VDMR Well No.: W-2253

W-2253

Operator:
Farm: Spain Lumber Company (At Wakefield)
Well No.: Exploratory well No. 1
Location: Sussex County
7500' S. of 37°00'00" } approximate only
2000' W. of 77°00'00" } should be field checked
Elevation: 110'
Total Depth: 886'
Drilling Commenced: 1968
Drilling Completed: 1968
Result: Dry hole

Remarks: Gamma ray, S. P. and resistivity, and caliper logs run.

VDMR Well No. 2253
County: Sussex

Well: Spain Lumber Company Exploratory Well #1
Property: Spain Lumber Company
Driller: R. L. Magette Well Drilling Co.
Location: Wakefield
Elevation:
Total Depth: 886' feet (883' sample T.D.)
Started drilling: 1968 Completed drilling: 1968
Sample description by: R. H. Teifke, Virginia Division of Mineral Resources, December 5, 1968

GEOLOGIC LOG*

Depth in feet	
COLUMBIA GROUP (0-50')	
0-10	Sand – orange-brown moderately clayey; fine, well-sorted, angular; slightly feldspathic
10-20	Sand – reddish-orange, very slightly clayey; fine, well-sorted, angular; slightly feldspathic
20-30	Sand – yellowish-orange, trace of clay; fine, well-sorted, angular; slightly feldspathic, trace of muscovite
30-40	Sand – yellow, trace of clay; fine, well-sorted, angular; slightly feldspathic
40-50	Sand – yellowish-brown, trace of clay; fine to medium, well-sorted, angular; slightly feldspathic
YORKTOWN FORMATION (50-160')	
50-60	Clay – bluish-gray, trace of shell fragments
60-70	No sample

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70-80	Clay — bluish-gray, a few shell fragments; trace of glauconite
80-90	Sand and shell — gray; 55% medium to coarse, fairly well-sorted, subrounded, moderately glauconitic sand; 45% shell fragments
90-95	No sample
95-100	Sand — gray, 15% shell fragments; fine to very fine, very well-sorted, angular
100-107	" 5% shell fragments; trace of glauconite
105-110	" "
110-115	Sand — gray, 5% shell fragments; fine to very fine, well-sorted, angular; trace of glauconite
115-120	"
120-125	Sand and shell — gray; 50% fine, well-sorted, angular sand; 50% shells and shell fragments
125-130	Sand and shell — gray, slightly clayey (10%); 70% fine to very fine, very well-sorted, angular sand with a trace of glauconite; 20% shell fragments
130-135	Sand and shell — gray, slightly clayey (10%); 50% fine to medium, fairly well-sorted sand with a trace of glauconite; 40% shell fragments
135-140	Sand — brownish-gray, moderately clayey (20%), 5% shell fragments; very fine to medium, moderately sorted, angular; trace of glauconite
140-145	Clay — gray, moderately sandy, 10-15% shell fragments; sand fraction is fine to medium, moderately sorted, angular, very slightly glauconitic (3-5%); a very few bone fragments, fish teeth, and otoliths

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145-150	Clay — greenish-gray, silty, very slightly sandy; 10% shells and shell fragments
150-160	"

MATTAPONI FORMATION (160-210')

160-170	Sand and shell — gray, very slightly clayey (5%); 15% shell fragments; 80% fine to medium, well-sorted sand comprising 85% angular quartz, 10-12% light- and dark-green glauconite, and 3-5% phosphorite; foraminifers rare
170-180	Sand — yellowish-green, trace of clay; medium, well-sorted, oxidized glauconite, and subordinate quartz
185	Sand and shell — slightly clayey (10%); 65% medium to coarse, well-sorted, glauconitic sand; 20% shell fragments; 5% nodular, fragmental, and bone phosphorite
180-190	Sand and shell — 80% medium, well-sorted, quartz-glauconite sand; 15% shell fragments; 5% nodular, fragmental, and bone phosphorite
190-200	Sand — black; medium, very well-sorted; light-green glauconite with trace of quartz
200-210	Sand and shell — gray, moderately clayey (15%), 5% granule gravel; 20% shell fragments; 60% fine to very coarse, poorly sorted, moderately glauconitic and feldspathic sand

