Summary report on 2005-2007 residential well sampling within the vicinity of the Homestake Mining Company Uranium Mill Superfund Site

CERCLIS # NMD007860935

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Executive Summary

From 2005 through 2007, the New Mexico Environment Department (NMED), and the U.S. Environmental Protection Agency (EPA) completed a survey and sampling of private wells located in the vicinity of the Homestake Uranium Mill Superfund Site (Site; CERCLIS # NMD007860935) located near the Village of Milan in Cibola County, New Mexico. The purpose of this effort was to determine ground water use and quality in operational residential wells near the Site to evaluate the protectiveness of the Site ground water remedial actions, and to determine if further action is required to protect human health and the environment. Analytical results from sampling activities were evaluated in comparison to Federal drinking water standards, State of New Mexico water quality standards, and current approved Site ground water clean-up standards. Fifty-seven domestic wells that are completed in the Alluvial, Upper, Middle and Lower Chinle; and San Andres aquifers were sampled during this investigation.

Water samples collected from forty-five of the wells exceeded one or more Federal primary Maximum Contaminant Levels (MCLs) and/or New Mexico Water Quality Control Commission (NMWQCC) ground water standards. Fourteen of the residences associated with these wells are not currently connected to the Village of Milan municipal water supply. Water from all wells that were sampled exceeded one or more Federal secondary MCLs (SMCLs).

The Nuclear Regulatory Commission (NRC), with the concurrence of the EPA and NMED, has established aquifer- and contaminant-specific clean-up concentrations for Site contaminants of concern, based upon analysis of background for each aquifer and contaminant of concern. Such Site/aquifer-specific background concentrations mostly are higher than the respective Federal and State ground water standards. Eighteen wells had exceedances of one or more of these clean-up standards.

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1.0 Introduction

The Homestake Uranium Mill Superfund Site (Site; CERCLIS # NMD007860935) is located north of several residential subdivisions (Broadview Acres, Murray Acres, Pleasant Valley Estates, Felice Acres, and Valle Verde) and other scattered residences in Cibola County, New Mexico. The Site has contributed to ground water contamination in the area. The New Mexico Environment Department (NMED) conducted residential well data collection and sampling activities in August and September 2005 and in May and August 2006, to determine the number of residential wells in which ground water does not meet applicable Federal, State, and Site ground water standards. Personnel also surveyed residential well owners about current usages of well water, and the availability and usage of alternative drinking water supplies. Additional sampling of residential wells was- conducted in 2007.

1.1 Site Description

The Site is located in Cibola County, New Mexico, approximately 5.5 miles north of the Village of Milan. A uranium processing mill was operated on the Site from 1958 to 1990 by the Homestake Mining Company (HMC). Milling operations involved an alkaline leach-caustic precipitation process to extract and concentrate uranium oxide from uranium ore.

The mill was decommissioned and demolished from 1993 to 1995. Physical facilities on the Site currently comprise two tailings piles, two collection ponds, two evaporation ponds, a remedial ground water collection and injection system, and a reverse osmosis water treatment facility. Current Site operations are related to the operations and maintenance of the ongoing ground water remedy.

1.2 Site Hydrogeology

The Site is underlain by three primary aquifer systems. The upper aquifer unit is the San Mateo Alluvial aquifer (herein the “Alluvial aquifer”). Underlying the Alluvial aquifer is the Chinle Formation, which includes three water-bearing sandstone units that are designated as the Upper, Middle and Lower Chinle aquifers. Below the Chinle Formation is the San Andres Formation; this predominantly limestone unit is the primary regional aquifer used by the communities of Grants and Milan.

Within the area of the Site, the Chinle aquifers are present in varying degrees of hydrologic communication with one another due to fault juxtapositioning and erosional unconformity with uppermost Alluvial aquifer. These relationships have cause Site-derived contamination in the Alluvial aquifer to migrate into the underlying Chinle aquifers. The San Andres aquifer is not known to be in hydrologic communication with these upper aquifers within the influence of Site-derived contaminants. The extents and inferred directions of ground water flow in each of these aquifers are shown in Figures 1 through 5.

2.0 Data Collection

2.1 Reconnaissance survey and questionnaire

During the week of August 15, 2005, NMED and EPA staff canvassed the residential area near the Site to identify residential wells for sampling. A door-to-door survey was conducted by three two-person teams, who visited residences on Monday through Thursday from 8:00 am to approximately 8:00 pm in order to identify where operational private wells existed. Survey teams recorded pertinent information on residential water supplies from those residents who were willing to provide answers to a questionnaire (see Figure 6; note that additional survey information was collected from some residents with wells that are not operational, but these data are not tabulated herein). From residents with operational wells, survey teams also recorded information about the well, such as the current status of the well and past and present uses of the well (e.g., domestic consumption, gardening, lawn/landscape watering, livestock and pet consumption). Residents with operational wells were asked to grant written permission for subsequent sampling activities. Fifty-one well owners consented to allow NMED and EPA to collect water samples.

2.2 Sample Collection Procedures

Following the door-to-door survey, NMED staff assigned an arbitrary identifying number prefixed by “RW” to each operational and accessible private well. Thirty-four wells were sampled in September 2005. In

May 2006, NMED personnel resampled nine wells from the 2005 sampling event in order to reconfirm contaminant detections in the 2005 sampling, and collected samples from nineteen additional wells. In May and June 2007, NMED sampled four additional residential wells, and resampled two residential wells that had been sampled previously. Between the two sampling events, NMED sampled a total of fifty-seven residential wells (Figure 7). Some residents had multiple wells which were sampled during these activities. One property with four of the wells that were sampled during these activities has since been acquired by HMC. Samples that were collected were sent to Energy Laboratories (Casper, WY).

Split samples were collected at an approximate 10% frequency for analysis by Pinnacle Labs of Albuquerque, NM. Team personnel also collected one duplicate sample for approximately every ten samples for analysis by Pinnacle Labs during the 2005 sampling event as an additional quality check. Additionally, personnel collected ground water samples for analysis of volatile organic compounds (VOCs) by Pinnacle Labs from the same wells from which split samples were collected during the 2005 sampling activity. During the May 2006 sampling activity, a sample for VOC analysis was collected from well RW-20 only, and analyzed by Pinnacle Labs.

In August 2006, NMED staff sampled RW-20 and nearby downgradient HMC monitor well CW-36 to further investigate a nitrate standard exceedances in an earlier sample from RW-20; both wells are completed in the Lower Chinle aquifer. A duplicate sample also was collected from RW-20 at this time. In May 2007, focused follow-up sampling for this nitrate standard exceedance was conducted (see Section 5.2). These samples were submitted to the New Mexico Department of Health State Laboratory Division for analysis; the results of this investigation will be summarized in a forthcoming letter report.

All wells were purged for a minimum of fifteen minutes prior to sample collection, when viable, and samples were collected as close to the wellhead as possible. Global Positioning System (GPS) coordinates were collected for each well.

2.3 Analytical procedures

All samples collected during the routine residential well sampling events were tested for the analytes listed in Table 1 by the primary analytical laboratory that was used in this investigation, Energy Laboratories (Casper, WY); this laboratory has provided analytical services to HMC throughout much of the Site remedial activities. During the 2005 sampling event, split samples were analyzed by Pinnacle Labs for the same analyte list as was used by Energy Laboratories; however, during the 2006 and 2007 sampling events, the analyte list used by Pinnacle Labs was shortened to include only known Site-related contaminants (Table 2). Both Energy and Pinnacle laboratories used customary quality control and quality assurance procedures to ensure accurate analysis and reporting.

All samples that were collected during the September 2006 investigation of RW-20 were analyzed by Pinnacle Labs. The sample from CW-36 was analyzed for the abbreviated list of Site-related analytes. All samples were analyzed for general chemistry.

3.0 Results

3.1 Discussion of survey results

Survey results are summarized in Table 3. As can be seen from Figure 6, the survey inquired about residents' specific uses of well water, and the estimated time period for which the well water was utilized for the specified purpose. The majority of well owners reported minimal human consumption of their well water, although a few respondents reported using their water for vegetable gardens. Twenty-eight (55%) of current residential well owners either have or are inferred to have an alternative water supply provided by the Village of Milan; twenty-three (45%) current well owners either do not have or are inferred not to have any other alternative water supply

Several well owners had wells without pumps or non-working pumps. These wells were not sampled because of the inability to collect a representative sample, nor was survey information tabulated from those locations.

3.2 Residential well ground water sampling results discussion

Ground water analytical results for metals and general chemical parameters from the residential well sampling are summarized in Table 4. Figure 7 shows the locations of all residential wells that were sampled during this study. Those wells in which any sample collected had uranium, selenium, nitrate, or lead concentrations in exceedance of Federal, New Mexico Water Quality Control Commission (NMWQCC), and/or applicable Site standards are highlighted on this figure. The applicable ground water standards for these Site-related contaminants of concern are detailed in Table 5

Drinking water quality in public water systems is regulated by Federal Maximum Contaminant Levels (MCLs) as promulgated under the Federal Safe Drinking Water Act (40 CFR 1 Part 141 and Part 143). Primary MCLs under this regulation are enforceable standards that limit the concentrations of specified contaminants and the values of specified water properties in public drinking water supply systems for the protection of human health. The standard for total lead concentrations in drinking water is based on a drinking water system treatment technique action level of 0.015 milligrams per liter [mg/L]. Federal secondary MCLs (SMCLs) are non-enforceable guidelines for drinking water contaminants that may have cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color). The Federal drinking water standards for metals are based on total metals concentrations, as are determined from unfiltered ground water sample analyses.

NMWQCC ground water quality standards are promulgated under the State Ground Water Protection Regulation (20.6.2.3103 NMAC) for the protection of the State's ground water resources. NMWQCC ground water standards for metals are based on dissolved metals concentrations, as are determined from the analysis of filtered ground water samples.

The NRC, with the concurrence of the EPA and NMED, has established contaminant-specific ground water clean-up goals for the contaminants of concern at the Site, based upon the recognition that baseline (*i.e.*, pre-milling operational) concentrations of some Site-related contaminants may not be attributable to past Site activities, but rather represent background hydrochemical conditions attributable to a combination of natural occurrence and/or the possible influence of other contaminated sites within the hydrologic regime. Due both to the number of hydrochemically-different aquifers affected by the Site and to the hydrogeologic complexity of the interrelationships among these aquifers, these background Site ground water standards are specific to the different aquifers, as well as to specific areas of the aquifers where they are inferred to be in hydrogeologic communication. Parts of the Chinle aquifers where the hydrochemistry has been determined to be influenced by juxtapositioning with the Alluvial aquifer are referred to as "mixing-zones;" these portions of the Chinle aquifers have separate Site/aquifer-specific standards that reflect this influence. The Site/aquifer-specific standards for metals are based on dissolved metals concentrations, as are the NMWQCC standards.

Details of the specific types of contaminant concentration standard exceedances (*i.e.,* Federal primary and secondary MCLs, NMWQCC standards, and Site/aquifer-specific ground water clean-up standards) in the residential well ground water samples are summarized by well in Table 6, and displayed on individual maps by the aquifer of well completion in Appendix A. Exceedances of the Federal primary MCL for uranium (0.03 mg/L), which is the most prevalent primary MCL exceedance, occur in thirty wells. The NMWQCC health-based standard for concentration of dissolved uranium in ground water (0.03 mg/L) was exceeded in samples from twenty-nine of these thirty wells; the similarity of total and dissolved uranium concentration values in Table 6 reflects that uranium occurs primarily in the dissolved form in Site ground water mostly. Other exceedances of Federal primary drinking water standards include selenium (0.05 mg/L) in six wells; lead action treatment technique action level (0.015 mg/L) in four wells; and nitrate MCL (10 mg/L) in one well. Samples from the same wells with exceedances of the selenium MCL also exceeded the NMWQCC standard for dissolved selenium (0.05 mg/L); the well with the exceedance of the nitrate MCL also exceeds the NMWQCC nitrate standard (10 mg/L). As with uranium concentrations, the similarity of total and dissolved selenium concentrations in Table 6 indicates that selenium also mostly occurs as dissolved species in Site ground water.

Samples from every well exceeded the Federal SMCL for total dissolved solids (TDS) concentration (500 mg/L); the numerically-higher NMWQCC standard for total dissolved solids (1000 mg/L) was exceeded in forty-four wells. The Federal SMCL for sulfate (250 mg/L) was exceeded in samples from forty-nine wells, while the higher NMWQCC standard for sulfate (600 mg/L) was exceeded in thirty-four of the same wells. Other Federal SMCLs that were exceeded in samples collected from residential wells include iron (0.3 mg/L; fourteen wells), manganese (0.05 mg/L; three wells), chloride (250 mg/L; four wells), and aluminum (0.05 to 0.2 mg/L; one well). The NMWQCC standard for dissolved iron (1.0 mg/L) was exceeded in two of the twelve wells for which an exceedance of the Federal SMCL for total iron concentration was recorded. Dissolved manganese and chloride concentrations exceeded the respective NMWQCC standards (0.2 and 250 mg/L respectively) in all of the same wells for which exceedances of the respective analytes' Federal SMCLs were documented.

As previously discussed, Site/aquifer-specific ground water standards reflect background concentrations of some contaminants that may be elevated due to the contaminant influence of other sites within the same overall hydrologic regime and/or to natural sources. Therefore, many of the Site/aquifer-specific standards are higher than respective Federal or State regulatory standards. Exceedances of the Site/aquifer-specific standards for dissolved uranium concentration also are most prevalent, occurring in eleven of the wells sampled. Dissolved selenium concentrations from NMED sampling exceed the Site/aquifer-specific standards in one well. The nitrate concentration reported from RW-20 that exceeds both the Federal primary MCL and the NMWQCC standard, also exceeds the relevant Site/aquifer-specific standard; however this occurrence of nitrate is not attributed to contaminant release from the Site based upon analysis of hydrologic flow relative to the aquifer in which the well is completed (see Section 5.2). The Site/aquifer-specific standards for total dissolved solids are exceeded in eight of the wells sampled (see Table 5). Concentrations of chloride that exceed the Federal SMCL in samples from four wells also exceed the relevant Site/aquifer-specific standards as well. The Site/aquifer-specific standards for sulfate are exceeded in samples from two wells.

Table 7 shows the total number of standards exceedances, by type of standard, for each individual well. Water from RW-17 and RW-58 had the most number of standard exceedances (12). Yellow highlighted entries in Table 7 show that fourteen wells, which are the primary sources of water to the associated residences, have exceedances of one or more Federal MCLs, and/or NMWQCC subpart A or subpart B standards.

Table 8 summarizes the number of wells, by aquifer of completion if known, in which an analyte concentration exceeds a relevant standard. This table shows that the majority of wells sampled (twenty-four) are completed in the Alluvial aquifer. Of these twenty-four wells, nineteen exceed the Federal MCL for uranium (0.03 mg/L), eighteen exceed the NMWQCC standard for uranium (0.03 mg/L), and three exceed the Site-specific Alluvial aquifer uranium standard (0.16 mg/L). Three Alluvial wells exceed both the Federal MCL and the NMWQCC standard for selenium (0.05 mg/L). Two Alluvial wells exceed the Federal treatment technique action level for lead (0.015 mg/L). All twenty-four Alluvial wells exceed the Federal SMCL for TDS (500 mg/L), while twenty-three exceed the NMWQCC standard (1000 mg/L), and two exceed the Site-specific Alluvial aquifer TDS standard (2734 mg/L). Twenty-two Alluvial wells exceed the Federal SMCL for sulfate (250 mg/L); sixteen exceed the NMWQCC standard (600 mg/L), and one Alluvial well exceeds the Site-specific Alluvial sulfate standard (1500 mg/L). Two Alluvial wells have exceedances of the Federal SMCL (250 mg/L), NMWQCC (250 mg/L), and Site-specific Alluvial aquifer chloride (250 mg/L) standards. Five Alluvial wells exceed the Federal SMCL for iron (0.3 mg/L); one well exceeds the iron NMWQCC standard (1.0 mg/L). One Alluvial well exceeds both the Federal SMCL and NMWQCC standards for manganese (0.05 and 0.2 mg/L respectively).

The only well that is completed in the Upper Chinle aquifer had no exceedances of Federal primary MCLs or of NMWQCC subpart A standards. This well exceeded the Federal SMCL, and NMWQCC Subpart B and Site-specific Upper Chinle aquifer standards for TDS (500, 1000, and 2010 mg/L respectively) sulfate (250 and 600 mg/L respectively) and chloride (250 mg/L for both).

The single well that is completed in the Upper Chinle mixing zone exceeds both the Federal primary MCL and NMWQCC standard for uranium (0.03 mg/L for both). This well also exceeds the Federal SMCLs

and NMWQCC subpart B standards for TDS (500 and 1000 mg/L respectively) and for sulfate (250 and 600 mg/L respectively).

Of eight wells that are completed in the Middle Chinle aquifer, four exceed the Federal MCL, NMWQCC, and Site-specific Middle Chinle aquifer standards for uranium (0.03, 0.03, and 0.07 mg/L respectively). One of the Middle Chinle wells exceeds all standards for selenium (*i.e.*, 0.05 mg/L Federal MCL and NMWQCC standard, 0.07 mg/L Site-specific Middle Chinle). The single exceedance of the Federal standard for lead (*i.e.*, Treatment Technique action level of 0.015 mg/L) recorded throughout sampling also occurs in a Middle Chinle well. Seven of the Middle Chinle wells exceed the NMWQCC standard for TDS (1000 mg/L); four of these exceed the Site-specific Middle Chinle aquifer TDS standard (1560 mg/L). All eight wells exceed the Federal SMCL for sulfate (250 mg/L); six of these also exceed the NMWQCC sulfate standard (600 mg/L). Three Middle Chinle wells exceed the Federal SMCL for iron (0.3 mg/L).

Samples from the two wells that are completed in the Middle Chinle mixing zone exceed both the Federal primary MCL and NMWQCC standards for uranium (0.03 mg/L for both); one of these wells also exceed the Site-specific Middle Chinle uranium standard as well (0.07 mg/L). Additionally, one well completed in the Middle Chinle mixing zone exceeds both Federal and NMWQCC standards for selenium (0.05 mg/L for both). Both Middle Chinle mixing zone wells also exceed the NMWQCC TDS standard (1000 mg/L), as well as the Federal SMCL and NMWQCC standards for sulfate (250 and 600 mg/L respectively); one well also exceeds the Site-specific Chinle mixing zone aquifer sulfate standard (1750 mg/L). One well exceeds all standards for chloride, and one well exceeds the Federal SMCL for iron (0.3 mg/L).

Eleven wells are completed in the Lower Chinle aquifer. Two of these have an exceedance of all relevant uranium standards, one well exceeds both Federal MCL and NMWQCC uranium standards. One well exceeds both Federal MCL and NMWQCC selenium standards. One Lower Chinle well exceeds the lead Federal treatment technique action level. Five of the Lower Chinle wells exceed the NMWQCC standard for TDS. Six wells exceed the Federal SMCL for sulfate; three of these also exceed the NMWQCC sulfate standard. Three wells exceed the Federal SMCL for iron, and one of these well exceeds the NMWQCC standard for iron as well. One well exceeds both the Federal SMCL and NMWQCC standards for manganese.

One of four wells that are completed in the Lower Chinle mixing zone has an exceedance of all relevant nitrate standards. Another well has an exceedance of uranium for both Federal MCL and NMWQCC standards. Additionally one well exceeds the Site-specific Lower Chinle mixing zone aquifer standard for TDS, and a total of two wells exceed the NMWQCC TDS standard. All four wells exceed the Federal SMCL for sulfate; two of these wells also exceed the NMWQCC standard. One of the Lower Chinle mixing zone wells exceeds the Federal SMCL for iron.

One of the three wells known to be completed in the San Andres aquifer exceeds both the Federal primary MCL and the NMWQCC standards for uranium. Additionally all three San Andres wells exceed Federal SMCL and NMWQCC standards for TDS. Two of the wells exceed the Federal SMCL for sulfate, and one of these also exceeds the NMWQCC standard. No Site-specific standards have been established for the San Andres aquifer.

NMED was not able to establish the completion aquifer for three wells, and therefore analytical results for these wells could not be compared to any Site-specific standards. An exceedance of the Federal SMCL and NMWQCC standards for aluminum was recorded for one of these wells. Exceedances of the Federal SMCLs and NMWQCC standards for sulfate and manganese were recorded for one of these wells, as well as an exceedance of the Federal SMCL for iron.

From the study, only one well—RW-20—exceeds both a Federal MCL and Site/aquifer-specific standard (*i.e.*, nitrate) and is the primary source of water for the associated residence.

HMC has assigned well numbers to the majority of the residential wells that were sampled in this survey; these are cross-correlated on Table 9. NMED did not compare any analytical data that were collected by HMC to data that were collected for the current study.

Appendix A comprises a series of maps by contaminant constituent and aquifer of completion that show the locations of residential wells in which ground water exceedances of Federal, State, and Site/aquifer-specific standards were recorded from NMED sampling. The base maps for these figures are the contaminant distribution maps from HMC's 2005 monitoring report (HMC, 2006. "2005 annual monitoring report/performance review for Homestake's Grants project pursuant to NRC license SUA-1471 and Discharge Plan DP-200."). These figures allow for a comparison of the locations of residential wells where standard exceedances are recorded to areas that have been delineated by HMC for ground water remediation of the respective contaminant. Exceedances of all contaminants generally fall within concentration boundaries established by HMC data. The only significant exceptions are Alluvial wells RW-18 for chloride and RW-7 for sulfate; concentrations for both of these contaminants are above respective Site/aquifer-specific standards, but are located outside of such areas as delineated by HMC monitoring data.

4.0 Notification of Results

NMED verbally notified well owners of analytical results in November 2005 and followed up with written notification, with an explanation of exceedances of ground water standards. Similar notification letters were sent for the 2006 and 2007 sampling. Included with the results letters were photocopies of the laboratories' reports, as well as fact sheets for each chemical contaminant for which a ground water standard exceedance was documented.

Table 1: Analyte list for 2005 and 2006 routine residential sampling activities

Analyte	Method	Method Detection Limit
PH	A4500-H B	0.01 s.u.
TDS	A2540 C	10 mg/L
Sulfate	A4500-SO4 E	1 mg/L
Chloride	A4500-Cl B	1 mg/L
Alkalinity, as CaCO3	A2320 B	1 mg/L
CO3	A2320 B	1 mg/L
HCO3	A2320 B	1 mg/L
Ca	E200.7	1 mg/L
Mg	E200.7	1 mg/L
Na	E200.7	1 mg/L
K	E200.7	1 mg/L
Nitrite	A4500-NO2 B	0.1 mg/L
Nitrate+Nitrite as N	E353.2	0.1 mg/L
Calculated Nitrate	E353.2	0.1 mg/L
As, dissolved	E200.8	0.001 mg/L
As, total	E200.8	0.001 mg/L
Fe, dissolved	E200.7	0.01 mg/L
Fe, total	E200.7	0.01 mg/L
Mn, dissolved	E200.8	0.001 mg/L
Mn, total	E200.8	0.001 mg/L
Molybdenum, dissolved	E200.8	0.001 mg/L
Molybdenum, total	E200.8	0.001 mg/L
Selenium, dissolved	E200.8	0.001 mg/L
Selenium, total	E200.8	0.001 mg/L
Vanadium, dissolved	E200.8	0.001 mg/L
Vanadium, total	E200.8	0.001 mg/L
Uranium, dissolved	E200.8	0.0003 mg/L
Uranium, total	E200.8	0.0003 mg/L
Radium-226, dissolved	E903.0	0.2 pCi/L
Radium-228, dissolved	E904.0	1.0 pCi/L
Thorium-230, dissolved	E907.0	0.2 pCi/L

N.B., This analyte list was used by both Energy and Pinnacle Laboratories during 2005 sampling activity, and by Energy Labs only during 2006 sampling activity.

Table 2: Abbreviated metals analyte list used by Pinnacle Labs during 2006 and 2007 sampling activity

Analyte	Analytical Method	Method Detection Limit
pH	EPA 150.1	0.010 SU
Nitrate as nitrogen (NO_3)	EPA 300.0	0.033 mg/L
Nitrite as nitrogen (NO_2)	EPA 300.0	0.033 mg/L
Chloride (Cl)	EPA 300.0	6.60 mg/L
Sulfate (SO_4)	EPA 300.0	10.0 mg/L
Nitrate/nitrite (NO_3/ NO_2)	EPA 353.1	0.140 mg/L
Total dissolved solids (TDS)	EPA 160.1	2.38 mg/L
Alkalinity, total as $CaCO_3$	SM 2320B	0.725 mg/L
Bicarbonate alkalinity as $CaCO_3$	SM 2320B	0.725 mg/L
Carbonate alkalinity as $CaCO_3$	SM 2320B	0.725 mg/L
Arsenic, total and dissolved	EPA 200.8	0.00150 mg/L
Iron, total and dissolved	EPA 200.8	0.0100 mg/L
Manganese, total and dissolved	EPA 200.8	0.00100 mg/L
Molybdenum, total and dissolved	EPA 200.8	0.000100 mg/L
Potassium, total	EPA 200.8	0.0800 mg/L
Selenium, total and dissolved	EPA 200.8	0.00250 mg/L
Vanadium, total and dissolved	EPA 200.8	0.00200 mg/L
Calcium, total	EPA 200.8	2.000 mg/L
Magnesium, total	EPA 200.8	0.500 mg/L
Sodium, total	EPA 200.8	8.000 mg/L
Uranium, total	SW846 3005/6020	0.000050 - 0.000250 mg/L
Uranium-235, total and dissolved	SW846 3005/6020	0.000010 - 0.000050 mg/L
Uranium-238, total	SW846 3005/6020	0.000050 – 0.000250 mg/L
Thorium-228, dissolved	DOE EML HASL-300, Th-01-RC modified	0.857 pCi/L
Thorium-230, dissolved	DOE EML HASL-300, Th-01-RC modified	0.498 pCi/L
Thorium-232, dissolved	DOE EML HASL-300, Th-01-RC modified	0.342 pCi/L
Radium-228, dissolved	EPA 904.0 modified	1.68 pCi/L
Radium-226, dissolved	EPA 903.1 modified	0.266 pCi/L

Table 3: Survey summary of well water uses

WELL WATER USES / Well Number RW-	1	2	3	4	5	6	7	8	9	10	11	12***	13***	14***	15	16	17	18	19	20	21	22***	23	24	25	26
Drinking	1967-1985	No	No	1981-1982	No	1989-Feb 2005	1979-present	1965-1985	1979-2002	1999-present	1974-1985				1974-1984	No			No	2001-present	No		No	No	1970-1978	1970-1978
Showering or bathing	1967-1985	No	No	1981-1982	No	1989-present	1979-present	1965-1985	1979-present	No	1974-1985				1974-1984	No	before 1997	before 1997	No	2001-present	No		No	No	1970-1978	1970-1978
Cooking	1967-1985	No	No	1981-1982	No	1989-Feb 2005	1979-present	1965-1985	1979-present	No	1974-1985				1974-1984	No	before 1997	before 1997	No	2001-present	No		No	No	1970-1978	1970-1978
Other household uses	1967-1985	No	No	1981-1982	No				1979-present	No					1974-1984	No			No				No	No	1970-1978	1970-1978
Lawn and Landscape	1967-1985	1995-present		1981-present	1998-present	1989-present	1979-present	1965-1985	1979-present	1999-present	1974-present	Since 1978	Since 1978	Since 1978	1974-1984	1997-2000	before 1997	1998-2000	12/2000-present	2001-present	2004-present	Since 1978	No	1986-	1970-	1970
Vegetable Garden	1967-1985	No		1981-present	1998-present	No	1979-2000	1965-1985	1979-present	No	No				1974-1984	1997-2000	No	No	No	2001-present	No		No	occasionally		
Livestock	1967-1985	No	horses	No	No	No	No	1965-1985	1979-present	No	No				1974-1984	1997-2000	before 1997	1998-2000	No	2001-present	No		No	No		
Pets	1967-1985	No		1981-present	1998-present (dogs, wild birds)	1989-present	1979-present	1965-1985	1979-present	No	No				1974-1984		before 1997	1998-2000	No	2001-present	No		No	No	1970-	1970
Other outdoor uses	1967-1985	No	Ducks 1999-2005						1979-present						1974-1984								No	No		
Use filtration?	No	No		used water softener during 1970's	No	Yes	1989-present	No	Yes	No	No				No	No	No	No	No	Yes	No			No		
Use bottled water?	infrequently	infrequently		4-5 years	1998-present	Feb 2005-presnt	Sporadically 1989-present	1979-1985	2002--present	sporadically	No	1978	1978	1978	1984-present	1997-present	1989-present	1989-present	12/2000	2001-present occas-sionally	No	1978	5/2004 occas-sionally		
Use Village of Milan water?	1985-present	1995-present	1998-present	1981-present	1998-present	**No**	**No**	1985-present	**No**	1958-present	1985-present	1985-present	1985-present	1985-present	1984-present	1997-present	1989-present	1989-present	12/2000	**No**	2004-present	1985-present	2004-present	1986-present	1978-present	1978-present

Table 3 continued

WELL WATER USES / Well Number (RW-)	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51
Drinking	1970-1978		1971-1978		No	1980-1992	1979-1978	1969-present	No	1960-1980	1990-present	1980-present	No	1985-2001	No	1983-present	2005-present		No	2003-present	No	1995-present	Yes (11 years)		Before 2003
Showering or bathing	1970-1978		1971-1978		No	1980-1992	1979-1990	1969-present	No	1960-1980	1998-present	1980-present	2001-present	1985-2001	No	1983-present	2005-present		Yes	2003-present	1979-present	1995-present	Yes		Yes
Cooking	1970-1978		1971-1978		No	1980-1992	1979-1990	1969-present	No	1960-1980	1998-present	1980-present	2001-present	1985-2001	No	1983-present	2005-present		sometimes	2003-present	No	1995-present	Yes		No
Other	1970-1978		1971-1978					1969-present	No	1960-1980	Yes	1980-present	2001-present	1985-2001	No	1983-present	2005-present			2003-present	Washing clothes 1979-present	1995-present	Dish-washer		
Lawn and Landscape	1970	yes	1971	1980-present	No	1980 to present	1979-1990	1969-present	2002-present	1960-1980	1998-present	1980-present	2001-present	1985-2001	No	1983-present	2005-present		Yes		Yes	until 1988	Yes		Since 2003
Vegetable Garden				1980-present	No	1980 to present	1979-1980	1969-present		1960-1980	1998-present	1980-present	2001-present		No	No	2005-present		Yes	No	No	until 1988	Yes		Yes
Livestock				previously	No	1980 to present	No	1969-present	No	1960-1980	1998-present	1980-present	2001-present		1998-	1983-present	2005-present		Yes	No	No	until 1988	Yes		Yes
Pets	1970				No	1980 to present	No	1969-present	No	1960-1980	1998-present	1980-present	2001-present	1985-2001		1983-present	2005-present		Yes	2003-present	No	until 1988	Yes		No
Other								1969-present		Irrigation 1980-present			2001-present	1985-2001		1983-present				2003-present			Yes		
Use filtration?						No	No	No	No	No	No	No	2001-present	No	No	No	No		No	Yes	No	No			Yes
Use bottled water?						sporadic	1979-1990	No	No	No	No	Yes	2001-present	2001-present		Yes	Yes		10 years	2006-present	Yes	No	Yes		Since 2003
Use Village of Milan water?	1978-present	Yes*	1978?-present	Yes?**	Yes*	1992-present	1990-present	**No**	2002-present	Yes	**No**	**No**	**No**	**No**	Yes	**No**	**No**	**No?****	**No**	**No**	**No**	1985-present	**No**	**No**	**No**

Table 3 concluded

WELL WATER USES / Well Number (RW-)	52	53	54	55	56	57	58
Drinking	2006-present	Before 2003	Mid-1970s-present	No	1996-present	No	No
Showering or bathing	2006-present	Yes	Mid-1970s-present	No	1996-present	2006-present	1991-present
Cooking	2006-present	Before 2003	Mid-1970s-present	No	1996-present	No	No
Other	2006-present		Mid-1970s-present	No		No	Laundry, household cleaning
Lawn and Landscape	2006-present	Since 2003	Mid-1970s-present	2006-present	1996-present	2006-present	1991-present
Vegetable Garden		Yes	No	No	previously, but not currently	No	1991-1993, 2007
Livestock		Yes	No	No	No	No	No
Pets		No	No	No	No	2006-present	1991-present
Other				Water field to keep dust down since 2006	ducks and geese	Fruit trees 2006-present	cleaning
Use filtration?		Yes	Yes	No	Carbon microfilter on water heater	2006-present	Cartridge filter
Use bottled water?		Since 2003	No	2002-present	Not often	No	1991-present
Use Village of Milan water?	**No**	**No**	**No**	**Yes**	**No**	**No**	**No**

*Information supplied by HMC
**Inferred from knowledge of Village of Milan water distribution system
***Uses described for ownership prior to HMC

