



15 December 2014

Mr. David Mayerson
Ground Water Quality Bureau
New Mexico Environment Department
PO Box 5469
Santa Fe, NM 87502-5469

RE: Plan to Check the Integrity of Homestake's San Andres Wells IAW Condition 21 of DP-200

Mr. Mayerson:

With regard to Permit Condition 21 of the recently approved DP-200 renewal, Homestake Mining Company of California (HMC) hereby submits to the New Mexico Environment Department (NMED) the following work plan and schedule to check the integrity of various San Andres wells owned by HMC.

HMC has seven San Andres wells, which are identified as follows: Old Deep #1, Deep #1, Deep #2, 928, 943, 951, and 951R. Four of these wells, #1 Deep, #2 Deep, 943, and 951R are currently being used and HMC plans to continue using them as part of the site's groundwater remediation program. These wells are referred to as the "Active SA Wells," with the remaining three wells being referred to as the "Inactive SA Wells." The water quality from the Active SA Wells is routinely monitored by sampling when the wells are in production. Water quality data is considered a reliable indicator of whether or not the integrity of the well is affecting the San Andres aquifer in the area. Consistent water quality would generally indicate no noticeable impacts on the San Andres aquifer, while noticeable variations in water quality may indicate potential issues. Insofar as the Active SA Wells are concerned, the recent water quality data indicates that each of these wells produces water that complies with the site standards for injection.

Since the Active SA Wells are currently being relied upon for groundwater abatement activities, HMC proposes to evaluate these wells after the Inactive SA Wells and after substantial completion of the site's reverse osmosis and full-scale zeolite water treatment systems. Table 1 presents the information for each well, along with the inspection plan, and estimated time the well will be inspected (i.e., the "schedule" as required in accordance with Permit Condition 21). Note: all depths are given in feet below ground surface. In the event the integrity of any HMC San Andres well is deemed to be inadequate to prevent cross-contamination between aquifers, corrective actions will be proposed.

Table 1. Work Plan and Schedule for HMC San Andres Well Integrity Checks.

Well Name	Year Drilled	Depth	Location	Notes	Inspection Method	Estimated Date of Inspection
951	1957	275	Southwest corner of S20, T12N, R10W	Completed with 12-inch steel casing from 0 to 146 feet and 10-inch casing from 0 to 240 feet. Open hole completion from 242 to 275 feet. Casing was cemented from 212 to 241 feet. Base of alluvium is approximately 110 feet; the top of the San Andres Aquifer is approximately 234 feet. There is no Upper or Middle Chinle Aquifer present at this location. The DOE is currently using this well for monitoring purposes.	Monitoring devices will be removed and work will be coordinated with DOE; downhole videography and water quality data will be used to assess integrity of this well. Upon completion, A summary report will be written and submitted to the agencies.	2 nd Quarter 2015 Note: Inspection will be coordinated with DOE so as not to conflict with ongoing activities.

