarse.

9625-35' core #95 Top 4½': Dull red brown shaley, fine grained sandstone. Some pyritic areas.  
Bot 3½': Light yellowish tan blue-green and reddish brown mottled highly sandy shale. Sand is evenly distributed fine to moderately coarse- forms about 50% of material.

9635-45' core #96 Dull, brownish red, shaley sandstone or sandy shale. Sand about 75%. Grains generally fine.

9645-55' core #97 Top 3½': Hard blue-green shale, somewhat mottled with dull red-brown. A small highly sandy area in the blue-green shale.  
Bot 2½': Gray highly sandy shale. Sand grains generally

- coarse- majority of grains- moderately fine. Matrix shaley- about 25% of material.
- Bot 3': Blue-green somewhat mustard mottled highly sandy shale. (sand at least 25% of material) Sand poorly sorted Fine to coarse- generally moderately fine.
- 9665-75' core #99 Light blue green shale (sandy), Sand poorly sorted, very fine to moderately coarse.
- 9378-08' Fragments of dull reddish brown and some blue green and gray shale.
- 9395-05' <sup>1/6</sup> Dolomitic light gray, fine grained sandstone, slightly glauconitic.
- 9405-15' (core) <sup>1/6</sup> Gray, calcareous shale containing a large amount of fragmental fossil material- mainly fragments of fossil bivalves similar to Ostrea. The shale is sandy and somewhat glauconitic.
- Sed. Red. Bel. - 9430*
- 9408-38' Cuttings of dull reddish brown and gray shale.
- 9438-68' Like the preceding with the addition of a small amount of fine sand.
- 9468-98' <sup>1/6</sup> Like the preceding. Sand about 25% of sample.
- 9498-28' As above- with the addition of about 20% very fine grain silty sandstone; white and light green in color.
- 9528-58' Cuttings of dull reddish brown, shale- and blue green and gray, irregularly sandy shale showing occasional fragments of fossil bivalves. A few fragments of white, argillaceous fine to moderately fine grained sandstone.
- 9558-88' Shale as above, also numerous fragments of light bride red, finely sandy siltstone.
- 9588-18' Fragments of dull red brown and blue green shale and about 50% fine to moderately coarse quartzitic sand.
- 9618-48' Shale as above and a few fragments of purplish red shale. Sand also as above, many of the grains here yellow in color, some grains of feldspar.
- 9648-78' Cuttings of gray, greenish gray and dull reddish brown shale and 50% fine to moderately coarse sand.

- 9738-68' Like the preceeding.
- 9768-98' Similar to above. Coarse sand grains relatively much more abundant.
- 9798-30' } Fine to coarse quartzitic sand and some grains of quartzite- (coarse grains dominant) and a small amount of fragments of various types of shale noted at slight higher depths.
- 9798-30' } Similar to above, but shale fragments more common.
- 9830-60' Fine to coarse white, dull etched quartz and feldspath sand- coarse to very coarse grains common.
- 9850-60' Fine to moderately coarse white sand- some coarse grains
- 9860-90' Fine to coarse sand and about 10% fragments of several types of shale noted at higher levels also some purplish red and gray mottled and blue green and mustard mottled shale fragments.
- 9850-60' core #112  
(See next page for cuts. 9860-10.125.) Moderately soft, white, argillaceous sandstone grains fine to coarse, mainly clear quartz. Cement ashy in character.
- 9860-70' core #113 Sandy and micaceous, bluish green siltstone.
- 9870-76' core #114 Light gray, moderately fine to very coarse grained, sandstone. Cement similar to to above.
- 9908-18' core #115 Sandstone similar to preceeding in character, but moderately coarse grains dominant.
- 9918-28' core #116 Similar to preceeding. Sand averaging slight coarser.
- 9928-38' core #117 Moderately soft, white, argillaceous, moderately fine to moderately coarse grained sandstone.
- 9938-48' core #118 Fine to very coarse grained, argillaceous white sandstone. Grains of feldspar common. Some fragments of thinly laminated, micaceous gray green-shale.
- 9948-57' core #119 Sandstone as in preceeding core and greenish greenish gray shaly sandstone or highly silty to sandy shale.

9966-76' core #121

chlorite.  
Soft, white, argillaceous sandstone grains fine to very coarse- coarse grains common.

9995-10003' Core #122

Soft white, generally coarse grained sandstone, cement ashy, white, light reddish brown and some pale blue green.

10003-10' core #123  
Base Lower Cretaceous

Soft sandstone similar to preceding, very coarse grains less abundant.  
Another sample: Top of Pre Cretaceous section in this well. (Volcanic rock)

(cut)

9860-70'

Fine to coarse white sand and some fragments of sandstone from which it apparently washed.

9870-76'

Brownish and greenish gray unctous coarsely sandy shale, some fine to coarse sand.

9890-20'

Fine to coarse quartzitic sand, some feldspar and some quartzite grains. About 5% fragments of several types of shale noted at slightly higher depths.

9908-18'

Fine to very coarse grained white, slightly chloritic bentonitic sandstone.

9918-28'

Fine to coarse white etcher sand and fragments of the sandstone showing ashy cement- a little green chloritic clay.

9928-38'

Fine to moderately coarse, etched clear quartz some grains of feldspar.

9920-50'

Light red clay and fine to coarse quartzitic sand.

9938-48'

Fine to coarse sand, apparently washing from a bentonitic and slightly chloritic soft sandstone.

9950-80'

Fine to very coarse white sand some yellow tinted grains some feldspar.

9948-57'

Fine to coarse sand, mainly clear quartz and some fragments of sandstone.

9957-66'

Like the preceding, but very coarse, small pebble size grains common.

9966-76'

Like the preceding some chloritic material.

9980-10'

Fragments of a sandy, tan, reddish and green, hard clay-like rock, apparently an alteration product.

10040-70'

Like the preceding.

10070-100'

Material similar to preceding darker in color.

10100-125'

Greenish gray red brown mottled rock. (volcanic rock,

10110-25'

Like the preceding.

basement  
material)

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E. R. Applegate