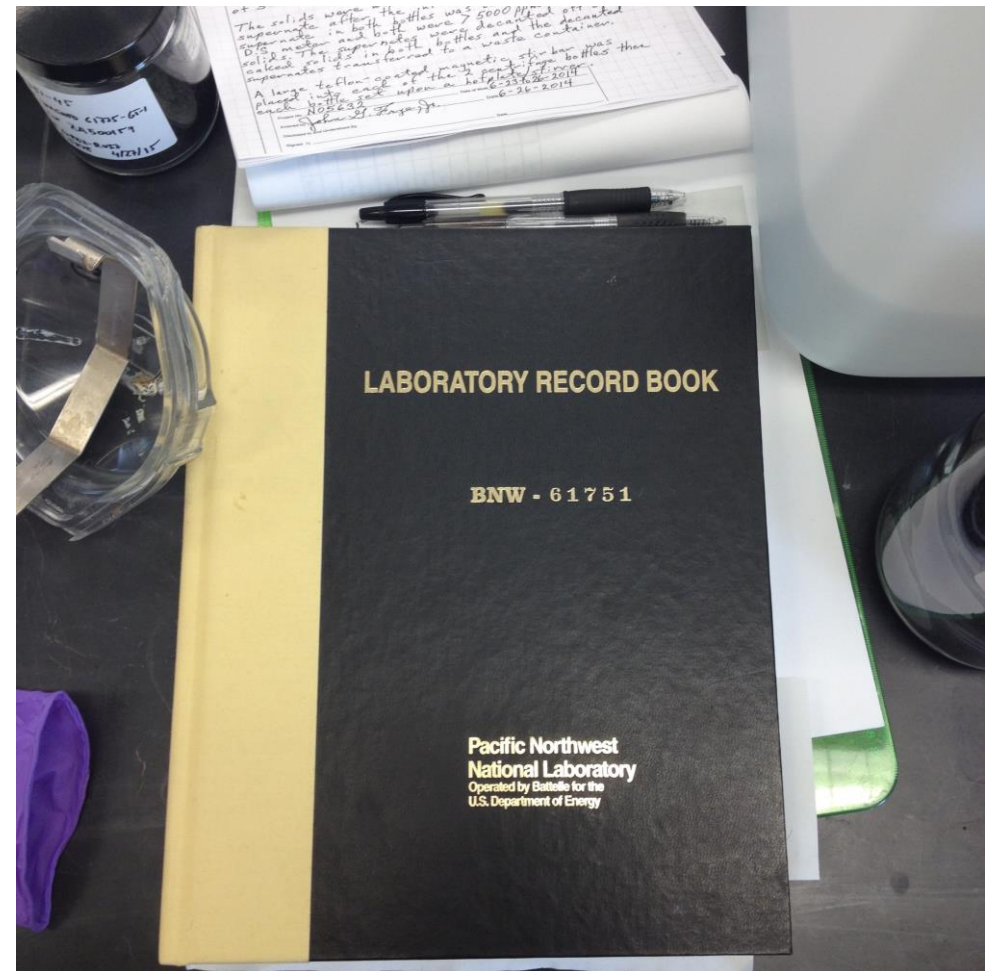
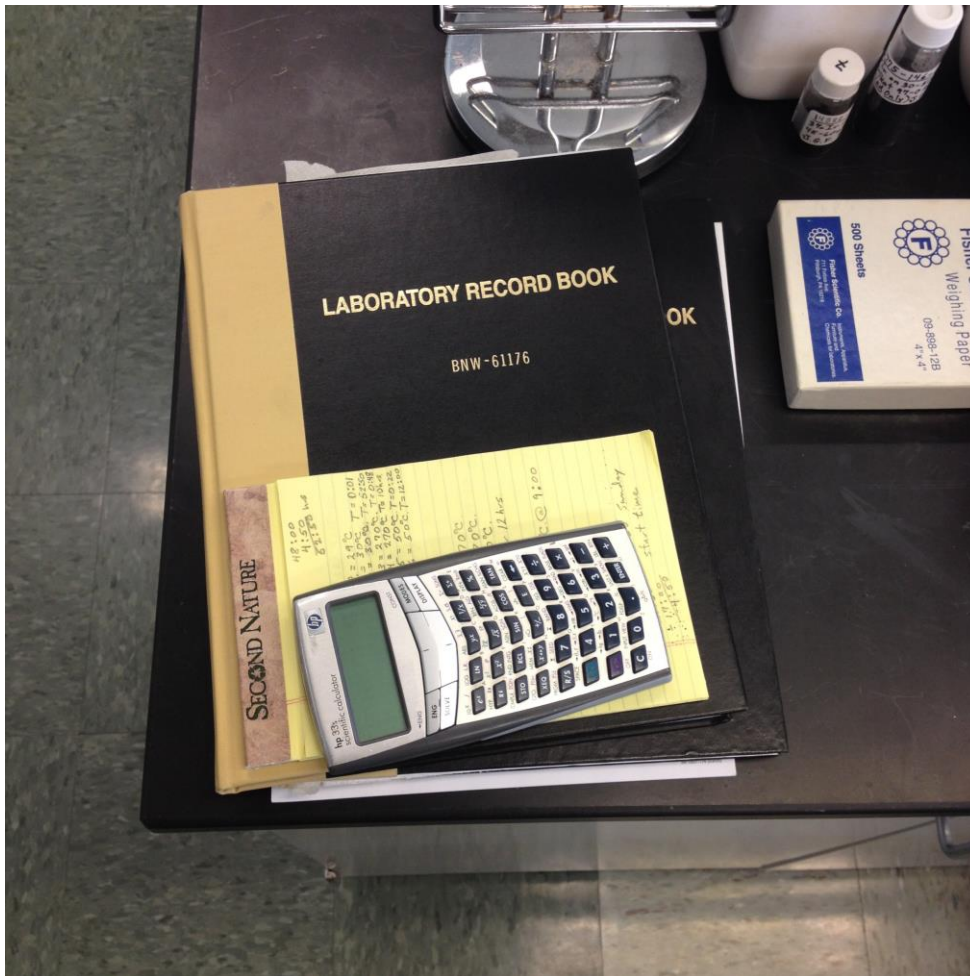