Table 4: Summary of metals and general chemistry sample results 2005-2007

All units mg/L unless otherwise noted

2005 SAMPLING RESULTS	RW-1	RW-2	RW-2 Dup	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-10	RW-11	RW-12	RW-12 Dup	RW-13	RW-14	RW-15	RW-16	RW-17
A/C Balance (± 5) (%)	0.840	1.95	2.80	2.50	2.02	0.806	0.289	0.513	1.05	4.23	1.76	0.657	4.50	3.34	3.02	2.18	1.12	1.03
Alkalinity, Total as CaCO3	246	411	425	412	365	300	320	370	210	210	412	408	413	264	381	406	440	281
Anions	20.5	21.6	21.9	23.0	20.9	27.2	35.7	32.4	13.9	9.04	19.8	28.6	28.8	22.0	30.4	31.8	28.7	35.1
Bicarbonate as HCO3	285	502	518	503	446	366	390	451	256	256	503	497	503	311	465	495	537	343
Carbonate as CO3	9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	6	<1	<1	<1	<1
Cations (meq/L)	20.8	20.8	20.7	21.9	21.7	27.6	35.9	32.1	13.7	9.84	19.2	29.0	26.4	20.6	28.6	33.2	28.1	35.9
Chloride	43	117	124	138	139	139	216	242	99	22	104	191	191	111	198	229	202	181
pH (s.u.)	8.74	7.76	7.78	7.49	7.65	7.72	7.65	7.68	7.95	7.90	7.61	7.50	7.64	8.55	7.55	7.58	7.57	7.81
Solids, Total Dissolved Calculated	1360	1280	1280	1350	1300	1740	2270	2020	858	551	1190	1740	1700	1400	1820	1990	1740	2280
Solids, Total Dissolved TDS @ 180 C	1430	1370	1360	1510	1380	1820	2360	2090	884	562	1180	1900	1920	1560	2020	2070	1790	2340
Sulfate	689	479	472	517	453	859	1100	877	298	193	410	716	720	648	811	816	659	1160
TDS Balance (0.80 - 1.20) (dec. %)	1.05	1.07	1.06	1.12	1.06	1.05	1.04	1.03	1.03	1.02	0.990	1.09	1.13	1.11	1.11	1.04	1.03	1.03
Nitrogen, Nitrite as N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.1
Nitrogen, Nitrate as N		1.8	1.7	1.8		3.8	3.7	3.2	7.8	3.0		2.8	2.8	2.0	3.8		2.1	
Nitrogen, Nitrate+Nitrite as N	<0.1	1.8	1.7	1.8	3.3	3.8	3.7	3.2	7.8	3.0	1.6	2.8	2.8	2.0	3.8	3.0	2.1	3.4
TOTAL METALS CONCENTRATIONS																		
Aluminum	0.006	0.038	0.033	0.002	0.097	0.002	0.002	0.008	0.002	0.004	0.290	0.002	0.003	0.036	0.112	0.031	0.006	0.065
Arsenic	<0.001	<0.001	<0.001	0.001	0.002	<0.001	0.001	<0.001	0.002	0.003	<0.001	<0.001	<0.001	0.002	0.002	<0.001	<0.001	0.001
Barium	0.008	0.021	0.021	0.013	0.017	0.014	0.017	0.011	0.040	0.032	0.023	0.013	0.013	0.023	0.022	0.012	0.014	0.014
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	6.5	140	139	170	159	213	293	256	135	100	138	241	217	10.7	236	261	236	221
Chromium	<0.001	0.009	0.010	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	0.233	0.006	0.005	0.005	0.017	0.002	0.002	0.003	<0.001	0.001	0.035	0.008	0.002	0.001	0.007	0.001	0.001	0.011
Iron	0.88	0.53	0.52	0.24	0.22	0.02	<0.01	0.76	0.16	<0.01	12.8	0.02	<0.01	0.08	0.35	0.23	2.42	5.52
Lead	0.021	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.027	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	0.034
Magnesium	1.0	37.0	37.7	49.7	43.5	54.8	68.6	63.2	37.4	38.2	37.3	71.2	66.6	2.1	69.3	65.7	63.4	58.8
Manganese	0.023	0.027	0.032	0.002	0.006	<0.001	<0.001	0.008	0.006	<0.001	0.060	<0.001	<0.001	0.001	0.044	0.015	0.028	0.229
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.013	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.082	0.082	0.004	0.047	<0.001	<0.001	0.001
Nickel	<0.001	0.019	0.018	0.002	0.002	0.002	0.003	0.003	0.001	<0.001	0.005	0.005	0.003	<0.001	0.012	0.002	0.003	0.004
Potassium	1.0	4.7	4.8	4.0	5.8	4.8	5.4	4.4	2.9	2.7	4.1	8.3	5.3	1.6	5.4	3.8	4.5	5.0
Selenium	<0.001	0.028	0.028	0.017	0.036	0.033	0.039	0.033	0.025	0.009	0.017	0.031	0.031	0.174	0.031	0.039	0.018	0.034
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	470	243	251	222	230	307	379	344	111	37.8	217	275	260	469	273	324	285	450
Uranium	0.0124	0.0201	0.0200	0.0375	0.0180	0.0398	0.0536	0.0707	0.0101	0.0043	0.0174	0.230	0.231	0.159	0.163	0.0695	0.849	0.0771
Vanadium	0.002	0.003	0.003	0.005	0.006	<0.001	<0.001	0.002	0.004	0.002	0.010	0.003	0.003	0.004	0.005	0.001	0.002	0.002
Zinc	0.029	0.089	0.089	0.022	0.013	0.014	0.024	0.017	0.012	0.009	0.090	0.003	0.001	0.010	0.014	0.202	0.011	3.26
DISSOLVED METALS CONCENTRATIONS																		
Aluminum	0.004	0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.009	0.003	0.001	0.004	0.003
Arsenic	<0.001	<0.001	<0.001	0.001	0.002	<0.001	<0.001	<0.001	0.002	0.003	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001

2005 SAMPLING RESULTS	RW-1	RW-2	RW-2 Dup	RW-4	RW-5	RW-6	RW-7	RW-8	RW-9	RW-10	RW-11	RW-12	RW-12 Dup	RW-13	RW-14	RW-15	RW-16	RW-17
Barium	0.008	0.020	0.019	0.012	0.016	0.014	0.017	0.011	0.040	0.032	0.017	0.013	0.013	0.021	0.017	0.012	0.013	0.012
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	5	139	139	169	161	212	286	241	134	101	136	238	211	9.8	232	272	236	226
Chromium	<0.001	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	0.002	0.004	0.004	0.003	0.012	0.002	0.002	0.002	<0.001	0.001	0.001	0.004	0.004	<0.001	0.003	0.002	0.002	0.002
Iron	0.12	0.04	0.04	0.02	<0.01	<0.01	<0.01	0.23	0.11	<0.01	0.44	0.03	<0.01	0.01	0.03	<0.01	0.47	0.02
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	1.0	36.3	36.0	49.6	43.8	53.0	65.7	56.6	36.4	37.7	39.0	70.6	58.9	1.9	64.5	68.4	61.9	59.4
Manganese	0.021	0.003	0.003	0.001	<0.001	<0.001	<0.001	0.006	0.003	<0.001	0.010	<0.001	<0.001	<0.001	0.002	<0.001	0.029	0.216
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	0.014	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	0.081	0.081	0.004	0.041	<0.001	<0.001	0.003
Nickel	<0.001	0.018	0.018	0.001	0.002	0.002	0.003	0.003	0.001	<0.001	0.005	0.004	0.004	<0.001	0.006	0.002	0.003	0.003
Potassium	1.0	4.6	4.7	3.8	5.6	4.8	4.5	3.6	3.2	2.9	4.1	6.0	5.0	1.6	5.4	3.8	4.1	4.8
Radium 226 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Radium 228 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	1.7
Selenium	<0.001	0.027	0.028	0.016	0.036	0.032	0.040	0.031	0.025	0.009	0.017	0.029	0.029	0.171	0.032	0.038	0.018	0.033
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	470	247	246	213	229	288	370	352	89.8	37.7	208	257	250	458	266	319	256	450
Thorium 230 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium	0.0123	0.0197	0.0199	0.0369	0.0175	0.0395	0.0467	0.0689	0.0100	0.0042	0.0171	0.230	0.227	0.158	0.162	0.0683	0.837	0.0827
Vanadium	0.002	0.003	0.003	0.004	0.006	<0.001	<0.001	0.001	0.004	0.002	0.004	0.003	0.003	0.004	0.004	0.001	<0.001	<0.001
Zinc	0.009	0.084	0.083	0.015	0.008	0.014	0.030	0.006	0.009	0.009	0.028	0.021	0.024	0.008	0.015	0.191	0.011	1.98

2005 SAMPLING RESULTS	RW-18	RW-19	RW-20	RW-21	RW-22	RW-23	RW-24	RW-25	RW-26	RW-27	RW-28	RW-29	RW-30	RW-31	RW-32	RW-33	RW-34	RW-35
A/C Balance (± 5) (%)	0.613	1.73	3.13	1.88	1.08	0.095	0.615	0.114	3.50	0.791	1.79	1.57	2.31	0.866	0.213	0.579	0.452	2.92
Alkalinity, Total as CaCO3	387	285	230	347	428	370	350	430	365	440	435	365	345	210	484	338	280	258
Anions	45.4	21.0	25.0	37.9	27.6	20.2	26.7	28.7	26.7	28.0	25.9	16.2	34.9	34.5	29.8	30.5	13.3	25.7
Bicarbonate as HCO3	473	348	281	424	523	451	413	525	445	537	531	445	421	256	591	412	341	304
Carbonate as CO3	<1	<1	<1	<1	<1	<1	9	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	7
Cations (meq/L)	44.8	21.7	23.5	36.5	28.2	20.2	27.0	28.7	28.6	28.5	26.8	16.7	36.5	35.1	29.7	30.2	13.4	24.3
Chloride	318	83	97	229	191	139	167	209	184	182	174	73	226	163	209	189	34	84
pH (s.u.)	7.59	7.98	7.77	7.61	7.43	7.99	8.57	7.38	7.37	7.52	7.52	7.67	7.63	7.73	7.65	7.77	7.84	8.58
Solids, Total Dissolved Calculated	2860	1340	1570	2370	1690	1210	1720	1730	1680	1720	1600	984	2230	2270	1800	1910	810	1680
Solids, Total Dissolved TDS @ 180 C	2980	1360	1580	2540	1810	1230	1780	1830	1760	1760	1670	952	2320	2400	1900	1950	832	1630
Sulfate	1360	627	727	1170	648	423	714	677	664	618	587	302	1050	1390	677	877	311	873
TDS Balance (0.80 - 1.20) (dec. %)	1.04	1.01	1.01	1.07	1.07	1.02	1.03	1.06	1.05	1.02	1.04	0.970	1.04	1.06	1.06	1.02	1.03	0.970
Nitrogen, Nitrite as N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrogen, Nitrate as N		1.2	16.0			0.4	0.6	1.9	2.3	2.1	0.9	1.4	3.1	0.8	1.6	2.3	4.1	<0.1
Nitrogen, Nitrate+Nitrite as N	4.9	1.2	16.0	3.0	2.5	0.5	0.7	1.9	2.3	2.1	0.9	1.4	3.1	0.8	1.6	2.3	4.2	<0.1
TOTAL METALS CONCENTRATIONS																		
Aluminum	0.008	0.008	0.005	0.019	0.042	0.023	0.003	0.001	0.001	0.004	0.019	0.006	0.003	0.166	0.003	0.004	0.002	0.004
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.001	0.004	<0.001	<0.001	0.001	<0.001	<0.001	0.002	0.001
Barium	0.014	0.016	0.021	0.019	0.015	0.036	0.013	0.015	0.016	0.012	0.012	0.016	0.014	0.012	0.020	0.012	0.040	0.007

2005 SAMPLING RESULTS	RW-18	RW-19	RW-20	RW-21	RW-22	RW-23	RW-24	RW-25	RW-26	RW-27	RW-28	RW-29	RW-30	RW-31	RW-32	RW-33	RW-34	RW-35
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	371	174	172	323	219	117	6.8	228	226	231	218	101	304	210	262	257	156	8.9
Chromium	0.002	<0.001	<0.001	<0.001	<0.001	0.008	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.001	0.029	<0.001	<0.001	<0.001	<0.001
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Copper	0.050	0.001	0.002	0.006	0.004	0.056	<0.001	0.032	0.001	0.003	0.012	0.181	0.004	0.018	0.006	0.002	0.002	0.002
Iron	0.25	0.06	0.02	0.64	0.04	39.8	0.70	0.44	<0.01	0.03	15.2	0.02	<0.01	3.50	0.01	<0.01	0.18	0.01
Lead	0.010	<0.001	<0.001	0.004	<0.001	0.004	<0.001	0.002	<0.001	0.004	0.009	0.006	<0.001	0.015	<0.001	<0.001	<0.001	<0.001
Magnesium	84.8	43.4	65.6	75.5	64.6	50.8	1.4	75.0	68.1	66.1	64.1	34.4	71.8	50.5	66.4	60.2	42.9	1.2
Manganese	0.004	0.272	0.001	0.004	0.005	0.469	0.047	0.007	<0.001	<0.001	0.061	<0.001	<0.001	0.194	<0.001	<0.001	0.006	0.001
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.001	0.002	0.002	<0.001	0.070	<0.001	<0.001	0.005	0.066	0.076	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	0.010
Nickel	0.004	0.002	0.003	0.004	0.002	0.006	<0.001	0.003	0.002	0.004	0.002	0.002	0.003	0.003	0.003	0.003	<0.001	<0.001
Potassium	4.6	5.0	8.2	5.1	5.7	7.7	1.8	8.5	6.5	4.4	4.8	6.9	5.4	6.7	6.5	5.4	4.2	1.3
Selenium	0.037	0.061	0.024	0.036	0.029	0.015	0.035	0.012	0.025	0.022	0.014	0.021	0.038	0.035	0.009	0.054	0.012	0.002
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	455	224	242	348	284	230	610	272	270	271	249	199	345	484	275	298	61.1	547
Uranium	0.0924	0.0263	0.0212	0.0534	0.186	0.0071	0.0854	0.0376	0.189	0.730	0.0594	0.0209	0.0546	0.0812	0.0373	0.0590	0.0103	0.0180
Vanadium	0.001	<0.001	<0.001	<0.001	0.004	0.013	0.002	0.005	0.004	0.003	0.012	0.003	0.001	0.008	<0.001	<0.001	0.003	<0.001
Zinc	0.033	0.275	0.003	0.496	0.004	0.038	0.045	0.020	0.004	0.008	0.776	0.063	0.005	0.365	0.064	0.001	0.008	0.007
DISSOLVED METALS CONCENTRATIONS																		
Aluminum	0.001	<0.001	0.002	0.002	0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.003	<0.001	0.002	<0.001	0.002
Arsenic	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.001
Barium	0.015	0.016	0.022	0.018	0.015	0.021	0.012	0.015	0.016	0.011	0.010	0.016	0.014	0.012	0.020	0.012	0.040	0.007
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	371	168	169	308	224	116	6.7	231	219	231	222	105	301	210	251	250	149	8.5
Chromium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	0.002	<0.001	<0.001	<0.001
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	0.003	0.001	0.002	0.004	0.004	<0.001	<0.001	0.002	0.001	0.002	0.001	0.003	0.003	0.002	0.001	0.002	0.002	0.002
Iron	0.04	0.04	<0.01	0.02	<0.01	0.39	0.20	0.39	<0.01	0.02	2.08	<0.01	<0.01	0.50	<0.01	<0.01	<0.01	<0.01
Lead	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	84.5	42.4	62.9	75.2	65.6	48.8	1.4	69.7	65.4	65.1	58.0	32.3	70.0	49.0	63.4	57.8	40.5	1.2
Manganese	0.002	0.266	<0.001	0.003	0.002	0.098	0.045	0.007	<0.001	<0.001	0.038	0.003	<0.001	0.181	<0.001	<0.001	0.004	0.001
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.001	0.002	0.002	<0.001	0.070	<0.001	<0.001	0.005	0.065	0.076	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	0.010
Nickel	0.003	0.002	0.003	0.003	0.002	0.001	0.001	0.002	0.002	0.004	0.002	0.002	0.003	0.002	0.002	0.003	<0.001	<0.001
Potassium	2.3	4.7	8.3	3.0	5.8	7.6	1.8	8.6	6.5	4.7	3.9	7.3	5.7	6.4	6.1	5.4	3.8	0.8
Radium 226 (pCi/L)	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Radium 228 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	1.3
Selenium	0.03	0.061	0.024	0.036	0.029	0.015	0.034	0.013	0.025	0.022	0.017	0.021	0.037	0.034	0.010	0.054	0.012	0.002
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	444	224	245	342	264	234	609	257	278	264	248	199	358	470	271	294	59.6	545
Thorium 230 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Uranium	0.0909	0.0263	0.0217	0.0534	0.184	0.0067	0.0849	0.0353	0.180	0.725	0.0561	0.0208	0.0537	0.0798	0.0257	0.0587	0.0101	0.0182
Vanadium	0.001	<0.001	<0.001	<0.001	0.004	<0.001	0.002	0.005	0.004	0.003	0.002	0.003	0.001	0.003	0.002	<0.001	0.003	<0.001
Zinc	0.017	0.275	0.004	0.483	0.006	0.013	0.031	0.009	0.004	0.007	0.123	0.011	0.005	0.118	0.208	0.001	0.008	0.004

MAY 2006 SAMPLING RESULTS	RW-6A	RW-6B	RW-7	RW-7A	RW-9	RW-11	RW-15	RW-15	RW-17	RW-17	RW-19	RW-20	RW-20A	RW-20B	RW-34	RW-36A	RW-36B	RW-37A	RW-37B	RW-38
MAJOR ANIONS																				
Alkalinity, Total as CaCO3	276	286	344	134	215	379	423	413	311	296	265	252	246	253	279	121	220	271	264	290
Carbonate as CO3	<1	<1	<1	<1	<1	<1	<1	2.03	<1	0.983	<1	<1	1.05	1.53	<1	2	<1	6	8	10
Bicarbonate as HCO3	337	349	419	163	262	462	515	411	380	295	323	308	245	251	340	144	268	321	308	337
Chloride	97	92	236	67	91	83	215	192	215	184	76	111	98.2	98.8	34	37	47	50	50	41
Nitrogen, Nitrate as N	3.7	3.6	4	5	7.5	1.3	2.9	2.84	4.3	4.01	1	24.6	25.3	24.7	4.6	0.7	3.1	2	2	1
Nitrogen, Nitrate+Nitrite as N	3.7	3.6	4	5	7.5	1.3	2.9	2.91	4.3	3.84	1.1	24.6	24.3	21.6	4.6	0.7	3.2	2	2	1
Nitrogen, Nitrite as N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	0	<0.1	<0.1	0	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulfate	697	794	2340	38	323	297	857	755	1300	1190	683	842	766	754	253	149	299	245	245	167
PHYSICAL PROPERTIES																				
pH (s.u.)	7.9	7.8	7.8	7.53	7.93	7.77	7.65	7.6	7.63	7.47	7.97	7.9	7.65	7.7	7.87	8.45	7.74	8.5	8.68	8.73
TDS	1400	1400	2390	334	852	1010	1970	2040	2520	2550	1370	1740	1740	1750	814	380	710	698	700	598
DISSOLVED METALS CONCENTRATIONS																				
Aluminum	<0.001	<0.001	<0.001	0.001	0.002	0.004	<0.001		<0.001		0.026	0.006			<0.001	0.006	0.006	0.001	0.002	0.003
Arsenic	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.00162	<0.001	0.00141	<0.001	<0.001	0.00107	0.00117	0.002	<0.001	0.001	0.003	0.003	0.004
Barium	0.013	0.014	0.017	<0.001	0.04	0.015	0.011		0.01		0.015	0.026			0.037	0.017	0.089	0.019	0.02	0.026
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	179	173	304	<0.5	129	113	259		229		170	201			154	27.5	96.4	5.9	7.5	3.3
Chromium	0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.002		0.002		<0.001	0.001			<0.001	0.001	0.001	0.002	0.002	0.003
Cobalt	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001		<0.001		0.001	0.002			<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Copper	0.001	0.009	0.006	<0.001	0.002	0.001	0.002		0.007		0.002	0.002			0.002	<0.001	<0.001	<0.001	<0.001	0.001
Iron	0.02	<0.01	0.02	0.01	0.08	0.44	<0.01	0.912	0.92	1.58	0.04	<0.01	0.695	0.649	<0.01	0.02	0.01	<0.01	<0.01	<0.01
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium	45.3	44.8	67.8	<0.5	34	34.4	68.3		63		43.3	73.9			42.6	13.8	32.6	1.1	1.4	0.6
Manganese	0.001	0.002	0.002	<0.001	0.004	0.004	<0.001	0.00123	0.099	0.128	0.453	<0.001	0.000731	0.000581	0.003	0.018	0.301	<0.001	<0.001	<0.001
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002		<0.0002	<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.001	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.000594	0.004	0.00555	0.003	0.002	0.00252	0.00239	<0.001	0.007	0.002	0.003	0.003	0.003
Nickel	0.002	0.002	0.003	<0.001	<0.001	0.001	0.003		0.003		0.002	0.003			<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Potassium	3.7	4.2	6.3	<0.5	3	3.7	4.4		4.7		5	7.6			3.4	3.4	4	2.3	2.3	1.9
Selenium	0.025	0.027	0.038	<0.001	0.026	0.018	0.03	0.0275	0.033	0.0241	0.063	0.026	0.0223	0.0223	0.013	0.002	0.01	0.012	0.013	0.008
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	223	216	403	74.4	104	198	293		470		218	248			59.6	85.1	86	250	257	221
Uranium	0.0312	0.0317	0.054	<0.0003	0.0111	0.0151	0.0657	0.059537	0.0706	0.062254	0.0202	0.023	0.021555	0.02115	0.0092	0.0014	0.0081	0.0161	0.0158	0.0178
Vanadium	0.001	0.001	0.002	<0.001	0.005	0.005	0.002	0.00337	<0.001	0.00215	0.001	0.004	0.00224	0.00282	0.003	0.002	0.003	0.017	0.017	0.026
Zinc	0.018	0.022	0.059	0.002	0.04	0.013	0.055		0.384		0.081	0.003			0.014	0.005	0.003	0.017	0.023	0.003
TOTAL METALS CONCENTRATIONS																				
Aluminum	0.005	0.014	0.001	<0.001	0.004	0.157	0.006		0.076		1.34	0.008			<0.001	2.96	5.2	0.003	0.002	0.003
Arsenic	<0.001	<0.001	<0.001	<0.001	0.002	0.001	<0.001	0.00194	0.002	0.00345	0.002	<0.001	0.000698	0.000976	0.002	0.008	0.007	0.003	0.003	0.004

MAY 2006 SAMPLING RESULTS	RW-6A	RW-6B	RW-7	RW-7A	RW-9	RW-11	RW-15	RW-15	RW-17	RW-17	RW-19	RW-20	RW-20A	RW-20B	RW-34	RW-36A	RW-36B	RW-37A	RW-37B	RW-38
Barium	0.014	0.014	0.017	<0.001	0.04	0.018	0.012		0.011		0.043	0.037			0.04	0.063	0.132	0.019	0.02	0.026
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	176	173	289	<0.5	123	114	254	268	263	260	177	197	208	209	151	25.1	98.2	6.9	6.9	3.2
Chromium	<0.001	<0.001	<0.001	0.001	0.001	<0.001	0.001		0.002		<0.001	<0.001			<0.001	0.002	0.004	0.001	0.001	0.002
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		0.002	0.002			<0.001	0.001	0.003	<0.001	<0.001	<0.001
Copper	0.003	0.007	0.008	<0.001	0.002	0.002	0.001		0.048		0.033	0.002			0.002	0.007	0.009	<0.001	<0.001	0.001
Iron	0.02	<0.01	0.03	0.02	0.19	1.02	0.02	0.908	6.33	11.4	1.79	0.04	0.755	0.709	0.06	15	7.61	<0.01	<0.01	<0.01
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		0.003		0.018	<0.001			<0.001	0.02	0.006	<0.001	<0.001	<0.001
Magnesium	44.2	43.6	66.2	<0.5	32.5	34.3	65	66	66.7	60.9	42.3	71.8	76.7	72.8	41.6	7.4	33.6	1.4	1.3	0.6
Manganese	0.002	0.002	<0.001	<0.001	0.006	0.01	0.001	0.000984	0.061	0.1	1.37	0.004	0.00395	0.00148	0.003	0.096	0.373	<0.001	<0.001	<0.001
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002		<0.0002	<0.0002			<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.001	0.001	<0.001	<0.001	0.002	0.001	<0.001	0.00061	0.004	0.00318	0.003	0.002	0.00242	0.00248	<0.001	0.013	0.001	0.003	0.003	0.003
Nickel	0.002	0.002	0.003	<0.001	<0.001	0.002	0.004		0.004		0.003	0.004			0.001	0.003	0.006	<0.001	<0.001	<0.001
Potassium	3.5	3.4	6.4	0.6	3	3.2	3.4	3.79	4.3	4.44	4.2	7.4	7.59	8.03	3.3	4.8	4.9	2.3	2.3	1.9
Selenium	0.026	0.027	0.037	0.001	0.025	0.017	0.03	0.029	0.04	0.0347	0.062	0.023	0.0212	0.0231	0.012	<0.001	0.009	0.011	0.012	0.009
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	217	219	401	135	103	193	296	332	453	506	216	243	282	288	58.9	75.2	86.9	249	261	228
Uranium	0.0334	0.034	0.054	<0.0003	0.0109	0.0155	0.0686	0.0611	0.0818	0.0669	0.0228	0.024	0.0219	0.0216	0.01	0.0007	0.009	0.017	0.0169	0.0195
Vanadium	0.002	0.002	0.001	<0.001	0.005	0.005	0.002	0.00302	0.003	0.00634	0.005	0.001	0.00141	0.00059	0.004	0.007	0.11	0.016	0.016	0.026
Zinc	0.017	0.019	0.09	<0.001	0.05	0.015	0.057		0.483		0.433	0.003			0.01	0.299	0.096	0.017	0.024	0.003
Radionuclides - Dissolved																				
Rd-226 + Rd-228 (pCi/L)																				
Radium 226 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.547	<1.0	0.525	<1.0	<1.0	0.387	0.833	<1.0	<1.0	1.6	<1.0	<1.0	<1.0
Radium 226 precision (±) (pCi/L)								±0.137		±0.139			±0.123	±0.149		0.4	0.6	0.6		
Radium 228 (pCi/L)	<1.0	<1.0	<1.0	1.7	<1.0	<1.0	<1.0	-0.012	<1.0	1.52	<1.0	<1.0	1.34	-0.456	<1.0	1.9	1.6	3.4	6.4	1.3
Radium 228 precision (±) (pCi/L)				0.9				±0.0518		±0.555			±0.468	±0.470		0.9	0.9	0.9	1	0.9
Thorium 230 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.0417	<1.0	0.0122	<1.0	<1.0	-0.0242	-0.0323	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thorium 230 precision (±) (pCi/L)								±0.0417		±0.0365			±0.022	±0.0249						

MAY 2006 SAMPLING RESULTS	RW-39	RW-40	RW-41	RW-42	RW-43	RW-44A	RW-44B	RW-45	RW-46	RW-47	RW-48	RW-48	RW-49	RW-50	RW-51	RW-52	RW-53	RW-54
MAJOR ANIONS																		
Alkalinity, Total as CaCO3	435	316	429	265	275	275	275	345	336	255	311	295	245	360		224	300	228
Carbonate as CO3	<1	<1	<1	<1	<1	<1	5	<1	<1	6	<1	1.15	4	<1	<1	<1	18	<1
Bicarbonate as HCO3	531	386	523	323	336	336	327	421	410	301	380	294	292	439	372	273	335	278
Chloride	35	77	200	48	68	45	45	205	48	48	264	234	101	174	625	4	139	31
Nitrogen, Nitrate as N	2.8	3.7	6.2	3.8	3.6	1.5	1.4	4.2	2.9	1.5	5.2	5.51	1.7	<0.1	0.4	4.8	<0.1	5.6
Nitrogen,	2.8	3.7	6.2	3.8	3.6	1.5	1.4	4.2	2.9	1.5	5.2	4.91	1.8	<0.1	0.4	4.8	<0.0	5.6

MAY 2006 SAMPLING RESULTS	RW-39	RW-40	RW-41	RW-42	RW-43	RW-44A	RW-44B	RW-45	RW-46	RW-47	RW-48	RW-48	RW-49	RW-50	RW-51	RW-52	RW-53	RW-54
Nitrate+Nitrite as N																		
Nitrogen, Nitrite as N	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sulfate	390	753	1210	439	461	179	179	1210	606	222	1660	1450	408	1010	660	185	304	25
PHYSICAL PROPERTIES																		
pH (s.u.)	7.79	8.02	7.6	7.83	7.84	7.88	8.42	7.78	7.92	8.56	7.65	7.5	8.43	7.86	7.98	7.75	8.99	7.95
TDS	1010	1500	2370	934	1030	606	608	2290	1330	658	3030	3060	1120	1950	2250	542	966	572
DISSOLVED METALS CONCENTRATIONS																		
Aluminum	0.001	<0.001	0.002	0.004	<0.001	0.003	0.014	0.002	<0.001	0.003	0.001		0.001	<0.001	0.003	<0.001	0.003	<0.001
Arsenic	<0.001	<0.001	0.002	0.001	<0.001	0.002	0.002	<0.001	<0.001	0.002	<0.001	0.00235	<0.001	0.001	0.001	<0.001	0.005	<0.001
Barium	0.033	0.016	0.012	0.015	0.012	0.022	0.022	0.016	0.017	0.016	0.006		0.011	0.006	0.011	0.026	0.015	0.027
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	248	163	224	152	164	6.6	7	285	139	7.6	308		19.8	16.3	15.5	93.7	3.2	87.5
Chromium	0.003	0.002	0.004	<0.001	<0.001	0.004	0.004	0.003	<0.001	0.001	0.002		0.001	0.002	0.002	<0.001	<0.001	0.001
Cobalt	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper	0.001	0.005	0.002	0.003	<0.001	0.001	0.001	0.002	0.007	0.002	0.003		<0.001	<0.001	0.003	0.001	<0.001	0.005
Iron	<0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	<0.01	<0.01	<0.01	0.03	1	0.05	0.02	0.02	0.04	0.11	0.03
Lead	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	0.001	0.001	<0.001	<0.001
Magnesium	52.1	43.8	59.1	44.4	51.8	1.8	1.8	62.1	39.5	2.3	77.7		5.2	5	1.7	41.2	<0.5	39
Manganese	<0.001	0.002	<0.001	<0.001	0.002	0.002	<0.001	0.001	0.001	<0.001	0.009	0.00945	0.004	0.025	0.021	0.001	0.011	0.003
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.001	0.001	0.002	0.001	<0.001	0.002	0.002	<0.001	0.002	0.002	0.003	0.00298	0.003	0.027	0.036	0.002	0.013	0.002
Nickel	<0.001	0.002	0.002	0.001	0.001	<0.001	<0.001	0.002	0.002	<0.001	0.003		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Potassium	2.2	4.1	7.2	5.1	6.6	2.5	2.4	6.1	3.1	1.9	5.6		2.5	3.4	1.9	2.2	1	2.5
Selenium	0.006	0.024	0.076	0.018	0.011	0.009	0.009	0.054	0.018	0.011	0.046	0.047	0.101	0.003	0.002	0.004	<0.001	0.005
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	40.6	266	436	97.3	107	220	221	349	268	236	548		361	635	764	36.2	358	46.3
Uranium	0.0073	0.0366	0.265	0.0059	0.0054	0.0166	0.017	0.0462	0.0458	0.0155	0.0811	0.072933	0.0252	0.0094	0.0247	0.0042	0.0114	0.0044
Vanadium	0.008	0.003	0.006	0.003	0.002	0.013	0.013	0.002	0.001	0.013	0.001	0.00281	0.012	<0.001	0.007	0.003	0.01	0.002
Zinc	0.029	0.012	0.009	0.012	0.012	0.013	0.016	0.016	0.019	0.003	0.349		0.006	0.001	0.098	0.184	0.036	0.024
TOTAL METALS CONCENTRATIONS																		
Aluminum	<0.001	0.002	0.008	0.001	0.001	0.009	0.005	0.001	0.001	0.021	0.107		0.028	0.002	0.006	0.002	0.004	0.001
Arsenic	0.001	<0.001	0.002	0.001	<0.001	0.002	0.002	<0.001	<0.001	0.002	<0.001	0.00232	0.002	0.001	0.001	<0.001	0.005	<0.001
Barium	0.033	0.017	0.012	0.015	0.012	0.022	0.023	0.016	0.017	0.017	0.008		0.012	0.007	0.011	0.026	0.015	0.027
Cadmium	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium	227	155	213	146	155	6.6	6.8	270	133	7.4	286	315	19.3	15.7	14.7	85.5	3.3	86.1
Chromium	0.002	<0.001	0.003	<0.001	<0.001	0.003	0.003	0.002	<0.001	0.002	0.002		0.002	0.006	0.002	<0.001	0.001	0.001
Cobalt	<0.001	0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	0.001	<0.001	<0.001
Copper	0.001	0.005	0.002	0.004	<0.001	0.001	0.001	0.003	0.012	0.002	0.005		0.01	0.001	0.003	0.004	<0.001	0.006
Iron	0.03	<0.01	0.01	<0.01	0.04	0.06	0.01	<0.01	0.12	0.01	3.01	1.51	0.19	0.13	0.06	0.17	0.47	0.21
Lead	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002		<0.001	<0.001	0.001	0.002	<0.001	<0.001
Magnesium	46.7	41.4	56.9	42.8	48.1	1.7	1.8	59.2	37.6	2.2	74	72.8	5.1	4.8	1.6	38.6	<0.5	37.9

MAY 2006 SAMPLING RESULTS	RW-39	RW-40	RW-41	RW-42	RW-43	RW-44A	RW-44B	RW-45	RW-46	RW-47	RW-48	RW-48	RW-49	RW-50	RW-51	RW-52	RW-53	RW-54
Manganese	0.001	0.002	<0.001	<0.001	0.002	0.002	0.002	<0.001	0.003	<0.001	0.042	0.019	0.004	0.027	0.02	0.002	0.013	0.007
Mercury	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002		<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Molybdenum	<0.001	0.002	0.002	0.001	<0.001	0.003	0.003	<0.001	0.002	0.002	0.003	0.00285	0.004	0.027	0.037	0.002	0.013	0.002
Nickel	0.006	0.002	0.002	0.002	<0.001	<0.001	<0.001	0.003	0.002	<0.001	0.004		<0.001	0.001	<0.001	<0.001	<0.001	<0.001
Potassium	2.2	4.2	7.2	5.1	6.6	2.5	2.5	6	2.8	1.7	4.6	4.67	2.3	2.4	1.9	2.4	1	2.3
Selenium	0.006	0.022	0.079	0.02	0.012	0.009	0.009	0.056	0.018	0.012	0.045	0.0454	0.105	0.005	0.002	0.004	<0.001	0.004
Silver	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium	40.3	272	432	97.5	110	224	223	346	255	228	569	6.55	356	645	818	34.8	384	43.6
Uranium	0.008	0.039	0.287	0.0066	0.0058	0.0176	0.0181	0.0497	0.0487	0.0166	0.0857	0.0736	0.0267	0.0103	0.0245	0.0042	0.0117	0.0044
Vanadium	0.007	0.002	0.007	0.003	0.002	0.012	0.014	0.002	0.001	0.013	0.002	0.00325	0.013	<0.001	0.007	0.002	0.011	0.002
Zinc	0.03	0.012	0.009	0.013	0.013	0.013	0.02	0.017	0.014	0.006	0.369		0.012	0.003	0.107	0.211	0.024	0.031
RADIONUCLIDES - DISSOLVED																		
Rd-226 + Rd-228 (pCi/L)																		
Radium 226 (pCi/L)	1.1	<1.0	<1.0	<1.0	1	<1.0	<1.0		<1.0	<1.0	<1.0	0.247	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Radium 226 precision (±) (pCi/L)	0.6				0.6							±0.0987						
Radium 228 (pCi/L)	2.2	2.2	2.1	1.6	1.3	3.2	1.9	2.4	<1.0	<1.0	<1.0	0.92	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Radium 228 precision (±) (pCi/L)	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.9				±0.421						
Thorium 230 (pCi/L)	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	-0.0912	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Thorium 230 precision (±) (pCi/L)												±0.076	0.3					

SEPTEMBER 2006 SAMPLING RESULTS	RW-20	RW-20 duplicate	CW-36
MAJOR ANIONS			
Alkalinity, Total as CaCO3	247	248	223
Carbonate as CaCO3	0.785	0.845	1.02
Bicarbonate as HCO3	247	248	222
Chloride	102	99.2	53.5
Nitrogen, Nitrate as N	27.056	27.257	0.098
Nitrogen, Nitrate+Nitrite as N	27.3	27.5	
Nitrogen, Nitrite as N	0.244	0.243	0.099
Sulfate	686	714	711
PHYSICAL PROPERTIES			
pH (s.u.)	7.54	7.56	7.64
TDS	1890	1870	1860
METALS - DISSOLVED			
Arsenic			0.000383
Iron			0.717
Molybdenum			0.005370
Selenium			0.000176
Uranium			0.003140
Vanadium			-0.000615
METALS - TOTAL			
Arsenic			0.001460
Calcium			97.5
Iron			7.21
Magnesium			26.9
Manganese			0.261
Molybdenum			0..00561
Potassium			7.91
Selenium			-0.000041
Sodium			558
Uranium			0.003730
Vanadium			0.009550
RADIONUCLIDES - DISSOLVED			
Radium 226 (pCi/L)			0.503
Radium 226 precision (±) (pCi/L)			0.163
Radium 228			-0.85
Radium 228 precision (±) (pCi/L)			0.398
Thorium 230 (pCi/L)			-0.0118
Thorium 230 precision (±) (pCi/L)			0.0633

