

U. S. G. S. Test Well #6
Core Analysis

m.j.m.
3896
11111

- 89-90 Siltstone; yellowish gray silt (black to olive when wet), very sandy, argill., subang. clear qtz of ~~small~~^{fine} size and brown to black phos. rounded grains. Scattered irreg. patches of silty clay. Hardness due to CaO cement.
- 90-129 Silt; yellowish gray silt becoming pale olive 10 1/2' about 119' (darker when wet), very sandy - fine subang qtz and redd. brown to black phos, argill., mottled due to presence of irreg. patches of very fine silt devoid of sand. This amount of mottling varies from small amount near top to 50% near bottom. ~~At~~ At approx. 121' the amount of phos begins to increase until it colors the material with a black speckled appearance.
- 131-140 Limestone congl. and limestone; gray to yellowish gray. Limestone congl. is badly weathered at top. Composed of cobbles and pebbles of weathered dense calcitized l.s. in matrix of sandy, phos., yellowish gray, fine grained l.s.; foss. The top has been replaced or filled with interlocking layers of black phos. The congl. grades into a very dense, highly calcitized, sandy, foss., ~~l.s.~~ fine l.s. Does not appear weathered, but the same material seems to be making up the cobbles and pebbles of the congl. At the undisturbed contact between congl. and l.s. there is a fibrous material in some cracks and crevices. Trilobular found

in lenses 1.5. and matrix of congl. latter may be reworked. Occasional sug with inward projecting calcite xkabs.

May have been two periods of weathering of this 1.5. Congl. of residual material deposited, cemented then weathered with phos. filling cracks and crevices after weathering

147-166 (Recovered 3') Limestone; very light gray 18, calcarenite composed of fossil fragments, fragments of finely xkalline 1.5. varying greatly in size, and gr^{phos. also.} grains - subang-subrd. Hard zone in center more compact, fragments all calcitized. Hard zone is mottled with light greenish gray 5 or 8/1 calcite. Ornitholobus sp. tentatively recognized.

166-186 1.5.; as above. (Recovered 5')

188-191 1.5.; Same material as above but it is well calcitized causing it to be much harder ~~than~~ and more dense than above. Foss are not calcitized but chalky indicating fragments were calcitized before consolidation. Not as sandy as above. and doesn't appear to be quite as foss. Color is more greenish than above.

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- 194-206 (Recovered 8') Limestone, med. gr. to yellowish gray, very porous. Composed mostly of fossil fragments and whole fossils in a coquina-like rock. Mostly Bryozoa and sponge spicules with jellyfish, forams etc. The l.s. is finely crystalline, matrix and fossils all recrystallized. Orig. shell material in almost every case is recrystallized or dissolved and missing. Near top material has cement of opaque white calcite in irreg. areas. Also some throughout section but most prominent at the top. Most larger fossils are molds and casts with shell missing whereas the smaller bryozoa etc have had orig. shell replaced with white calcite.
- 206-227 (Recovered 7') L.S., as above. With some dense, hard. irreg. finely crystalline patches. Become slightly chalky near base.
- ~~227-247~~²⁴⁷ (Recovered 8' probably 244-247) Limestone, light gray becoming white last 1', composed almost entirely of fossils and fragments of fossils - bryozoa and forams being predominant - loosely cemented. The upper part appears to have very little matrix but is composed of the fragments stuck together while the last foot of white material has a chalky matrix. Most shell material seems to have been recrystallized.

247-288 (Recovered 8') Limestone; as last 1' of above,
 white, chalky, very foss., composed mostly of fossils and
 fragments of fossils. Everything recrystallized to a very
 fine x-tallon, almost aphanic x-tallon, ~~with fossils~~. Very loosely
 consolidated, last foot hard due to more coarsely
 x-tallon texture and compaction.

288-309 (Recovered 7') Limestone, the top 6" mottled with white
 chalky lime, as above, mottled with med gray, coarsely
 x-tallon. irreg. patches contain fine pyrite x-talls. Occasional
 porous patch of bryozoa l.s. with pyrite x-talls. Large shell
 fragments of x-tallon-calcrete. ~~The~~ The bottom part
 of the 6" is entirely the coarse x-tallon calcrete, foss.,
 med gray with pyrite and glauc. Shells are recryst.
 to finely x-tallon calcrete. Below the 6" the l.s. is very friable
 composed of an aggregate of fossil fragments and whole fossils
 very loosely cemented (fossil hash). The fossils are composed of
 fine sparry calcrete. Porous.

