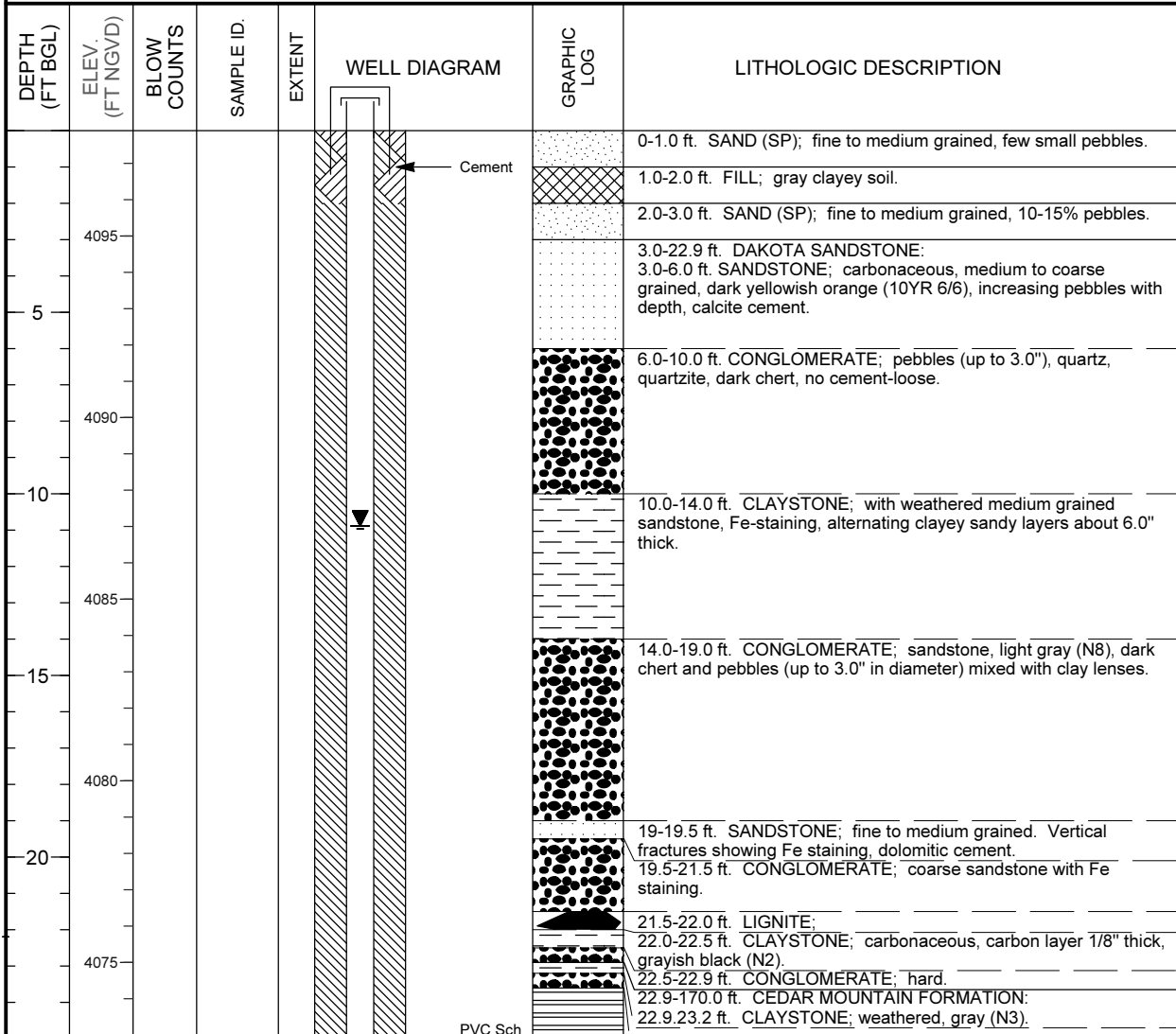


MONITORING WELL COMPLETION LOG GRN01-0183

PROJECT <u>UMTRA GROUND WATER</u>	NORTH COORD. (FT) <u>238494.88</u>	DATE DRILLED <u>06/06/2002</u>
LOCATION <u>GREEN RIVER, UT</u>	EAST COORD. (FT) <u>2388316.67</u>	SURFACE ELEV. (FT NGVD) <u>4097.90</u>
SITE <u>GREEN RIVER</u>	HOLE DEPTH (FT) <u>170.00</u>	TOP OF CASING (FT) <u>4100.60</u>
WELL NUMBER <u>0183</u>	WELL DEPTH (FT) <u>86.00</u>	MEAS. PT. ELEV. (FT) <u>4100.60</u>