2007 SAMPLING RESULTS	RW-46(01)	RW-46(02)	RW-49(RO)	RW-49	RW-55	RW-55S	RW-56	RW-57	RW-58D	RW-58a	RW-58b
MAJOR ANIONS											
Alkalinity, Total as CaCO3	324	324	20	228	164	164	300	326	392	400	400
Carbonate as CO3	<1	<1	<1	4.6	<1		<1	<1	ND	<1	<1
Bicarbonate as HCO3	395	395	24	223	200		366	398	391	488	488
Chloride	53	55	10	98.1	125	125	59	104	289	300	307
Nitrogen, Nitrate as N	3.8	3.7	0.6	1.52	0.2	0.262	3.6	3.6	2.77	3.1	3.1
Nitrogen, Nitrate+Nitrite as N	3.8	3.7	0.6		0.2		3.6	3.6		3.1	3.1
Nitrogen, Nitrite as N	<0.1	<0.1	<0.1	ND	<0.1	ND	<0.1	<0.1	ND	<0.1	<0.1
Sulfate	706	723	11	437	1640	1560	547	813	1330	1390	1430
PHYSICAL PROPERTIES											
pH	7.69	7.73	8.1	8.16	7.88	7.74	7.6	7.81	7.2	7.4	7.32
TDS	1480	1470	44	1090	2690	2720	1170	1670	2880	2910	2960
METALS -DISSOLVED											
Aluminum	<0.001	<0.001	0.002		<0.001		<0.001	<0.001		<0.001	<0.001
Arsenic	<0.001	<0.001	<0.001	0.00522	<0.001	ND	0.001	<0.001	ND	<0.001	0.002
Barium	0.02	0.019	<0.001		0.006		0.013	0.015		0.015	0.015
Cadmium	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Calcium	151	151	<0.5		152		172	195		380	384
Chromium	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Cobalt	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Copper	0.01	0.011	<0.001		0.003		<0.001	0.006		0.005	0.006
Iron	<0.01	<0.01	<0.01	0.107	<0.01	0.628	<0.01	0.03	1.94	0.05	0.02
Lead	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Magnesium	42.1	42	<0.5		29		51.2	49.6		84.4	83.2
Manganese	<0.001	<0.001	<0.001	0.00875	0.138	0.149	<0.001	<0.001	ND	<0.001	<0.001
Mercury	<0.0002	<0.0002	<0.0002		<0.0002		<0.0002	<0.0002		<0.0002	<0.0002
Molybdenum	0.002	0.002	<0.001	0.00432	0.009	0.00718	0.001	0.001	ND	<0.03	<0.03
Nickel	0.001	0.001	<0.001		0.001		0.002	0.002		0.003	0.004
Potassium	4	4	<0.5		7.8		6	4.6			
Selenium	0.021	0.021	0.002	0.0968	0.026	0.0249	0.011	0.026	0.0256	0.025	0.029
Silver	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Sodium	277	274	21.4		692		116	305		422	414
Uranium	0.0549	0.055	<0.0003	0.0303	0.0729	0.0777	0.0091	0.0442	0.07	0.074	0.0742
Vanadium	0.001	0.001	<0.001	0.0128	0.004	ND	0.002	0.001	ND	<0.001	0.001
Zinc	0.022	0.024	0.003		0.19		0.003	0.076		0.023	0.027
METALS - TOTAL											
Aluminum	0.004	0.002	0.026		0.003		0.001	<0.001		0.007	0.004
Arsenic	<0.001	<0.001	<0.001	0.00499	<0.001	ND	<0.001	<0.001	ND	0.002	0.002
Barium	0.013	0.019	0.001		0.006		0.013	0.015		0.015	0.015
Cadmium	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Calcium	152	156	<0.5	15.2	142	156	144	169	391	342	340
Chromium	<0.001	<0.001	0.002		<0.001		<0.001	<0.001		0.001	<0.001
Cobalt	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Copper	0.008	0.008	<0.002		0.055		0.001	0.005		0.007	0.009
Iron	0.1	0.1	<0.03	0.974	0.06	0.615	0.01	0.07	2	0.01	<0.01

2007 SAMPLING RESULTS	RW-46(01)	RW-46(02)	RW-49(RO)	RW-49	RW-55	RW-55S	RW-56	RW-57	RW-58D	RW-58a	RW-58b
Lead	<0.001	<0.001	<0.001		0.003		<0.001	<0.001		<0.001	<0.001
Magnesium	42.1	43.1	<0.05	3.53	25.9	26.3	41.5	41.6	85.2	82.7	79.8
Manganese	1.4	0.004	<0.001	0.0167	0.164	0.155	<0.001	0.001	ND	<0.001	<0.001
Mercury	<0.0002	<0.0002	<0.0002		<0.0002		<0.0002	<0.0002		<0.0002	<0.0002
Molybdenum	0.002	0.002	<0.001	0.00414	0.008	0.0072	0.002	0.001	ND	<0.001	<0.001
Nickel	<0.001	<0.001	<0.001		0.001		0.001	<0.001		0.005	0.003
Potassium	3.8	4	<0.05	2.52	7.6	6.52	5.4	4.4	5.07	5.5	5.4
Selenium	0.019	0.019	<0.002	0.0946	0.026	0.0252	0.013	0.025	0.0255	0.026	0.027
Silver	<0.001	<0.001	<0.001		<0.001		<0.001	<0.001		<0.001	<0.001
Sodium	279	288	18.5	386	746	739	185	322	436	399	383
Uranium	0.0514	0.0524	<0.0003	0.0303	0.0872	0.0809	0.0258	0.0475	0.0703	0.0727	0.0715
Vanadium	<0.006	<0.001	0.001	0.012	0.004	ND	0.002	0.001	ND	<0.001	<0.001
Zinc	0.022	0.023	0.016		0.228		0.003	0.109		0.072	0.055
RADIONUCLIDES - DISSOLVED											
Rd-226 + Rd-228 (pCi/L)											
Radium 226 (pCi/L)	<0.2	<0.2	<0.2	0.235	<0.2	0.442	<0.2	<0.2	0.316	<0.2	0.5
Radium 226 precision (±)(pCi/L)											0.3
Radium 228 (pCi/L)	<1.0	<1.0	<1.0	0.211	<1.0	0.993	2.6	<1.0	3.34	<1	2
Radium 228 precision (±)(pCi/L)							0.9				1
Thorium 230	<0.2	<0.2		0.0354	<0.2	no test	<0.2	<0.2	0.0639	<0.2	<0.2
Thorium 230 precision (±)(pCi/L)	324	324	20	228	164	164	300	326	392	400	400

Table 5: Federal, State, and Site/aquifer-specific standards contaminants of concern

Contaminant	Federal MCLs and [SMCLs]	NMWQCC standards	Alluvial aquifer	All Chinle mixing zone aquifers	Upper Chinle non-mixing zone aquifer	Middle Chinle non-mixing zone aquifer	Lower Chinle non-mixing zone aquifer
Uranium	0.03	0.03	0.16	0.18	0.09	0.07	0.02
Selenium	0.05	0.05	0.32	0.14	0.06	0.07	0.32
Sulfate	[250]	600	1500	1750	914	857	2000
Chloride	[250]	250	250*	250*	412	250*	634
TDS	[500]	1000	2734	3140	2010	1560	4140
Nitrate	10	10	12	15	10*	10*	10*

Notes to Table 5:

- All concentrations are **mg/L**.
- Federal and Site/aquifer-specific metal contaminant standards are based upon total metal concentrations; NMWQCC metal contaminant standards are based upon dissolved metal concentrations.
- "Mixing zone" indicates areas where different aquifers are in hydrologic communication; one set of background standards have been derived for mixing zone ground water, regardless of the aquifers in hydrologic communication.

*Actual measured background concentration is below any applicable regulatory standards, and therefore has been set to the lowest applicable regulatory standard value.

Table 6: Specific contaminant standard exceedances, by well

NMED Well number	Residence connected to Village of Milan water?	Completion formation	Uranium (U)			Selenium (Se)			Nitrate (NO_3)		Lead (Pb)	Aluminum (Al)	Total Dissolved Solids (TDS)			
			Total U concentration (mg/L) exceeding Federal MCL of 0.03 mg/L	Total U concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Dissolved U concentration (mg/L) exceeding NMWQCC standard of 0.03 mg/L*	Total Se concentration (mg/L) exceeding Federal MCL of 0.05 mg/L	Total Se concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Dissolved Se concentration (mg/L) exceeding NMWQCC standard of 0.05 mg/L*	NO_3 concentration (mg/L) exceeding Federal MCL and NMWQCC* standards of 10 mg/L	NO_3 concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Total Pb concentration (mg/L) exceeding Federal MCL of 0.015 mg/L	Total Al concentration (mg/L) exceeding Federal SMCL of 0.05-2.0 mg/L and NMWQCC subpart C standard of 5 mg/L***	TDS concentration (mg/L)	TDS concentration exceeds Federal SMCL of 500 mg/L	TDS concentration exceeds NMWQCC standard of 1000 mg/L**	TDS concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)
RW-1	Yes	MC									0.021		1430	X	X	
RW-2	Yes	MC											1370	X	X	
RW-4	Yes	A	0.0375		0.0369								1510	X	X	
RW-5	Yes	A											1380	X	X	
RW-6	**No**	A	0.0398		0.0395								1820	X	X	
RW-7	**No**	A	0.0540		0.0540								2390	X	X	
RW-8	Yes	A	0.0707		0.0689								2090	X	X	
RW-9	**No**	LC-mz											884	X		X
RW-10	Yes	LC											562	X		
RW-11	Yes	A											1180	X	X	
RW-12	Yes	A	0.2310	X	0.2300								1920	X	X	
RW-13	Yes	MC	0.1590	X	0.1580	0.174	X	0.1710					1560	X	X	
RW-14	Yes	UC-mz	0.1630		0.1620								2020	X	X	
RW-15	Yes	A	0.0695		0.0683								2070	X	X	
RW-16	Yes	A	0.8490	X	0.8370								1790	X	X	
RW-17	Yes	LC	0.0818	X	0.0827						0.034		2550	X	X	
RW-18	Yes	A	0.0924		0.0909								2980	X	X	X
RW-19	Yes	A				0.062		0.063			0.018		1370	X	X	
RW-20	**No**	LC-mz							27.257	X			2110	X	X	
RW-21	Yes	A	0.0534		0.0534								2540	X	X	
RW-22	Yes	MC	0.1860	X	0.1840								1810	X	X	X
RW-23	Yes	A											1230	X	X	
RW-24	Yes	MC	0.0854	X	0.0849								1780	X	X	X
RW-25	Yes	A	0.0376		0.0353								1830	X	X	
RW-26	Yes	MC	0.1890	X	0.1800								1760	X	X	X
RW-27	Yes	A	0.7300	X	0.7250								1760	X	X	
RW-28	Yes	A	0.0594		0.0561								1670	X	X	
RW-29	Yes	A											952	X		
RW-30	Yes	A	0.0546		0.0537								2320	X	X	
RW-31	Yes	A	0.0812		0.0798						0.015		2400	X	X	

NMED Well number	Residence connected to Village of Milan water?	Completion formation	Uranium (U)			Selenium (Se)			Nitrate (NO_3)		Lead (Pb)	Aluminum (Al)	Total Dissolved Solids (TDS)			
			Total U concentration (mg/L) exceeding Federal MCL of 0.03 mg/L	Total U concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Dissolved U concentration (mg/L) exceeding NMWQCC standard of 0.03 mg/L*	Total Se concentration (mg/L) exceeding Federal MCL of 0.05 mg/L	Total Se concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Dissolved Se concentration (mg/L) exceeding NMWQCC standard of 0.05 mg/L*	NO_3 concentration (mg/L) exceeding Federal MCL and NMWQCC* standards of 10 mg/L	NO_3 concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Total Pb concentration (mg/L) exceeding Federal MCL of 0.015 mg/L	Total Al concentration (mg/L) exceeding Federal SMCL of 0.05-2.0 mg/L and NMWQCC subpart C standard of 5 mg/L***	TDS concentration (mg/L)	TDS concentration exceeds Federal SMCL of 500 mg/L	TDS concentration exceeds NMWQCC standard of 1000 mg/L**	TDS concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)
RW-32	Yes	A	0.0373										1900	X	X	
RW-33	Yes	A	0.0590		0.0587	0.054		0.054					1950	X	X	
RW-34	**No**	LC											832	X		
RW-35	Yes	MC											1630	X	X	X
RW-36	Yes	?										5.2	710	X		NA
RW-37	**No**	LC											700	X		
RW-38	**No**	LC											598	X		
RW-39	**No**	LC											1010	X	X	
RW-40	**No**	A	0.0390		0.0366								1500	X	X	
RW-41	Yes	MC-mz	0.2870	X	0.265	0.079		0.076					2370	X	X	
RW-42	**No**	LC-mz											934	X		
RW-43	**No**	SA											1030	X	X	
RW-44	**No**	LC											608	X		
RW-45	**No**	A	0.0497		0.0462	0.056		0.0540					2290	X	X	
RW-46	**No**	SA	0.0524		0.0550								1480	X	X	
RW-47	**No**	LC											658	X		
RW-48	Yes	MC-mz	0.0857		0.0811								3060	X	X	
RW-49	**No**	LC	0.0303		0.0303	0.105		0.101					1120	X	X	
RW-50	**No**	LC											1950	X	X	
RW-51	**No**	UC											2250	X	X	X
RW-52	**No**	?											542	X		NA
RW-53	**No**	MC											966	X		
RW-54	**No**	?											572	X		NA
RW-55	Yes	LC	0.0872	X	0.0777								2720	X	X	
RW-56	**No**	SA											1170	X	X	
RW-57	**No**	LC-mz	0.0475		0.0442								1670	X	X	
RW-58	**No**	A	0.0727		0.0742								2960	X	X	X
Total number of wells exceeding each standard			30	10	29	6	1	6	1	1	4	1	[redacted]	57	44	8

NMED Well number	Residence connected to Village of Milan water?	Completion aquifer	Sulfate (SO_4)				Iron (Fe)		Manganese (Mn)		Chloride (Cl)	
			SO_4 concentration (mg/L)	SO_4 concentration exceeds Federal SMCL of 250 mg/L	SO_4 concentration exceeds NMWQCC standard of 600 mg/L**	SO_4 concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Total Fe concentration exceeding Federal SMCL of 0.3 mg/L	Dissolved Fe concentration exceeding NMWQCC standard of 1.0 mg/L**	Total Mn concentration exceeding Federal SMCL of 0.05 mg/L	Dissolved Mn concentration exceeding NMWQCC standard of 0.2 mg/L**	Cl concentration exceeding Federal SMCL and NMWQCC standard** of 250 mg/L	Cl concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)
RW-1	Yes	MC	689	X	X		0.88					
RW-2	Yes	MC	479	X			0.53					
RW-4	Yes	A	517	X								
RW-5	Yes	A	453	X								
RW-6	**No**	A	859	X	X							
RW-7	**No**	A	2340	X	X	X						
RW-8	Yes	A	877	X	X		0.76					
RW-9	**No**	LC-mz	323	X								
RW-10	Yes	LC										
RW-11	Yes	A	410	X			12.8					
RW-12	Yes	A	720	X	X							
RW-13	Yes	MC	648	X	X							
RW-14	Yes	UC-mz	811	X	X							
RW-15	Yes	A	857	X	X		0.908					
RW-16	Yes	A	659	X	X							
RW-17	Yes	LC	1300	X	X		11.4	1.58	0.229	0.216		
RW-18	Yes	A	1360	X	X						318	X
RW-19	Yes	A	683	X	X		1.79		1.37	0.453		
RW-20	**No**	LC-mz	1010	X	X		0.755					
RW-21	Yes	A	1170	X	X							
RW-22	Yes	MC	648	X	X							
RW-23	Yes	A	423	X								
RW-24	Yes	MC	714	X	X							
RW-25	Yes	A	677	X	X		0.44					
RW-26	Yes	MC	664	X	X							
RW-27	Yes	A	618	X	X							
RW-28	Yes	A	587	X			15.2	2.08				
RW-29	Yes	A	302	X								
RW-30	Yes	A	1050	X	X							
RW-31	Yes	A	1390	X	X		3.5					
RW-32	Yes	A	677	X	X							
RW-33	Yes	A	877	X	X							
RW-34	**No**	LC	311	X								
RW-35	Yes	MC	873	X	X							
RW-36	Yes	?	299	X		NA	15		0.373	0.301		

NMED Well number	Residence connected to Village of Milan water?	Completion aquifer	Sulfate (SO_4)				Iron (Fe)		Manganese (Mn)		Chloride (Cl)	
			SO_4 concentration (mg/L)	SO_4 concentration exceeds Federal SMCL of 250 mg/L	SO_4 concentration exceeds NMWQCC standard of 600 mg/L**	SO_4 concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)	Total Fe concentration exceeding Federal SMCL of 0.3 mg/L	Dissolved Fe concentration exceeding NMWQCC standard of 1.0 mg/L**	Total Mn concentration exceeding Federal SMCL of 0.05 mg/L	Dissolved Mn concentration exceeding NMWQCC standard of 0.2 mg/L**	Cl concentration exceeding Federal SMCL and NMWQCC standard** of 250 mg/L	Cl concentration exceeds Site/aquifer-specific ground water background concentration (see Table 5)
RW-37	**No**	LC					7.61					
RW-38	**No**	LC										
RW-39	**No**	LC	390	X								
RW-40	**No**	A	753	X	X							
RW-41	Yes	MC-mz	1210	X	X							
RW-42	**No**	LC-mz	439	X								
RW-43	**No**	SA	461	X								
RW-44	**No**	LC										
RW-45	**No**	A	1210	X	X							
RW-46	**No**	SA	723	X	X							
RW-47	**No**	LC										
RW-48	Yes	MC-mz	1660	X	X	X	3.01				264	X
RW-49	**No**	LC	437	X			0.974					
RW-50	**No**	LC	1010	X	X							
RW-51	**No**	UC	660	X	X						625	X
RW-52	**No**	?										
RW-53	**No**	MC	304	X			0.47					
RW-54	**No**	?										
RW-55	Yes	LC	1640	X	X		0.615					
RW-56	**No**	SA										
RW-57	**No**	LC-mz	813	X	X							
RW-58	**No**	A	1430	X	X		2	1.94			307	X
Total number of wells exceeding each standard				49	34	2	14	2	3	3	4	4

Notes to Table 6

When multiple samples were taken from a well, the maximum value from NMED sampling was used for this analysis.

Completion formation (information provided by HMC, except as noted for wells inferred to be completed in Chinle mixing zones)	
A	Alluvial
UC	Upper Chinle
UC-mz	Upper Chinle mixing zone, as inferred by well location and correlation to HMC well number, relative to HMC (2006), Figure 3.4-1
MC	Middle Chinle
MC-mz	Middle Chinle mixing zone, as inferred by well location and correlation to HMC well number, relative to HMC (2006), Figure 3.4-2
LC	Lower Chinle
LC-mz	Lower Chinle mixing zone, as inferred by well location and correlation to HMC well number, relative to HMC (2006), Figure 3.4-3
SA	San Andres
?	Completion formation is unknown

NMWQCC ground water standards (20.6.2.3103 NMAC) are based upon dissolved metals concentrations in ground water and are legally enforceable.
*Human Health Standards (subpart A)
**Other Standards for Domestic Water Supply (subpart B)
***Standards for irrigation use (subpart C)

Federal Drinking Water Standards are based upon total metals concentrations in water and apply to public drinking water systems. Primary standards (40 CFR 1 Part 141) (Maximum Contaminant Levels [**MCL**s]) are legally enforceable standards that protect public health by limiting the levels of contaminants in drinking water. Secondary standards (40 CFR 1 Part 143) (Secondary Maximum Contaminant Levels [**SMCL**s]) are non-enforceable guidelines regulating contaminants that may cause cosmetic effects or aesthetic effects in drinking water.

Site/aquifer ground water background concentrations represent cleanup goals that have been established by the EPA for the restoration of site ground water quality to pre-milling conditions (see Table 5).

Blanks indicate no exceedance of standards for the specified contaminant was recorded from NMED sampling results.

NA entered into the **Site/aquifer ground water background concentrations** indicates that an exceedance cannot be determined because the completion aquifer is unknown.

Table 7: Types of ground water contaminant standards exceedances, by well

NMED residential well designation	Completion aquifer	Federal standards		NMWQCC standards			Number of Site/aquifer-specific standards exceeded	Total number of standards exceeded	Resident connected to City water?
		Number of primary MCLs exceeded	Number of secondary MCLs exceeded	Human Health standards (subpart A)	Other standards for domestic water supply (subpart B)	Standards for irrigation use (subpart C)			
RW-1	MC	1	3	0	2	0	0	6	yes
RW-2	MC	0	3	0	1	0	0	4	yes
RW-4	A	1	2	1	1	0	0	5	yes
RW-5	A	0	2	0	1	0	0	3	yes
RW-6	A	1	2	1	2	0	0	6	**no**
RW-7	A	1	2	1	2	0	1	7	**no**
RW-8	A	1	3	1	2	0	0	7	yes
RW-9	LC-mz	0	2	0	0	0	1	3	**no**
RW-10	LC	0	1	0	0	0	0	1	yes
RW-11	A	0	3	0	1	0	0	4	yes
RW-12	A	1	2	1	2	0	1	7	yes
RW-13	MC	2	2	2	2	0	2	10	yes
RW-14	UC-mz	1	2	1	2	0	0	6	yes
RW-15	A	1	3	1	2	0	0	7	yes
RW-16	A	1	2	1	2	0	1	7	yes
RW-17	LC	2	4	1	4	0	1	12	yes
RW-18	A	1	3	1	3	0	2	10	yes
RW-19	A	2	4	1	3	0	0	10	yes
RW-20	LC-mz	1	3	1	2	0	1	7	**no**
RW-21	A	1	2	1	2	0	0	6	yes
RW-22	MC	1	2	1	2	0	2	8	yes
RW-23	A	0	2	0	1	0	0	3	yes
RW-24	MC	1	2	1	2	0	2	8	yes
RW-25	A	1	2	1	2	0	0	6	yes
RW-26	MC	1	2	1	2	0	2	8	yes
RW-27	A	1	2	1	2	0	1	7	yes
RW-28	A	1	2	1	1	0	0	5	yes
RW-29	A	0	2	0	0	0	0	2	yes
RW-30	A	1	2	1	2	0	0	6	yes
RW-31	A	2	2	1	2	0	0	7	yes
RW-32	A	1	2	0	2	0	0	5	yes
RW-33	A	2	2	2	2	0	0	8	yes
RW-34	LC	0	2	0	0	0	0	2	**no**
RW-35	MC	0	2	0	2	0	1	5	yes
RW-36	?	0	5	0	1	1	NA	7	yes

NMED residential well designation	Completion aquifer	Federal standards		NMWQCC standards			Number of Site/aquifer-specific standards exceeded	Total number of standards exceeded	Resident connected to City water?
		Number of primary MCLs exceeded	Number of secondary MCLs exceeded	Human Health standards (subpart A)	Other standards for domestic water supply (subpart B)	Standards for irrigation use (subpart C)			
RW-37	LC	0	2	0	0	0	0	2	**no**
RW-38	LC	0	1	0	0	0	0	1	**no**
RW-39	LC	0	2	0	1	0	0	3	**no**
RW-40	A	1	2	1	2	0	0	6	**no**
RW-41	MC-mz	2	2	2	2	0	1	9	yes
RW-42	LC-mz	0	2	0	0	0	0	2	**no**
RW-43	SA	0	2	0	1	0	NA	3	**no**
RW-44	LC	0	1	0	0	0	0	1	**no**
RW-45	A	2	2	2	2	0	0	8	**no**
RW-46	SA	1	2	1	2	0	NA	6	**no**
RW-47	LC	0	1	0	0	0	0	1	**no**
RW-48	MC-mz	1	4	1	3	0	2	11	yes
RW-49	LC	1	2	1	1	0	0	5	**no**
RW-50	LC	0	2	0	2	0	0	4	**no**
RW-51	UC	0	3	0	3	0	2	8	**no**
RW-52	?	0	1	0	0	0	NA	1	**no**
RW-53	MC	0	3	0	0	0	0	3	**no**
RW-54	?	0	1	0	0	0	NA	1	**no**
RW-55	LC	1	3	1	2	0	1	8	yes
RW-56	SA	0	1	0	1	0	NA	2	**no**
RW-57	LC-mz	1	2	1	2	0	0	6	**no**
RW-58	A	1	4	1	4	0	2	12	**no**
Total number of exceedances, by type of standard		41	128	36	86	1	25*		

Notes to Table 7:
NA=not applicable because the completion aquifer is not known or no clean-up standards are established for San Andres aquifer.
*Omits RW-36, RW-43, RW-46, RW-52, RW-54, and RW-56 for which there are no Site/aquifer-specific standards

Shaded entries indicate that well exceeds one or more primary MCL, and/or NMWQCC subpart A or subpart B standards **and** is inferred to be the primary residential water source.

Table 8: Number of residential wells in which specific ground water contaminant standards are exceeded, by aquifer of well completion

Analyte		Uranium			Selenium			Nitrate		Lead	Aluminum	TDS			Sulfate		
Completion aquifer	Number of wells completed in aquifer	MCL exceedances	NMWQCC exceedances	Site/aquifer-specific exceedance	MCL exceedances	NMWQCC exceedances	Site/aquifer - specific exceedance	MCL and NMWQCC exceedances	Site/aquifer-specific exceedance	MCL exceedance	SMCL exceedance and NMWQCC exceedances	SMCL exceedance	NMWQCC exceedance	Site/aquifer specific exceedance	SMCL exceedance	NMWQCC exceedance	Site/aquifer specific exceedance
Alluvial	24	19	18	3	3	3	0	0	0	2	0	24	23	2	22	16	1
Upper Chinle	1	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0
Upper Chinle-mixing zone	1	1	1	0	0	0	0	0	0	0	0	1	1	0	1	1	0
Middle Chinle	8	4	4	4	1	1	1	0	0	1	0	8	7	4	8	6	0
Middle Chinle-mixing zone	2	2	2	1	1	1	0	0	0	0	0	2	2	0	2	2	1
Lower Chinle	11	3	3	2	1	1	0	0	0	1	0	11	6	0	4	3	0
Lower Chinle-mixing zone	4	0	0	0	0	0	0	1	1	0	0	4	1	1	2	1	0
San Andres	3	1	1		0	0		0		0	0	3	3		2	1	
Unknown completion	3	0	0		0	0		0		0	1	3	0		1	0	

Analyte		Iron		Manganese		Chloride		
Completion aquifer	Number of wells completed in aquifer	SMCL exceedances	NMWQCC exceedances	SMCL exceedances	NMWQCC exceedances	SMCL exceedances	NMWQCC exceedances	Site/aquifer-specific exceedances
Alluvial	24	5	1	1	1	2	2	2
Upper Chinle	1	0	0	0	0	1	1	0
Upper Chinle-mixing zone	1	0	0	0	0	0	0	0
Middle Chinle	8	3	0	0	0	0	0	0
Middle Chinle-mixing zone	2	1	0	0	0	1	1	1
Lower Chinle	12	2	1	1	1	0	0	0
Lower Chinle-mixing zone	3	1	0	0	0	0	0	0
San Andres	3	0	0	0	0	0	0	0
Unknown completion	3	1	0	1	1	0	0	0

Notes to Table 8:
No Site/aquifer-specific standards are applicable to the San Andres aquifer or to wells with unknown completion.

Table 9: HMC and NMED well designations cross-reference

NMED Well number designation	HMC Well number designation
RW-1	807
RW-2	437
RW-3	446
RW-4	450
RW-5	438
RW-6	982
RW-7	979
RW-8	810
RW-9	547
RW-10	548
RW-11	455
RW-12	490
RW-13	493
RW-14	494
RW-15	HW
RW-16	802
RW-17	832
RW-18	833
RW-19	939
RW-20	536R
RW-21	985
RW-22	483
RW-23	428
RW-24	436
RW-25	410
RW-26	482
RW-27	491
RW-28	SUB2
RW-29	423
RW-30	834
RW-31	805
RW-32	843
RW-33	839
RW-34	549
RW-35	818
RW-36	570
RW-37	963
RW-38	572
RW-39	937
RW-40	989
RW-41	544
RW-42	954
RW-43	955
RW-44	574
RW-45	980
RW-46	986
RW-47	964
RW-48	820
RW-49	962
RW-50	901
RW-51	933
RW-52	578
RW-53	932
RW-54	579
RW-55	837
RW-56	987
RW-57	988
RW-58	984