309-330 (Recovered 3') ^{Limestone} light yellowish gray (5Y 8/1), fossiliferous,
 composed mostly of molds and casts of ~~many~~ megafossils
 (bryozoa, plectambonites, and gastropods) with some minor fossils.
Original shell material, in almost every instance, has
been removed. This is probably a major cause of the
 high porosity. The rock is ~~now~~ all very finely crystalline
 calcrete that appears recrystallized.

grains compacted with carb dust in small amount.
~~thin~~ sandy here is hard due to crystalline calcite being
cemented together. whereas being sand is friable.

Below this is very porous l.s. composed of molds and
casts of mega fossils that are recrystallized to very finely
crystalline calcite. The high porosity is probably due to solution
of orig. shell material. (gast. + pelec. predom.)

(fine gr.)
371-398 limestone, yellowish gray (5 + 7/2) to light olive gray
(5 + 6/1). composed of granular fossils fragments and
abundant forams compacted but friable. slightly glauc *
and sandy. The darker parts appear more sandy and glauc.
glauc with a little shoo. Some mica flakes. The fossil
fragments are of very finely crystalline calcite. Occasional
Pelecypod with original shell material (weathered).

390 down
Fine calcarenite. Becomes more finely granular with depth.
~~almost~~ chalky
from fine sand size near top to very fine sand size and silt size
near bottom. Degree of compaction increases with decrease
in grain size. Forams become less abundant with depth

399-400 limestone, as above but more coarsely granulated.
range from chalky carb to fine sand size with whole
oyster shells (Pelecypoda), gastropods, mostly molds and
casts but some original shell material.

449-460 Limestone as above in general, ~~some~~ beds near top contain abundant ~~very~~ chalky material. This chalky material diminishes somewhat with depth grading into a more equigranular fossil hash. glau. A one foot thick bed at 456-457 of very porous highly calcitized rock composed mostly of molds and casts of mega fossils and coarse crystalline calcite tightly cemented with chalky material.

460-473 - missing

478-487? Calcareous ooze, yellowish gray (577/2), composed mostly of fine minute (visible under 80x) calcite x'tals ~~Some~~ ~~extensive~~ ~~beds~~ with ~~some~~ some silt size particles (~~very fine~~), small amount of gte grains and some mica plates very soft and plastic when wet. The silt particles appear to be forams?, fossil fragments and crystalline calcite.

480-493 - missing

487-493 (Reversed 3') light yellowish gray (578/1), mostly casts and molds of mega fossils composed of very finely crystalline calcite much the same as the ooze only hard. Also present are silt size particles of i.s., some sand and glau. Pores probably due to sol. of org shell material?

493-514 (Recovered 12') probably 493-505??

Top composed of porous yellowish gray (5-y 7/2). hard containing large amount of casts and molds of mega fossils. very glauconitic. In spots which some contained shell material, very small crystals of calcite present. The matrix is almost entirely very finely crystalline calcite.

The above grades into a very coarsely granular 1.5. (same color) containing casts and molds of mega fossils compressed in the granular material. very highly friable. Size range from clay to coarse sand and is tightly compacted. Composed of fragments of above and rounded calcite crystals with a clay size matrix.

The above grades into fine sand size granular particle most fossils absent. Very glauconitic and friable fragments appear to be granules of ~~the~~ very finely shaly calcite. Becomes more finely granular with addition of fine with depth (10' 2') then turns to coarsely granular loss, ~~then~~ highly glauconitic 1.5. very friable (fragile just etc.)

Below the above is a porous foss 1.5. much the same as the top coarse cast and molds of whole gast and pelec. much the same as the top of this section.

The above grades into an extremely glauconitic granular 1.5. composed of fine sandy ^{size} particles of very finely shaly 1.5. with only an occasional mega fossil mold.

