NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

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BILL RICHARDSON
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DIANE DENISH
Lieutenant Governor

RON CURRY
Secretary
CINDY PADILLA
Deputy Secretary

October 17, 2007

Mr. Chris Clayton
Office of Long-Term Stewardship, Office of Environmental Management, U.S. Department of Energy
Forestal Building
1000 Independence Avenue, S.W.
Washington, D.C. 20585

Mr. Ron Linton
Senior Groundwater Hydrologist/Project Manager
U.S. Nuclear Regulatory Commission Office of Federal and State Materials and Environmental Management Programs
Mail Stop T-8F5
11545 Rockville Pike
Rockville, MD 20852-2738

RE: Request for NRC and DOE San Andres Aquifer Sampling Due to Concerns Relating to the Anaconda Bluewater Mill and Homestake Uranium Mill sites, New Mexico

Dear Mr. Clayton and Mr. Linton:

Through its oversight of ongoing ground water remedial activities at the Homestake Uranium Mill Superfund Site, the New Mexico Environment Department (NMED) has noted several San Andres-completion wells that exhibit elevated or increasing concentrations of contaminants that are common to both the Homestake site that is under Nuclear Regulatory Commission (NRC) jurisdiction for reclamation, as well as the nearby Anaconda Bluewater Mill site that is under Department of Energy jurisdiction for long-term surveillance. The San Andres aquifer is the source for the nearby Village of Milan and City of Grants municipal water supply systems. Moreover, many residents of subdivisions south of the Homestake Site and southeast of the Bluewater Site have private wells, the majority of which are completed within aquifers overlying the San Andres. Since 2005, NMED has conducted a residential well sampling program within this area, which has revealed that many wells that are completed into these shallower aquifers have contaminant levels that exceed both Federal and State drinking water standards. NMED wants to ensure that the San Andres aquifer will remain available for safe human consumption to these, as well as to future, residents in this area.

Figures 1-6 are time-series plots of dissolved uranium concentrations in several San Andres-completion wells within the vicinity of these sites; Figure 7 shows the locations of these wells. One well (806) is known to have a bad completion, and is providing a pathway for cross-contamination from overlying contaminated aquifers; however the source of contamination in the other noted wells is currently unknown. As noted from these plots, uranium concentrations either are consistently above the State standard of 0.03 ppb (20.6.2.3103A NMAC) or show an increasing trend of dissolved uranium concentrations.

NMED is requesting that characterization studies of the San Andres aquifer within this area be performed to determine whether contaminants originating from the Homestake or Bluewater mill sites may be impacting this important aquifer. Please contact David L. Mayerson of my staff at (505) 476-3777 or david.mayerson@state.nm.us to discuss planning for this activity at your earliest convenience.

Sincerely,

Dana Bahar
Manager
Superfund Oversight Section

Copies:
Mr. Sairam Appaji, EPA Region 6
Mr. Milton Head, Bluewater Valley Downstream Alliance
Mr. David L. Mayerson, NMED/SOS
Mr. Jerry Schoeppner, NMED/MECS
October 2007 NMED/SOS read file