Figure 1: Alluvial aquifer extent and ground water flow directions

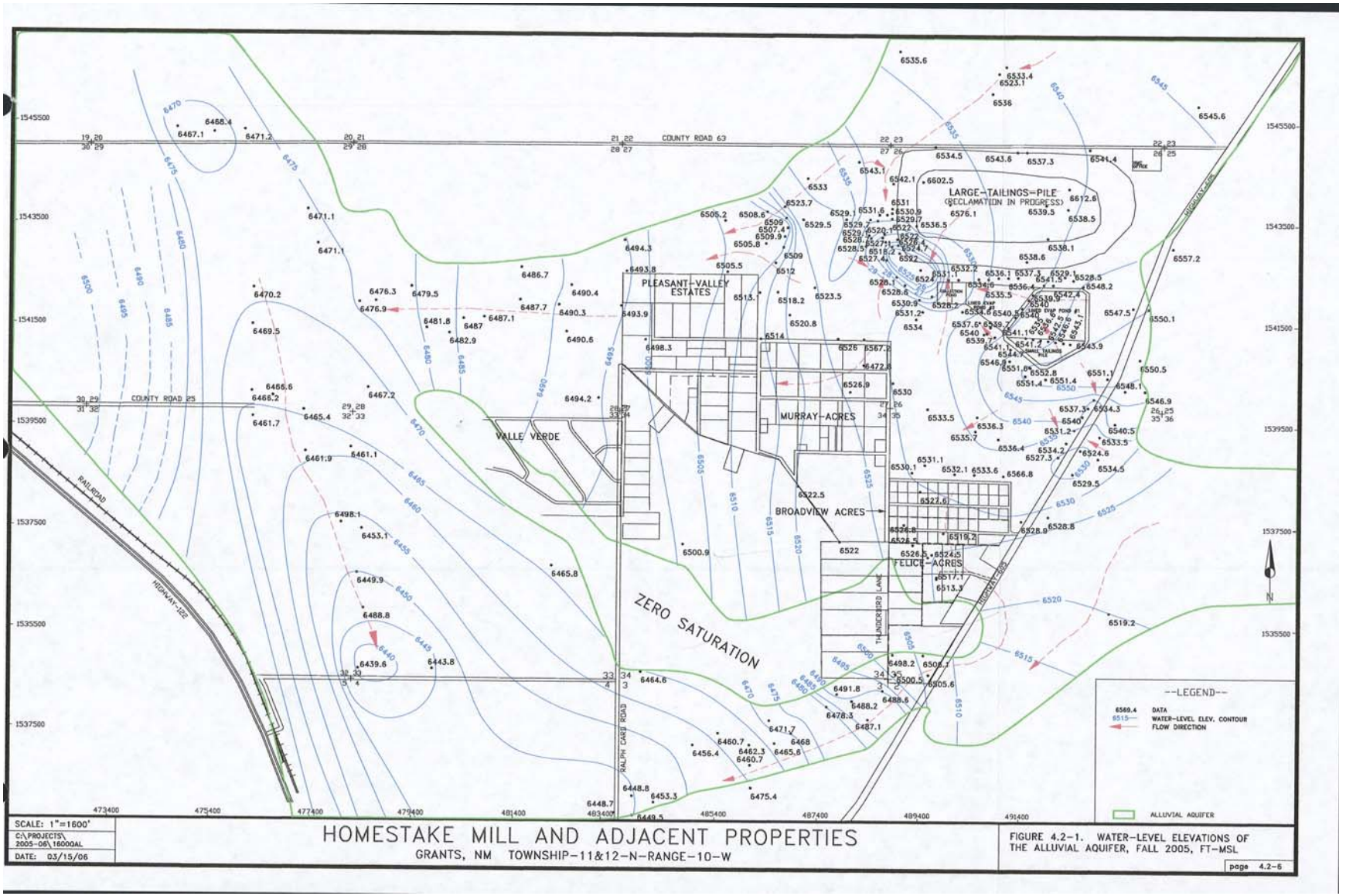


Figure 2: Upper Chinle extent and ground water flow directions

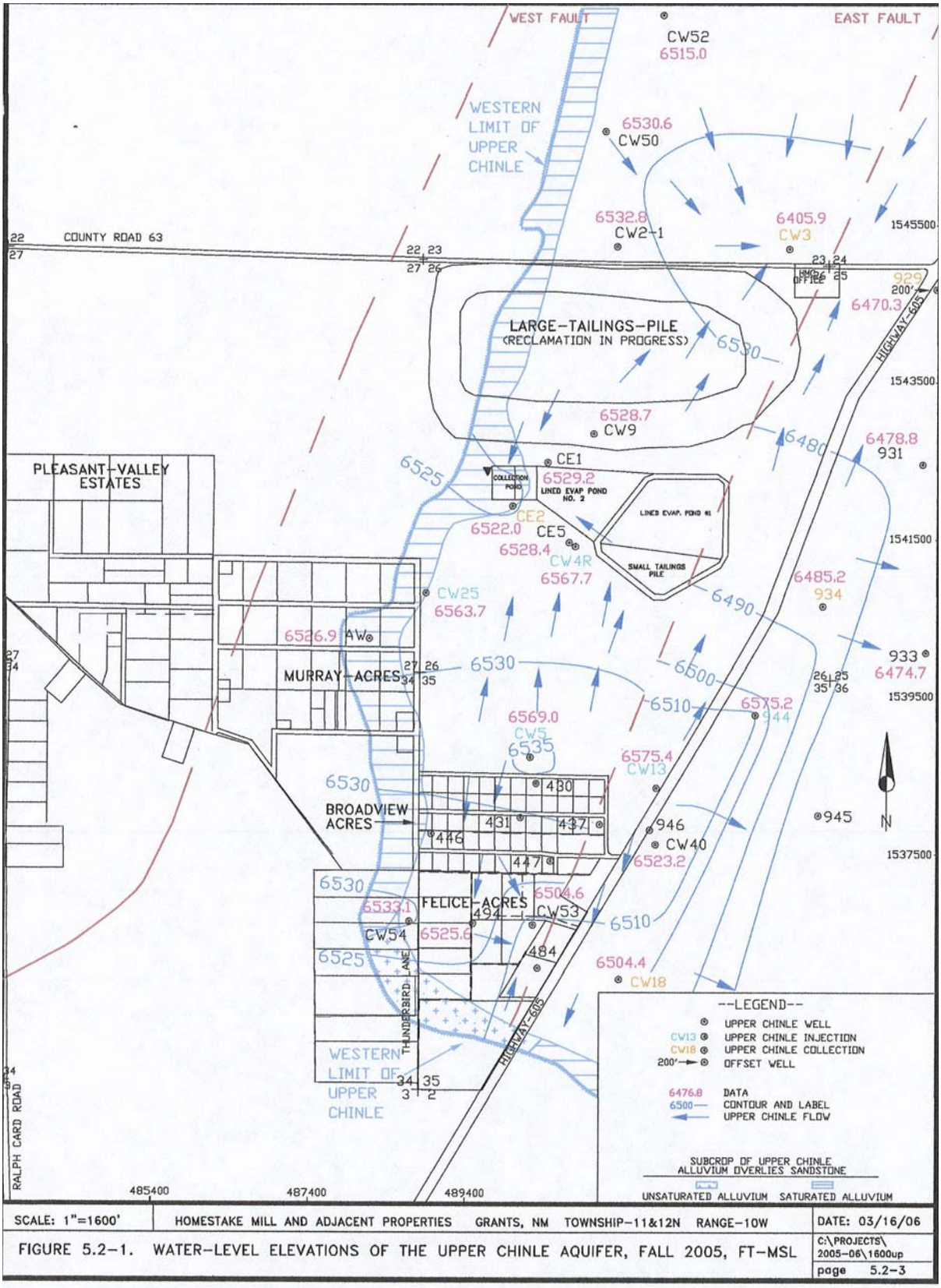


Figure 3: Middle Chinle aquifer extent and ground water flow direction

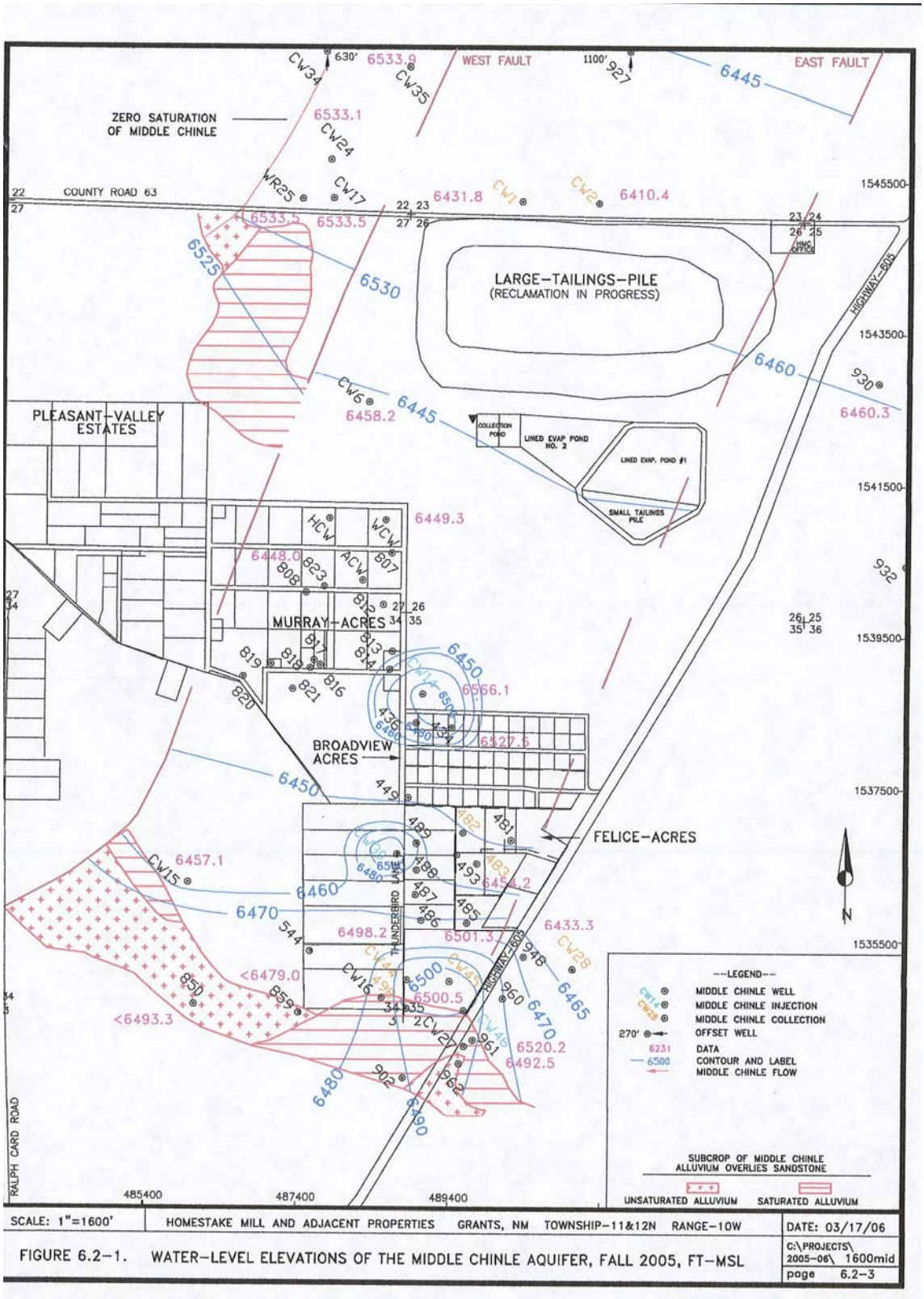


Figure 4: Lower Chinle extent and ground water flow directions

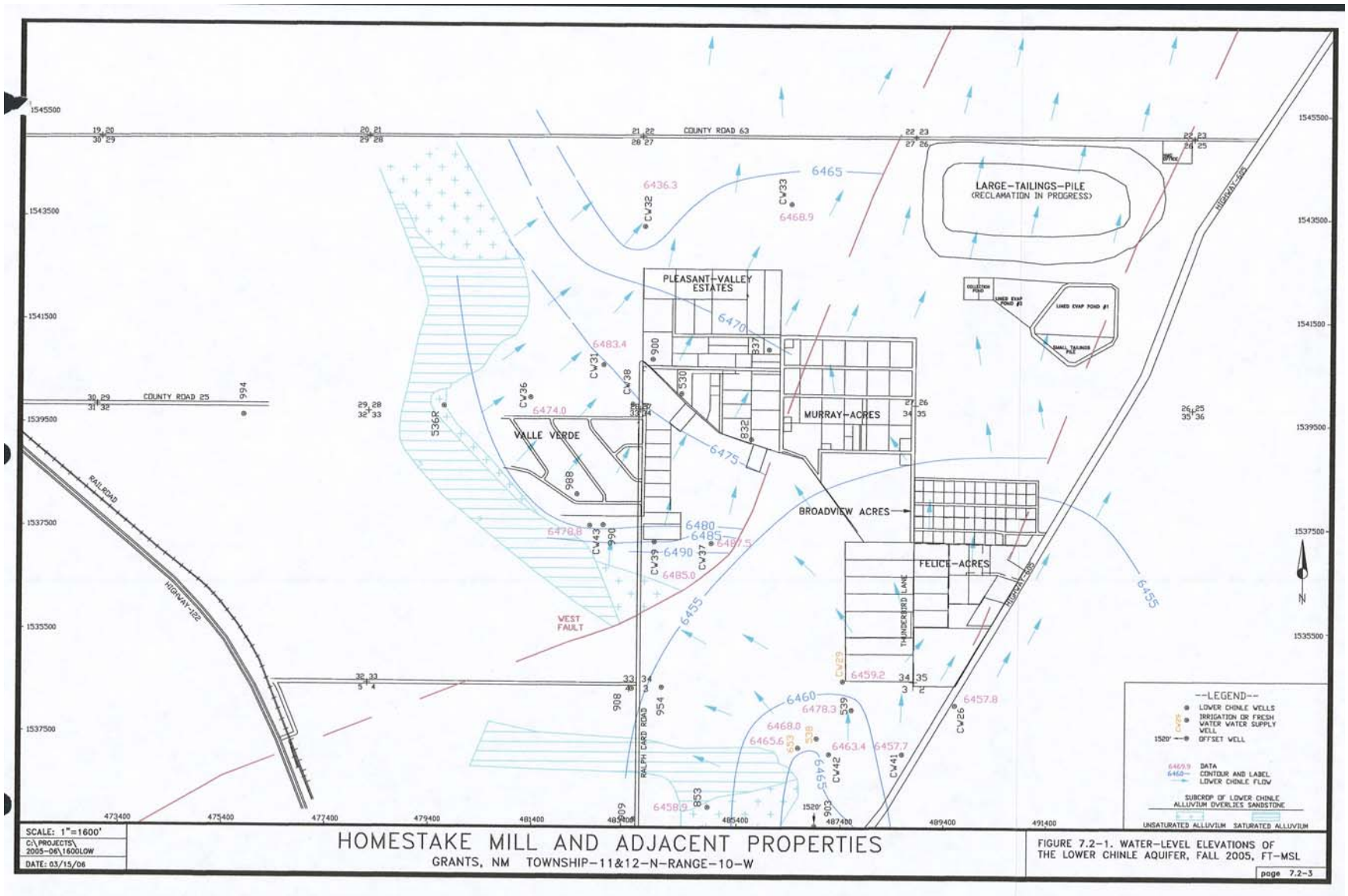


Figure 5: San Andres aquifer flow direction

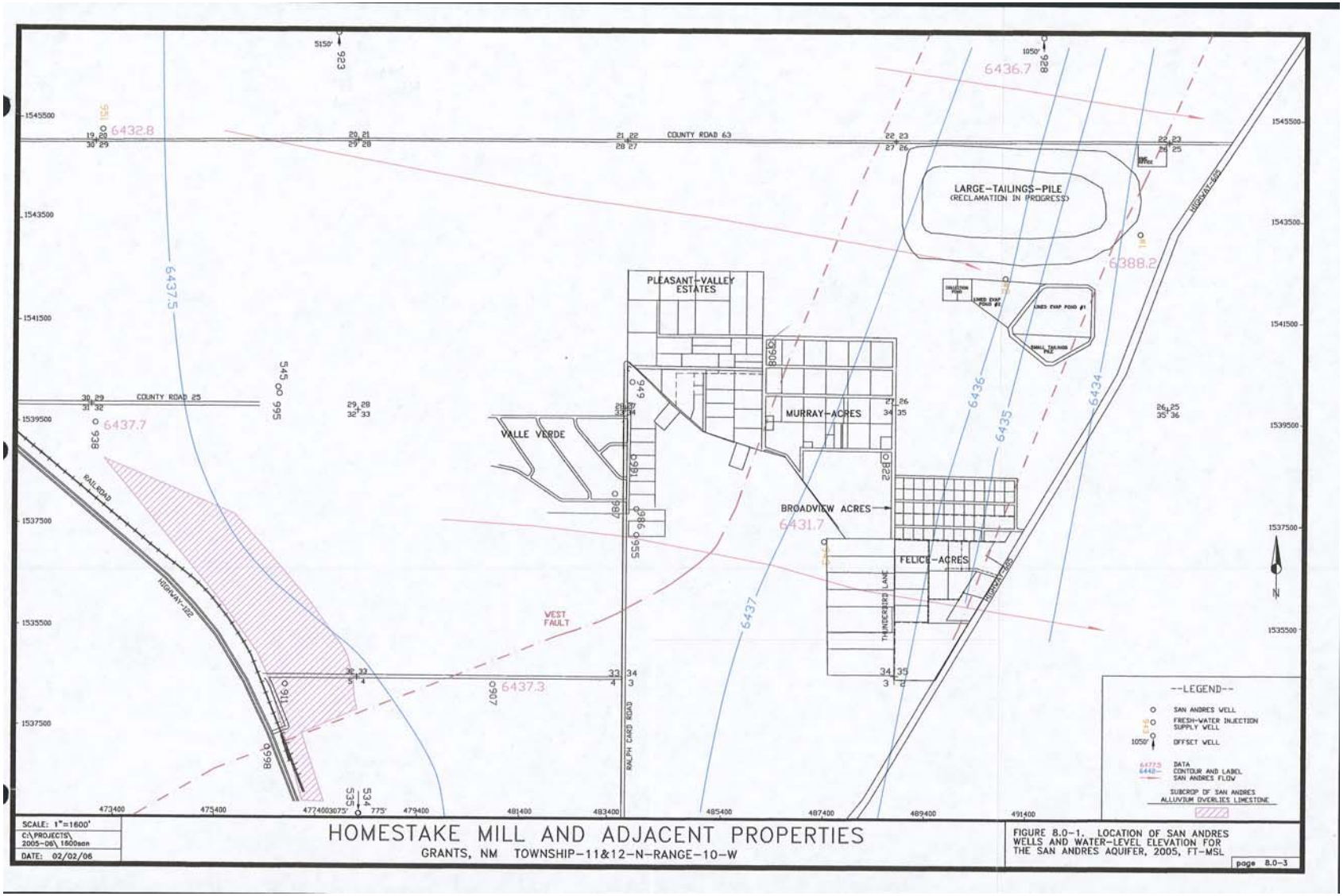
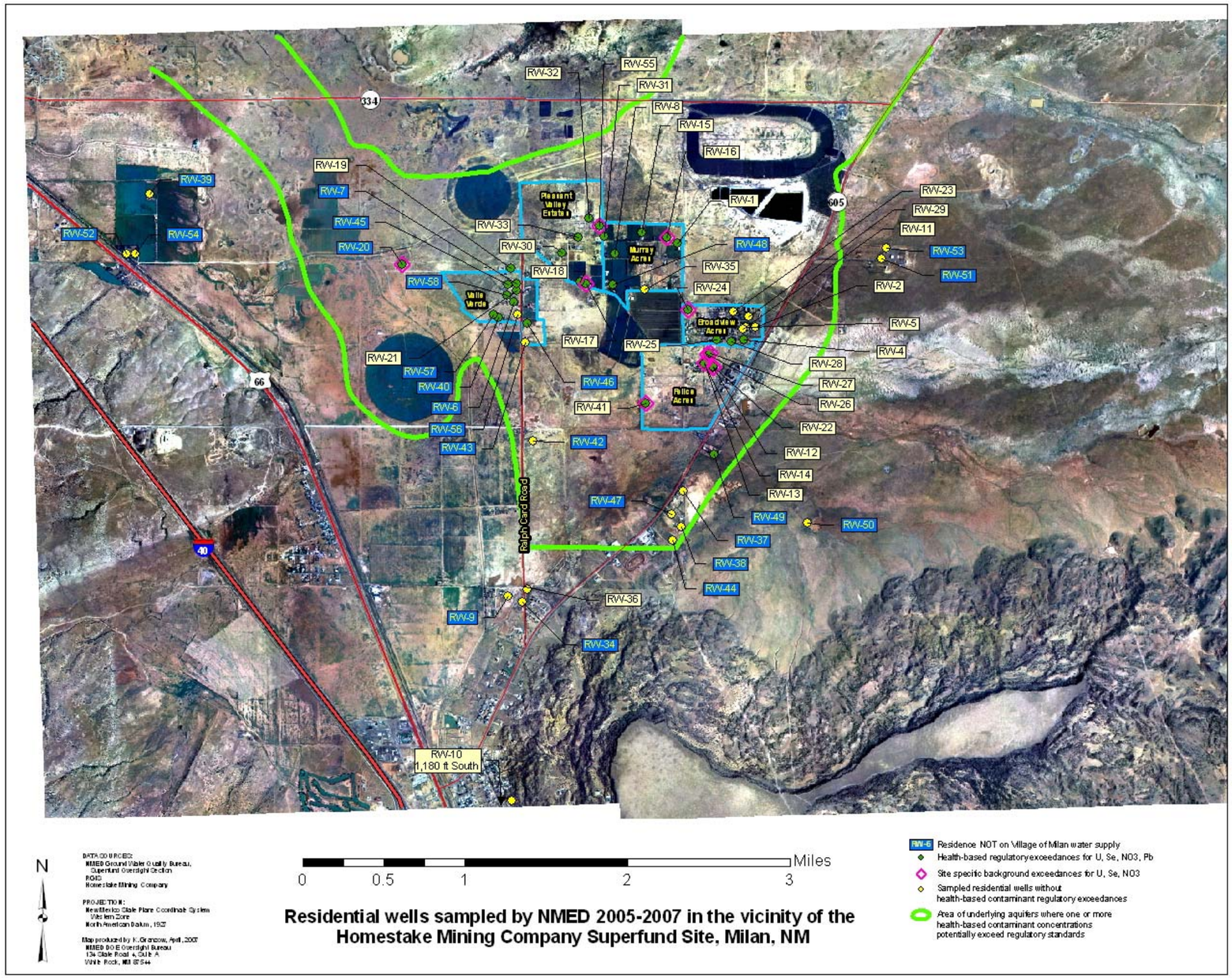


Figure 6: Site questionnaire

Questionnaire	
Please Circle Appropriate Answer(s)	
Do you have a private well? Yes or No	
For what do you use the water from this well? Please circle all that apply and include the general time frame over which such use has been made:	
Household uses	
Use	Timeframe (e.g.,1999-2005)
Drinking	
Showering or bathing	
Cooking	
Other (please specify)	
Outdoor only	
Lawn and landscape	
Vegetable garden	
Livestock	
Pets	
Other (please specify)	
Have you ever filtered or treated the well water you have used (e.g., Calgon water purifier, water softener)? If so, please specify and describe the timeframe.	
What sources of water other than well water do you rely or have you relied on for household uses? Please estimate the general timeframe for each.	
Sources	Timeframe
Bottled water	
City of Milan water	
Other (please specify)	
Are there any other hookups to this well? Yes or No (If yes, please elaborate.)	
Do you know when the well was constructed?	_____
Do you know how deep the well is?	_____

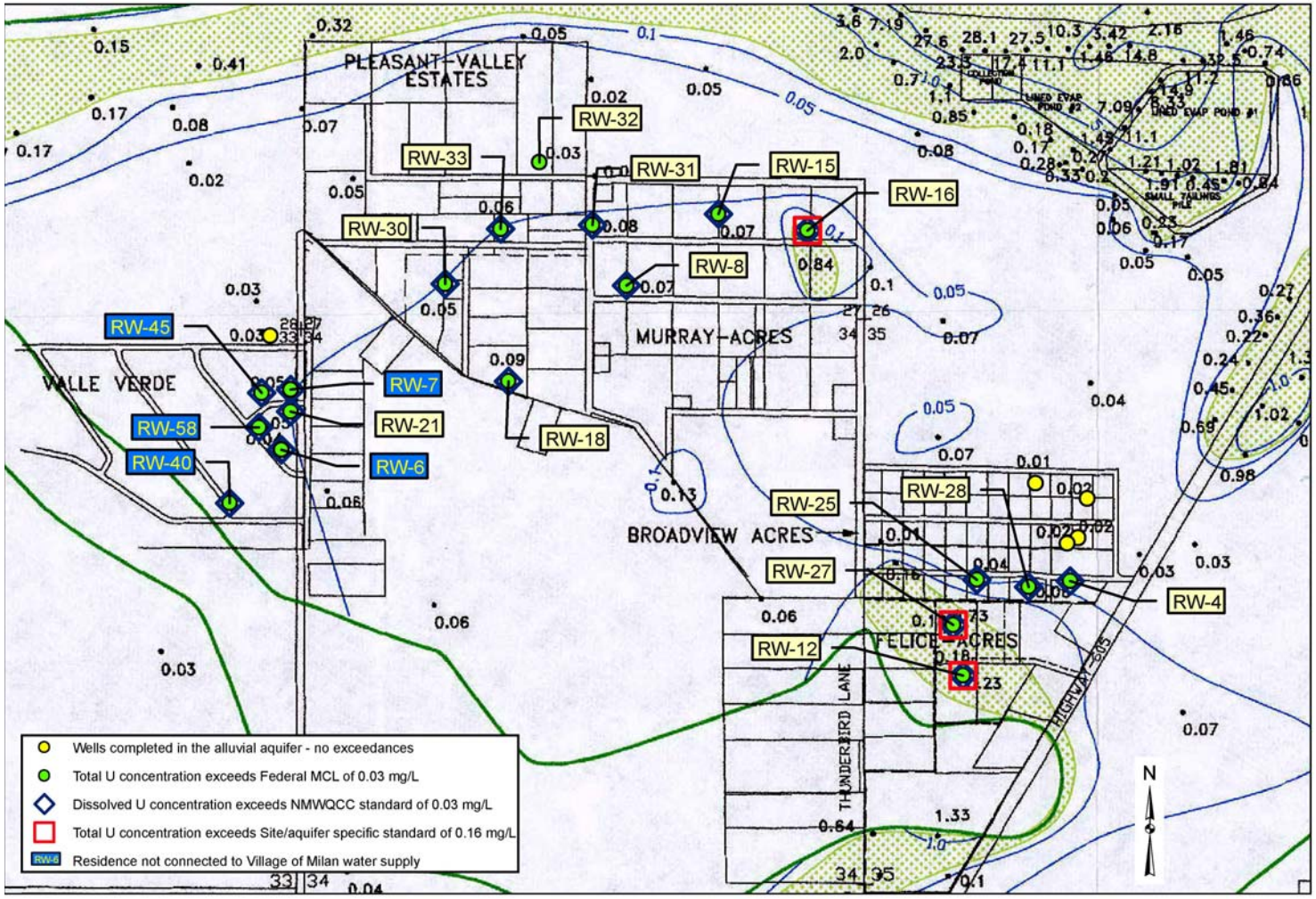
Figure 7: Locations of residential wells sampled by NMED



Notes to Figure 7:

- Only wells with standards exceedances of uranium (U), selenium (Se), nitrate (NO_3), and/or lead (Pb) are highlighted on this figure. Other contaminant standards exceedances are not shown here but are tabulated elsewhere in this report.
- Associated residences are shown as not connected to Village of Milan municipal water irrespective of the use of alternative sources of drinking water reported by owners.

Appendix A

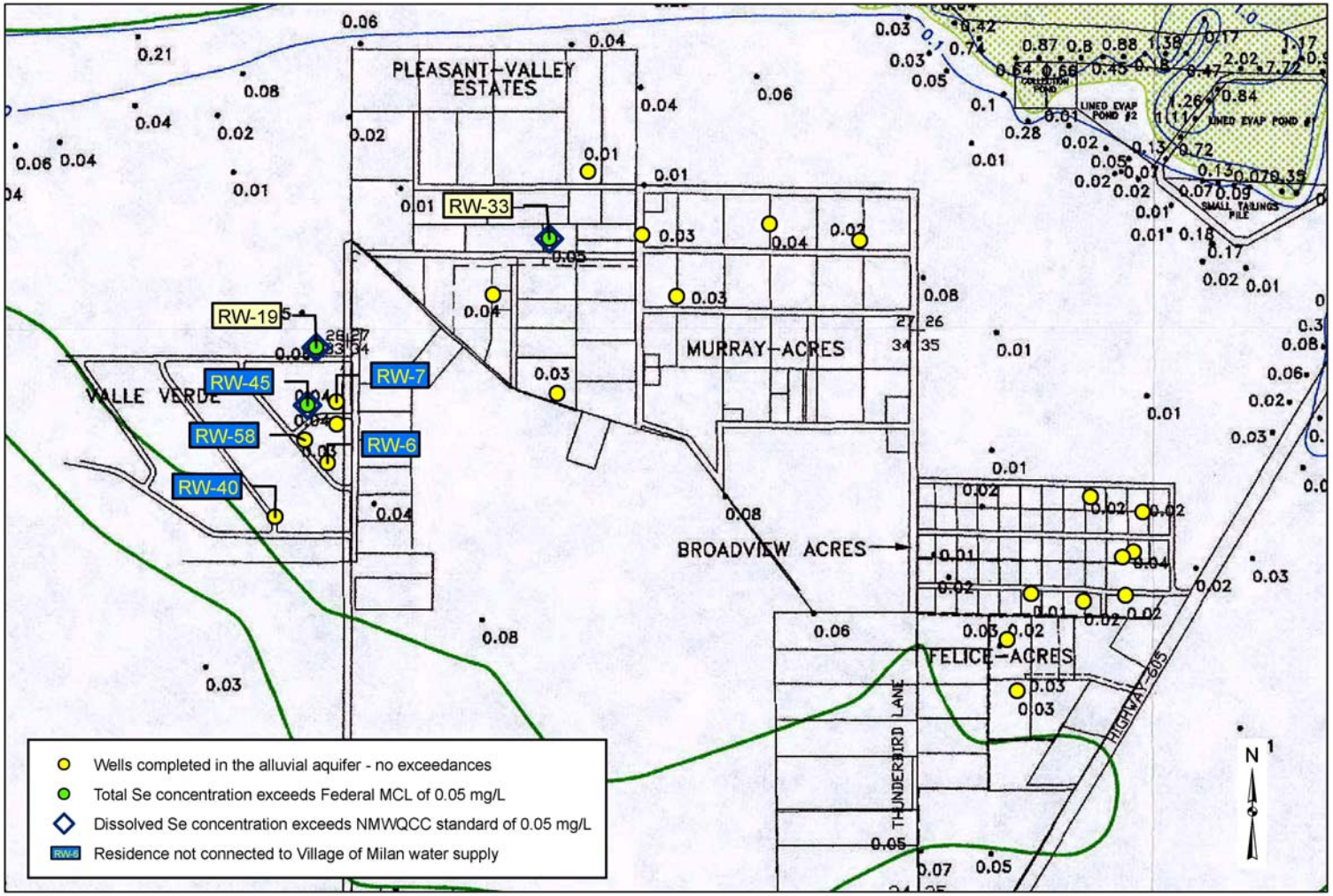


DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544

Residential wells completed in the Alluvial aquifer with uranium standard exceedances

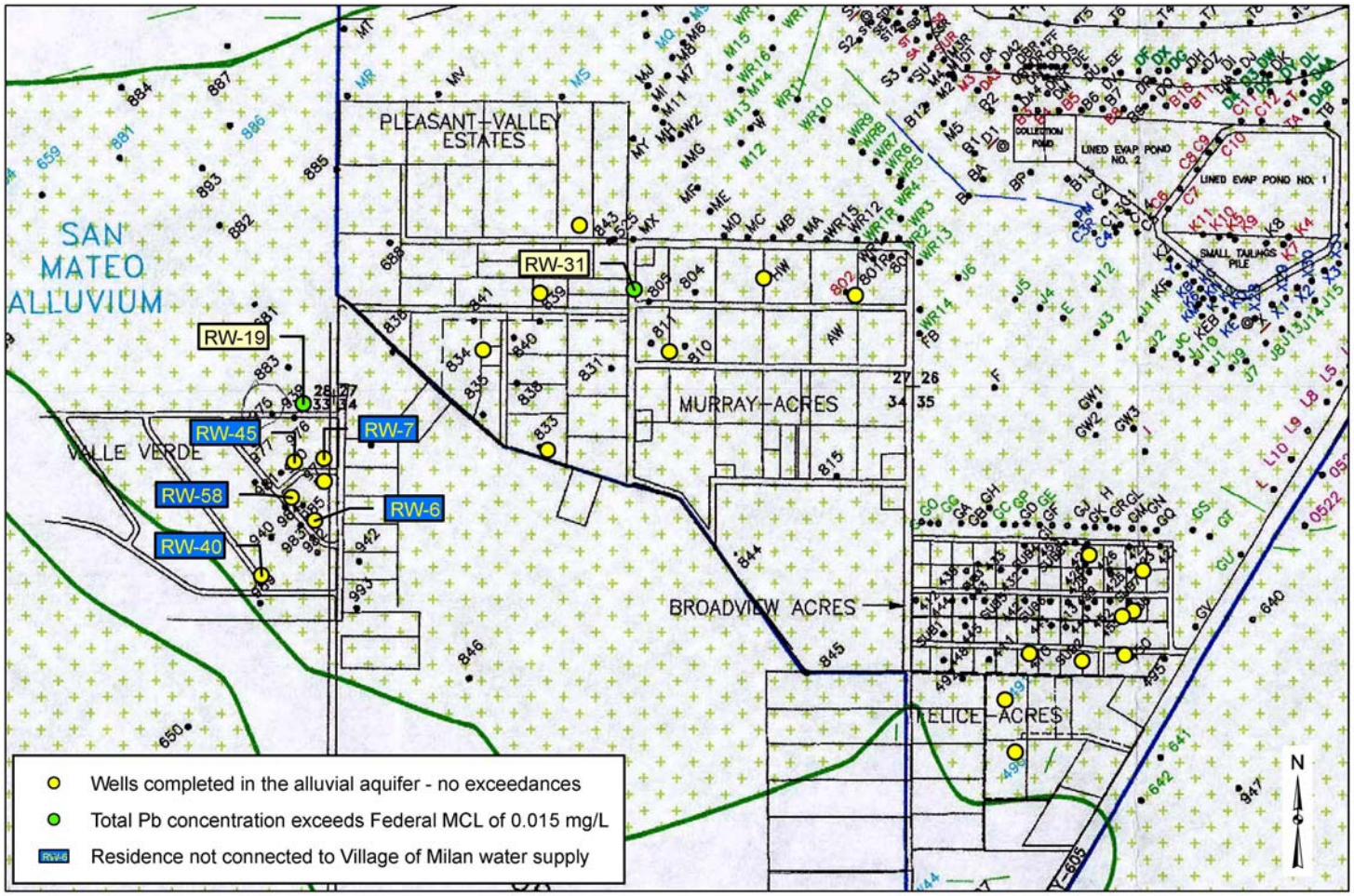


DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

Residential wells completed in the Alluvial aquifer with selenium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



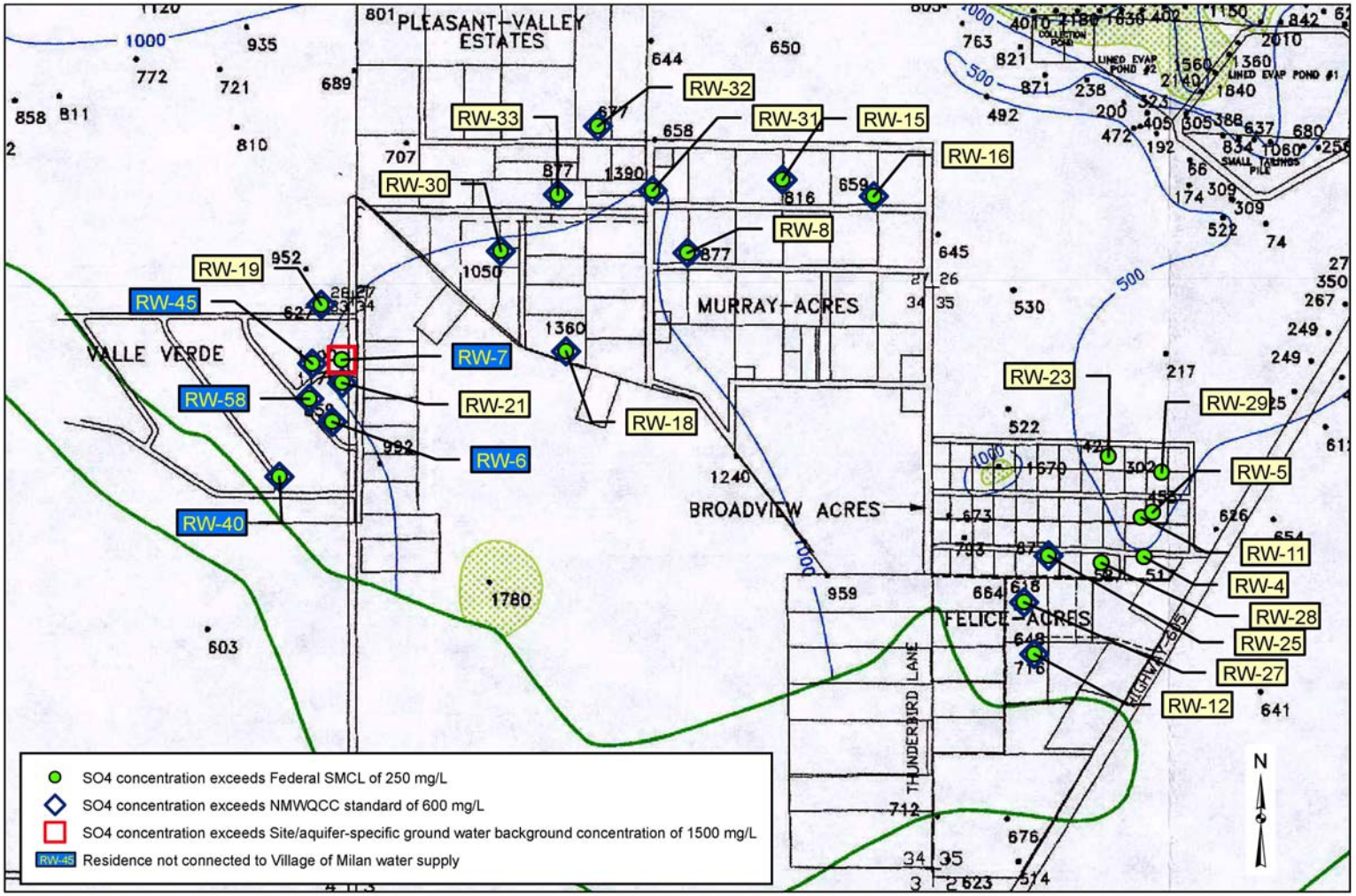
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Alluvial aquifer with lead standard exceedances

Map produced by K. Granzow, June, 2008
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



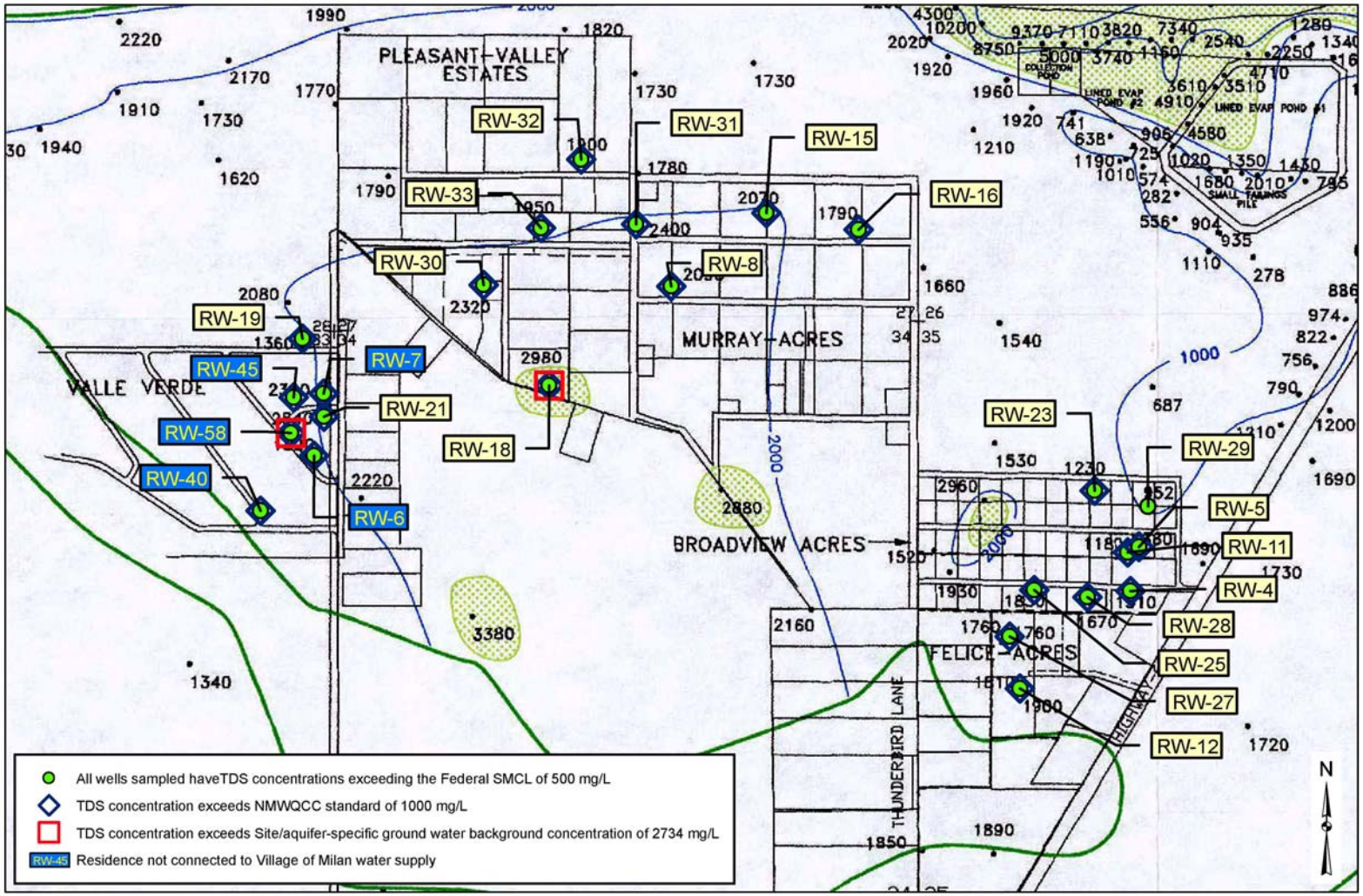
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Alluvial aquifer with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



