

Utah Geological Survey Lithologic Log

Monitor Well # 0818014M00(2)

WIN=431964

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Well ID: PW17BC

Well Location: Coyote Knolls, Tule Valley, ~24 miles east of Gandy, UT

UTM: x 280583 m, y 4372919 m NAD 83 (zone 12N)

N 566 ft, E 971 ft from NE Corner, Sec 32, T 15 N R 15 E SLBM USM

Start Date 10/03/2008 Completion Date 10/09/2008 Driller USGS Central Region

Drilling Method: Air rotary from 0 to 10' Total Depth 590'

Air hammer (direct) from 10 to 590' Static Water Level B: 83.85' C: 84.06'

from to Water Level Date 10/23/8

Measured From MP, top of riser

Borehole Diameter 11" from 0 to 10' Casing 6" Steel from 0 to 10'

6" from 10 to 590' Type & Diameter B: 1" Sch 80 PVC from +2.00 to 235'

C: 2" Sch 80 PVC from +2.01 to 560'

Screen B: 1" Sch 80 PVC .020" slot from 235 to 245'

Ground Elevation: 4506.91'

Type & Diameter C: 2" Sch 80 PVC .020" slot from 560 to 580'

Logged By: Lucy Jordan, Kevin Thomas, UGS

Geophysical Log ☒ Yes ☐ No

Other Logs:

DEPTH	LITHOLOGY	WELL DIAGRAM	DRILLING INFO	LITHOLOGY DESCRIPTION
5			Surface seal 0-20'	0-54 -- Dark grey-brown, medium- to coarse-grained dolomite; local white to yellow calcite veining and brown staining [SILURIAN LAKETOWN DOLOMITE]
10				
15				
20				
25				
30			23'-43': 41 min	
35				
40				
45				

DEPTH	LITHOLOGY	WELL DIAGRAM	DRILLING INFO	LITHOLOGY DESCRIPTION
55			43'-63': 32 min	0-54 -- Dark grey-brown, medium- to coarse-grained dolomite; local white to yellow calcite veining and brown staining [SILURIAN LAKETOWN DOLOMITE] 54-97 -- Dolomite breccia zone, cemented with calcite, soft drilling
60				
65				
70			63'-83': 26 min	
75				
80				
85				
90			83'-103': 24 min	
95				
100			H2O at 98'	97-132 -- Medium to thin bedded, light to dark grey brown, fine grained dolomite with 15% white to yellow, fine- to medium-grained crystalline calcite and 5% orange, yellow, and white calcareous silt
105				
110			103'-123': 35 min	
115				
120				
125				
130			123'-143': 32 min	132-135 -- Dark brown carbonaceous dolomite with slight odor
135				135-160 -- Like 97-132: Medium to thin bedded, light to dark grey brown, fine grained dolomite with 15% white to yellow, fine- to medium-grained crystalline calcite and 5% orange, yellow, and white calcareous silt
140				
145				

DEPTH	LITHOLOGY	WELL DIAGRAM	DRILLING INFO	LITHOLOGY DESCRIPTION
155			143'-163': 39 min	135-160 -- Like 97-132: Medium to thin bedded, light to dark grey brown, fine grained dolomite with 15% white to yellow, fine- to medium-grained crystalline calcite and 5% orange, yellow, and white calcareous silt
160			30% Bentonite Grout 20-196'	160-179 -- Start of [ORDOVICIAN ELY SPRINGS DOLOMITE] -- Dark brown/grey, medium- to fine-grained crystalline shaley dolomite; petroleum odor
165			Now 5 gpm @170'	
170			163'-183': 31 min	
175				
180				179-181 -- Carbonaceous dark grey shale
185				181-196 -- Like 160-179 -- Dark brown/grey, medium- to fine-grained crystalline shaley dolomite; petroleum odor
190			183'-203': 18 min Add compressor	
195			Water Color Change: red/brown 196-202'	196-202 -- Shaley red-grey carbonaceous dolomite, v. strong petroleum odor
200				202-205 -- Harder grey dolomite
205			100% Bentonite 196-215'	205-215 -- Fine-grained, hard, medium brown, homogenous, thickly bedded dolomite; locally soft
210				
215			203'-223': 21 min	215-225 -- Fine-grained, light to medium brown/grey dolomite; thinly bedded/shaley
220				
225			Sand 215-250'	225-235 -- Dark brown grey shaley dolomite; 20% white dolomite, 5% red-orange silty clay
230			223'-243': 11 min	
235			Faster drilling Double H2O (~20 gpm) @235'	235-248 -- Yellow-white, medium-grained limestone (40%) and dark grey dolomite (40%) with white and brown chert (20%)
240				
245				248-265 -- Soft, uniform, fine-grained grey-brown dolomite

