

NW NW 18-44-23

GEOLOGIST'S LOG OF
WELL LM-3479

<u>Depth (feet)</u>	<u>Lithology</u>
0-20	Sand, quartz, white, grey, fine to medium grained, shell fragments, minor organics.
20-30	Sand, quartz, as above; increasing heavy, black, organics, common shell fragments.
30-45	Shell, white, beige, fragmented, common soft, light grey, sandy clay.
45-60	Clay, light grey, grey, soft, minor shell fragments, very calcareous.
60-125	Clay, green grey, grey, soft to medium, traces of shell fragments.
125-135	Limestone, grey, medium hard, sandy, moderately indurated, common fine phosphate.
135-142	Limestone, grey, light grey, white, arenitic texture, very phosphatic, common shell fragments, traces of lime mud.
142-146	Sandstone, grey, light grey, white, very fine to fine grained, common medium, light grey limestone, common shell fragments.
146-160	Sandstone, quartz, grey to light grey, very fine to fine grained, very phosphatic, poorly sorted, common shell fragments, calcareous cement.
160-175	Sandstone, quartz, yellowish grey, fine to medium grained, poorly sorted, moderately to loosely calcareous cemented, very phosphatic, common shell fragments.
175-192	Sandstone, as above; abundant shell fragments, minor dolomitic lime mud.
192-195	Clay, light grey, grey, soft, cohesive, abundant shell fragments, interbedded sandstone layers.

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continued:

<u>Depth (feet)</u>	<u>Lithology</u>
195-210	Sandstone, quartz, yellowish grey, fine to medium grained, poorly sorted, moderately to loosely cemented, common shell fragments, and phosphatic sands.
210-226	Sandstone, as above; traces of light brownish grey, limestone, common phosphates.
226-235	Limestone, white, medium to soft, phosphatic, abundant shell fragments, minor sandstone lenses.
235-250	Limestone, white, light grey, grey, soft, abundant shell fragments, phosphatic, interbedded hard biosparite layers.
250-255	Clay, white, tan, soft, interbedded limestone layers, phosphate, minor shell.
255-260	Clay, as above; increasing marly texture.
260-270	Limestone, white, hard, biomicritic abundant shell and phosphates.
270-278	Limestone, grey, brownish grey, hard sparitic texture, minor phosphate.
278-285	Clay, light grey, soft, cohesive, common shell fragments, marly, minor very fine sands and phosphates.
285-292	Limestone, light grey to tan, common clay layers, common shell fragments, marly.
292-310	Limestone, light olive grey, hard sparitic, abundant shell fragments, minor marl.
310-322	Limestone, as above, decreasing marl.

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WELL LM-3479
continued:

<u>Depth (feet)</u>	<u>Lithology</u>
322-342	Lime mud, grey, stiff, thin interbedded limestone, shell and dolomite, phosphatic, alternating hard and soft drilling.
342-360	Lime mud, light olive grey, soft, cohesive, minor shell fragments.
360-395	Lime mud, as above; interbedded hard, white, limestone layers.
395-410	Limestone, light grey, light olive grey, hard, moldic, common shell fragments, common phosphatic nodules.
410-435	Limestone, light olive grey, white, hard, moldic, common shell fragments, common phosphate.
435-442	Lime mud, light olive grey, soft, common shell fragments, interbedded layers of limestone.
442-460	Limestone, light grey, light olive grey, medium hard, interbedded dolomite layers.
460-510	Limestone, as above; increasing light olive grey, limestone, good apparent porosity.
510-547	Limestone, white, grey, medium, moldic, minor dolomite, good apparent porosity.
547-560	Limestone, white, tan, medium hard, finely phosphatic, moldic.
560-585	Limestone, light grey, light olive grey, hard, moldic, sucrosic texture, minor brownish grey, dolomite.
585-618	Dolomite, brownish grey, brown, very hard, low apparent permeability, slow drilling, interbedded layers of medium hard white limestone.

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continued:

<u>Depth (feet)</u>	<u>Lithology</u>
618-642	Limestone, white, light olive grey, light grey, hard, moldic, common shell fragments, interbedded layers of dolomite.
642-656	Lime mud, brownish grey, soft, cohesive, slow drilling.
656-660	Limestone, light olive grey, light grey, hard, moldic, common shell fragments.
660-685	Limestone, white, light olive grey, hard, moldic, partially lithified lime mud.
685-690	Limestone, as above, interbedded layers of brown, very hard dolomite.
690-698	Limestone, white, soft, marly, common shell fragments.
698-710	Lime mud, dark olive grey, greyish olive green, medium, common light grey, hard limestone layers, traces of splintery limestone, traces of calcareous sandstone.
710-718	Limestone, white, olive grey, hard, biomicritic, increasing marly limestone.
718-735	Limestone, as above; traces of marly limestone and minor dolomite.
735-760	Limestone, as above; decreasing marly limestone, traces of dolomite.
760-785	Limestone, as above; minor green grey lime mud, traces of dolomite.
785-810	Limestone, light olive grey, dark olive grey, dark green grey, medium hard, minor shell fragments, minor dolomite layers.
810-835	Limestone, as above; increasing light olive grey limestone, minor dolomite.

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continued:

<u>Depth (feet)</u>	<u>Lithology</u>
835-860	Limestone, as above, increasing white brownish grey, limestone decreasing dolomite.
860-885	Limestone, as above; increasing light tan, and brownish grey dolomite.
885-900	Limestone, olive grey, light grey, medium hard, minor shell fragments, traces of hard brownish grey dolomite, interbedded layers of tan, medium, calcarinite limestone.
900-930	Limestone, yellowish orange, tan, medium hard, calcarinite, granular texture, fast drilling, good apparent porosity.
930-945	Limestone, as above.
945-950	Carbonate clay, white, soft, cohesive.
950-955	Clay, light grey, grey, soft, cohesive, interbedded layers of calcarinite limestone.
955-965	Limestone, tan, yellowish orange, light grey, calcarinite, granular texture, fossiliferous, good apparent porosity.
965-970	Clayey limestone; clay, white soft cohesive, limestone, as above.
970-980	Limestone, as above; traces of dark grey, hard, biomicrudite limestone, zone of lost circulation.
980-995	Carbonate clay, white, soft, cohesive, slow drilling.
995-1000	Clayey limestone, tan, soft, interbedded medium hard fossiliferous limestone.
1000-1005	Limestone, tan, medium, calcarinite, granular texture, good apparent porosity.

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continued:

<u>Depth (feet)</u>	<u>Lithology</u>
1005-1007	Carbonate clay, white, soft, cohesive, slow drilling.
1007-1012	Limestone, grey, light grey, tan, medium, calcarenite, granular texture, good apparent porosity, fast drilling.
1012-1017	Carbonate clay, white, soft, cohesive, slow drilling.
1017-1025	Limestone, tan, white, medium to soft, common marl.
1025-1037	Carbonate clay, white, soft, cohesive, slow drilling.
1037-1047	Clay, dark grey, very soft, waxy, very fast drilling.
1047-1055	Limestone, tan, hard, splintery texture, zone of loss circulation.
1055-1080	Clay, grey, dark grey, waxy, interbedded limestone layers, as above.