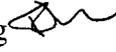


# Memo

**To:** James Bearzi  
**From:** John Young   
**Subject:** LANL Characterization/Monitor Well Drilling  
**Date:** January 28, 2000

James,

I've compiled the information you requested on the status of LANL's Characterization/Monitor Well Drilling project(s). Let me know if you would like to send a copy to Greg and I'll make an extra copy. Attached are three pages that I've pulled from LANL correspondence. LANL currently has two Barber rigs on site and is expecting a third in March. They are using a fourth rig for Westbay® installation and well development.

The first page indicates current well status identifies two regional aquifer wells, R-7 and R-5, that are scheduled for this fiscal year (initiation of drilling has not taken place). R-9, R-12, R-25, R-15, R-31 and R-19 are in various states of completion. R-19 is currently "parked" at 126.5 feet (using hollow stem auger) and awaiting a Barber rig (March?). R-9 and R-15 are single completions in the regional aquifer and need to be developed. R-12, R-25 and hopefully R-31 will be constructed with Westbay® multiport wells. The tentative start date for Westbay® construction is February 14<sup>th</sup> at R-12 followed by R-25 and R-31. An intermediate well, R-9i (also Westbay® construction), located in Los Alamos Canyon at the LANL boundary is scheduled for late February and is expected to be a Westbay® completion. CDV-15-3 is located within TA-15 down gradient of the 260 Outfall and R-25. It is identified as a "plume chasing" well, will be constructed with a Westbay® system and is schedule for March which is dependent on the arrival of the third Barber rig (DR-24).

The second page includes a table that illustrates how many wells LANL should have completed by the end of the respective fiscal years (from the Hydrogeologic Workplan) compared to actual status. Problems with the initial well, R-9 and culminating at R-25, have slowed drilling and have resulted in LANL lagging behind schedule. HRMB has agreed to changes in the schedule (well changes) to accommodate HRMB and other NMED concerns. LANL contends that the number of wells scheduled was agreed upon at subsequent quarterly meetings. I assert that we did not "agree", we only discussed those wells as they were current drilling activities. In addition, due to the availability of only one drill rig, HRMB, at the time, could do little to



James Bearzi  
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expedite drilling. For example, LANL initiated drilling of R-25 with its sole drill rig in July of 1998 and due to problems is still on site today!

The last page contains a table of LANL well drilling scheduled for the remainder of this fiscal year and next. Please note that LANL confuses a completed well for those wells that have been constructed and not necessarily developed. Also, no regional aquifer well has been constructed AND developed let alone sampled to date.