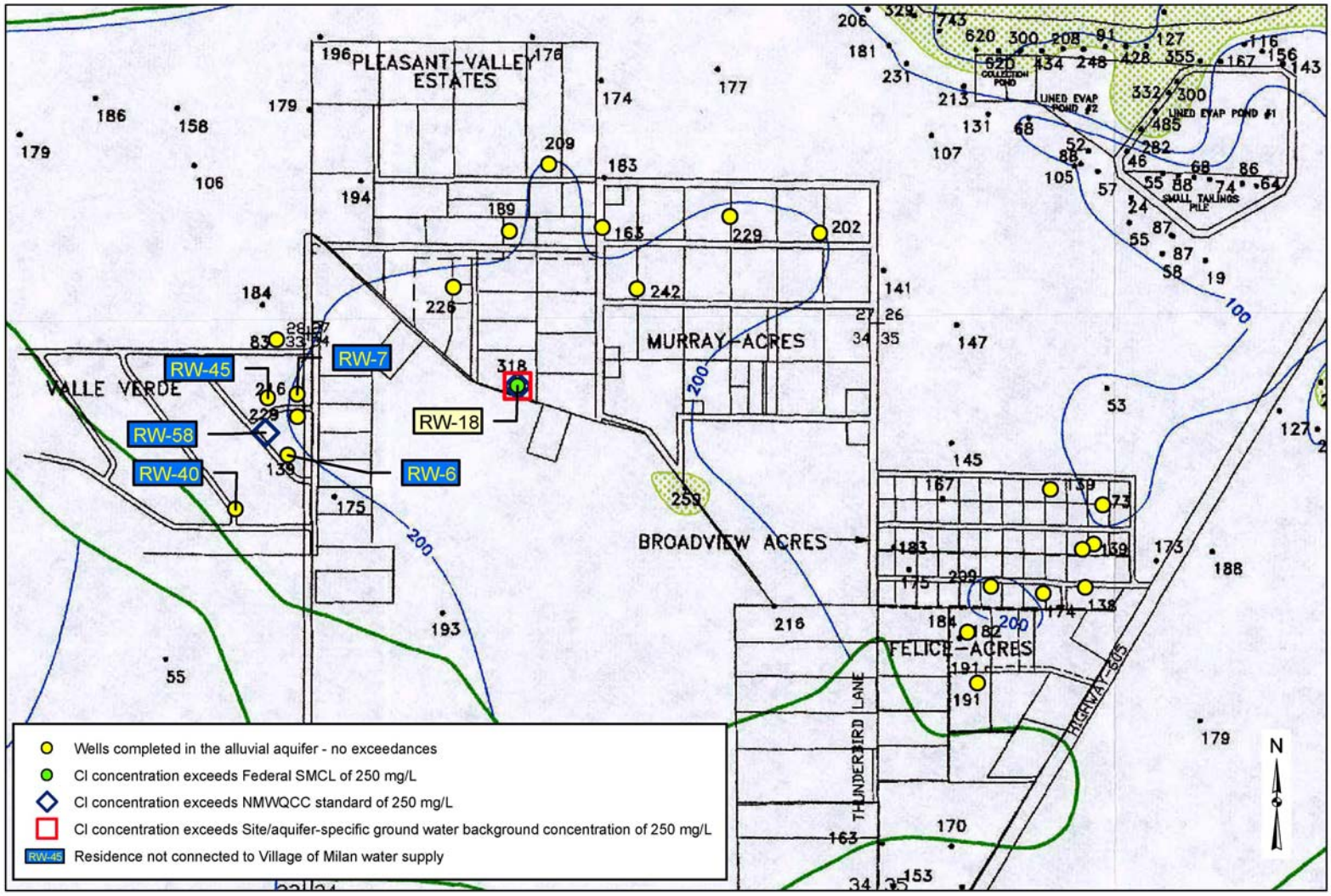
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Alluvial aquifer with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



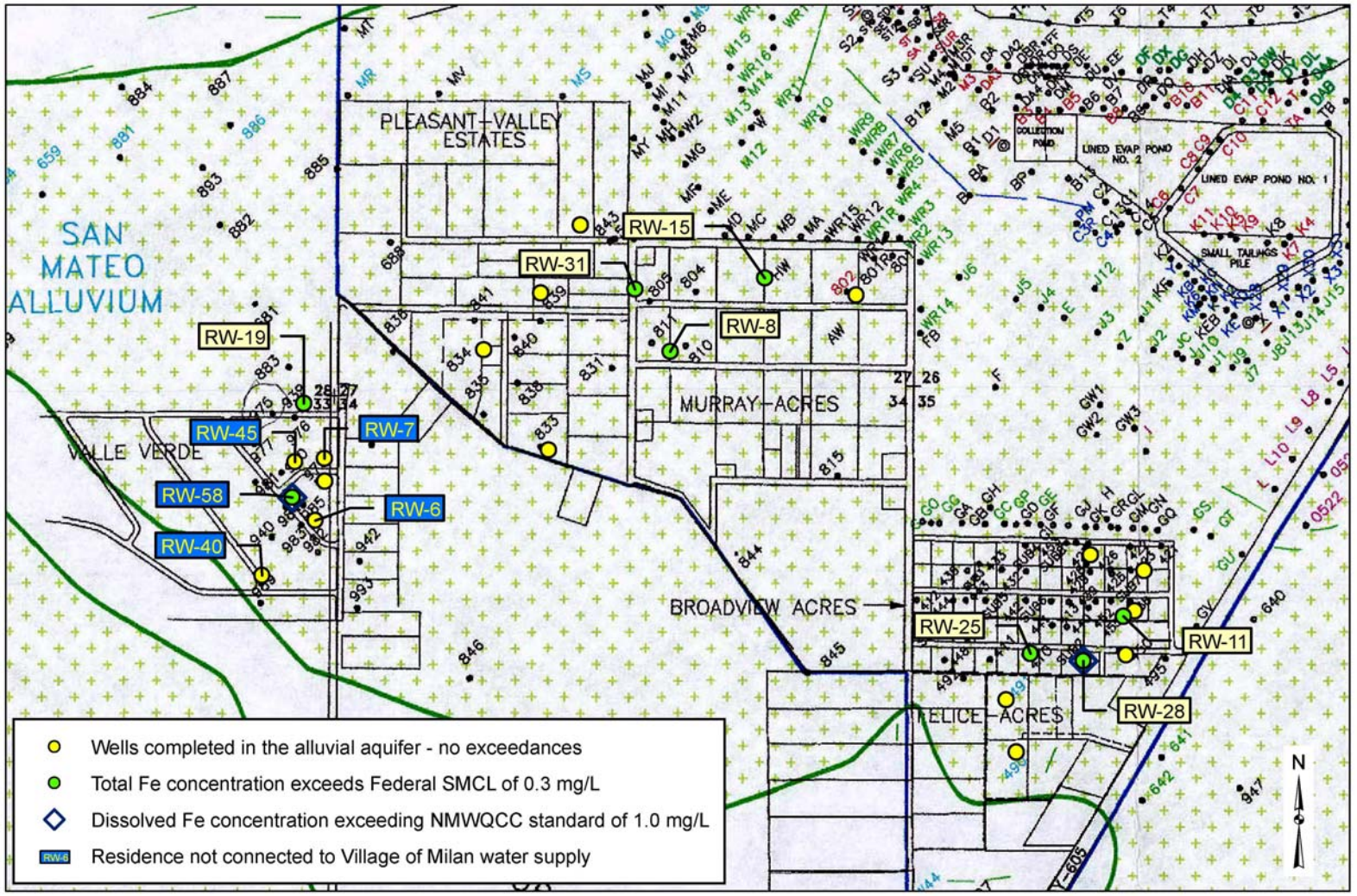
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Alluvial aquifer with chloride standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



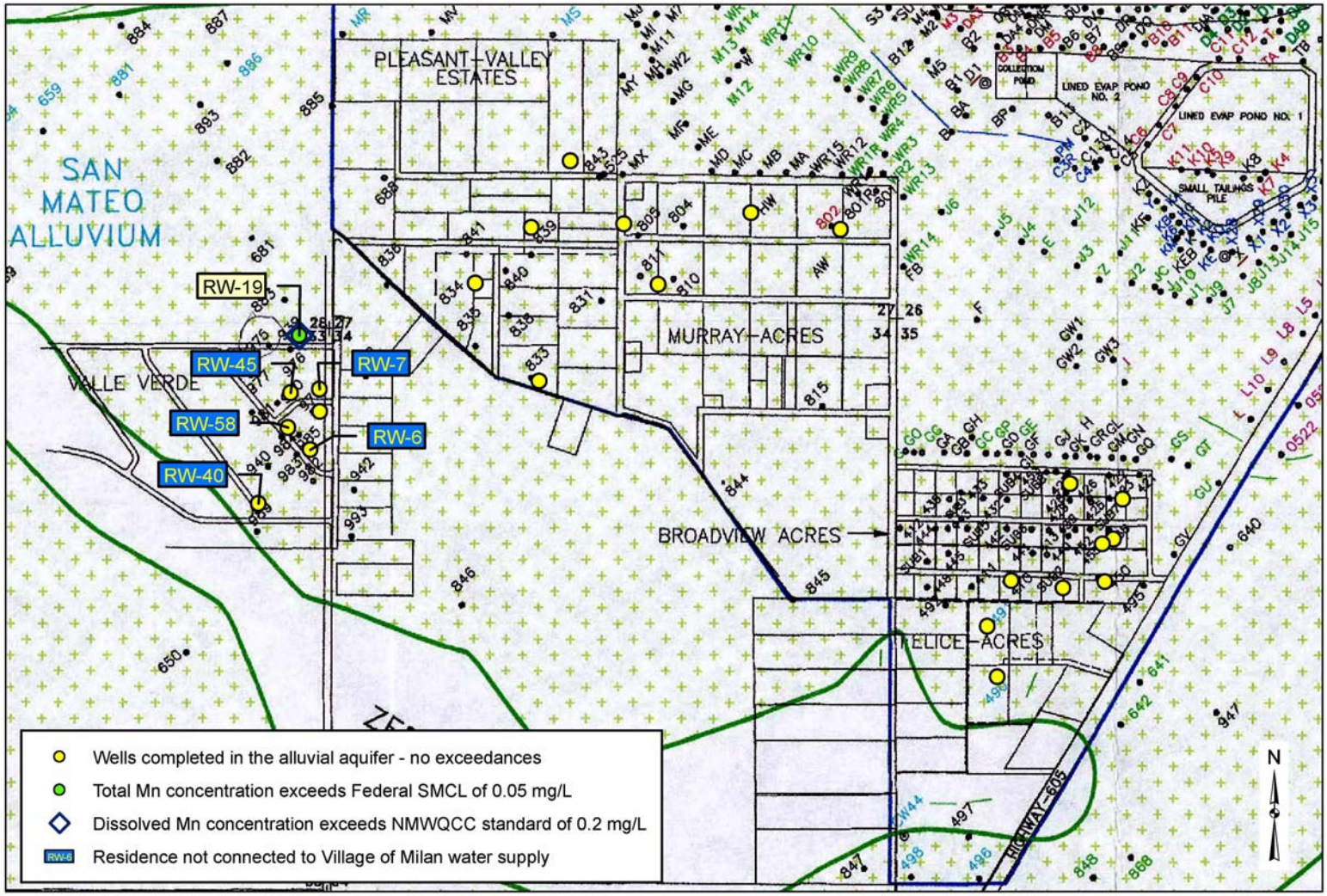
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Alluvial aquifer with iron standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



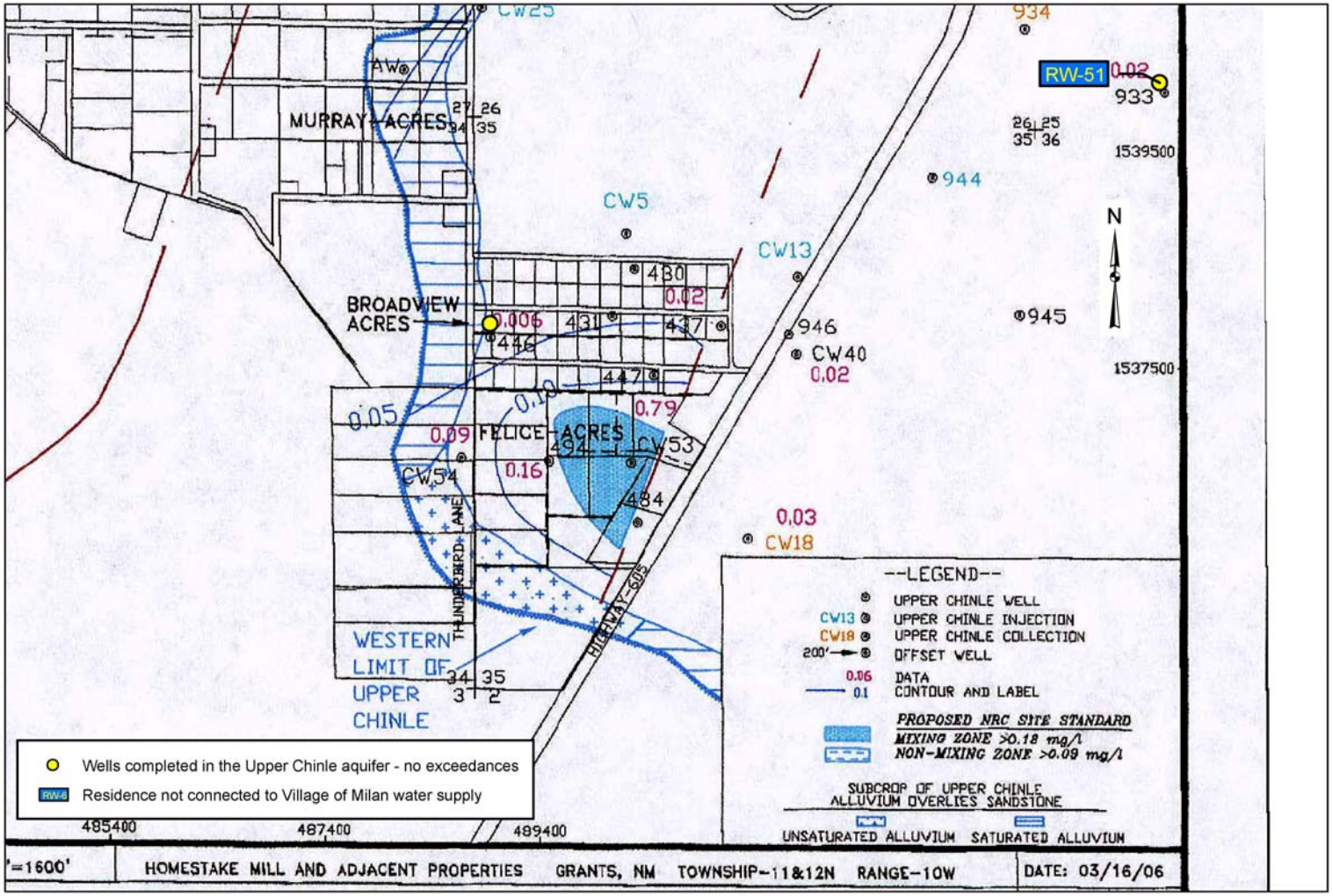
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone

0 0.5 1 Miles

Residential wells completed in the Alluvial aquifer with manganese standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



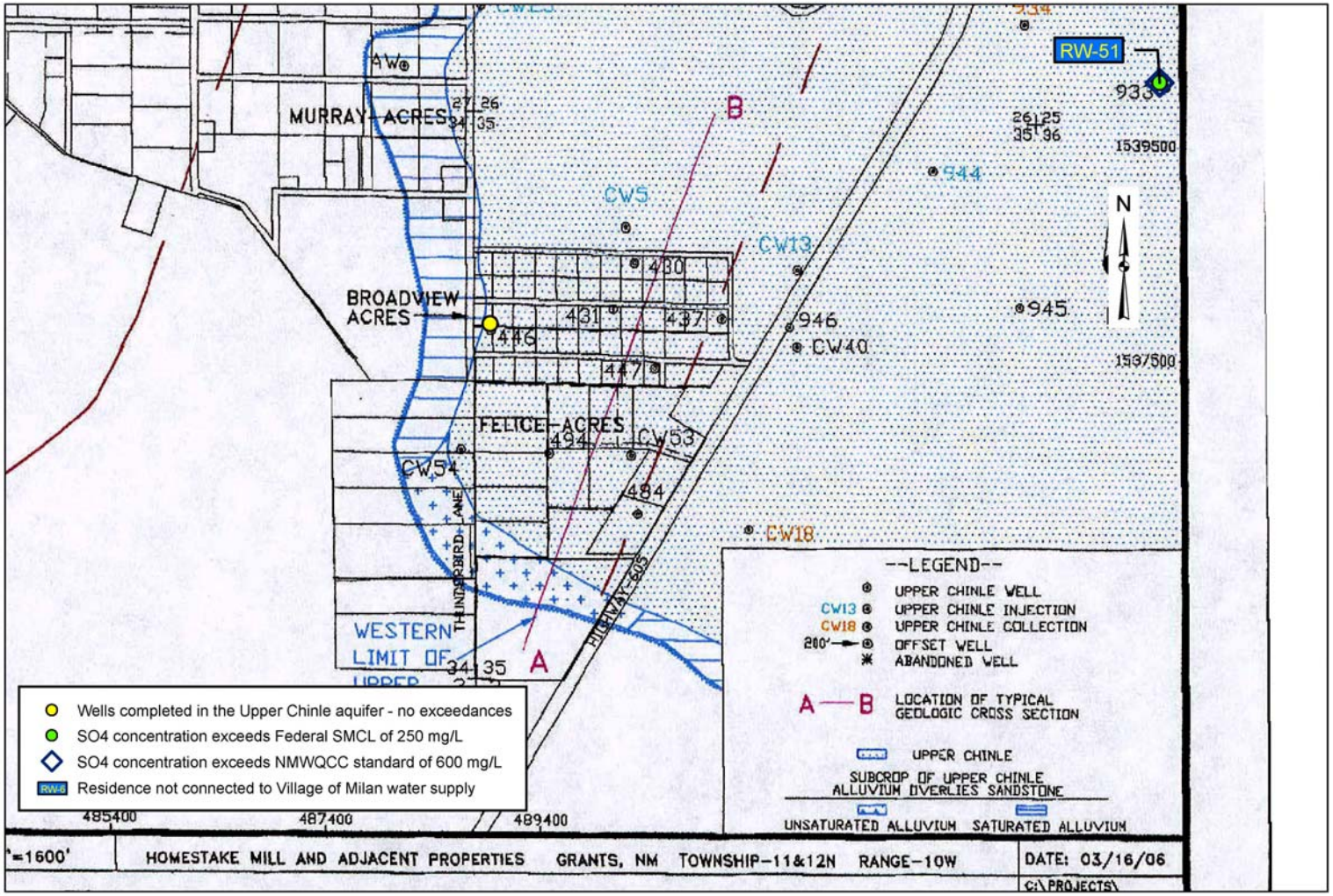
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Upper Chinle aquifer with uranium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



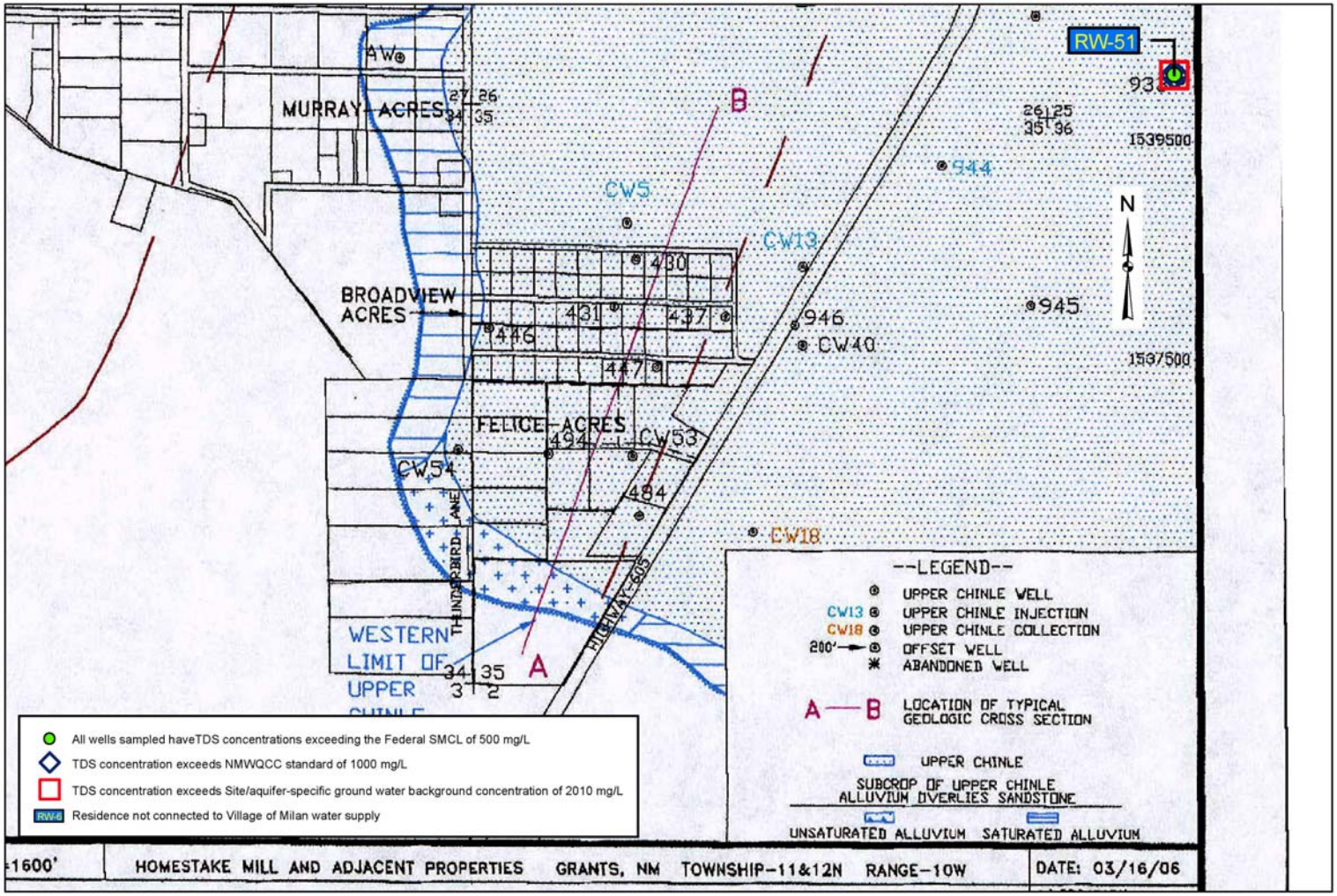
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Upper Chinle aquifer with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



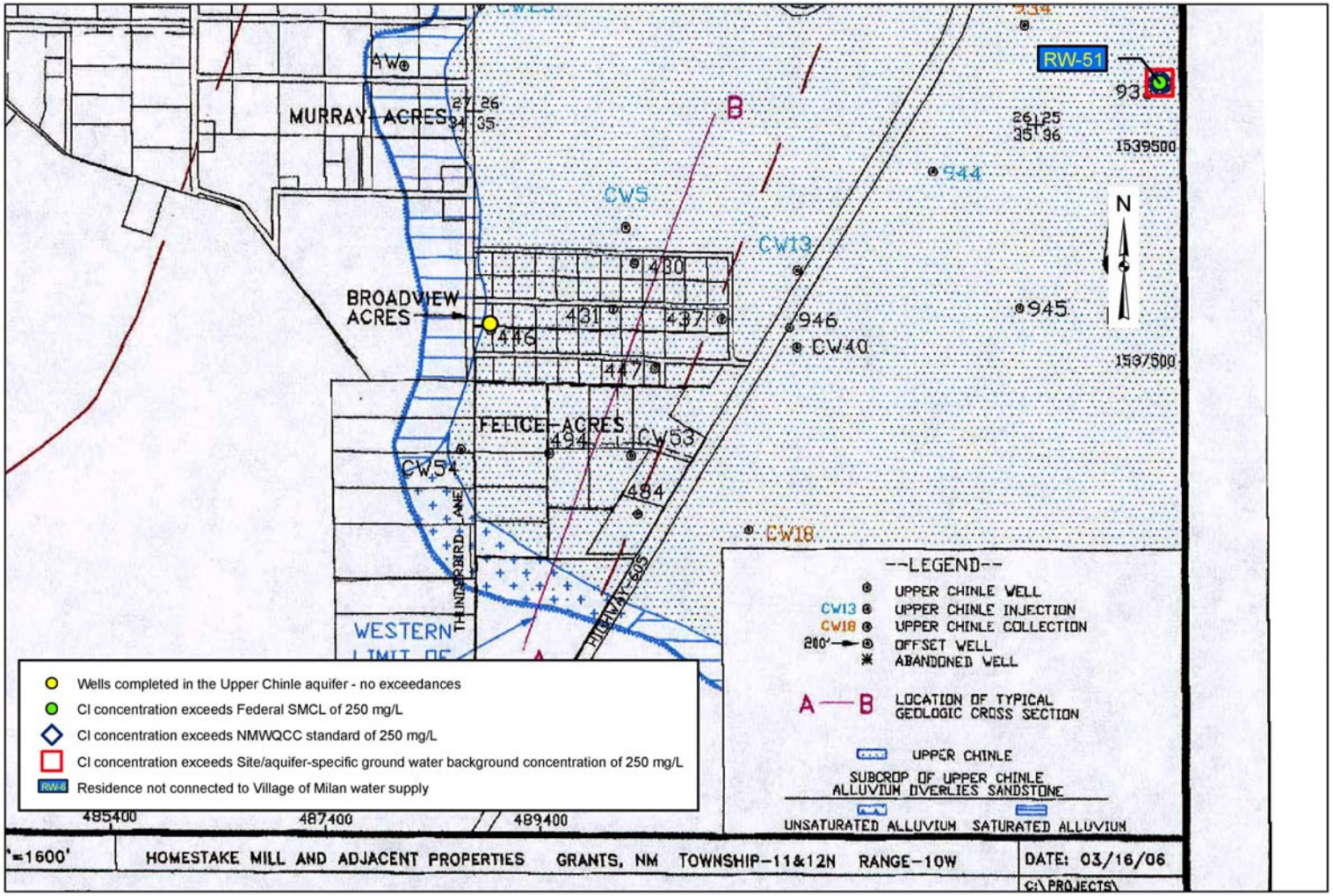
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Upper Chinle aquifer with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



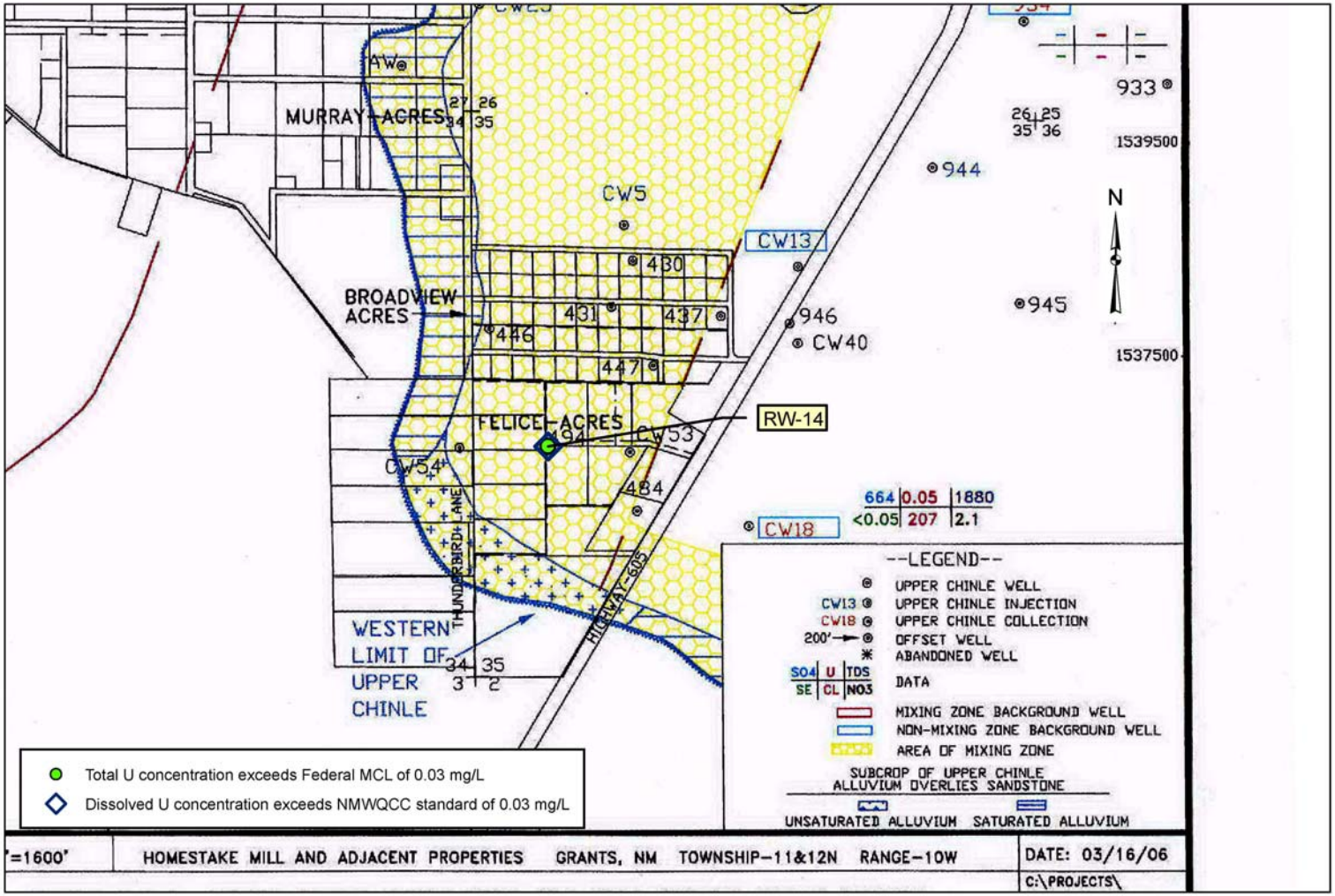
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Upper Chinle aquifer with chloride standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



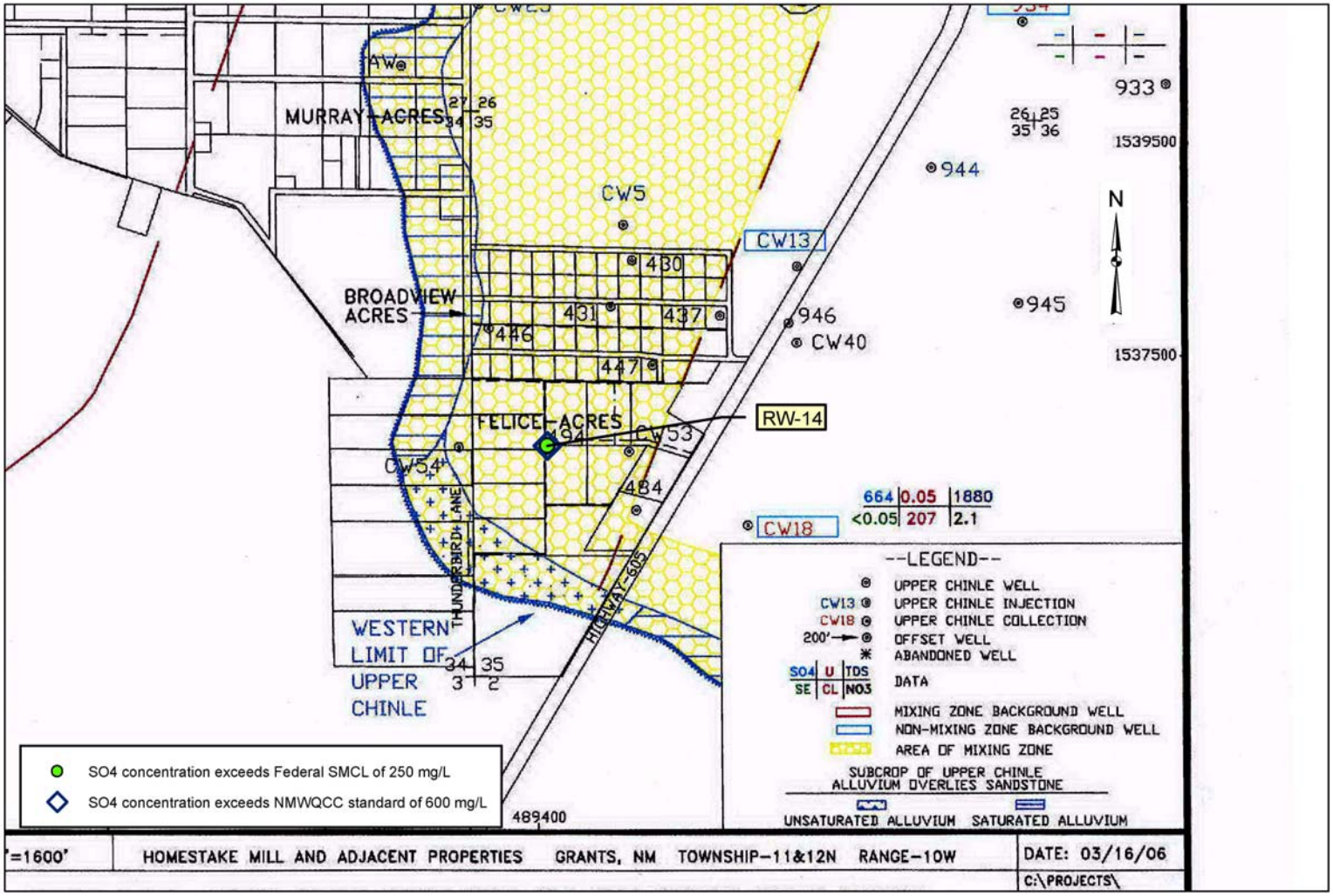
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

Miles
0 0.5 1

Residential wells completed in the Upper Chinle mixing zone with uranium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