	WELL INSTALLATION	INTERVAL (FT)	
SURFACE CASING:			DRILLING METHOD <u>ROTASONIC</u>
BLANK CASING:	4 in. PVC Sch 40	-2.7 to 76.0	SAMPLING METHOD <u>ROTASONIC CORE</u>
WELL SCREEN:	4 in. 0.02 Slotted PVC	76.0 to 86.0	DATE DEVELOPED <u>06/23/2002</u>
SUMP/END CAP:			WATER LEVEL (FT BTOC) <u>13.58</u> on <u>06/23/2002</u>
SURFACE SEAL:	Cement	0.0 to 2.0	LOGGED BY <u>Dayvault, R.</u>
GROUT:	Bentonite	2.0 to 66.0	REMARKS <u>Screened in middle sandstone of Cedar Mtn Fm. At TD, still in lower Cedar Mtn Fm.</u>
SEAL:	Bentonite Chips	66.0 to 72.0	
UPPER PACK:	20-40 Silica Sand	72.0 to 74.0	
LOWER PACK:	10-20 Silica Sand	74.0 to 87.0	



MONITORING WELL COMPLETION LOG GRN01-0183

PROJECT UMTRA GROUND WATER **WELL NUMBER** 0183
SITE GREEN RIVER **DATES DRILLED** 06/06/2002

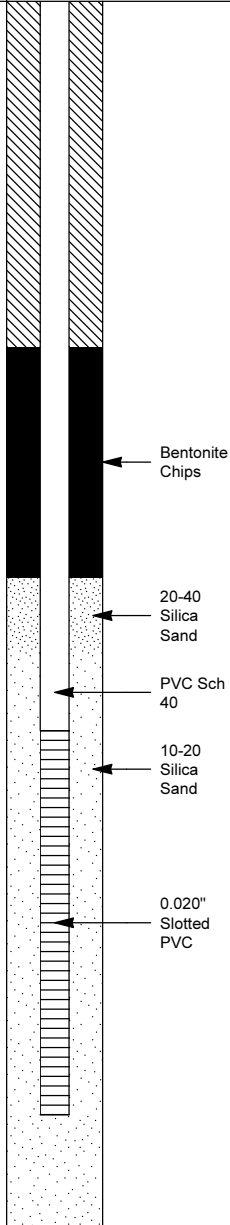
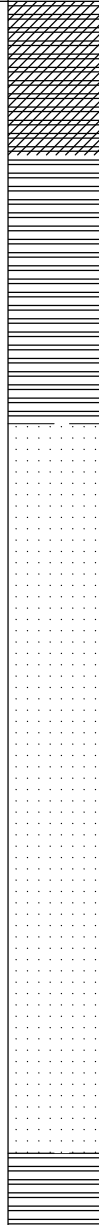
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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
					40		23.2-23.6 ft. CONGLOMERATE; sandstone/shale, gray (N7 to N8).
4070							23.6-68.0 ft. SHALE; some pebbles, dark green gray (5G 4/1), silty lenses to 1/4" thick, minor calcite stringers to 1/4" thick, trace of pyrite.
30							
4065							33.0-40.0 ft. Pyrite nodules (up to 1/2" in diameter).
35					← Bentonite		35.0-37.0 ft. more siliceous, dark gray shale to siltstone, indurated
4060							@37.5 ft. calcite vein with pyrite framboids.
40							40.0-46.0 ft. less silicification in shale, less pyrite, broken up and mottled.
4055							
45							46.0-54.0 ft. silty lenses, calcareous, white powdery material is calcareous and coats broken shale, no pyrite.
4050							
50							
4045							54.0-59.0 ft. clayey, fragmental texture, high plasticity.
55							