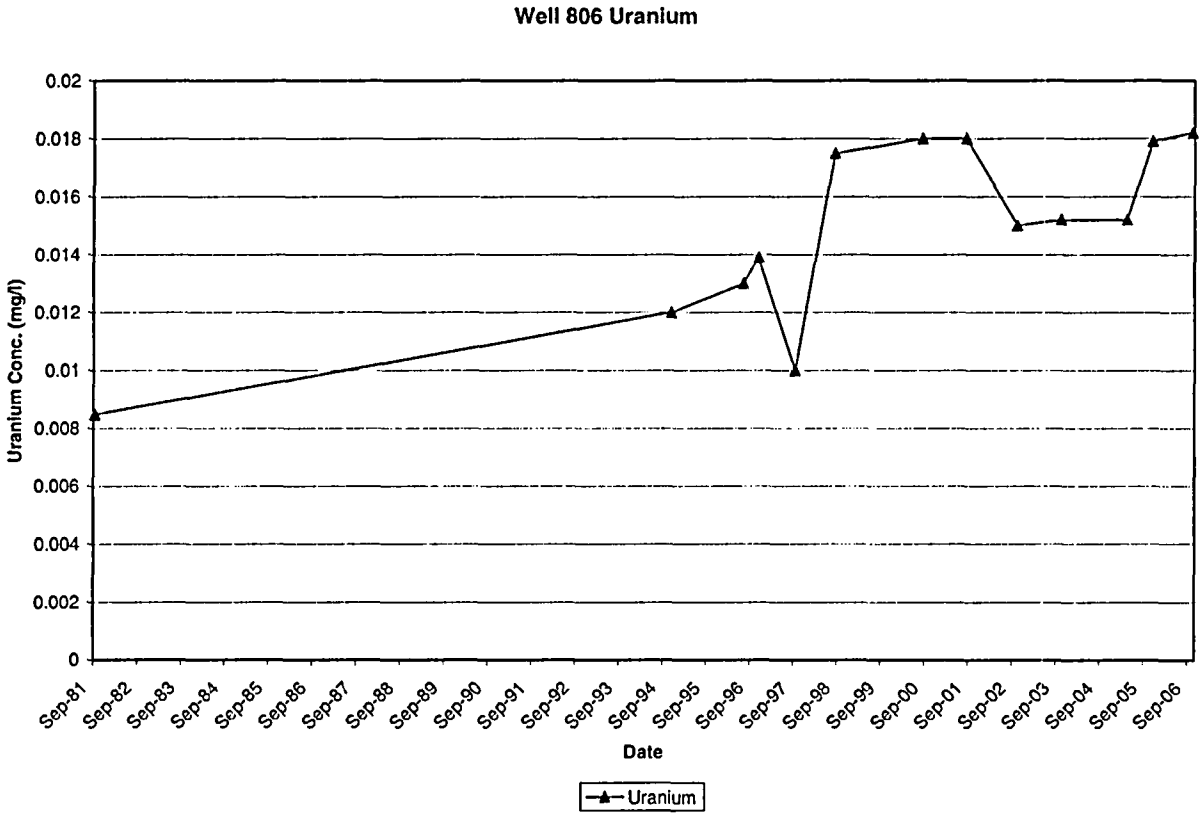
Well 806 Uranium
Uranium Conc. (mg/l)
0.02
0.018
0.016
0.014
0.012
0.01
0.008
0.006
0.004
0.002
0
Sep-81
Sep-82
Sep-83
Sep-84
Sep-85
Sep-86
Sep-87
Sep-88
Sep-89
Sep-90
Sep-91
Sep-92
Sep-93
Sep-94
Sep-95
Sep-96
Sep-97
Sep-98
Sep-99
Sep-00
Sep-01
Sep-02
Sep-03
Sep-04
Sep-05
Sep-06
Date
Uranium