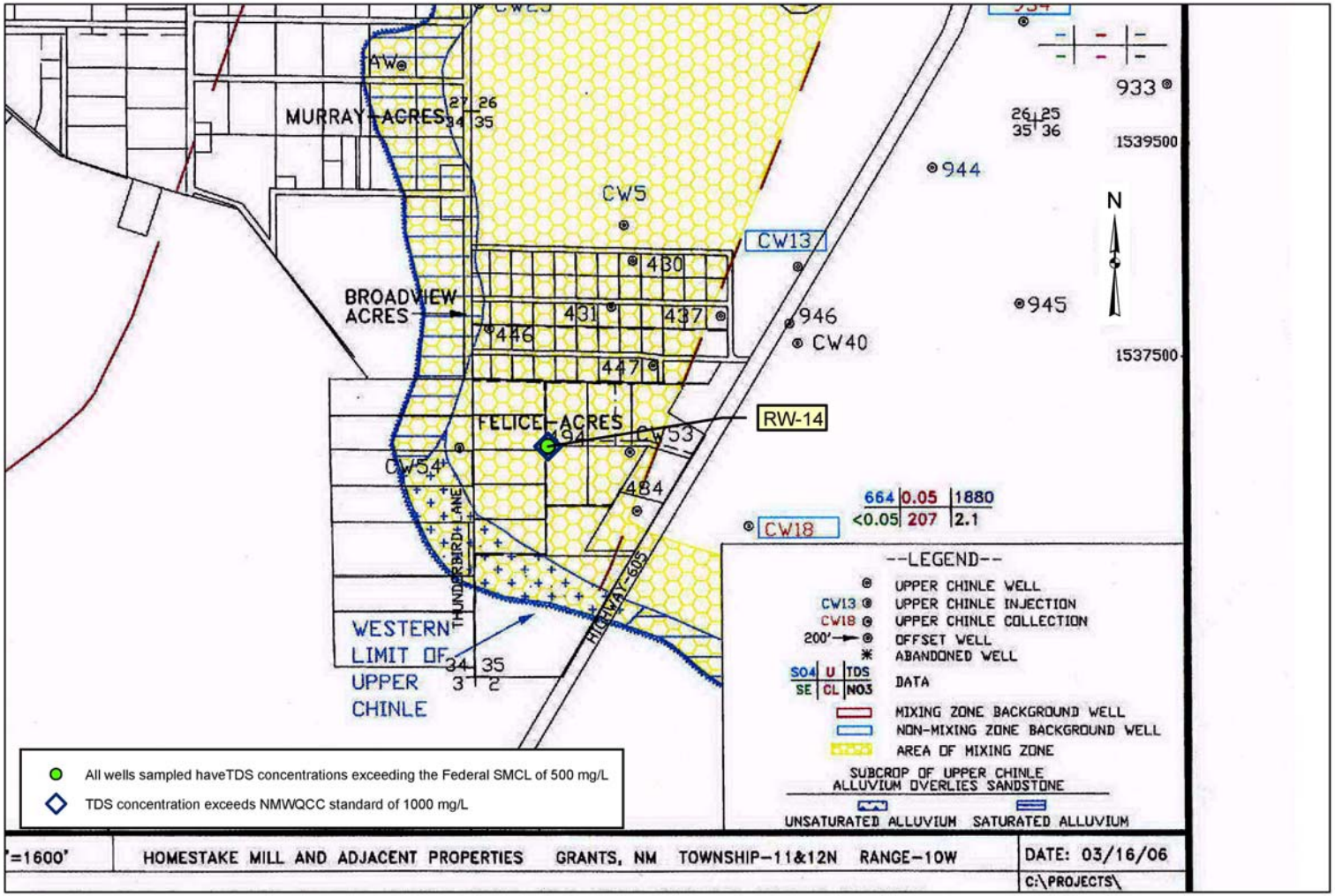
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Upper Chinle mixing zone with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



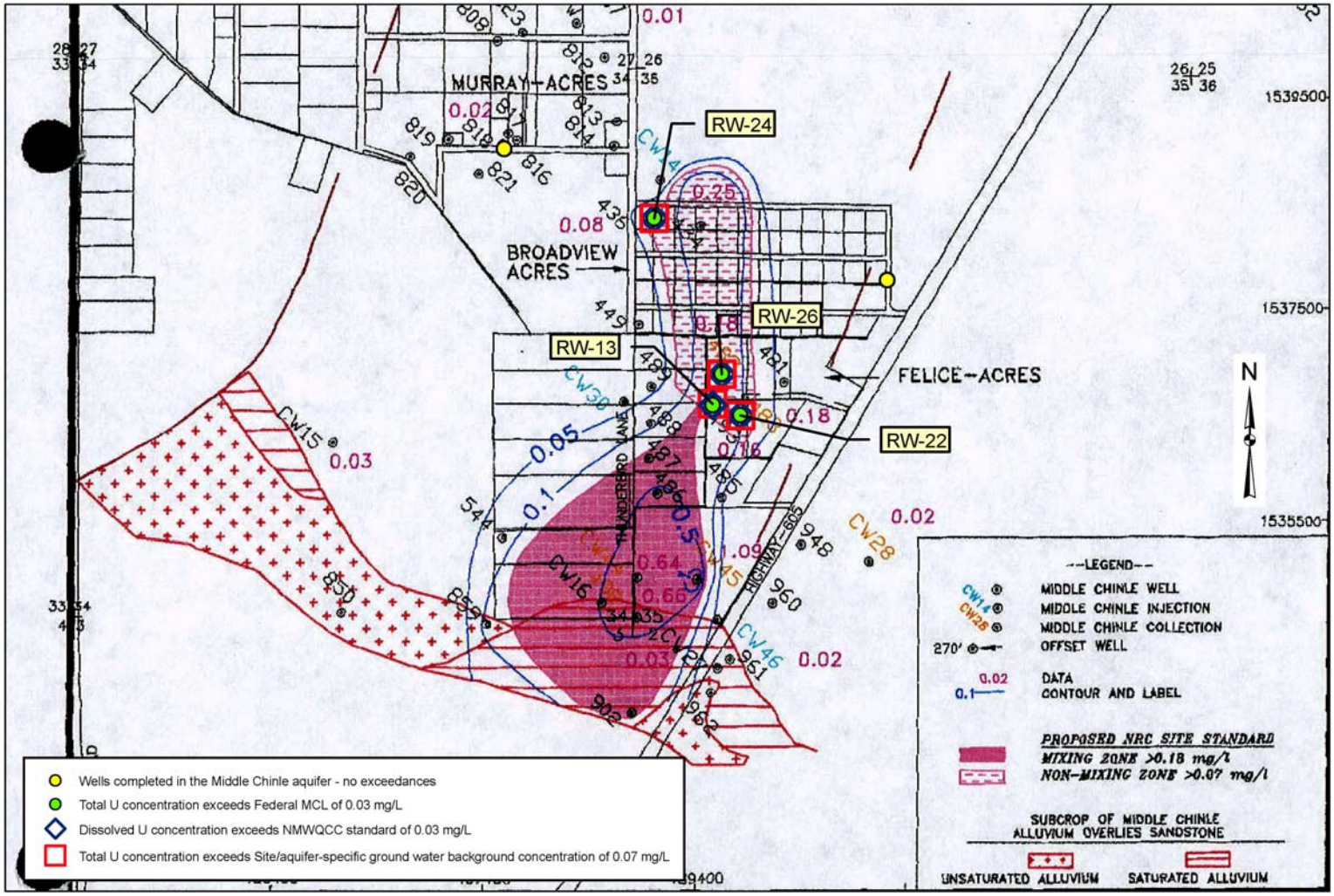
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

Miles
0 0.5 1

Residential wells completed in the Upper Chinle mixing zone with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



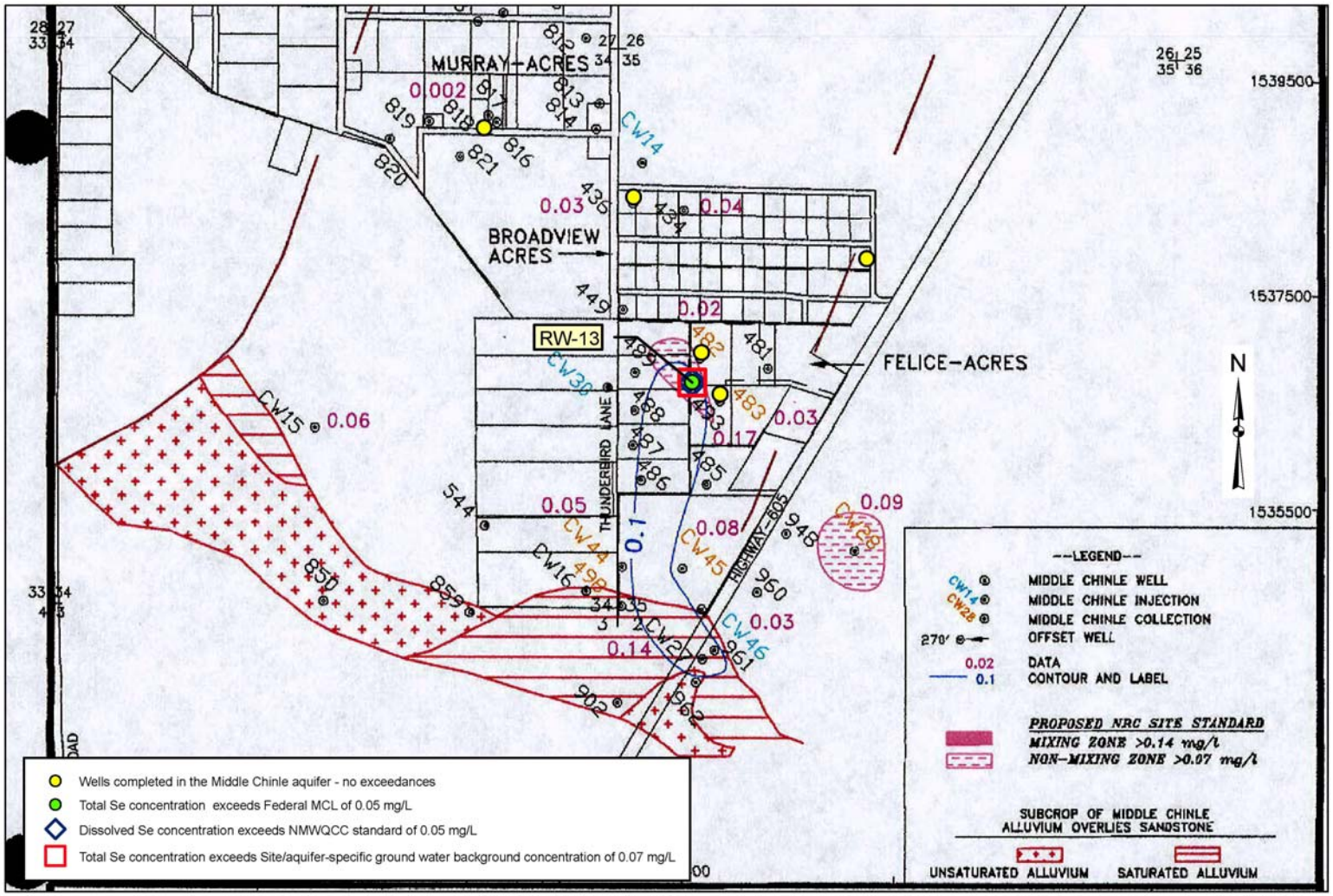
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle aquifer with uranium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



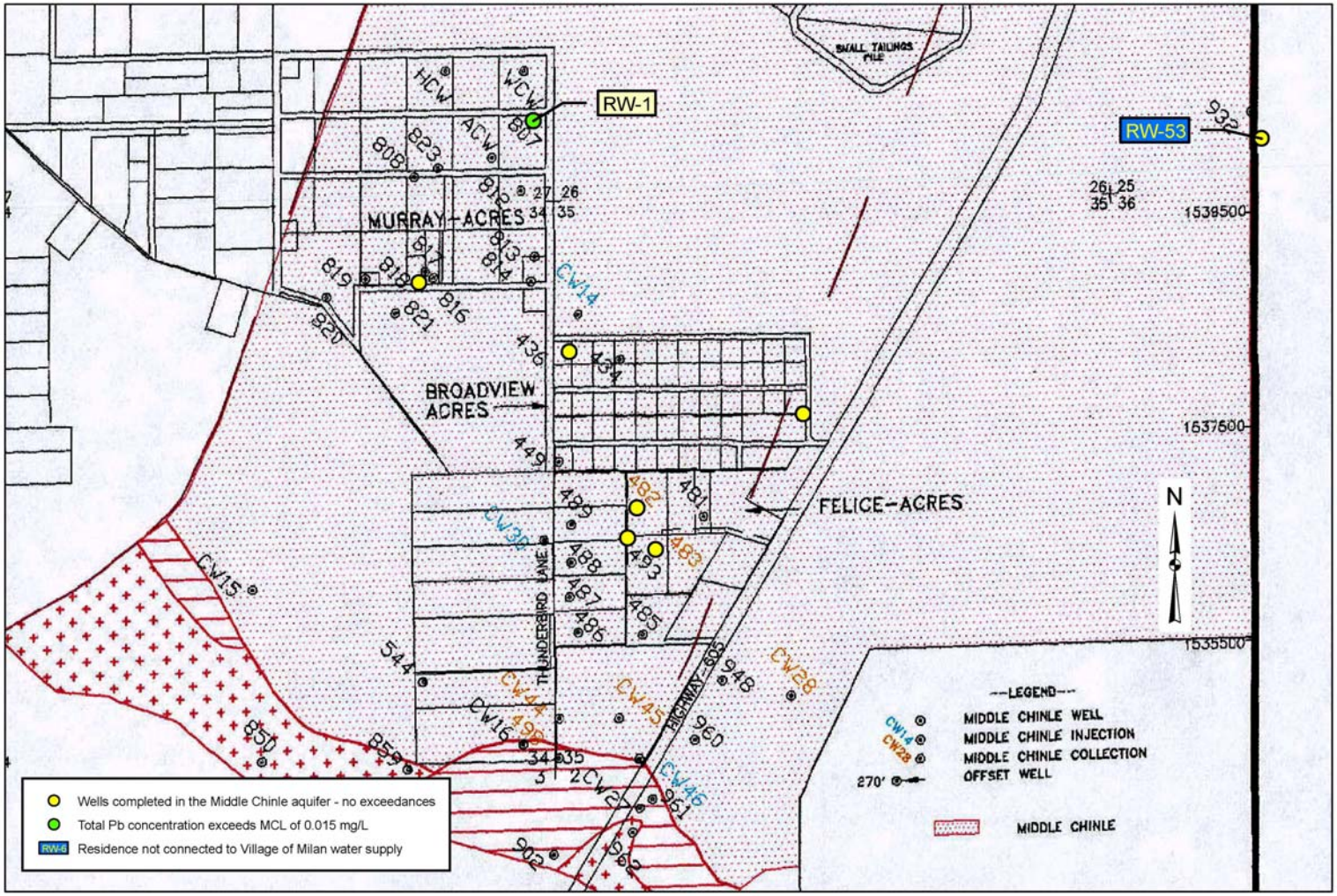
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle aquifer with selenium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



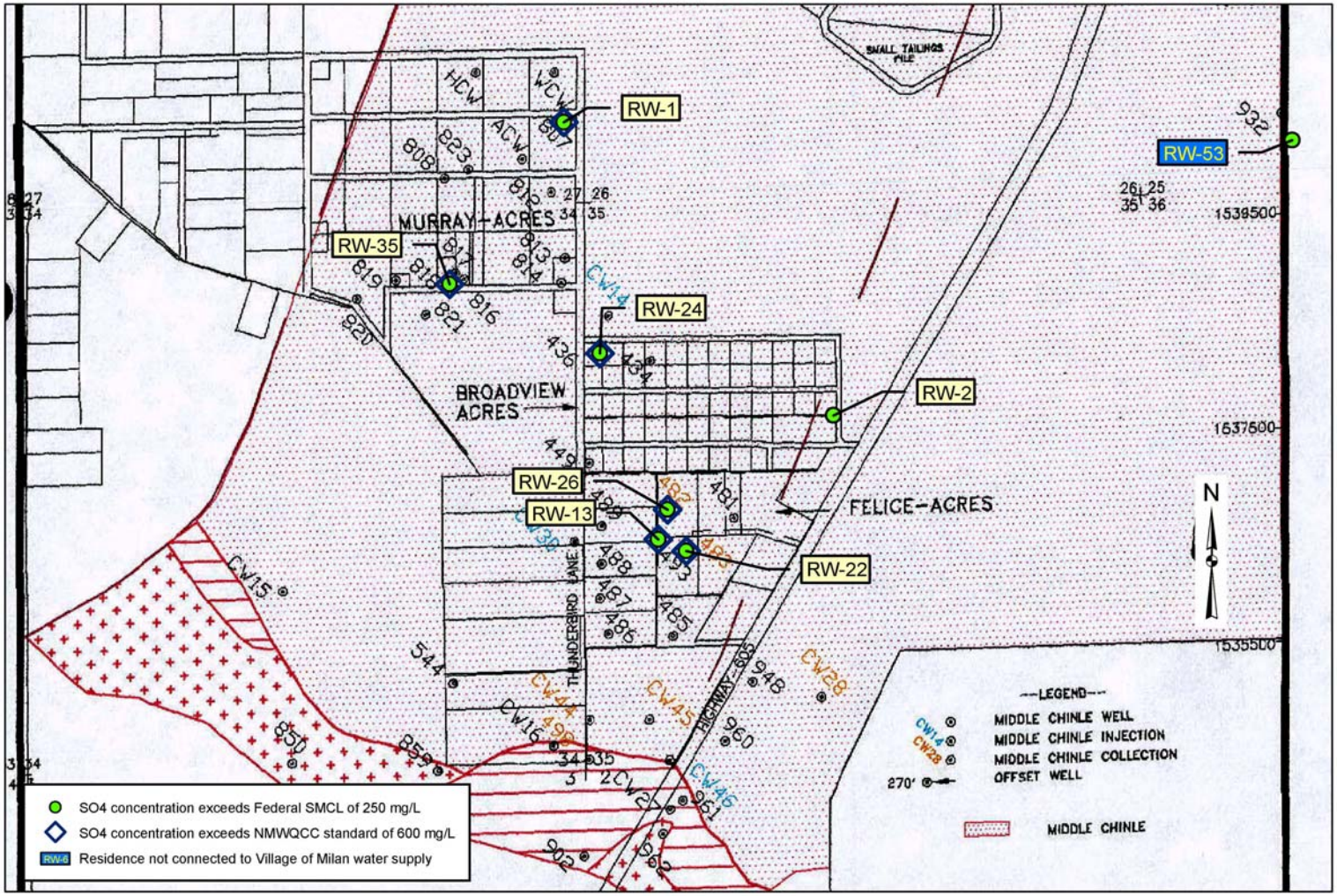
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle aquifer with lead standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



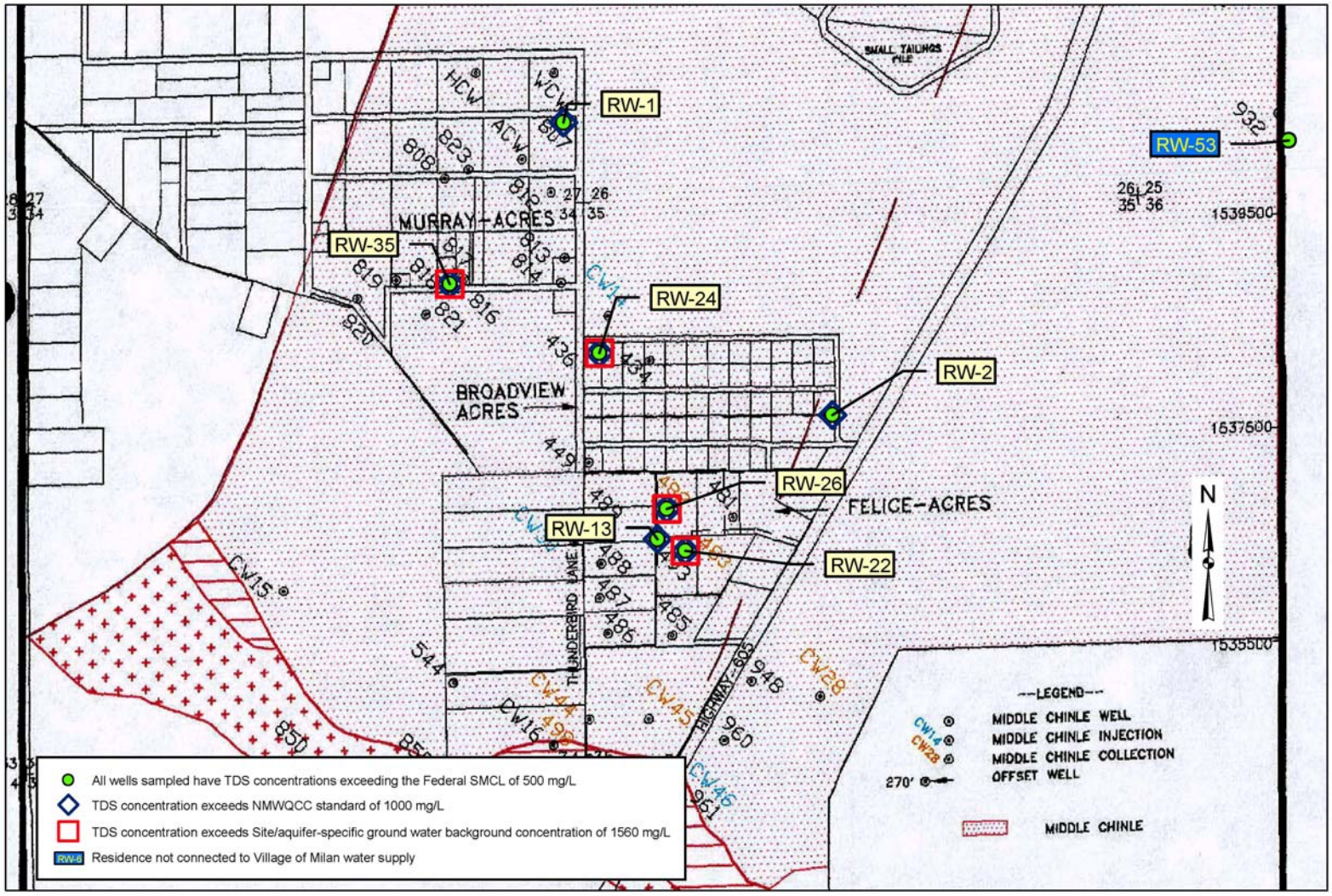
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle aquifer with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



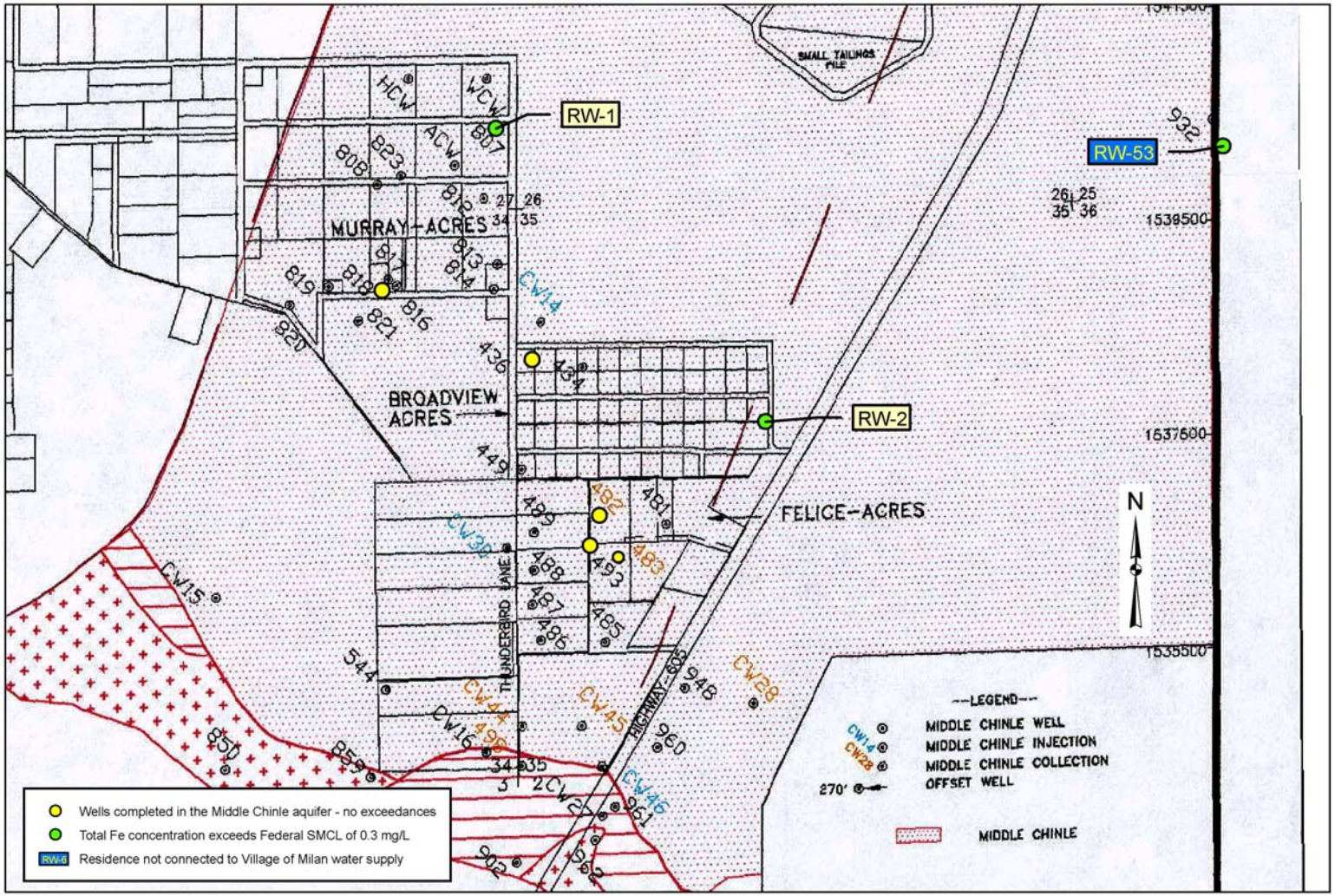
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle aquifer with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



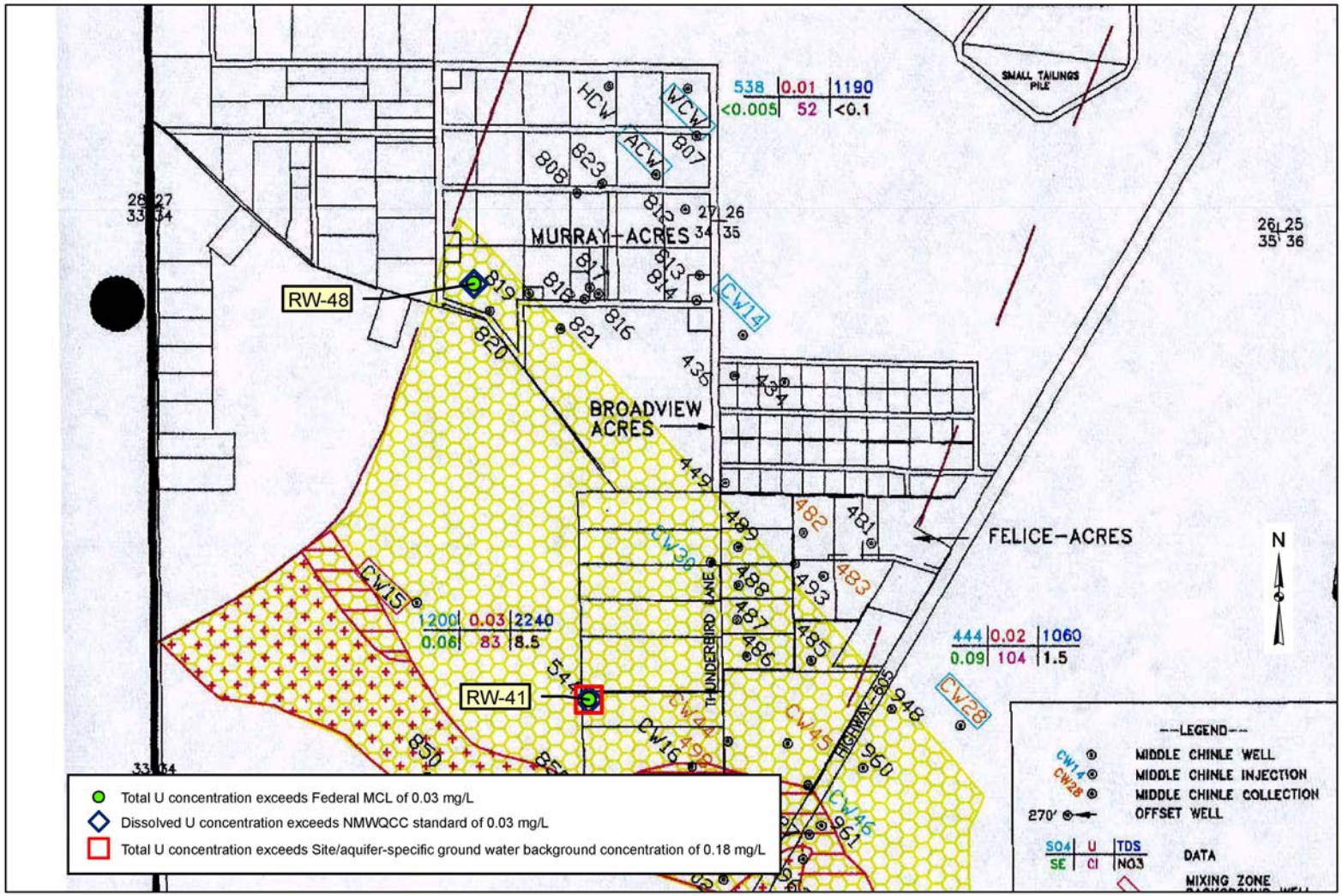
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle aquifer with iron standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



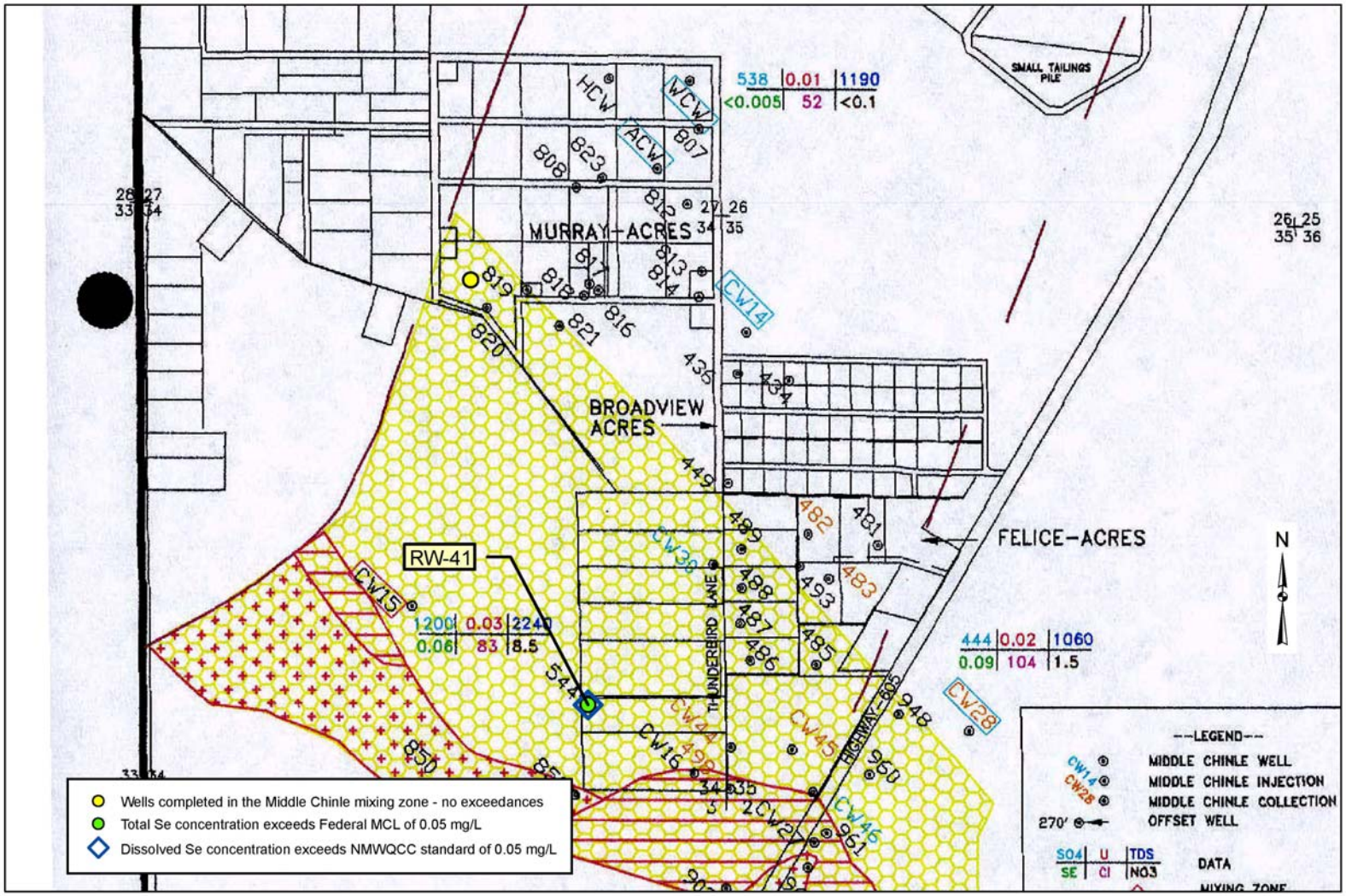
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle mixing zone with uranium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



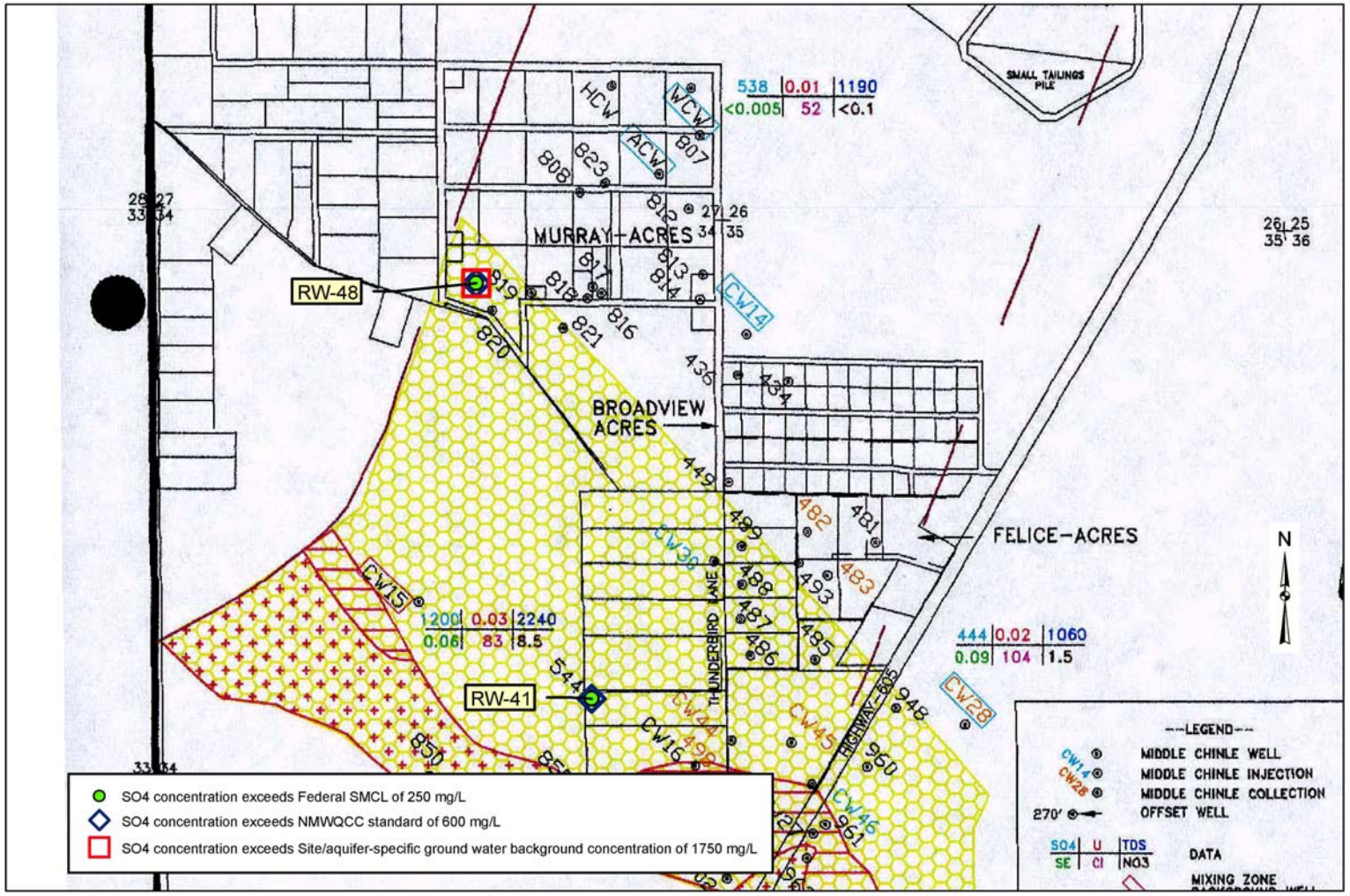
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle mixing zone with selenium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