MONITORING WELL COMPLETION LOG GRN01-0183

PROJECT <u>UMTRA GROUND WATER</u>	WELL NUMBER <u>0183</u>
SITE <u>GREEN RIVER</u>	DATES DRILLED <u>06/06/2002</u>

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
4040 60 4035 65 4030 70 4025 75 4020 80 4015 85 4010							<p>59.0-61.0 ft. clayey calcareous with siliceous layers, possibly nodules with calcite stringers, siliceous layers, dark gray/green (5G 4/1).</p> <p>61.0-62.0 ft. slightly sandy.</p> <p>62.0-63.0 ft. brown (5YR 4/1), siliceous nodules (up to 3.0" in diameter)-slightly calcareous, in greenish gray clay.</p> <p>63.0-68.0 ft. more green clay with hard calcareous nodules (up to 4.0" in diameter).</p> <hr/> <p>68.0-87.0 ft. SANDSTONE; 68.0-73.0 ft. clean, fine grained, with calcite cement, light gray (N8), well indurated, patches of pyrite. @69.0 ft. large (>6.0 in diameter) siliceous/calcareous concretion which is near top of indurated sandstone. Numerous tiny (1mm diameter x 1cm long), dark brown organic inclusions in sandstone-may be twigs/pyrite is associated with them. Sandstone has mottled appearance, tan to light greenish gray in places. Tiny 1mm x .5 to 1.0 cm long carbonate veinlets occasionally. Calcite cement generally decreases top to bottom.</p> <p>73.0-75.0 ft. clayey sequence, fragments of fine grained sandstone in it.</p> <p>75.0-77.5 ft. fine grained sandstone, horizontally fractured, calcite cement prominent.</p> <p>77.5-83.0 ft. nodules more common.</p> <p>83.0-87.0 ft. fine grained sandstone.</p> <hr/> <p>87.0-170.0 ft. SHALE: 87.0-94.5 ft. shale, mudstone, with siltstone stringers, micro euhedral pyrites abundant in some silty layers (up to 1cm thick),</p>

MONITORING WELL COMPLETION LOG GRN01-0183

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
-90							and some siliceous layers-pyrite diminishes with depth.
	4005						
-95							94.5-96.5 ft. same as above except it is calcareous.
	4000						96.5-97.0 ft. lime nodule zone, some silicification, calcite veins mostly vertical (end abruptly). 97.0-99.0 ft. apparent coarse sand, pebble layer (may be due to drilling and it ends abruptly).
-100							99.0-101.0 ft. clay supported rubble, lime clasts.
	3995						101.0-105.0 ft. silicified, mottled, calcareous mudstone to siltstone with vertical open veins containing octahedral pyrite and barite (1cm diameter-tabular) on drusy calcite.
-105							@105.0 ft. mudstone less silicified but still contains vertical calcite veins. 106.0-107.0 ft. same as above with vertical calcite veins with pyrite and barite.
	3990						107.0-132.5 ft. mudstone to shale, calcareous. At 123.5 ft., 132.5 ft. white chalky areas, pinkish (5R 8/2) at 132.5. From 123.5 to 129.5 ft., core swelling occurs in core barrel.
-110							
	3985						
-115							
	3980						
-120							

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
125	3975						
130	3970						
135	3965						132.5-133.5 ft. calcareous nodule with red chert veinlets at 132.5 ft. Mudstone is calcareous, greenish gray (5G 4/1) to mauve (5R 2/2). 133.5-134.0 ft. mudstone, mauve to gray green, less calcareous, friable, good plasticity from 139.5 to 141.5 ft. 134.0-149.0 ft. friable, calcareous. @148.5 calcareous nodules.
140	3960						
145	3955						
150	3950						149.0-156.0 ft. greenish gray (5G 6/1). @152.0 and 156.0 ft. siliceous, calcareous, light greenish gray

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DEPTH (FT BGL)	ELEV. (FT NGVD)	BLOW COUNTS	SAMPLE ID.	EXTENT	WELL DIAGRAM	GRAPHIC LOG	LITHOLOGIC DESCRIPTION
-155	3940						layer (up to 6.0" thick).
-160	3935						@156.0 ft. color changes to mauve with, 1 to 2 ft. zones of greenish gray; at 156.0 to 157.5 ft., is an indurated calcareous hard mudstone. @160.0 ft. calcareous, greenish gray nodules.
-165	3930						164.0-165.0 ft. very light greenish gray(N7) siltstone to fine grained sandstone, calcareous, possible bioturbation. 165.0-170.0 ft. mauve, calcareous shale to mudstone.
-170	3925						Total Depth 170.0 ft.
-175	3920						
-180	3915						