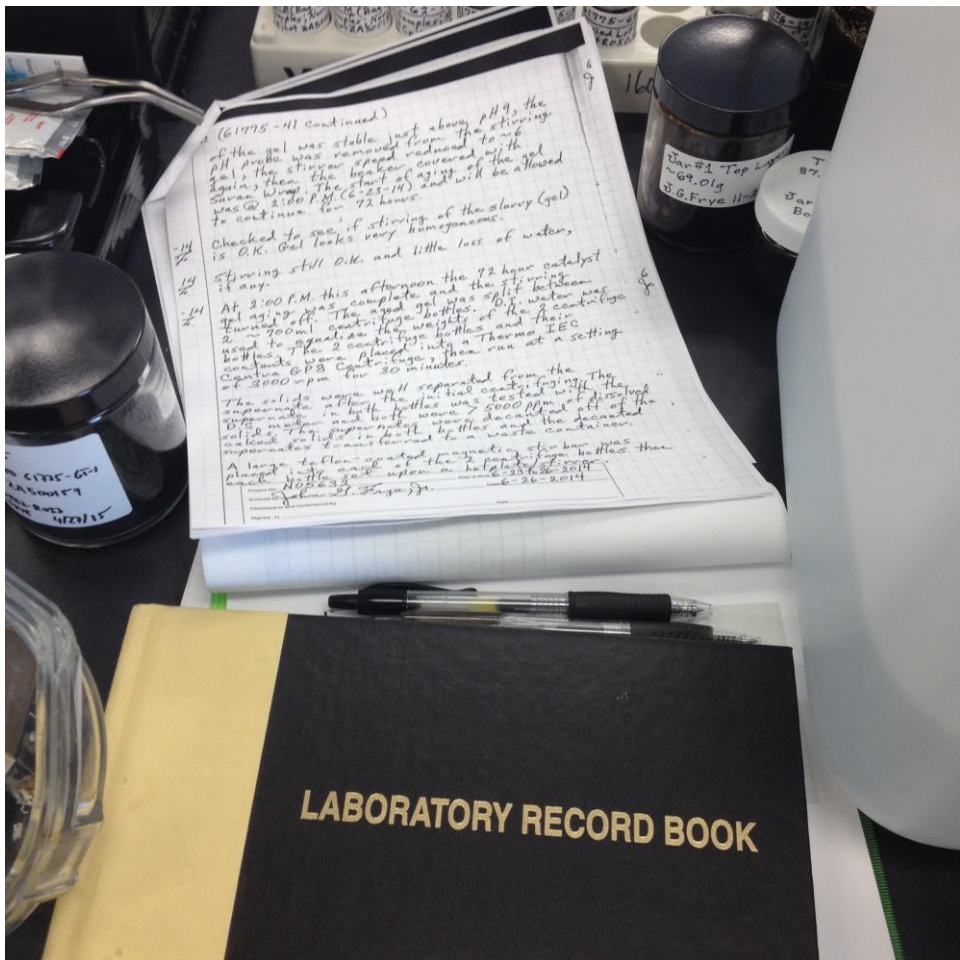
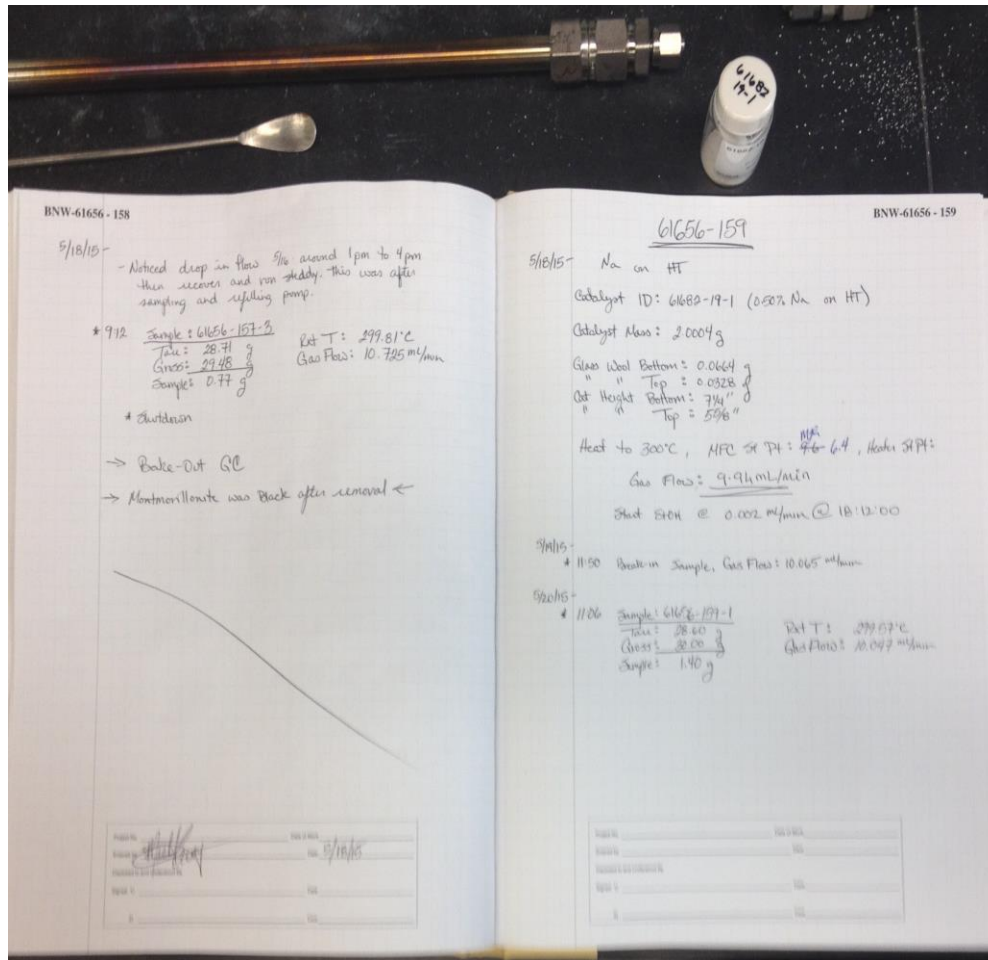