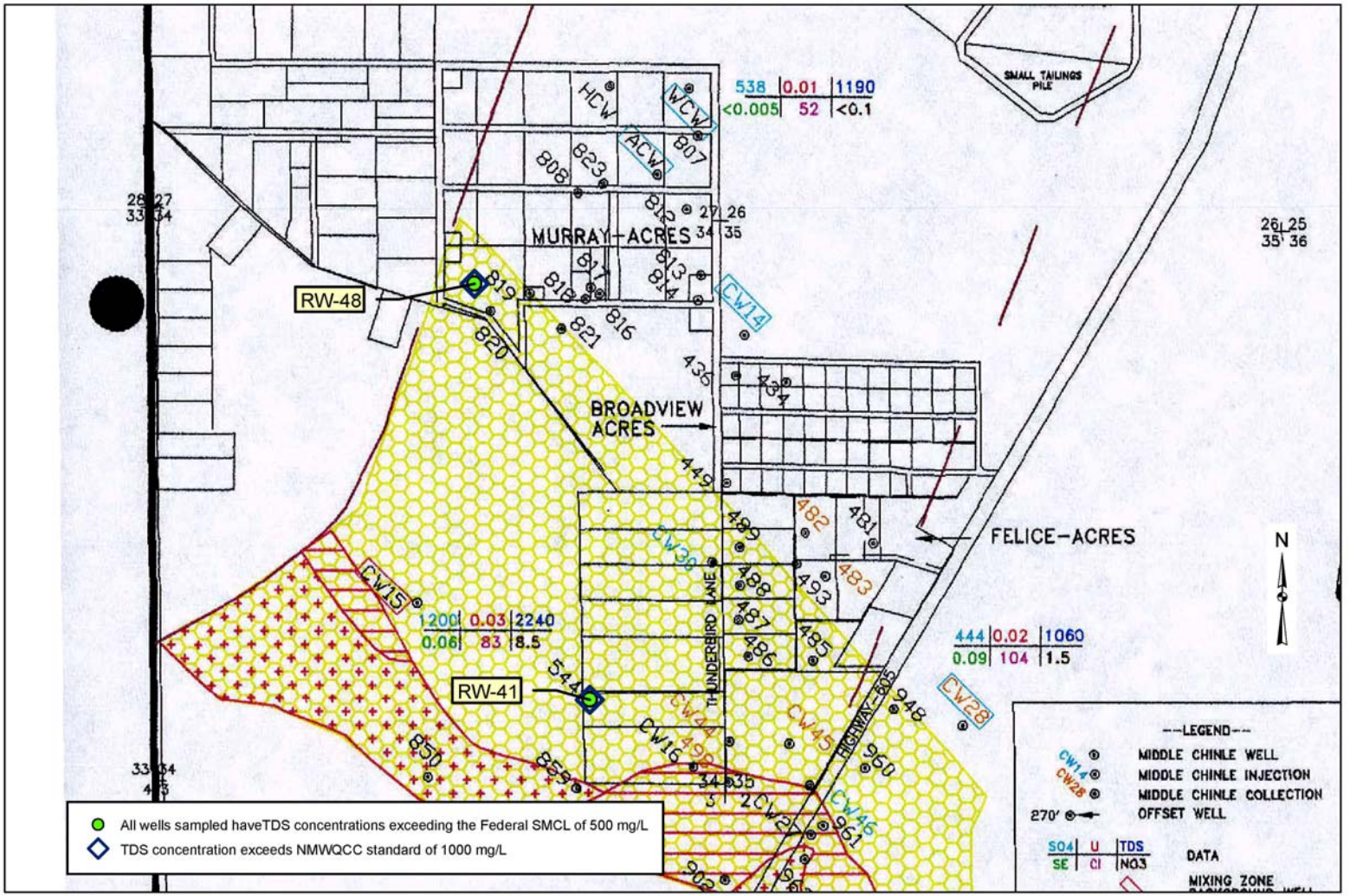
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle mixing zone with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



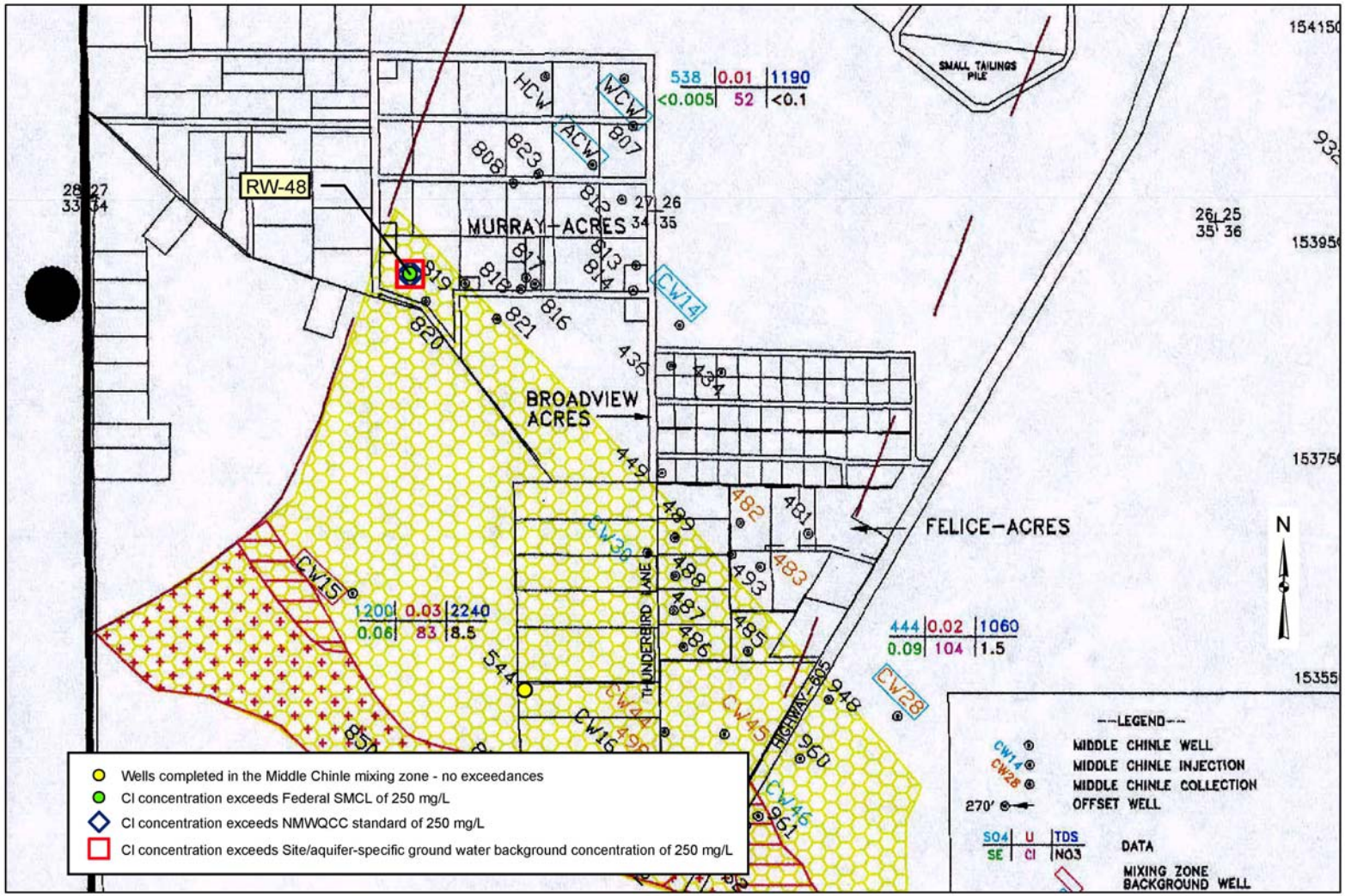
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle mixing zone with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



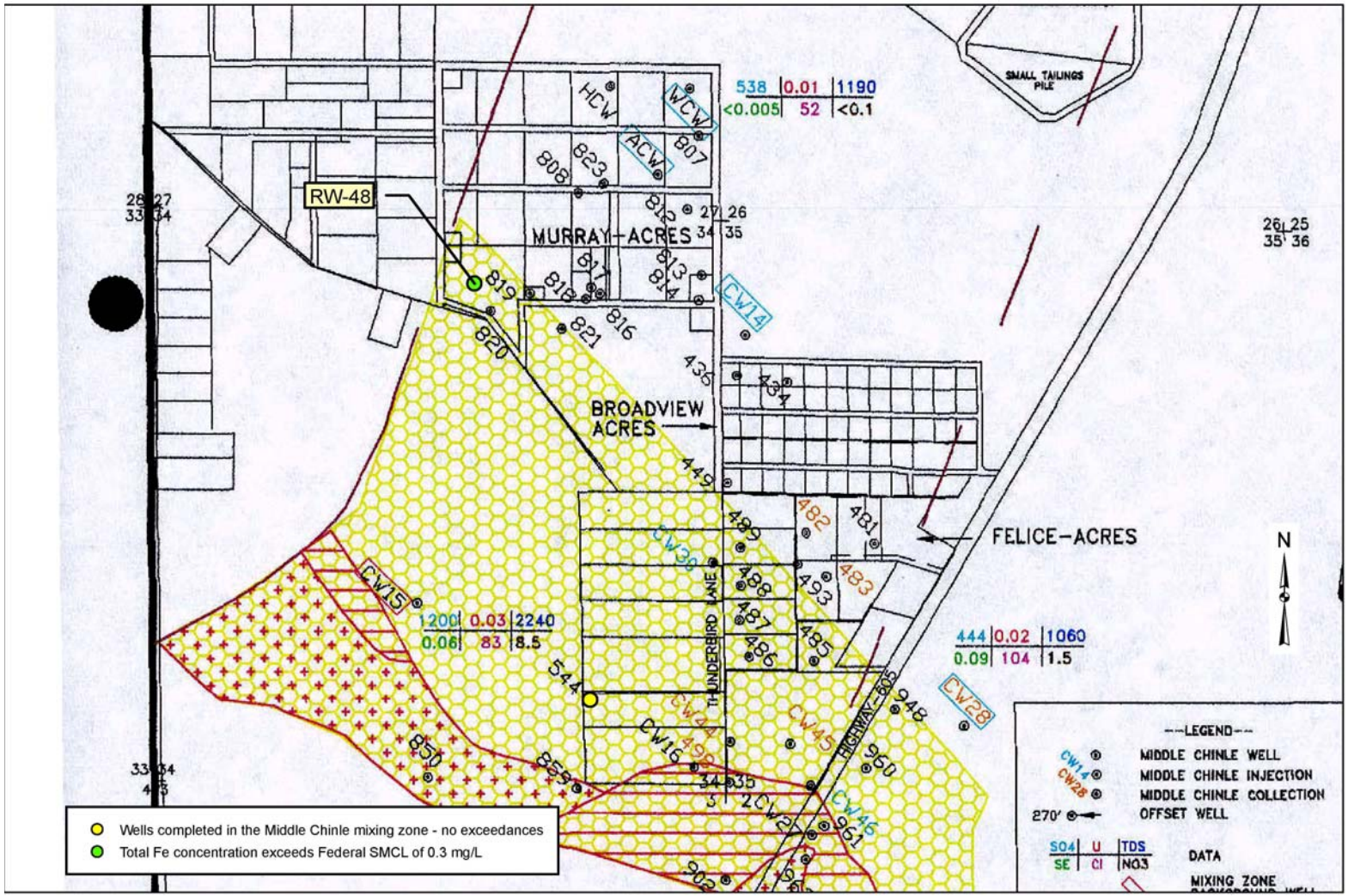
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle mixing zone with chloride standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



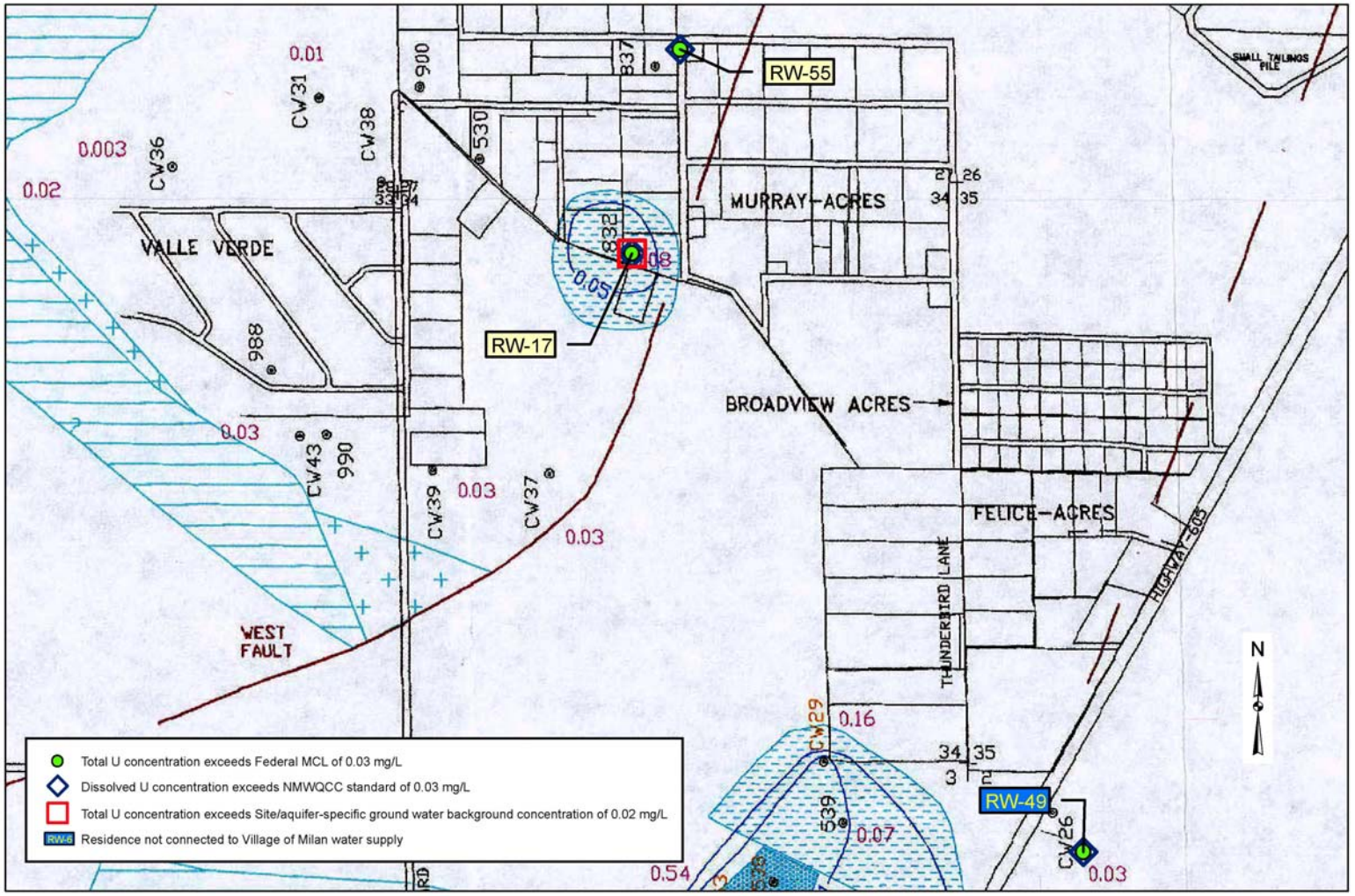
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Middle Chinle mixing zone with iron standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544

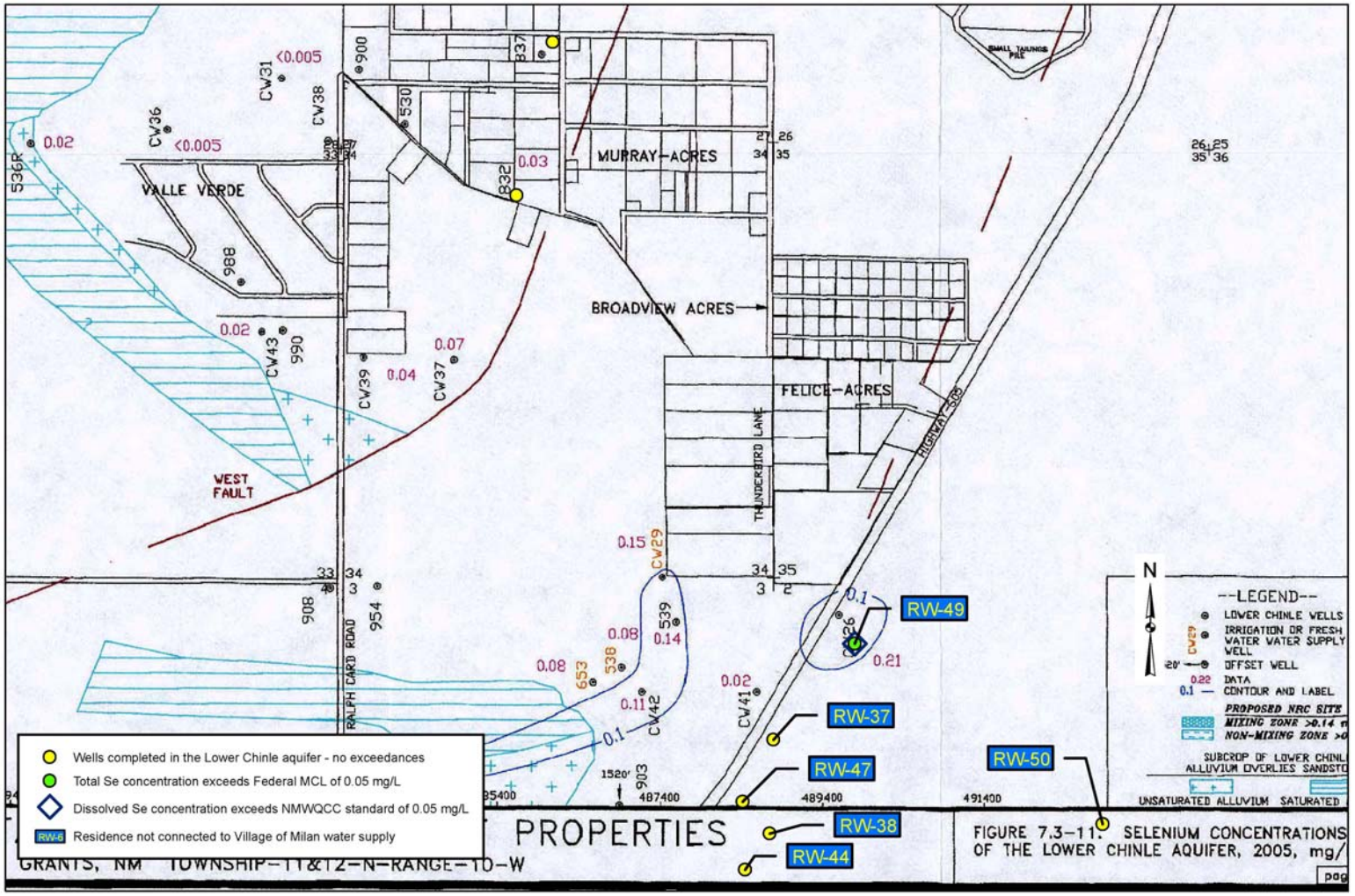


DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

Residential wells completed in the Lower Chinle aquifer with uranium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



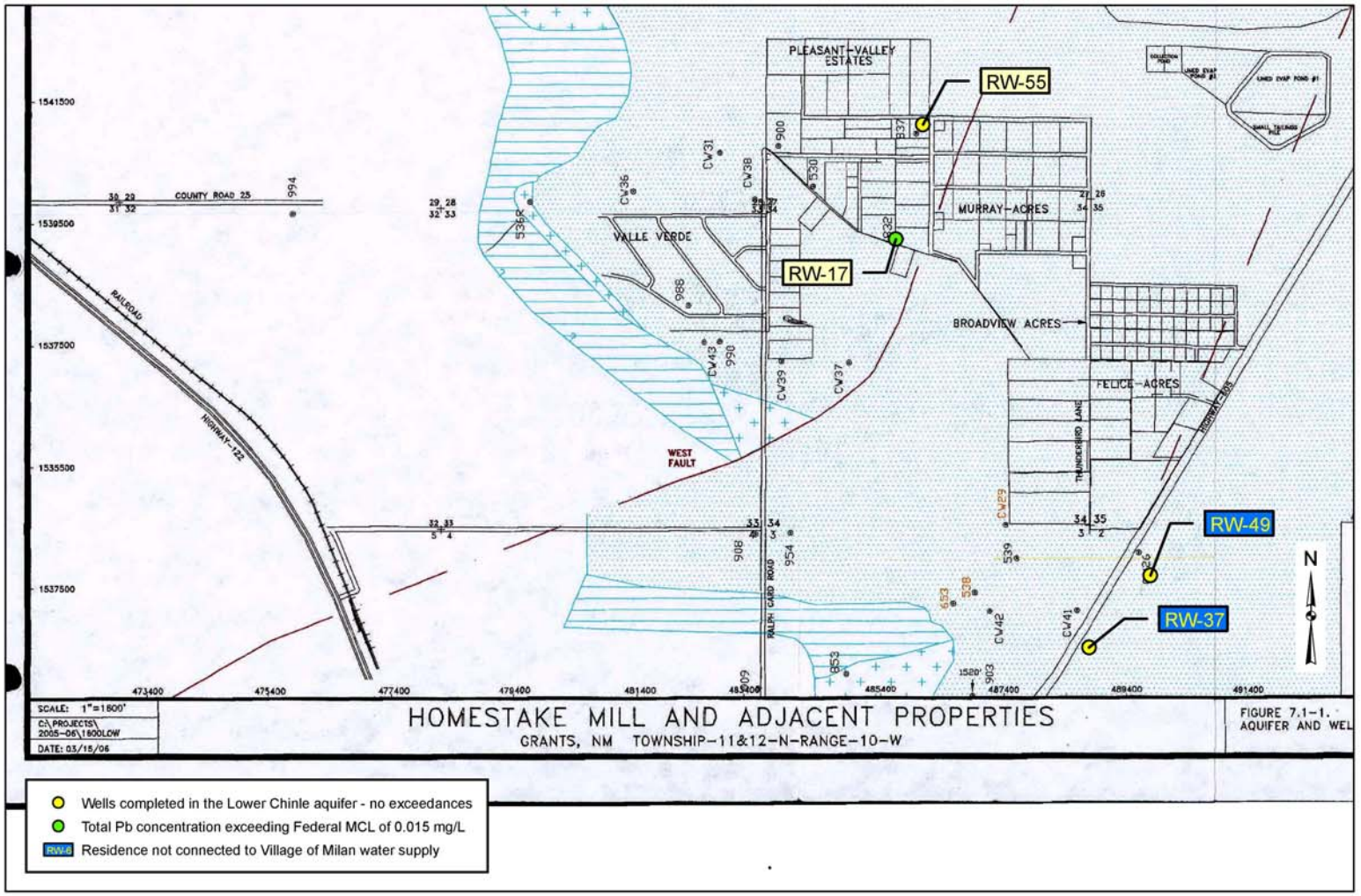
DATA SOURCES:
NMED Ground Water Quality Bureau, Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle aquifer with selenium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



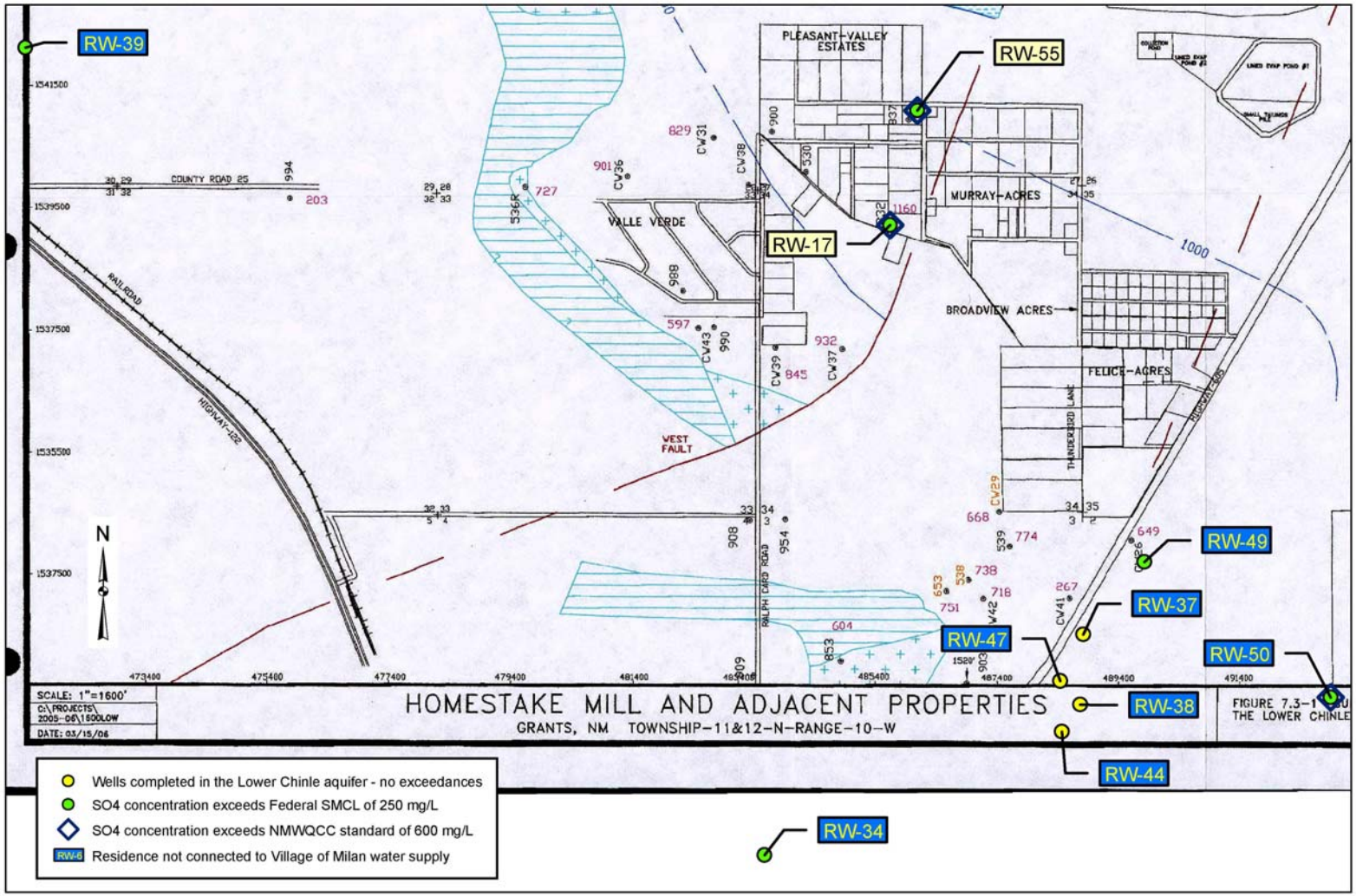
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum. 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle aquifer with lead standard exceedances

Map produced by K. Granzow, June, 2008
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum. 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle aquifer with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544

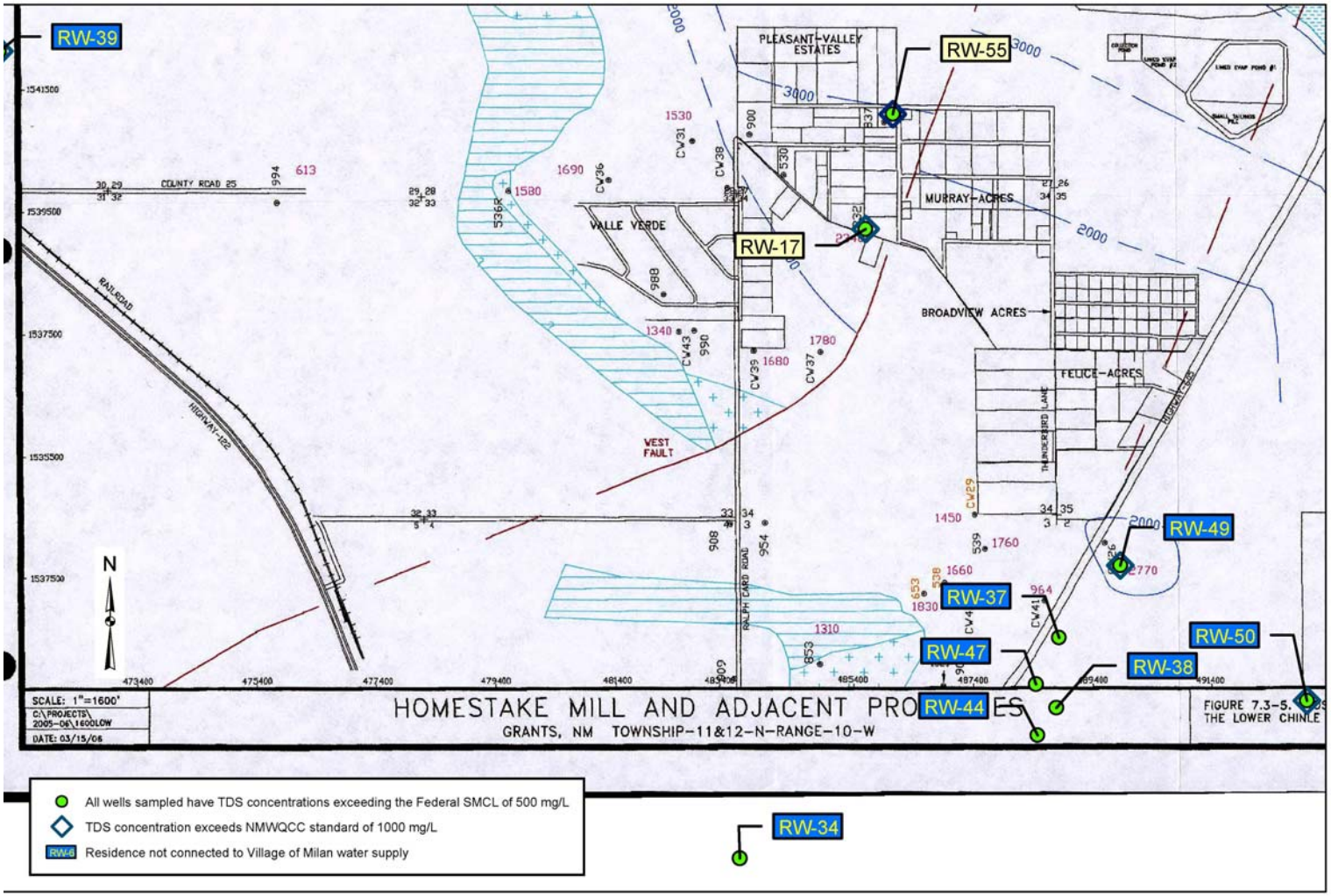


FIGURE 7.3-5. THE LOWER CHINLE

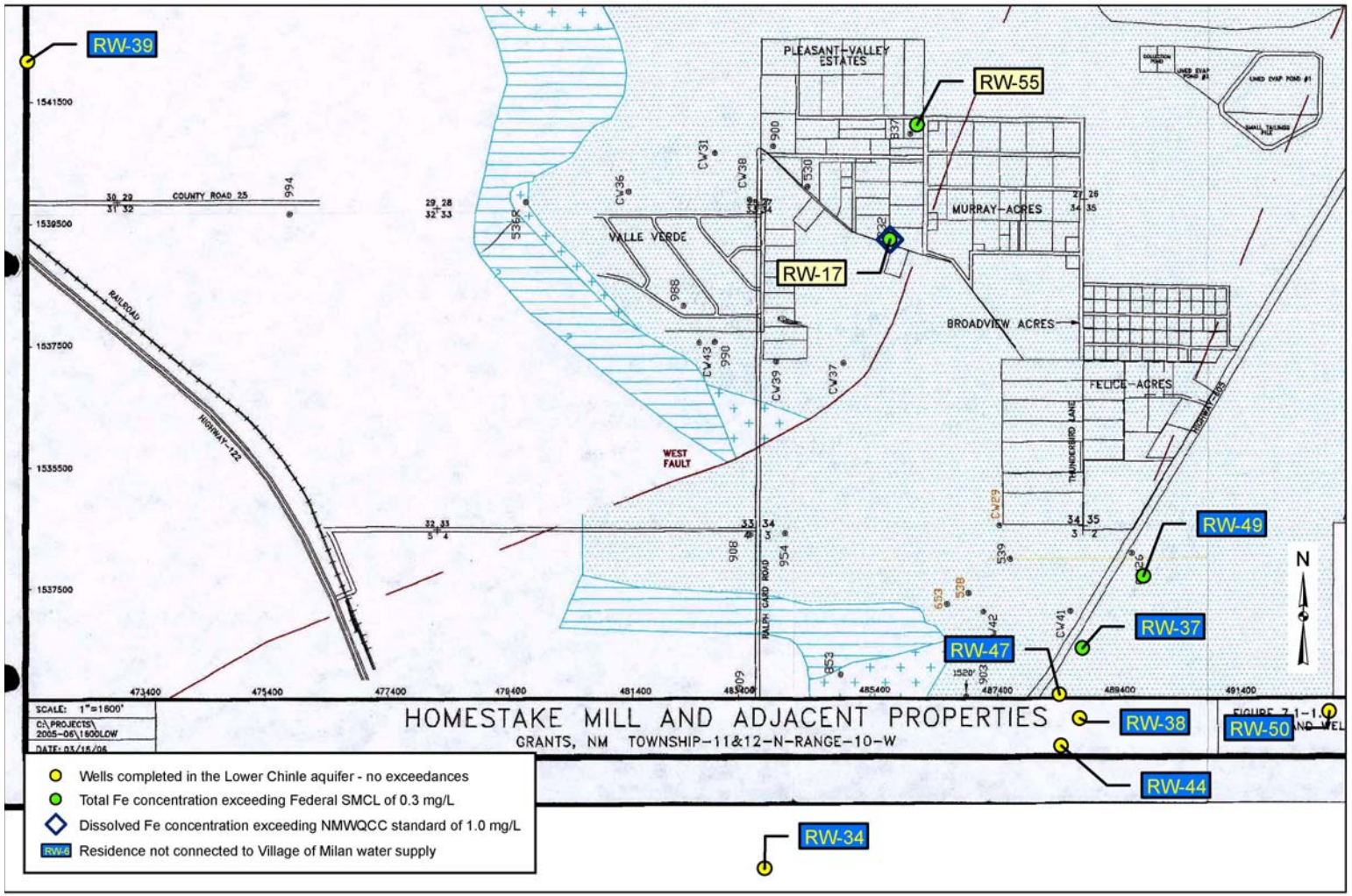
A SOURCES:
IED Ground Water Quality Bureau,
luperfund Oversight Section
iIS
mestake Mining Company

