TA03

Young, John, NMENV

From: Mark Everett [meverett@lanl.gov]
Sent: Wednesday, November 01, 2006 8:35 AM
To: Young, John, NMENV; Cobrain, Dave, NMENV
Cc: katzman@lanl.gov; 'Jean M. Dewart'
Subject: Proposed fix for Cr IM well SCI-1/ SCC-1
Attachments: WellProposed.pdf; SCC1GRUP102506.xls

John,

Here is the information regarding LANL's proposed fix for intermediate well SCI-1 in Sandia Canyon. Well SCI-1 was completed as an intermediate depth monitoring well in support of LANL's Chromium Interim Measures investigation. Total depth of the well is 378.5 ft and the well is screened from 358.4 ft to 377.83 ft. During construction or development, the bottom end cap became dislodged or was broken allowing annular filter pack to enter the well. Approximately 1.5 cubic feet (11 gallons) of sand were bailed out of the well. In an attempt to determine if this caused significant shifting of the filter pack and overlying bentonite seal, a gamma log and video survey were conducted. The attached natural gamma logs (SCC1GRUP102506.xls) shows a sharp transition in the gamma signature at the original depth of emplacement for these materials. The video log showed clear water through the screened interval. We interpret these data to indicate that little to no shift in the materials has occurred. To address the end-cap issue, LANL proposes to use a PVC plug which would be set at the bottom of the casing. The plug is composed of solid PVC bar stock (http://www.sdplastics.com/pvcrod.html) lathed down to fit inside the existing well. The attached diagram (Well Proposed.pdf) shows the well and proposed plug dimensions. The plug would be introduced into the well and pushed down with small diameter pipe. The plug is expected to wedge in place. After emplacement of the plug, the well will be developed using standard practices.

Please contact me with any additional questions or comments. Once you have reviewed these data and if you agree, please respond to this e-mail with your concurrence.

Thank you,

Mark Everett, PG
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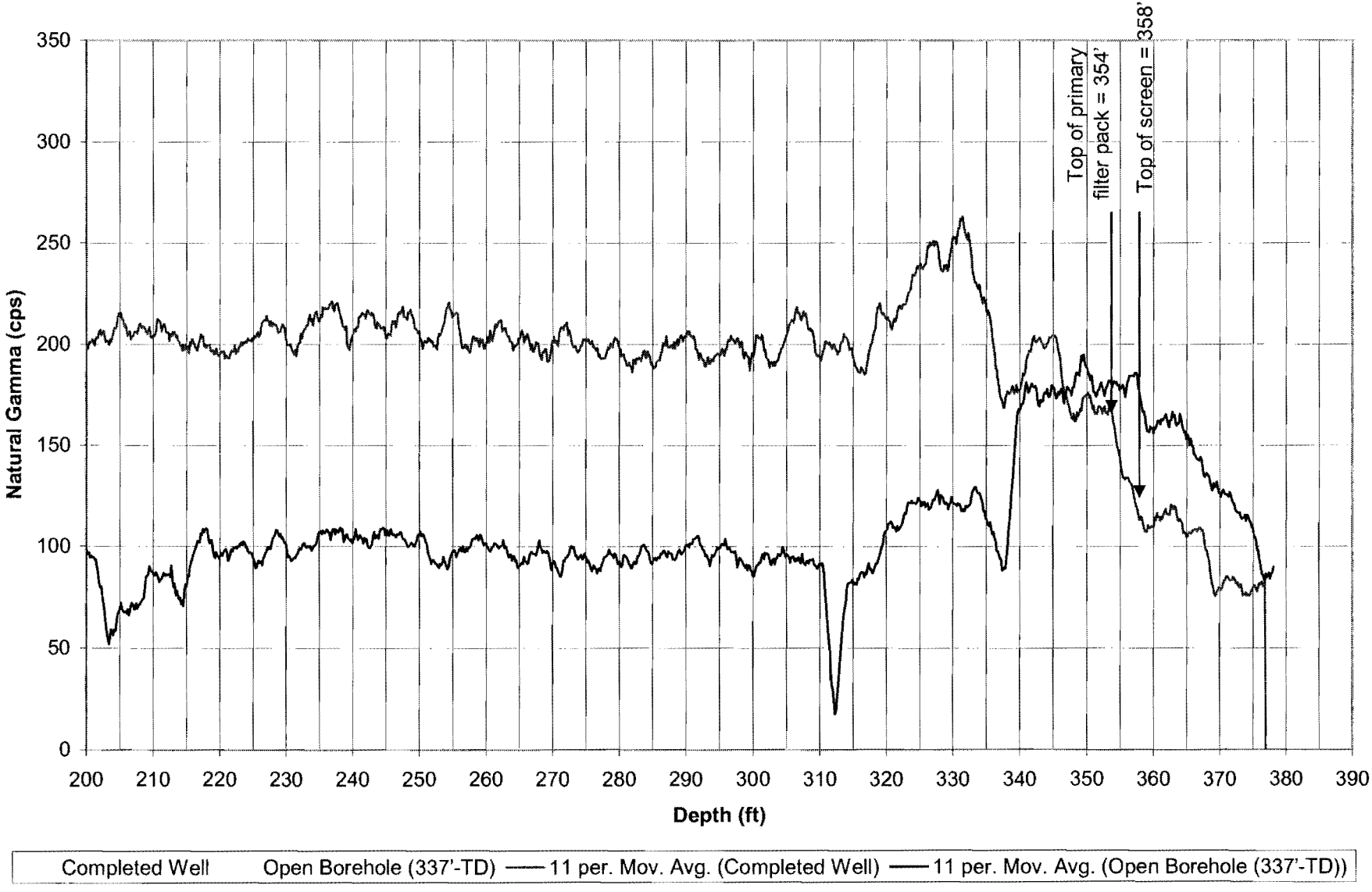