Below are examples of Scientist Notebooks from Pacific Northwest National Laboratory (PNNL).





(61475-41 Continued)  
 of the gel was stable just above pH 9, the  
 pH probe was removed from the stirring  
 gel; the stirring speed reduced to 1/2  
 again; then the lighter covering of the gel  
 was removed. The start of aging of the gel  
 was @ 2:00 P.M. (6-25-14) and will be allowed  
 to continue for 72 hours.  
 Checked to see if stirring of the slurry (gel)  
 is O.K. Gel looks very homogeneous.  
 Stirring still O.K. and little loss of water,  
 if any.  
 At 3:00 P.M. this afternoon the 72 hour catalyst  
 aging is complete and the stirring  
 turned off. The aged gel was split between  
 2 x 500ml centrifuge bottles. D.I. water was  
 used to equalize the weights and their  
 contents were placed into Thermo IEC  
 canisters with caps. Then run at a setting  
 of 3000 rpm for 30 minutes.  
 The solids were separated from the liquid. The  
 supernatant in both bottles was tested with a  
 DTS meter and both were disconnected at the  
 end. The solids were placed in a waste container.  
 A large fraction of the catalyst was then  
 placed in a beaker upon a hot plate to dry.  
 Date: 6-25-2014  
 Name: S.G. Frye



BNW-61656-158  
 5/18/15 - Noticed drop in flow % around 1pm to 4pm  
 then recovers and runs steady. This was after  
 sampling and refilling pump.  
 \* 912 Sample: 61656-157-3  
 Tolu: 28.71 g  
 Gases: 29.48 g  
 Sample: 0.77 g  
 Cat T: 299.81°C  
 Gas Flow: 10.725 ml/min  
 # Shutdown  
 → Back-Out GC  
 → Montmorillonite was Back after removal ←



NAME	DATE
6/1/15	6/1/15
ANALYST	
REVISION	

BNW-61656-159  
 5/18/15 Na on HT  
 Catalyst ID: 61682-17-1 (0.52% Na on HT)  
 Catalyst Mass: 2.0004 g  
 Glass Weal Bottom: 0.0644 g  
 " " Top: 0.0328 g  
 Cat Height Bottom: 7.41"  
 " " Top: 5.96"  
 Heat to 300°C, MFC set Pt: 46.64, Hooker SHP:  
 Gas Flow: 9.94 ml/min  
 Shut SHP @ 0.002 ml/min @ 10:12:00  
 9/11/15  
 \* 11:50 Break in Sample, Gas Flow: 10.665 ml/min  
 9/20/15  
 \* 11:06 Sample: 61656-157-1  
 Tolu: 28.60 g  
 Gases: 28.20 g  
 Sample: 1.40 g  
 Cat T: 299.67°C  
 Gas Flow: 10.047 ml/min

NAME	DATE
6/1/15	6/1/15
ANALYST	
REVISION	