JJECTION:
w Mexico State Plane Coordinate System
Vestern Zone
rth American Datum, 1927

Miles
0 0.5 1

Residential wells completed in the Lower Chinle aquifer with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



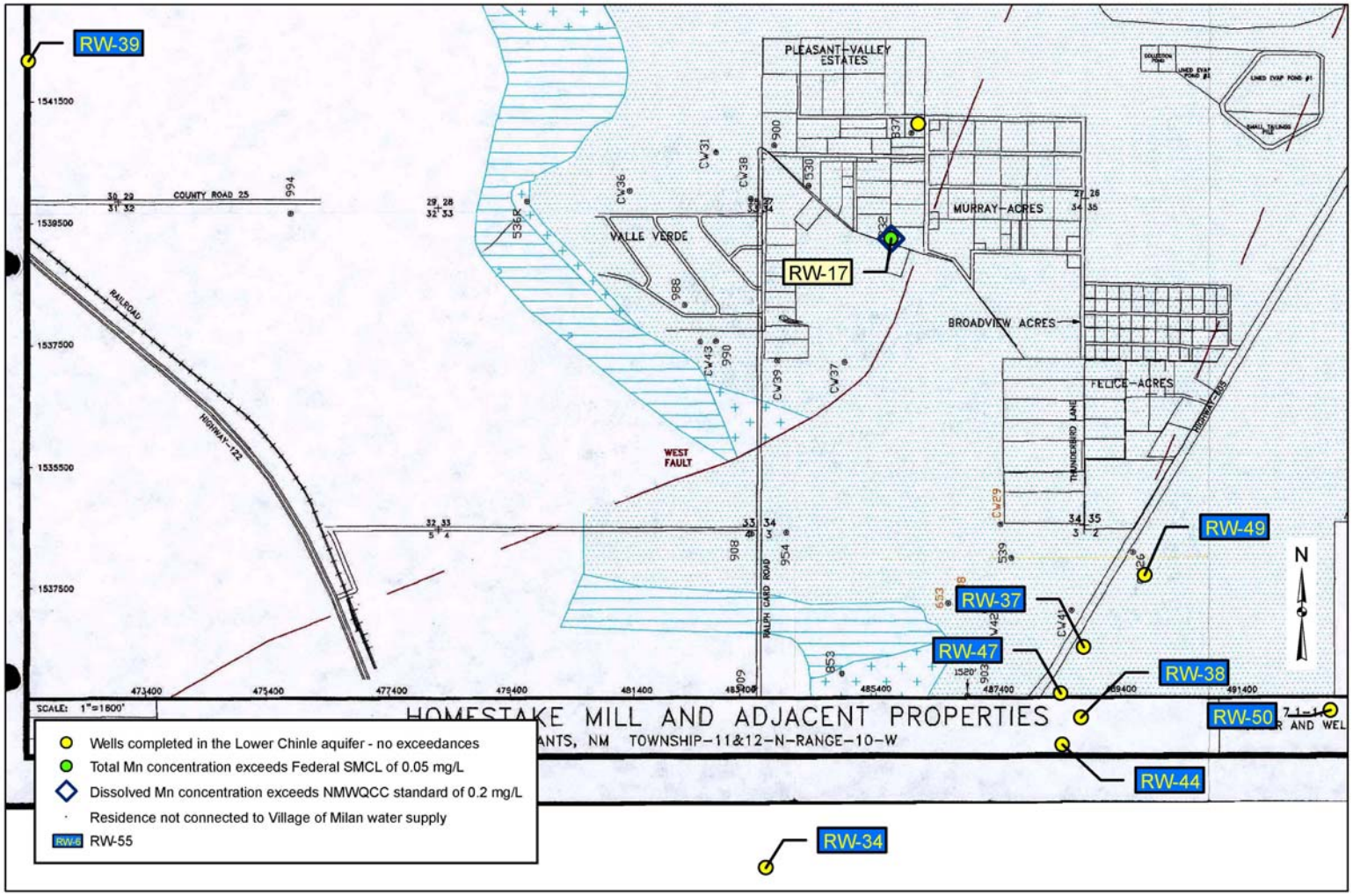
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle aquifer with iron standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



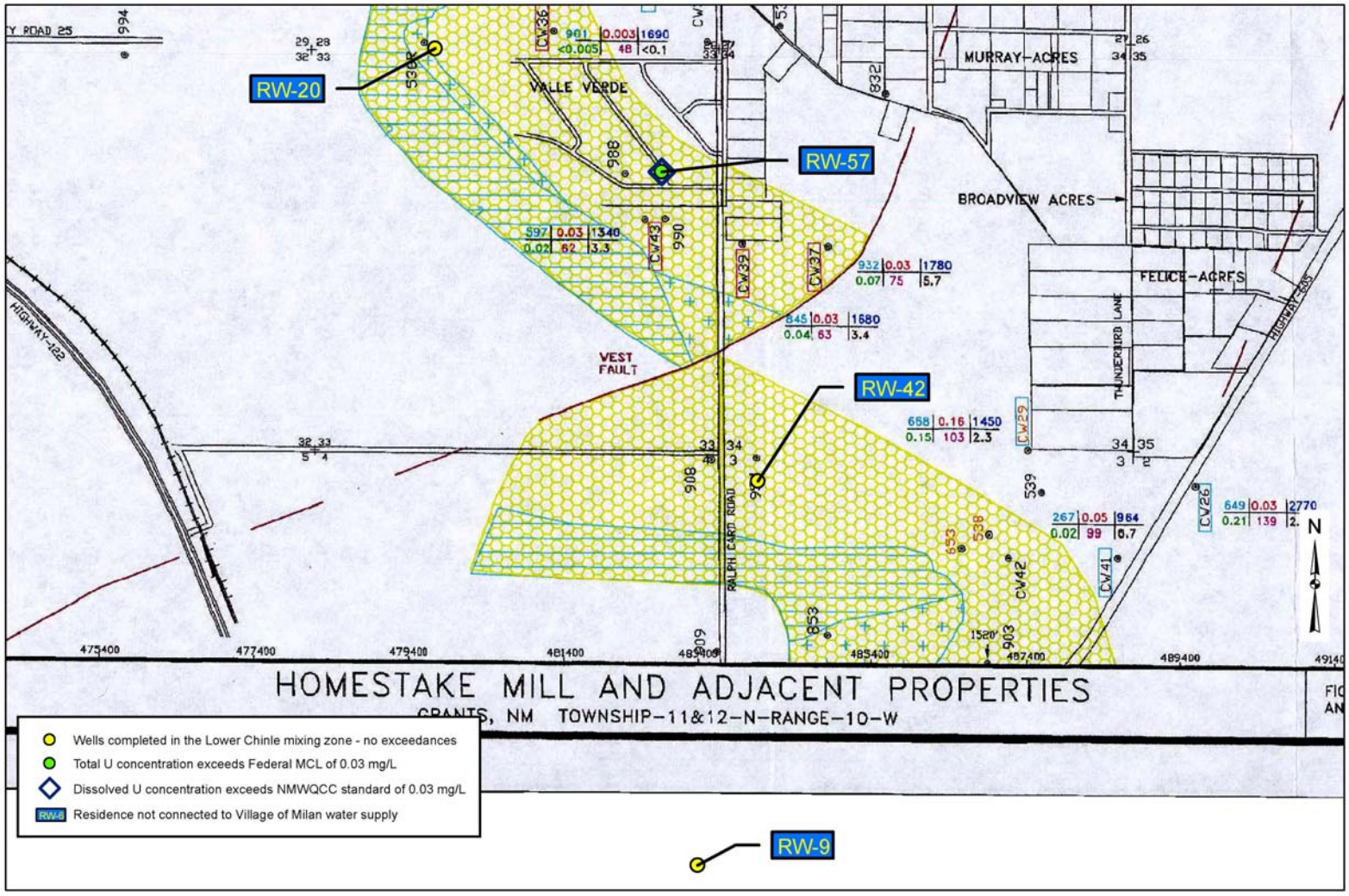
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle aquifer with manganese standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



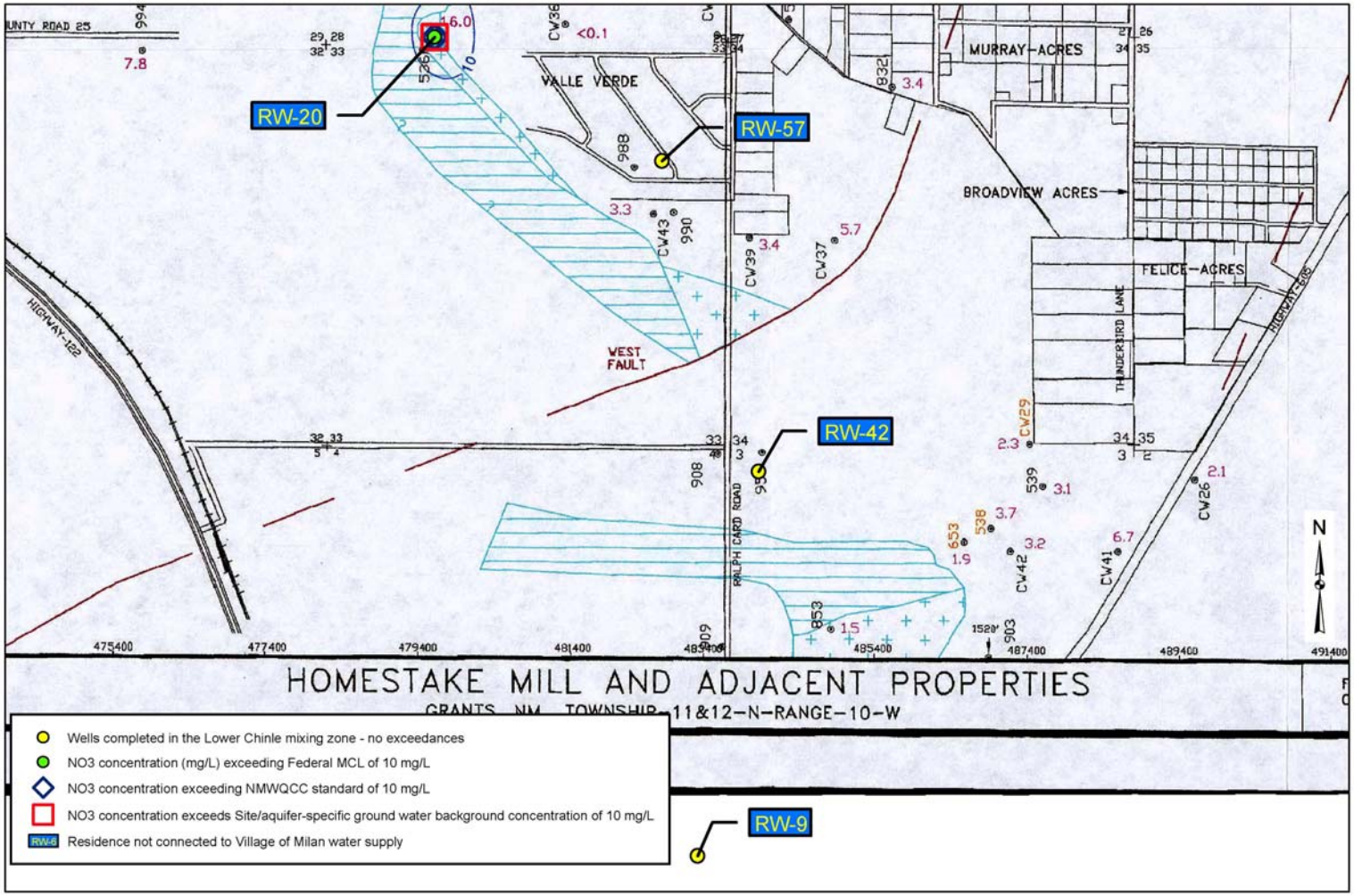
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle mixing zone with uranium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



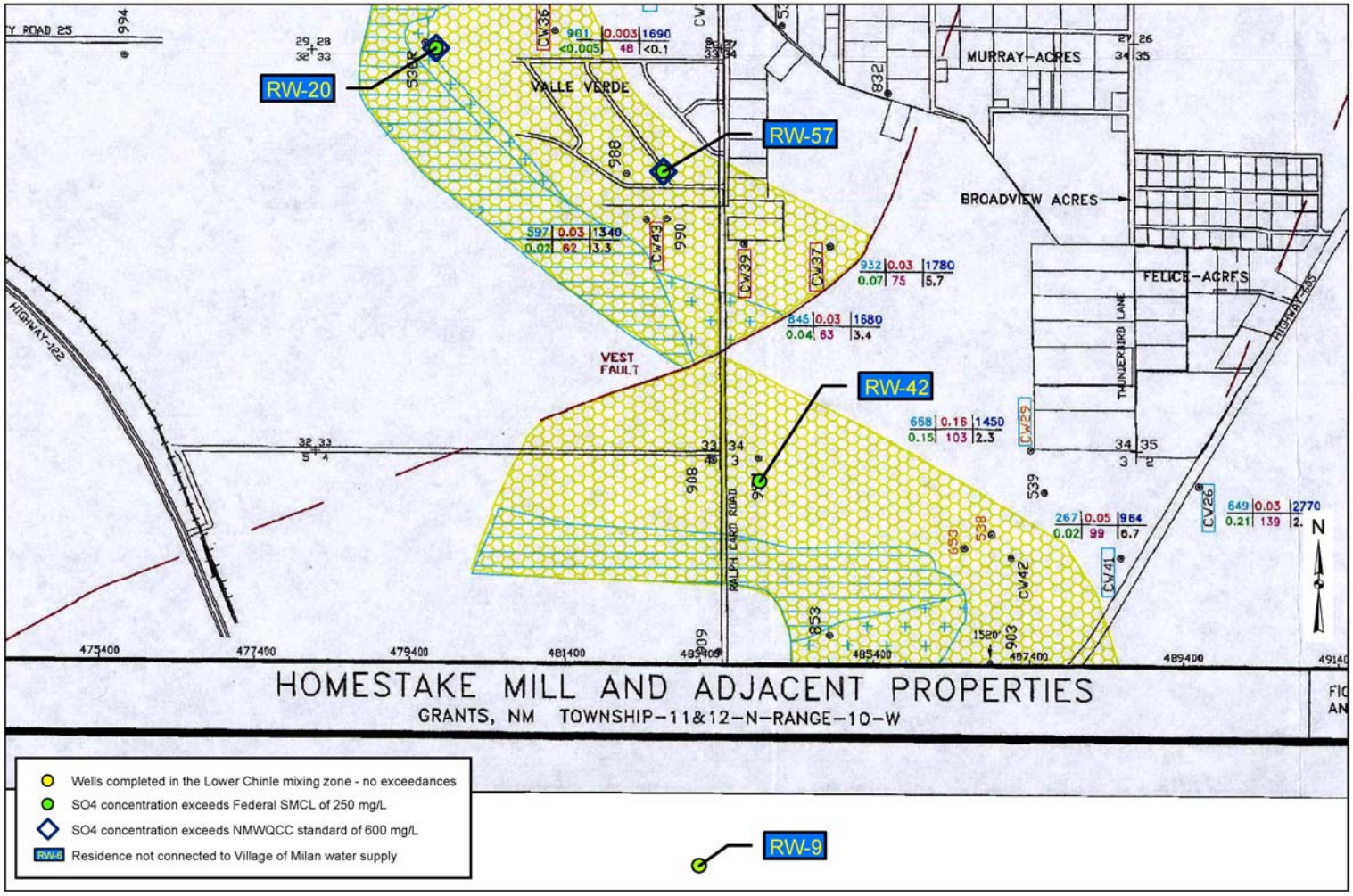
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544

Residential wells completed in the Lower Chinle mixing zone with nitrate standard exceedances



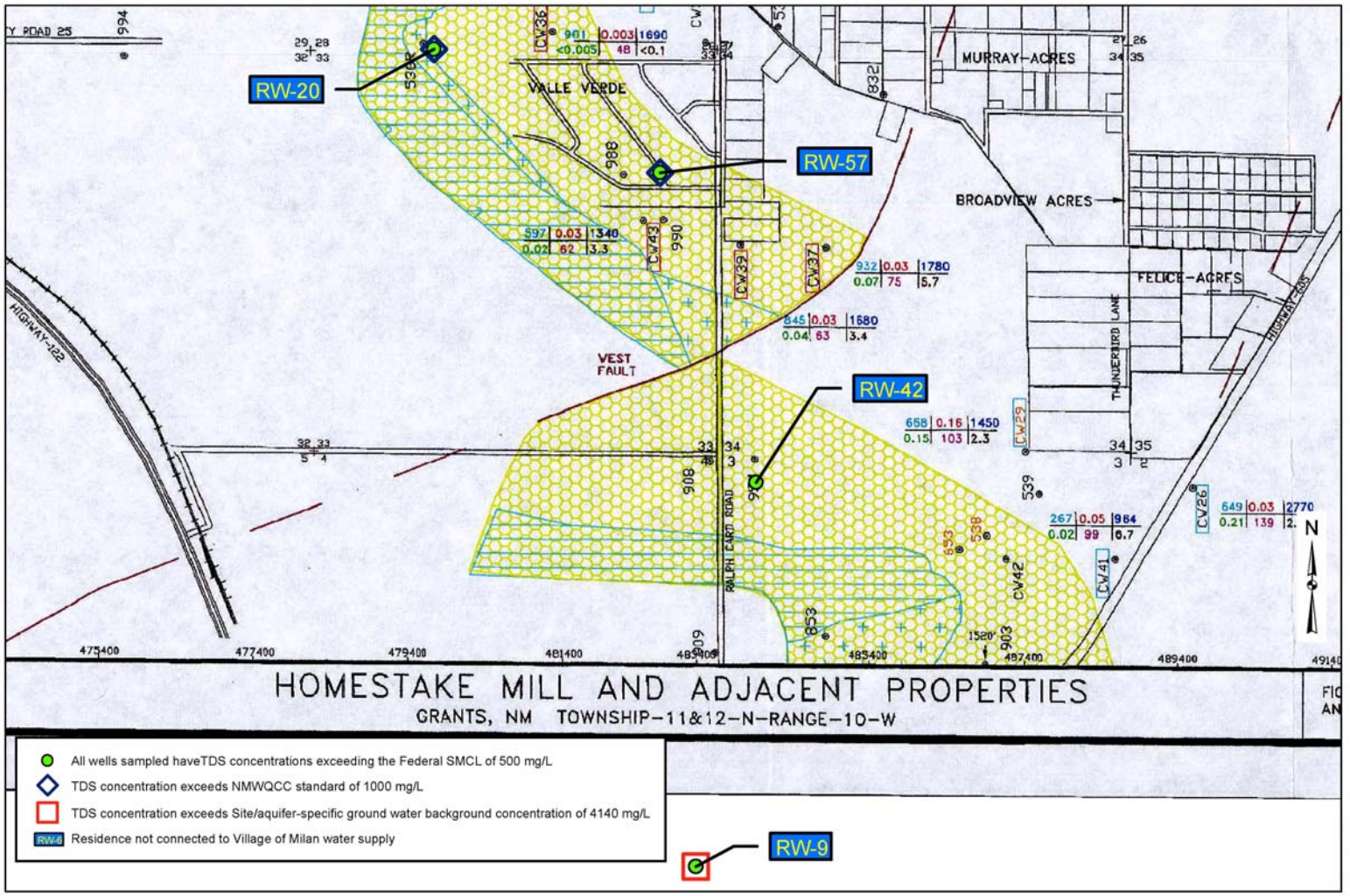
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle mixing zone with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544

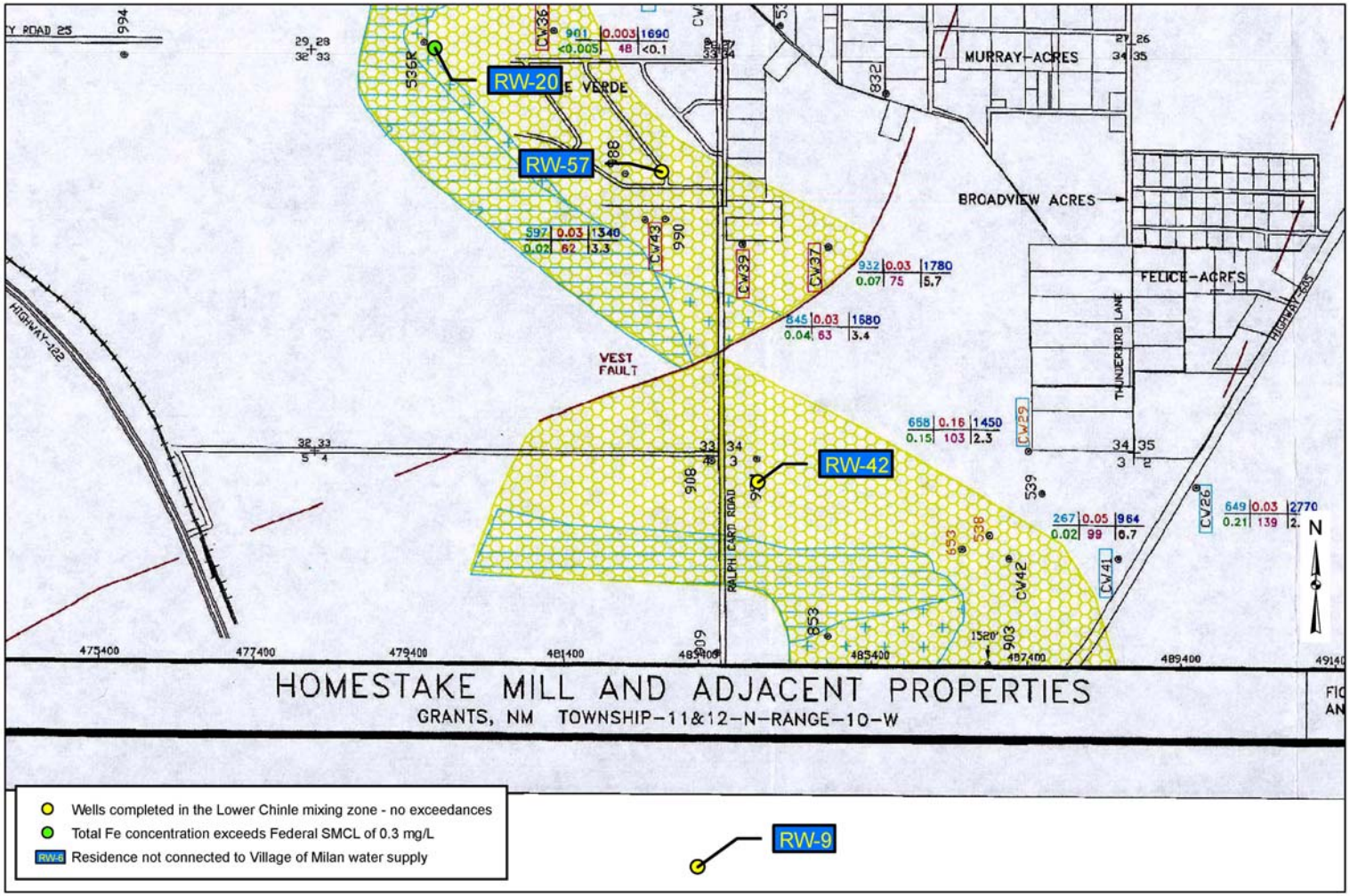


DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

Residential wells completed in the Lower Chinle mixing zone with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



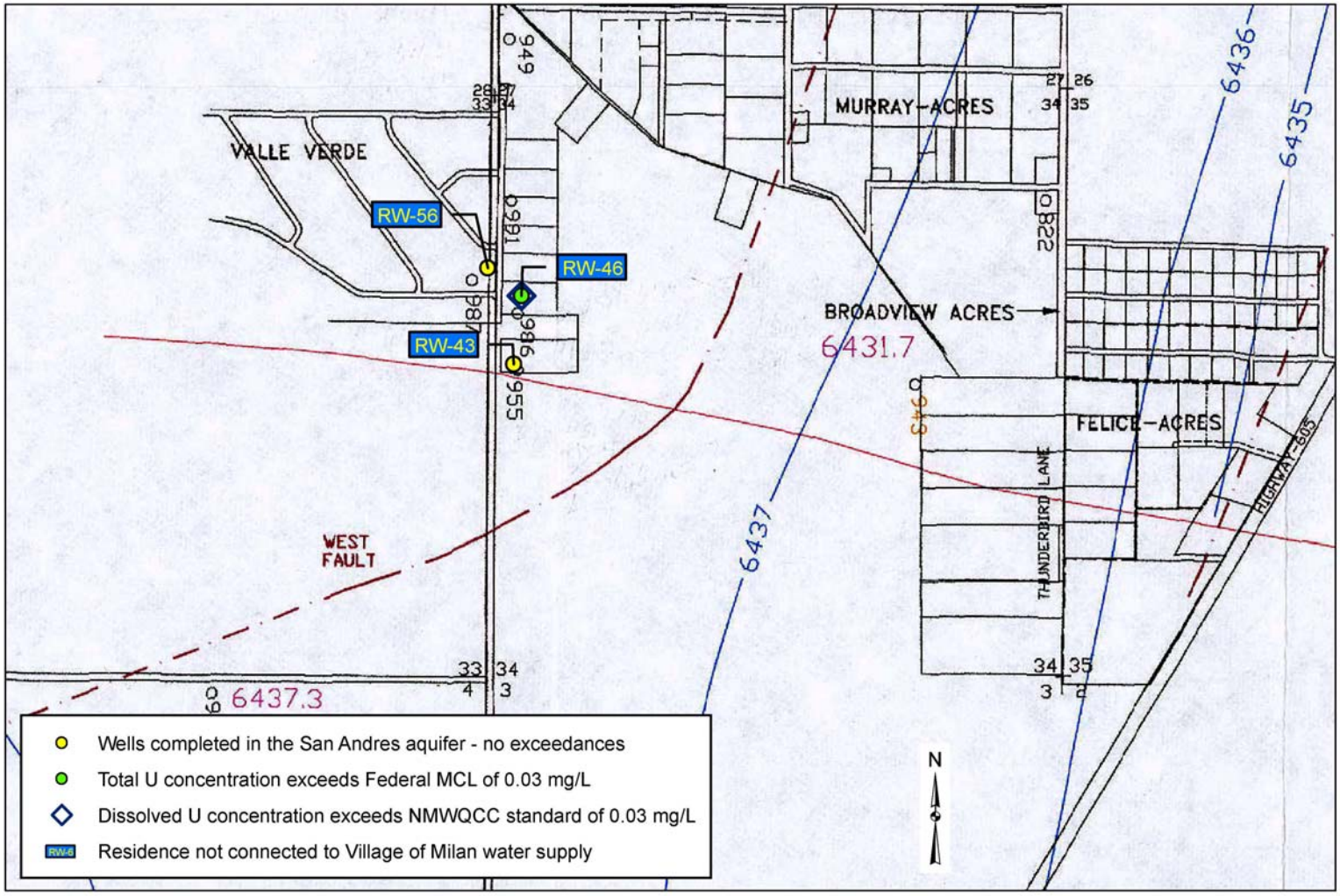
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the Lower Chinle mixing zone with iron standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



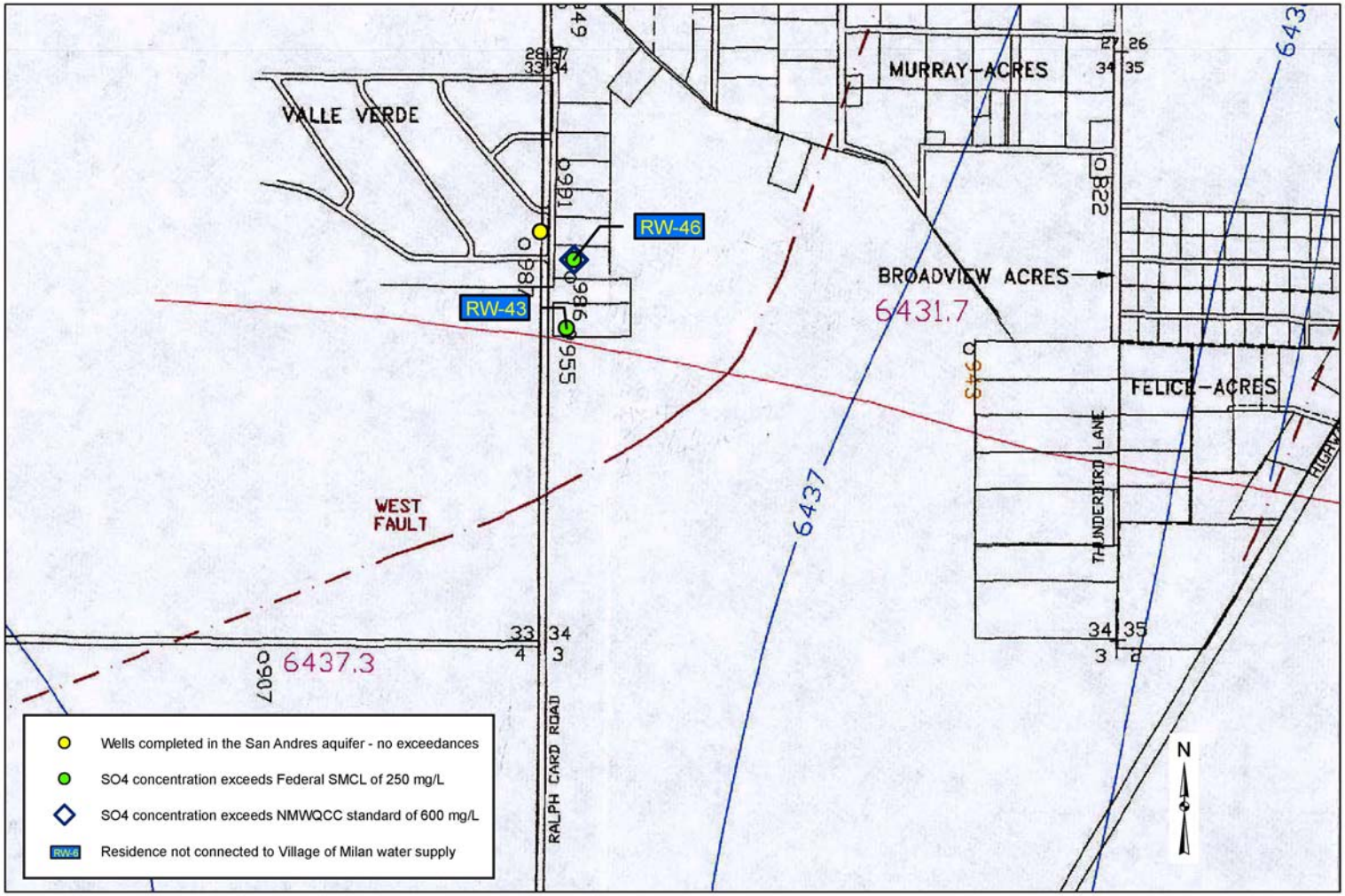
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the San Andres aquifer with uranium standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



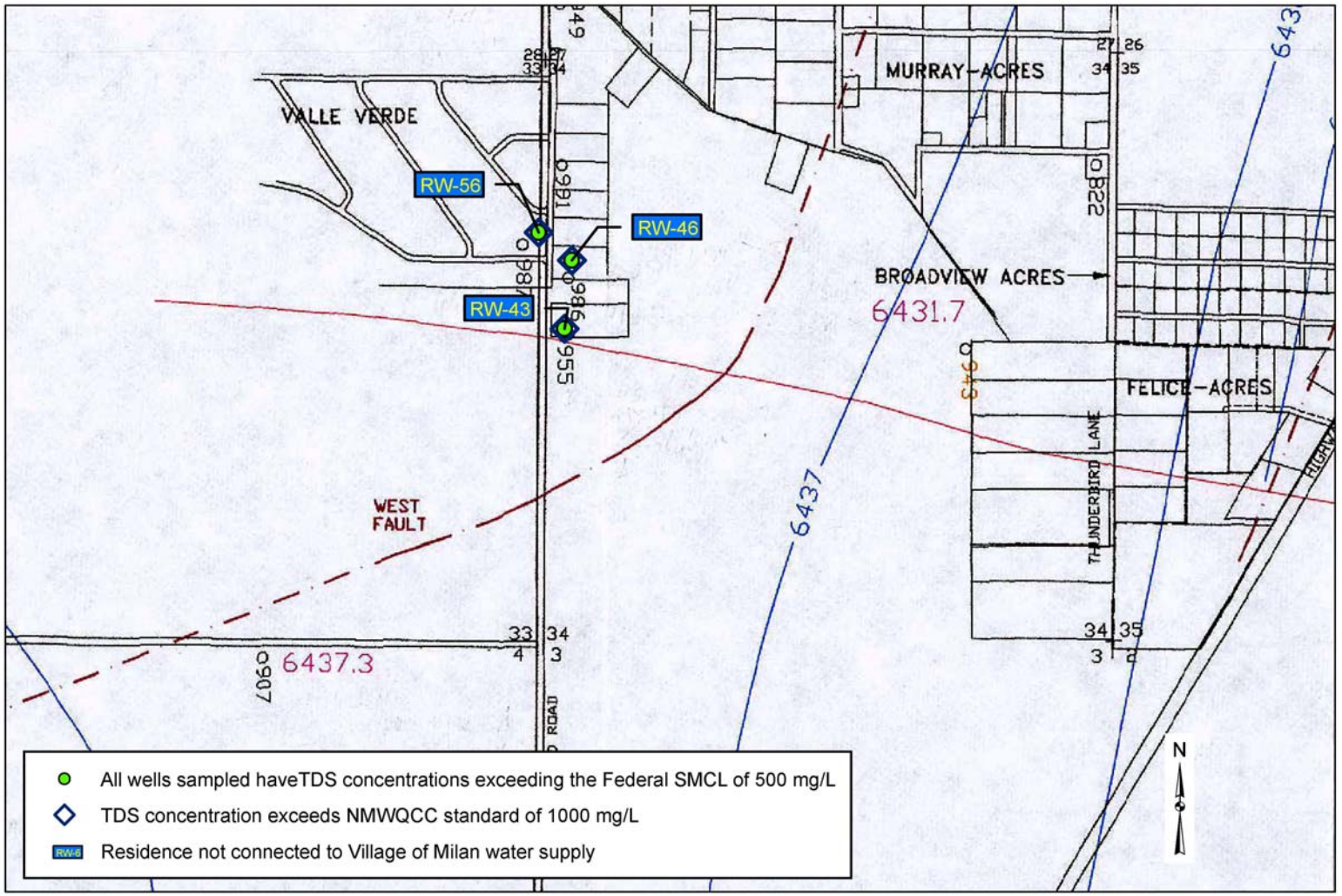
DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the San Andres aquifer with sulfate standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544



DATA SOURCES:
NMED Ground Water Quality Bureau,
Superfund Oversight Section
RGIS
Homestake Mining Company

PROJECTION:
New Mexico State Plane Coordinate System
Western Zone
North American Datum, 1927

0 0.5 1 Miles

Residential wells completed in the San Andres aquifer with TDS standard exceedances

Map produced by K. Granzow, April, 2007
NMED DOE Oversight Bureau
134 State Road 4, Suite A
White Rock, NM 87544