SCC-1 Natural Gamma Comparison
Natural Gamma (cps)
350
300
250
200
150
100
50
0
200
210
220
230
240
250
260
270
280
290
300
310
320
330
340
350
360
370
380
390
Depth (ft)
Top of primary filter pack = 354'
Top of screen = 358'
Completed Well
Open Borehole (337'-TD)
11 per. Mov. Avg. (Completed Well)
11 per. Mov. Avg. (Open Borehole (337'-TD))

LANL - Sandia Canyon Interim Measures Chromium Investigation

Date	Kleinfelder Inc.	LITHOLOGIC LOG	Well No. SCC-1
Started 9/30/2006			
Completed 10/7/2006	Rig Type: Speedstar 50k	Logged By: Cath Goetz	TD Borehole: 400 ft
Northing: 1770297.05	Easting: 1636823.65	Location ID: SA-26996	TD Casing: 378.5 ft

Groundwater | Depth (ft.) | Geologic unit | Sample Taken | Sample Type | Analytical Sample Number | Graphical Log

ELEVATIONS:
Ground Surface:
Brass Cap:
Casing: 6740.60

Saturation

Top (ft)	Bottom (ft)	Zone
33.1	32	Alluvial
53	380	Intermediate

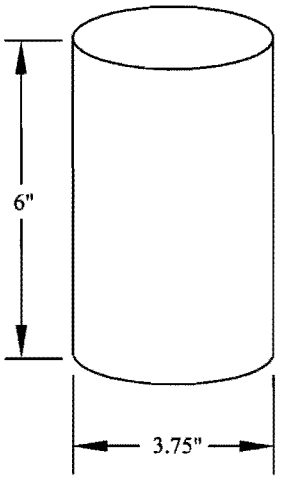
Visual Classification | Final Construction

350
360
370
380
390
400

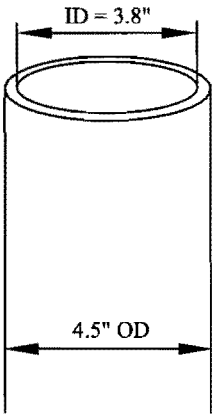
PROPOSED

- Propsed Plug will result in loss of bottom 3" of Well Screen.
  Final Available screen = 19.73 feet (originally 20 feet).
- Sand Removed - Total of 1.5 cubic feet
  (Potential vertical loss of 3 feet around the well).

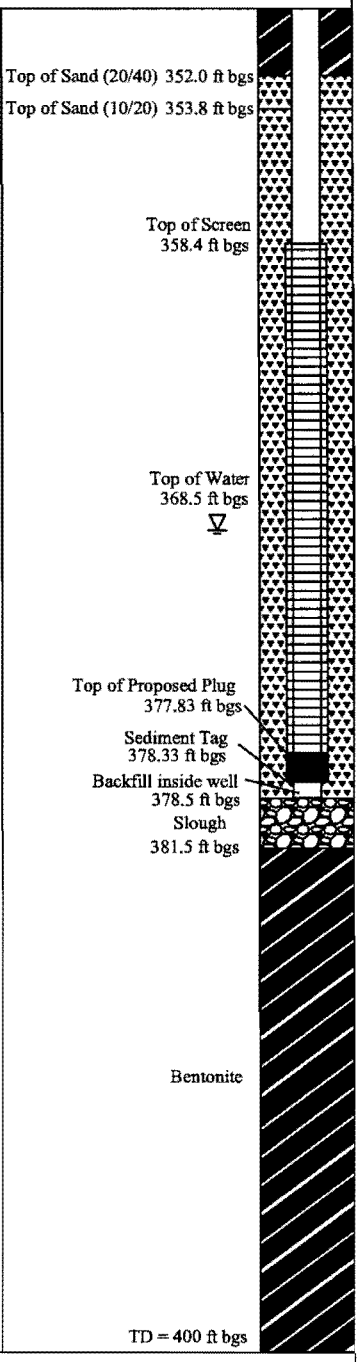
Proposed and Solid Plug - SCH 80 PVC
(Same material as well screen and casing).



Well is SCH 80 PVC - 4" Well



NOTE: Borehole Diameter = 10"



Notes: All depths are in feet below ground surface. All geologic contacts are preliminary and subject to change.
▼ - Top of saturation; ▽ - Bottom of saturation.
C - Drill Cuttings; CS - Continuous Sampler; T - Shelby Tube; NR - No Recovery.
OD - Outer Diameter; P&A - Plugged and Abandoned; TD - Total Depth; amsl - above mean sea level

Log Completed By:_____ Log Reviewed By (LANL Geology PI): _____