Figure 1

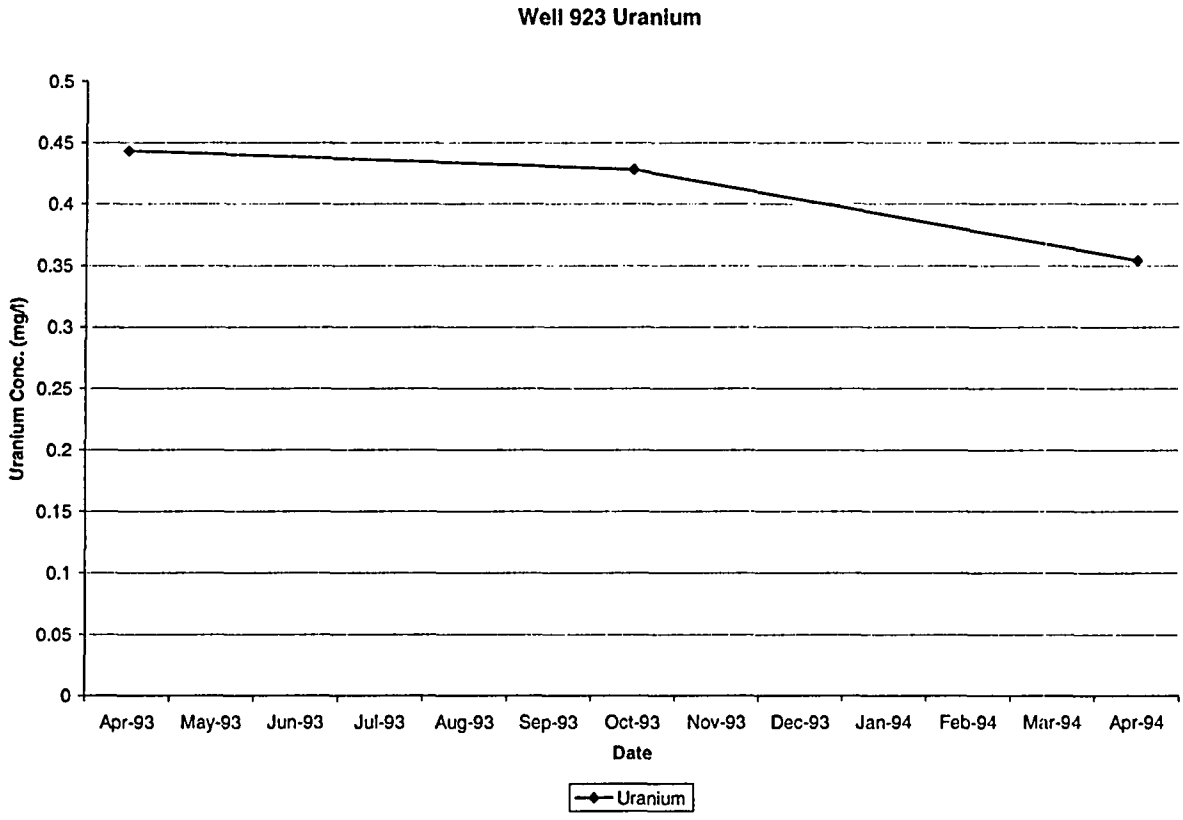
Well 923 Uranium
Uranium Conc. (mg/l)
0.5
0.45
0.4
0.35
0.3
0.25
0.2
0.15
0.1
0.05
0
Apr-93
May-93
Jun-93
Jul-93
Aug-93
Sep-93
Oct-93
Nov-93
Dec-93
Jan-94
Feb-94
Mar-94
Apr-94
Date
Uranium