cc: John Kieling

**Regional Well Construction Status  
As of 1/27/2000**

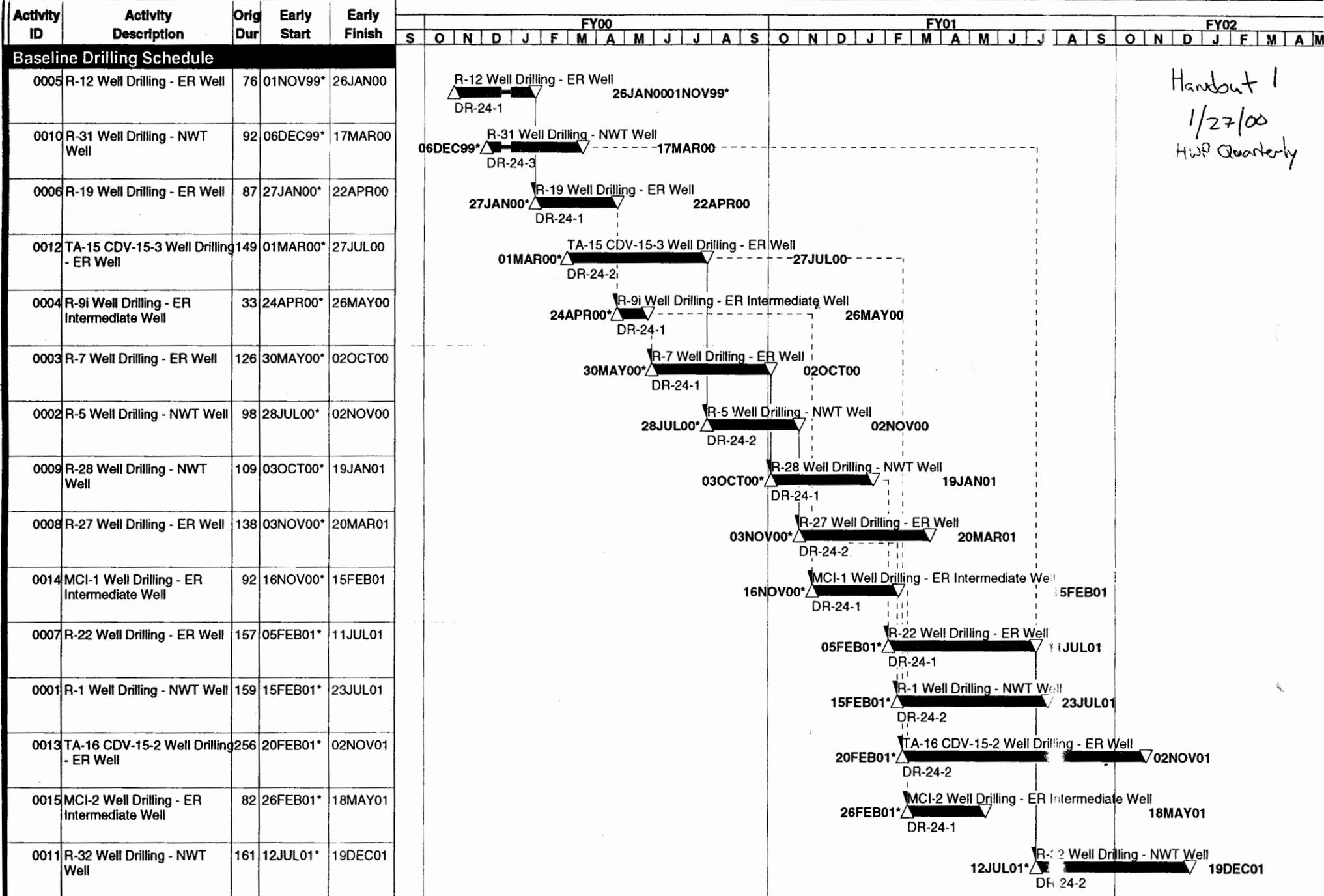
Well	Location	Depth	Screened Formation	Status	Comments
R-9 ★	Boundary LA Canyon	760'	Santa Fe Basalt	Single screen completion at 683'; well development Feb 00.	First regional well constructed with T-4. Lessons learned.
R-12 ★	Boundary Sandia Canyon	860'	Santa Fe Basalt/Old Alluvium/ Cerros del Rio Basalt	Three screen completion at 460', 505' and 800'. Well development Jan 00. Westbay installation Feb 00.	Second regional well constructed with T-4. Benefit of learning curve.
R-25 ★	SW Lab TA-16	2000'	Otowi Member/ Puye Fm	Nine screen completion (8 zones) at 738', 883', 1185', 1295', 1405', 1605', 1795', and 1872'. Well development and Westbay installation Feb 00.	First regional well constructed with DR-24. Lessons learned.
R-15 ★	Mid-Mortandad Canyon	1100'	Puye Fm	Single screen completion at 960', well development Feb 00.	Second regional well constructed with DR-24. Benefit of learning curve.
R-31	SE Lab TA-39	1100'	Cerros del Rio Basalt/Puye Fm	Borehole construction at about 800'. Well construction Feb 00.	DR-24 construction – going good. Advancing rapidly through Basalt currently advancing through the Puye Fm.
R-19	W. Central between R-25 and PM Wells	1900'	Puye Fm/ Others?	Borehole construction started Jan 00. DR-24 on site late Jan 00.	Good planning and site prep.
CDV-15-3 TA-15	W. Central near 260 outfall	1800'	Puye Fm/Others?	Borehole construction started Jan 00. DR-24 on site late Mar 00.	Finalizing site prep.
R-9i	Boundary LA Canyon	300'	Cerros del Rio Basalt	Site prep completed. DR-24 on site Feb 00.	Site prep completed.
R-7	Mid-LA Canyon	1470'	Puye Fm	Site prep work started Feb 00.	Potential endangered species impact.
R-5	Mid-Pueblo Canyon	1100'	Puye Fm/Others?	Site prep work planned for Feb 00.	Finalizing site location potential endangered species impact.