NM5501

Well Name	Year Drilled	Depth	Location	Notes	Inspection Method	Estimated Date of Inspection
Old Deep #1	1958	980	Within NRC Licensed boundary, S26, T12N, R10W	Completed with 12-inch steel casing. Upper and Middle Chinle Aquifers exist at this location.	Downhole videography and water quality data will be used to assess integrity of this well. Upon completion, A summary report will be written and submitted to the agencies.	2 nd Quarter 2015
928	1945	865	Near the center of S23, T12N, R10W	This well was completed with 20-inch steel casing. The base of the alluvium is at 140 feet and the top of the San Andres Aquifer is at 81 feet. The Upper and Middle Chinle Aquifers exist at this location under the Alluvial Aquifer and above the San Andres Aquifer.	Downhole videography and water quality data will be used to assess integrity of this well. Upon completion, A summary report will be written and submitted to the agencies.	2 nd Quarter 2015
943	1952	978	Eastern part of S34, T12N, R10W	This well was completed with numerous diameter steel casings that telescope and overlap each other. The steel casing diameters and depths are as follows: From 0-304 feet, 18-inch casing From 255-408 feet, 16-inch casing From 347-510 feet, 14-inch casing From 460-703 feet, 10-inch casing From 703-978 feet, Open hole The base of the alluvium is at 48 feet in this location, the Middle Chinle Aquifer extends from 225 to 275 feet and the top of the San Andres exists at 743 feet.	Downhole videography and water quality data will be used to assess integrity of this well. Upon completion, A summary report will be written and submitted to the agencies.	2 nd Quarter 2016 Note: This well is an Active SA Well, and as such, is currently being used for HMC's groundwater remediation. In the event the well pump needs to be replaced sooner than Q2 2016, the well will be inspected at that time.
Deep #2	1955	870	Within NRC Licensed boundary, S26, T12N, R10W	This well was completed with 20-inch steel casing. Upper and Middle Chinle Aquifers exist at this location.	Downhole videography and water quality data will be used to assess integrity of this well. Upon completion, A summary report will be written and submitted to the agencies.	2 nd Quarter 2016 Note: This well is an Active SA Well, and as such, is currently being used for HMC's groundwater remediation. In the event the well pump needs to be replaced sooner than Q2 2016, the well will be inspected at that time.
Deep #1	1979	999	Within NRC Licensed boundary, near north water tower.	This well was completed with 16-inch casing in the upper 300 feet with a connection to a 9-inch casing extending from 300 to 999 feet. The top of the San Andres Aquifer exists at 955 feet in this location.	Downhole videography and water quality data will be used to assess integrity of this well. Upon completion, A summary report will be written and submitted to the agencies.	2 nd Quarter 2016 Note: This well is an Active SA Well, and as such, is currently being used for HMC's groundwater remediation. In the event the well pump needs to be replaced sooner than Q2 2016, the well will be inspected at that time.

Well Name	Year Drilled	Depth	Location	Notes	Inspection Method	Estimated Date of Inspection
951R	2012	525	Northwest quarter of S27, T12N, R10W	This well was completed with 8-inch casing to 415 feet. The casing was completed in place by pumping cement inside of the casing and forcing it up the annular space (between the casing and the borehole) from 415 feet to the surface of the ground. The short life of this well and the technique used to complete it greatly reduces the potential for integrity issues. The alluvium base is located at 65 feet and the top of the San Andres is located at 420 feet in this well. Upper and Middle Chinle Aquifers do not exist in this location.	Downhole videography and water quality data will be used to assess integrity of this well. Upon completion, A summary report will be written and submitted to the agencies.	2 nd Quarter 2016 Note: This well is an Active SA Well, and as such, is currently being used for HMC's groundwater remediation. In the event the well pump needs to be replaced sooner than Q2 2016, the well will be inspected at that time.

Thank you for your time and attention on this matter. If you or anyone on your staff has any questions, please contact me at the Grants office at 505.287.4456, extension 34, or call me directly on my cell phone at 505.290.3067.

Respectfully,



Jesse R. Toepfer

Closure Manager
 Homestake Mining Company of California
 Office: 505.287.4456 x34 | Cell: 505.290.3067

Copy To:

- Mr. Jack Parrott, US Nuclear Regulatory Commission – Rockville, Maryland
- Mr. Sai Appaji, US Environmental Protection Agency, Region 6 – Dallas, Texas
- Mr. Wayne Canon, New Mexico Office of the State Engineer – Albuquerque, New Mexico
- Mr. Bill Ferdinand, Barrick Gold – Salt Lake City, Utah
- Mr. Patrick Malone, Barrick Gold – Salt Lake City, Utah
- Ms. Deborah Barr, US Department of Energy, Office of Legacy Management – Grand Junction, Colorado
- Mr. Dave Schafer, US Department of Energy, Office of Legacy Management – Westminster, Colorado