Figure 2

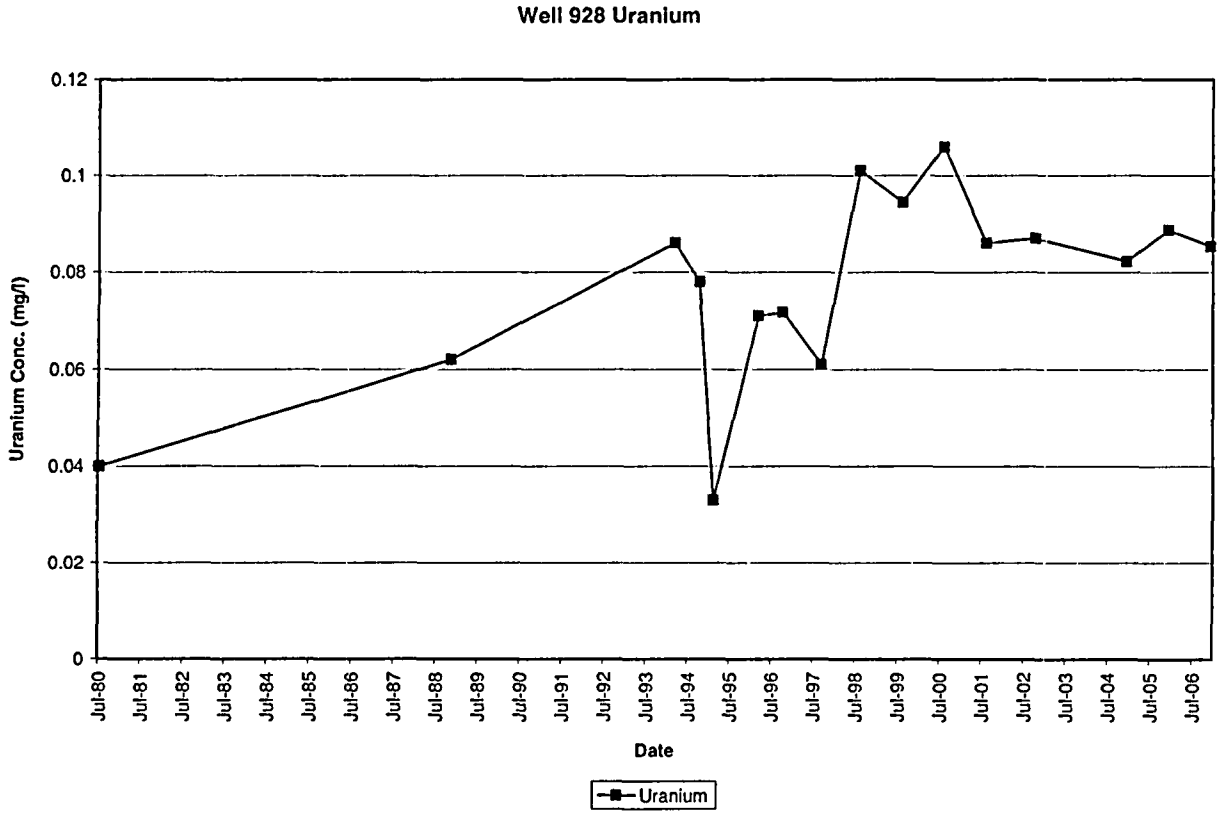
Well 928 Uranium
Uranium Conc. (mg/l)
0.12
0.1
0.08
0.06
0.04
0.02
0
Jul-80
Jul-81
Jul-82
Jul-83
Jul-84
Jul-85
Jul-86
Jul-87
Jul-88
Jul-89
Jul-90
Jul-91
Jul-92
Jul-93
Jul-94
Jul-95
Jul-96
Jul-97
Jul-98
Jul-99
Jul-00
Jul-01
Jul-02
Jul-03
Jul-04
Jul-05
Jul-06
Date
Uranium