★ = Constructed well not able to pump to date to monitor or sample

**Regional Well Status Table**

2/15/99  
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Well	Watershed	Depth (ft)	Current Status	Short-range plans
R-7	LA/Pueblo	1470	Held readiness review 2/14. Site preparation activities began week of 2/14.	Site preparation to be completed including the installation of the surface casing by 2/29 (T&E restrictions begin 3/1).
R-9	LA/Pueblo	760	Drilling completed. Single screen well constructed and developed to < 5 NTU. Geophysical logs performed by Schlumberger week of 2/7.	Initiate quarterly sampling week of 2/21. As-built video logs to be filmed in late Feb.
R-9 i	LA/Pueblo	300	Held readiness review 2/14. Site preparations are complete.	Waiting on rig from R-31 to begin drilling.
R-12	Sandia	860	Drilling completed. Well developed to < 1 NTU. Geophysical logs performed by Schlumberger week of 2/7.	West Bay system installed late Feb., including quarterly sampling. As-built video logs to be filmed in late Feb.
R-15	Mortandad	1100	Drilling complete. Geophysical logs performed by Schlumberger week of 2/7. Well development began 2/15.	Quarterly sampling will be initiated in March. As-built video logs to be filmed in late Feb.
R-19	Pajarito	1900	Drill rig mobilized to site. Drilling began 1/31. Currently stuck at 200 ft.	Rig currently being repaired. Plans are to use the spear and get the casing free then drill open hole
R-25	Water/Valle	2000	Drilling completed. Multiple screen well constructed and developed. Geophysical logs performed by Schlumberger week of 2/7.	West Bay system installed late Feb. As-built video logs to be filmed in late Feb.
R-31	Ancho	1100	Drilling complete. Geophysical logs performed by Schlumberger week of 2/7. Well construction should begin today (rig needed repairs)	Well to be developed and West Bay system installed early March. As-built video logs to be filmed in late Feb.
CDV-15-3	Water/Valle	1800	Surface casing installed. Site preparation began week of 2/14.	Waiting for drill rig at R-9 I to begin deep drilling.

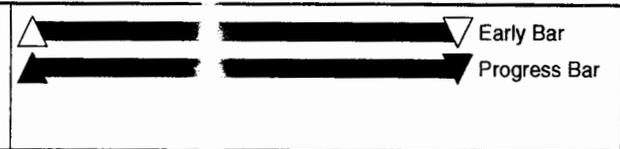


Start Date 01OCT99  
 Finish Date 19DEC01  
 Data Date 01OCT99  
 Run Date 26JAN00 11:33

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**WELL DRILLING SCHEDULE**

**BASELINE SCHEDULE**



<b>Document</b>	<b>FY98</b>	<b>FY99</b>	<b>FY00</b>
Hydrogeologic Workplan (May 22, 1998)	R-9, R-12, R-7, R-25	R-3, R-5, R-18, R-22, R-28, R-31	R-15, R-27, R-10, R-32, R-2, R-1
Annual Meeting March 30, 1998	R-12, R-25	R-7, R-14	
Quarterly Meeting June 29, 1998	R-25,	R-5, R-7, R-14, R-15, R-31	
Quarterly Meeting October 27, 1998		R-5, R-15, R-25, R-31	
Quarterly Meeting February 9, 1999		R-25, R-9, R-15, R-31, (one of R-18, -19, 27)	R-5
Annual Meeting March 29-31, 1999		R-25, R-9, R-15, R-31	R-12
Quarterly Meeting June 23, 1999		R-25, R-15, R-31	R-9, R-12, R-19, R-27, R-5, R-28
Quarterly Meeting October 13-15, 1999			R-25, R-31, R-5, R-7, R-9, R-12, R-15, R-19, R-27
Actual (as of 1/2000)	R-9 drilled	R-12 drilled R-25 drilled R-15 drilled R-31 started R-9 completed	R-19 started