TUSCALOOSA FORMATION (210-250')

210-220	Clay — tan, trace of glauconite
220-230	Clay — yellowish-gray, slightly silty, very slightly sandy; sand consists of clear, angular quartz with a trace of glauconite

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230-240	Sand — moderately abundant matrix (15%) of yellowish-gray clay; sand consists of fine to coarse, moderately sorted, angular clear quartz, with 5% feldspar and traces of glauconite, muscovite, garnet, and pyrite
245	Sand and gravel — very slightly clayey (5%); 30% fine (2-12 mm) quartzo-feldspathic gravel; 65% fine to very coarse, poorly sorted, slightly to moderately feldspathic sand
240-250	Gravel — very slightly clayey (5%); very well-sorted, subrounded, quartzo-feldspathic granule gravel

PATUXENT FORMATION (250-770')*

250-260	Sand — gray, trace of clay, 5-10% granule gravel; medium to very coarse, fairly well-sorted, feldspathic; minor garnet
260-270	" with 20% granule gravel
265	Sand and gravel — gray; 50% very coarse sand and 50% granule gravel; well-sorted, subrounded, feldspathic
270-280	Sand — gray, 5-10% granule gravel; medium to very coarse, moderately sorted; feldspathic; minor garnet
285	" with 30% granule gravel
280-290	Gravel and sand — tan, moderately clayey (20%); 50% quartzo-feldspathic granule gravel; 30% medium to very coarse, moderately sorted feldspathic sand; grains commonly coated with unidentified azure material (vivianite ?)
290-300	" 55% sand, 25% gravel
300-310	" 65% sand, 15% gravel
310-320	Sand — gray, trace of clay; medium to very coarse, fairly well-sorted, feldspathic; garnet common
320-330	" with 10% granule gravel

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330-340	Sand and gravel — tan, slightly clayey (10%); 60% medium to coarse, rather poorly sorted, feldspathic sand; 30% fine (2-8 mm) feldspathic gravel
340-350	Sand — tan, 5% granule gravel; medium to very coarse, rather poorly sorted, feldspathic; garnet common
350-360	" with 30% granule gravel
360-370	Sand — tan, 10% granule gravel; fine to very coarse, poorly sorted, feldspathic; minor garnet
370-380	Sand — tan, trace of clay, 5% granule gravel; medium to coarse, well-sorted, feldspathic; minor garnet
380-390	" medium, well-sorted
390-400	Sand — gray, 5-10% kaolinitic clay, 5% granule gravel; medium to coarse, fairly well-sorted, moderately feldspathic; minor glauconite, muscovite, pyrite, and garnet
400-410	Sand — tan, trace of clay; medium, well-sorted, subangular to subrounded; slightly feldspathic and glauconitic
410	Sand — light-gray, 5-10% kaolinitic clay; medium to coarse, fairly well-sorted, subangular to subrounded; moderately feldspathic; minor glauconite, muscovite, garnet, and pyrite
410-420	Sand — tan, trace of clay; medium to very coarse, moderately sorted, subangular; moderately feldspathic; minor glauconite
420-430	Sand — gray; medium to very coarse, moderately sorted, subangular; moderately feldspathic, very slightly glauconitic
430-440	Sand — gray; medium to very coarse, moderately sorted, subangular to subrounded; feldspathic; very slightly glauconitic