Figure 3

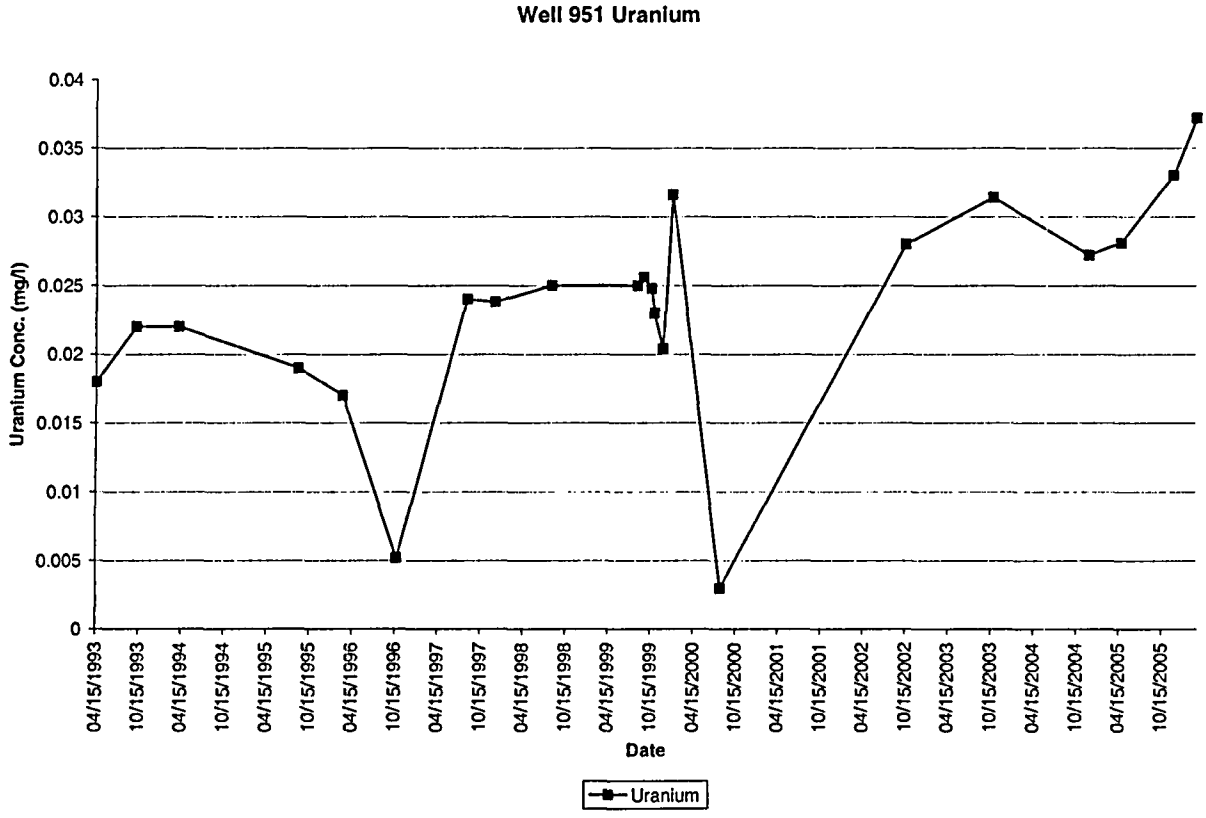
Well 951 Uranium
Uranium Conc. (mg/l)
0.04
0.035
0.03
0.025
0.02
0.015
0.01
0.005
0
04/15/1993
10/15/1993
04/15/1994
10/15/1994
04/15/1995
10/15/1995
04/15/1996
10/15/1996
04/15/1997
10/15/1997
04/15/1998
10/15/1998
04/15/1999
10/15/1999
04/15/2000
10/15/2000
04/15/2001
10/15/2001
04/15/2002
10/15/2002
04/15/2003
10/15/2003
04/15/2004
10/15/2004
04/15/2005
10/15/2005
Date
Uranium