DEPTH	LITHOLOGY	WELL DIAGRAM	DRILLING INFO	LITHOLOGY DESCRIPTION
255			243'-263': 13 min	248-265 -- Soft, uniform, fine-grained grey-brown dolomite
260			100% Bentonite 250-270'	
265				265-285 -- Like above, added black, very fine-grained dolomite (10%), very trace calcite, minor chert
270			263'-283': 19 min	
275				
280				
285				285-320 -- Like above, slightly lighter in color
290			283'-303': 19 min	
295				
300				
305				
310			303'-323': 18 min	
315				
320				320-335 -- Like above, but medium grey brown in color, minor chert, light grey dolomite, and black dolomite
325				
330			323'-343': 21 min	
335				335-345 -- Very fine-grained light brown-grey dolomite, minor chert
340				
345				345-350 -- Like above with light yellow brown iron staining

DEPTH	LITHOLOGY	WELL DIAGRAM	DRILLING INFO	LITHOLOGY DESCRIPTION
355			343'-363': 23 min	350-360 -- Very fine-grained, light brown/grey dolomite with minor black chert
360				360-385 -- Very fine-grained, uniform, medium grey/brown dolomite
365				
370			363'-383': 22 min	
375				
380				
385			Water Color Change=yellow 25 gpm @385'	385-405 -- Yellow-tan, medium-grained, and light grey-brown dolomite with wine-colored chert (20%) white chert (10%) and rare orange-coated black chert
390			383'-403': 18 min	
395				
400				
405				405-420 -- Like above, now 15% total chert
410			403'-423': 37 min	
415				
420				420-445 -- Like above, no chert
425				
430			423'-443': 36 min	
435				
440				
445				445-450 -- Grey dolomite with orange oxide staining and 20% black and white chert

DEPTH	LITHOLOGY	WELL DIAGRAM	DRILLING INFO	LITHOLOGY DESCRIPTION
455			443'-463': 29 min	450-455 -- Like above, little sample return 455-460 -- Like above, little sample return, now all chert white (20%)
460				460-495 -- Little sample return, Medium to dark grey dolomite with 20% white chert fragments
465				
470			463'-483': 32 min	
475				
480				
485				
490			483'-503': 42 min	
495				495-505 -- Like above, 10% chert
500				
505				505-530 -- Dark grey limestone, white calcite on fracture surfaces
510				
515			503'-523': 44 min	
520				
525				
530			523'-543': 32 min	530-535 -- Medium grey dolomite with iron staining and minor chert (5%)
535			Inc H2O @535'	535-545 -- Like above, chert increases to 20%
540				
545				545-555 -- Dark grey dolomite with white calcite

DEPTH	LITHOLOGY	WELL DIAGRAM	DRILLING INFO	LITHOLOGY DESCRIPTION
555			Very slow drilling, Inc H2O 552-555'	545-555 -- Dark grey dolomite with white calcite
560				555-565 -- Like above, with 25% calcite vein fill
565				565-570 -- Black dolomite with calcite vein fill
570				570-575 -- Calcite vein fill (50%) black dolomite (25%) light grey calcareous shale (25%)
575				575-580 -- Calcite vein fill (75%) light grey calcareous shale (25%)
580				580-585 -- Calcite vein fill (25%) black dolomite (25%) light grey calcareous shale (50%)
585				585-590 -- Calcite vein fill (15%) medium grey dolomite (35%) light grey calcareous shale (50%)
590				
595				
600				
605				
610				
615				
620				
625				
630				
635				
640				
645				

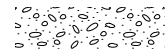
Lithology



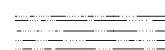
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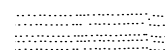
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gravel



siltstone



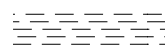
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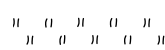
conglomerate



shale



clay



tuff



limestone



dolomite



limestone-shaley



cherty limestone