

BOREHOLE GEOPHYSICAL LOG

English/Metric units English

SiteID (C1) 433837113011201	Station name (C12) USGS-142			Ot	Other ID					
County	State Idaho				Log date 4/29/2015					
Owner USGS INL PO				Project USGS Drilling						
Location description Near Howe Idaho										
Latitude 43deg 38min 37.0 sec N	titude 43deg 38min 37.0 sec N Longitude 113deg 01min			Lat/Long datum NAD27						
Altitude LMP	Altitude datu		Log	g measurement point (LMP)						
Height LMP	De	escription of LM	ИР							
Borehole depth 844 ft	Borehole dia	meter 3.8-inch	650 to 844 ft b	ols	ls Casing bottom PQ rods set near 651 ft bls					
Casing diameter 6-inch steel	Casing type	Casing type HQ core rod (steel pipe)			Source of data					
Logging unit USGS	Log orientia	Log orientiation			Magnetic declination 12.5 deg					
Recorded by Brian Twining		Observed by								
Software non-ASCII logs Century		Type of log Century								
Fluid type ESRP Aquifer Fluid depth below			LMP 530 ft at time NA							
Hydrologic conditions Just completed coring to 844 ft bls; Mud weight 8.6 lbs/gal used to stabilize sediment layers during drilling										
Tool manufacturer and model, tool serial number, log date and time, logging direction and speed,										
depth error after logging, log parameter(s) and date(s) of calibration check										
Tool run 1 Tool ID: 9057A / Serial #: 1077. Calibrated 3/31/2015. Logs included: neutron and natural gamma. 9057A run 04/29/2015. Up log run from 840 ft to land surface at 30 ft/min.										
Tool run 2 Tool ID: 0024 / Serial #: 776. Logs included: Density short and long spaced density (DEN SS and DEN LS). Density log run 04/29/2015. Up log run from 840 ft to land surface.										
Tool run 3										
Remarks Logs presented between 530 and 850 ft below to better represent aquifer conditions. HQ-size casing was set at 840 ft bls and logs were collected through drill steel. USGS Drillers had to use heavy drill mud (8.6 lbs/gal) to get the HQ pipe to bottom of hole. Lost circulation during most of the drilling. Logs collected about 18 hours after drilling stopped.										

bls)	NATURAL GAMMA	NEUTRON (Am-241/Be)	GAMMA-GAMMA (Ci-137)	9057A TEMP	Welll Design	gy	USGS 142 LITHOLOGY
oth (ft	GAM(NAT)	NEUTRON	DEN(SS)	Temperature	USGS-142	itholo	
Dep	0 API 150	0 API-N 1700	100000 CPS 160000	62 (Deg E) 68			Zero Reference top of 10-inch casing (Depth in feet below land surface (bls))
		0 PERCENT 100	0 CPS 8000	(Temp 18 hours after drilling)			
	~		<u> </u>				
540 -			<u> </u>				
		$\langle \rangle$	5				
- 550							USGS moved off USGS 142 11/18/2014 for the winter and the hole
560 -	2						was drilled to 677 ft bls. Prior to leaving a cement plug was set from 559 to 650
570 -	\sim	and the second s				2 . v .	It his to stabilize sand layer.
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590 -	~						
	Marian						
	*		((
610 -							
620 -							
620	xxxx						
630 -	A AN		$\langle \rangle$				
640 -			5				
650 -	a Maria						
	monto		{ /				Cement placed from 506 to 728 ft bls; cement was drilled out but resides in areas of the open open. It appears the
660 -	han		{				system between 530 and 559 ft would be sufficient to place a pump and leave
670 -	1 miles		$\langle \rangle$				the hole open from 559 to where they stop coring.
680 -	5						650 ft bls to recover HQ drill rod between 9/16/2014 and 9/23/2014.
	und la		L				Generalized Lithology (Logs 4/29/2015) 506 to 561 ft - Basalt
690 -	hand						561 to 574 ft - Sediment 574 to 674 ft - Basalt
700 -	South and the second se	<u> </u>		N.			674 to 680 ft - Sediment 680 to 687 ft - Basalt 687 to 691 ft - Sediment
710 -	And the former of the former o	C. C					691 to 739 ft - Basalt 739 to 794 - Sediment
_	~		$\langle \langle \rangle$	$\langle \rangle$			805 to 816 ft - Basalt 805 to 816 ft - Sediment 816 to 836 ft - Basalt
720 -	the second se		7				836 to bottom - Sediment
730 -	$\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{\mathbf{$		< ,				collected under ideal conditions. See temperature change start to develop
740 -	area -		2				below 690 ft interbed. We would need to run a different tool at a later date to better understand this preliminant date
						7 V	better understand this preiminary data.
750 -			<			7	
760 -			· · · · · · · · · · · · · · · · · · ·				
770 -			5			4	
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840 -			?	[] []		7 . ^	
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