Figure 4

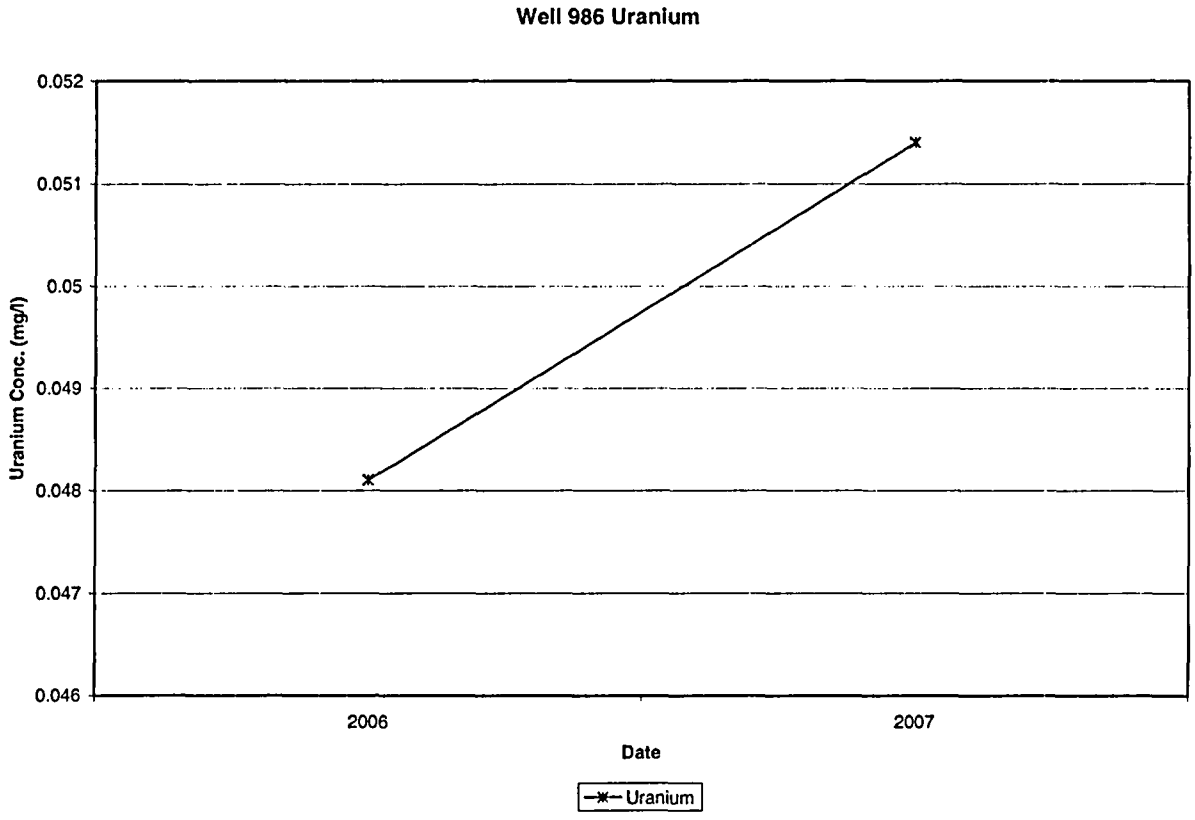
Well 986 Uranium
0.052
0.051
0.05
0.049
0.048
0.047
0.046
Uranium Conc. (mg/l)
2006
2007
Date
Uranium

Figure 5

Mr. C. Layton, DOE and R. Linton, NRC
RE: Request for NRC and DOE San Andres aquifer sampling due to concerns relating to the Anaconda Bluewater Mill and Homestake Uranium Mill sites, New Mexico
October 17, 2007

Well 806	Sample date	Dissolved Uranium (ppb)
806	09/18/1981	0.00848
806	11/09/1994	0.012
806	07/24/1996	0.013
806	11/12/1996	0.0139
806	09/02/1997	0.01
806	08/10/1998	0.0175
806	08/22/2000	0.018
806	08/24/2001	0.018
806	10/17/2002	0.015
806	10/27/2003	0.0152
806	04/21/2005	0.0152
806	11/18/2005	0.0179
806	10/04/2006	0.0182
Well 923		
0923	04/07/93	0.443
0923	10/11/93	0.428
0923	04/06/94	0.354
Well 928		
0928	07/09/80	0.04
0928	11/15/88	0.062
0928	03/14/94	0.086
0928	10/24/94	0.078
0928	02/09/95	0.033
0928	03/08/96	0.071
0928	10/23/96	0.0717
0928	09/02/97	0.061
0928	08/27/98	0.101
0928	08/26/99	0.0945
0928	08/09/00	0.106
0928	08/29/01	0.086
0928	10/21/02	0.087
0928	12/09/04	0.0822
0928	12/05/05	0.0887
0928	12/10/06	0.0853
Well 951		
0951	04/15/93	0.018
0951	10/05/93	0.022
0951	04/05/94	0.022
0951	08/31/95	0.019
0951	03/07/96	0.017
0951	10/22/96	0.0052
0951	08/21/97	0.024