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440-450	Sand — gray, trace of clay; medium to coarse, fairly well-sorted, feldspathic; very slightly glauconitic; minor garnet
450-460	" medium to very coarse, moderately sorted
460-470	Sand — gray; medium to very coarse, fairly well-sorted, subangular to subrounded; feldspathic; minor garnet
470-480	"
480-490	" medium to very coarse, rather poorly sorted
490-500	" "
500-510	Sand and gravel — brownish-gray; 75% medium to very coarse, fairly well-sorted, subrounded, feldspathic sand; 25% feldspathic granule gravel; minor glauconite and garnet
510-520	"
520-530	" with 15% granule gravel
530-540	" with 5% granule gravel
540-550	" "
550-560	Sand — tan; fine to very coarse, poorly sorted, angular to rounded; feldspathic; 2-3% glauconite; muscovite and garnet common
560-570	" with 5% granule gravel
570-580	Sand — tan, medium to coarse, fairly well-sorted, subangular to subrounded; feldspathic; minor garnet, muscovite, and glauconite
580-590	" fine to very coarse, rather poorly sorted
590-600	" "

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600-610	Sand — gray; coarse to very coarse, well-sorted, subrounded; very feldspathic; minor garnet and muscovite
610-620	Sand and gravel — gray, 70% medium to very coarse, moderately sorted, feldspathic sand; 30% feldspathic granule gravel; garnet common
620-630	"
630-640	Sand — gray, 5% granule gravel; fine to very coarse, rather poorly sorted; feldspathic
640-650	Sand — gray; medium to very coarse, fairly well-sorted, feldspathic; garnet common
650-660	"
660-670	" coarse to very coarse
670-680	Sand — gray, slightly kaolinitic; medium to very coarse, moderately sorted, subangular to rounded; feldspathic; minor glauconite and garnet
680-690	"
690-700	"
700-710	"
710-720	"
720-730	"
730-740	Sand — tan; coarse to very coarse, well-sorted, subrounded to rounded; feldspathic; minor garnet
740-750	Gravel — gray, subrounded, very feldspathic granule gravel

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750-760	Gravel — greenish-gray, very slightly clayey; fine (2-5 mm), very well-sorted, subrounded to rounded; feldspathic
760-770	" slightly to moderately clayey

BASEMENT ROCKS (770-883')*

770-780	Biotite-muscovite, phyllite and schist — greenish-gray to purplish-gray
780-790	"
790-795	"
790-800	Biotite schist — purplish-gray, slightly pyritic
800-805	"
805-810	"
810-815	"
815-820	"
820-825	Biotite- and quartz-biotite schist — purplish-gray, slightly pyritic
825-830	"
830-835	"
835-836	No sample
836-837	Biotite- and quartz-biotite schist — purplish-gray, slightly pyritic
837-838	"
838-839	"
839-840	"
840	"
840-842	"

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842-844	Biotite- and quartz-biotite schist — purplish-gray, slightly pyritic
844-846	"
846-848	Biotite-schist — purplish-gray, slightly pyritic
848-850	"
850-852	"
852-854	"
854-856	"
856-858	"
858-860	"
860-862	"
862-864	"
864-866	"
866-868	"
868-870	"
870-872	Biotite- and quartz-biotite schist — purplish-gray, slightly pyritic
872-874	"
874-876	"
876-878	"
878-880	"
880-882	"
882-883	No sample
883	Biotite- and quartz-biotite schist — purplish-gray, slightly pyritic
883-886	No sample

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GEOLOGIC SUMMARY

	Rock Unit	Age
0-50'	Columbia Group	Pleistocene
50-160'	Yorktown Formation	Late Miocene
160-210'	Mattaponi Formation	Paleocene and Upper Cretaceous
210-250'	Unnamed	Late Cretaceous
250-770'	Patuxent Formation	Early Cretaceous
770-883'	Biotite- and quartz-biotite schist	Precambrian (?)
883-886'	No sample	—

*Geophysical logs indicate that contact of Patuxent Formation with schistose rocks is at 730'.

Virginia Division of Mineral Resources
Robert H. Teifke, Geologist
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