514-533 (Full Recovery)

Calcareous ooze; yellowish gray (5Y 7/2), soft and plastic when wet. Composed of finely well sorted fine sand ^{and silt} size particles of finely ~~white~~ calcite. glass. very friable. not consolidated. Probably oozy when wet because of fine particle size with no cement.

533-535 (Full recovery) yellowish gray (5Y 7/2) very porous, hard.

L.S. composed of ~~many~~ casts and molds of microfossils. The rock contains rounded qtz grains cemented in finely ~~x~~ calcite. Dry tooth spots in ~~some~~ vugs. Some granular friable L.S. ~~as~~ as above but not plastic
Calcareous ooze.

535-545 (Full Recovery) Light olive gray (5Y 5/2), very soft and plastic when wet. Composed of submicroscopic carbonate
(Full recovery)

545-550 Limestone; yellowish gray (5Y 7/2), granular, composed of particles of very fine sand size, poorly consolidated, friable. Particles are x-tubs of rounded calcite, basalt fragments. Forams? Slightly glauconitic and sandy.
Calcareous ooze

550-555 (Full Recovery) light olive gray (5Y 5/2) sub mic.
CaCO₃ plastic oozy.

555-569 (Full Recovery) Calcareous ooze light olive gray granular of very fine sand-silt size as 514-533 becomes finer grained near 569

569-575 (Full Recovery) ^{limestone} yellowish gray (5V 7/2), granular, composed of weakly consolidated ~~to~~ ^{to fine silt.} sand size fragments of crystalline calcite, finely & shaly fossil frag., i.e. fragments glauc. & phos., slightly sandy.

575-596 (Recovered 7') Limestone; light yellowish gray (5V 8/1), granular very poorly consolidated, poorly sorted - silt to very coarse sand size. Mostly fossil fragments and crystalline calcite and forams, ^{slightly} glauc. & slightly phos. Some forams filled with glauc.

596-598 missing

600? ~~600~~?? ^{600?} Limestone (light yellowish gray), very hard, composed ~~with a matrix of~~ ^{of} ~~of~~ ^{of} ~~of~~ ^{of} tightly cemented fossil fragments, forams and molds and casts of mega fossils. The ~~matrix~~ ^{matrix} ~~is~~ ^{is} medium to coarsely shaly calcite of fossil fragments is tightly cemented in matrix of very finely shaly calcite. ^{to phos.} Some shaly org.? shells of forams. Some forams shells filled with glauc. Pyrite crystals common, large lined with dog tooth spar (very fine). Fragments vary in size up to coarse sand. Porous where granules are coarse.

606-~~606~~ ⁶³⁷ (Recovered 1') ⁶⁰⁶⁻⁶¹⁶ ⁽⁶¹⁶⁻⁶³⁷⁾ ^{Rec. II} Limestone, light yellowish gray (5V 8/1) granular. Coarse to very coarse loosely consolidated fragments of fossils, with some silt & clay size matrix of carb. Forams ~~size varies considerably~~ ^{size varies considerably} ~~but mostly~~ ^{but mostly} abundant Bryozoa also abundant in some zones.

637-678 (Full Rec.) As above but highly glauconitic giving
greenish cast to rock. Very poor sorting with a
lot of fine silt and clay size particles. ^{near top} Fragment
mostly composed of very finely & well calcite.
loosely consolidated. Mostly fossil frag. Becoming
more glauconitic with depth. Becoming ~~more~~ finer
grained 665-678. Most glauc part is probably
655-690??

(Full Rec.)
678-690 calcareous ooze; ~~light~~ yellowish gray (5Y 7/2)
composed of submic. particles

690-696 (Full Rec.) limestone; yellowish gray (5Y 7/2)
granular and glauc as 637-678 mostly ~~fine~~
silt size particles with fine sand, ^{size} fossil fragments
of finely & well calcite, knobby, loosely consolidated

696-699 limestone; light greenish gray (5G 4 8/1)

Gradual change from above to granular fragmental
material of a finer grain size and just ^{more} slightly
glauconitic with thin stringers of glauc clay
size particles near bottom. Most sand size particles
gone by 699' with only silt & clay size remaining