Well 806	Sample date	Dissolved Uranium (ppb)
0951	12/17/97	0.0238
0951	08/18/98	0.025
0951	08/19/99	0.025
0951	09/17/99	0.0256
0951	10/19/99	0.0248
0951	11/02/99	0.023
0951	12/10/99	0.0204
0951	01/20/00	0.0316
0951	08/09/00	0.003
0951	10/17/02	0.028
0951	10/27/03	0.0314
0951	12/08/04	0.0272
0951	04/25/05	0.0281
0951	12/05/05	0.033
0951	03/16/06	0.0372
Well 986		
986	05/02/06	0.0481
986	05/15/07	0.0514

Figure 6: Data from HMC

Mr. C. Layton, DOE and R. Linton, NRC

RE: Request for NRC and DOE San Andres aquifer sampling due to concerns relating to the Anaconda Bluewater Mill and Homestake Uranium Mill sites, New Mexico

October 17, 2007

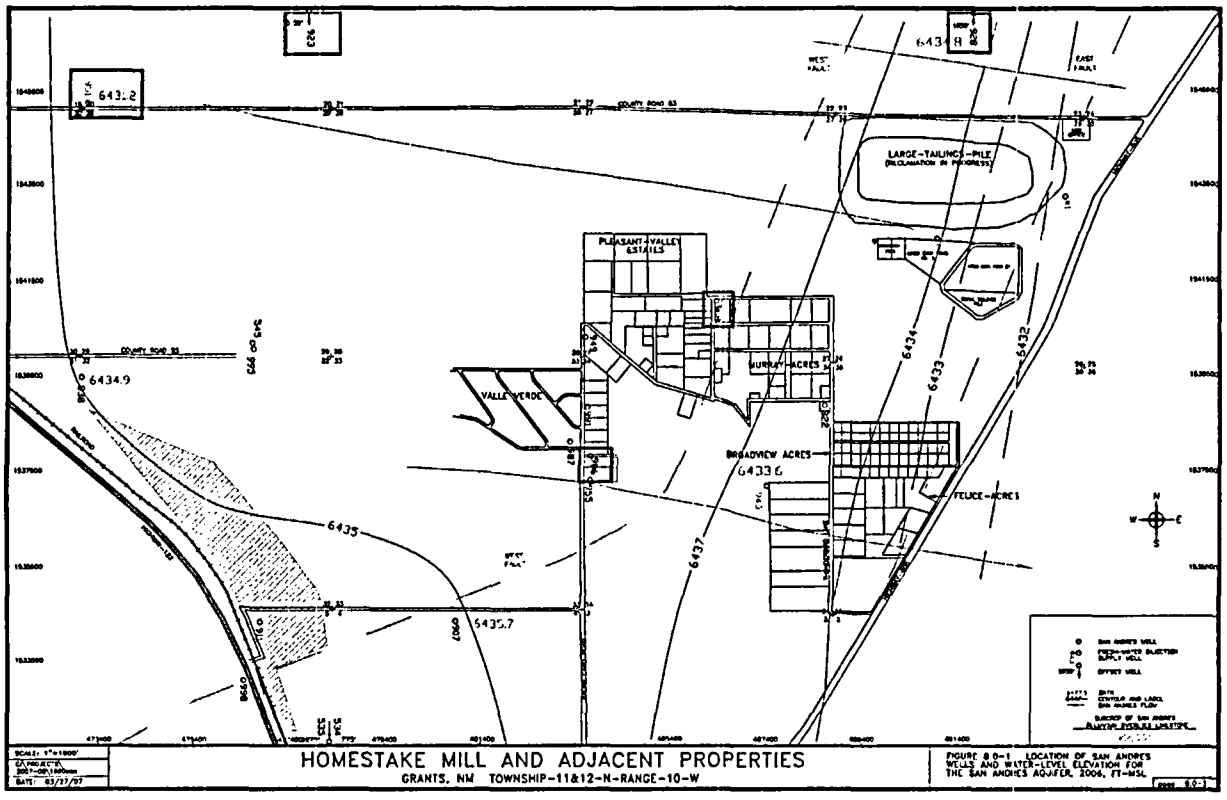

Figure 7: Well locations in preceding figures are highlighted by boxes