FACT SHEET
(Pursuant to Nevada Administrative Code (NAC) 445A.401)

Permittee Name: **Gateway Gold (USA) Corp.**

Project Name: **Santa Fe Mine**

Permit Number: **NEV0087053 [incorporates NEV0091020]**
Review Type/Year/Revision: **Renewal 2015, Revision 00**

A. Location and General Description

Location: The Santa Fe Mine site is located approximately 8 miles northeast of Luning in the Gabbs Valley Range, Mineral County. Township 8N, Range 34E, Section 1; Township 8N, Range 35E, Sections 4, 5, and 6; Township 9N, Range 34E, Section 36; and Township 9N, Range 35E, Sections 28, 29, 31, 32, and 33 - Mount Diablo Baseline and Meridian.

General Description: The Santa Fe Mine consists of the Santa Fe Mine and the Calvada Heap (NEV0091020). The Calvada Heap is about 1 mile east of the Santa Fe site. The Calvada Heap was incorporated into the overall Santa Fe Mine Water Pollution Control Permit (WPCP) in 2004. Both the Santa Fe and Calvada mines were conventional open pit operations with ore processed by heap leach cyanidation and precious metal recovery by carbon adsorption and electrowinning. Both sites have completed active mining and are in permanent closure. All structures have been removed and reclamation activities (regrading and revegetation) completed. Aside from right of ways for roads, telephone lines and material sites, all lands are administered by the USDI-BLM.

B. Synopsis

Both sites were initially owned and operated by Corona Gold, Inc., (Corona), a wholly-owned subsidiary of Homestake Mining Company. The Santa Fe Mine was the first of the two sites to commence mining activities. It was initially permitted by the Nevada Division of Environmental Protection (Division) in 1988. Heap leach pad 2 was approved as a minor modification to the permit in 1989. Heap leach pad 3 and two process ponds were approved as a major modification in 1991. Mining and crushing ceased in 1992. In its final operating configuration, the site consisted of one open pit, two waste rock dumps, three heap leach pads, five process ponds, one run of mine stockpile, a crusher site, a plant site, and haul and access roads.

The Calvada Heap was permitted (as NEV0091020) in 1991 and begin operating in 1992. Mining and crushing ceased in June, 1993. In its final operating configuration, this site consisted of three open pits, two side-hill cuts, five waste rock dumps, one heap leach pad, three process ponds, haul and access roads.

Homestake Mining Company became a wholly-owned subsidiary of Barrick Bullfrog Inc in 2002. Because the two sites shared many 'components' (process water system, power lines, roads) the Division decided to incorporate the Calvada Heap WPCP into the Santa Fe Mine WPCP, also in 2002. The Santa Fe Mine was acquired by Victoria Gold Corporation (Victoria) in 2012. Gateway Gold (USA) Corporation (Permittee) acquired the operation in 2013. Gateway Gold (USA) Corporation is a 100% owned subsidiary of Victoria Gold Corporation.

OPEN PITS: The Santa Fe Mine site is located within the Gabbs Valley Range, a northwest-trending range typical of basin and range fault block mountain ranges. The oldest rocks in the region are limestones of the Triassic Luning Formation (blue-gray, medium bedded to massive limestone, micrite, and siltstone) that have been intruded by a Mesozoic granitic complex (primarily quartz monzonite). These rocks are overlain by, or in fault contact with, tertiary volcanics. Locally, the sites are underlain by shallow recent age alluvial (up to 10 feet) overlying high strength volcanics consisting of dacite and rhyolitic tuff to depths greater than 700 feet. The gold-silver deposits occurred as fracture-controlled and disseminated bodies in a 50 to 1,000 ft. wide breccia in the limestone at its fault contact with the volcanics.

The Santa Fe site consists of only one open pit (Santa Fe pit). The ore from this pit consisted primarily of brecciated and hydrothermally altered limestone, oxidized volcanics or jasperoid, and smaller amounts of unoxidized tertiary volcanic rocks.

Ore from the Calvada site was mined from three pit areas (Slab, East Calvada, and York) and two side-hill cuts (East and West York). The Calvada ore consisted of approximately 60% jasperoid, 40% brecciated limestone and trace quantities of skarn. No pits were backfilled.

The pit wall lithologies correspond to the waste rock types. There are exposed sulfides in the Santa Fe and East Calvada pit. None of the four pits, nor the two side-hill cuts, intersect groundwater. The dewatering of any pit was never required. Inspection of project pits has been conducted for twenty years since the completion of mining with no observations of standing or pooled water.

Post-closure monitoring of the remaining pits will consist of designating pit surfaces as dry, damp, or wet (visible flow or ponding). If a groundwater source or large amount of persistent ponded water is present, the permittee shall collect a representative sample and analyze for NDEP Profile III parameters. A field pH and field Specific Conductance (SC) reported as Total Dissolved Solids (TDS), together with photos of the ponded area shall also be taken. All pits will be evaluated for stability, safety and access restrictions.

WASTE ROCK DUMPS: Two waste rock dumps were developed at the Santa Fe site - the East and West dumps. The total amount of waste rock deposited in these two dumps is approximately 23.2 million tons. Of the total quantity of waste rock, barren Luning limestone comprises 40%; oxidized tertiary volcanics comprise 40%, and unoxidized tertiary volcanics 20%.

Waste rock from the Calvada pits was deposited on five waste rock dumps - the East and West Slab; East Calvada; East and West York. The total quantity of waste rock mined was about 4.1 million tons. While the vast majority of material placed in four of the dumps is oxidized, the majority of the material placed in the East Calvada dump is unoxidized volcanics and granite.

The Acid Generating Potential/Acid Neutralizing Potential (AGP/ANP) results of the three waste rock lithologies (Luning limestone, oxidized tertiary volcanics - jasperoid, and unoxidized tertiary volcanics) indicated that the oxidized volcanics and the barren limestone are strongly acid neutralizing. The unoxidized volcanics are not so strongly neutralizing, as would be expected, however, they still showed a limited acid neutralizing effect. The Division does not anticipate acid generating problems originating from any of the dumps on either site. The waste rock dumps have been observed for physical stability and evidence of seeps since mining ceased and no problems have been observed. The Permittee will continue to inspect all dumps for mass and physical stability. Should a flow be present from any portion of a dump, a field pH and SC reported as TDS, a NDEP Profile I water quality sample, and photos will be taken.

LOW GRADE ORE STOCKPILE: A run-of-mine ore stockpile exists at the Santa Fe site. There is not a stockpile at the Calvada site. The run-of-mine stockpile consists of 63,000 tons of ore, with some sulfides, from the Santa Fe pit. The stockpile has been reclaimed. A 6-foot thick limestone bed was placed under the ore. A compacted clay cap has been placed over the top of the regraded ore pile. The Permittee will continue to inspect all rock disposal areas for mass and physical stability. Should a flow be present from any portion of stockpile, a field pH and SC reported as TDS, NDEP Profile I water quality sample and photos will be taken.

HEAPS LEACH PADS: There are a total of four leach pads within the Santa Fe Mine site. Pad numbers one through three are located at the Santa Fe site with pad number four located at the Calvada site.

Pad 1 (e.g. South Leach Pad) was constructed in 1988 as a single lined pad with an 80-mil High Density Polyethylene (HDPE) liner overlaying a fine grained subgrade compacted to a permeability of 3.0×10^{-6} cm/sec. The pad is divided into eight cells. Pad 1 is loaded with 7.3 million tons of ore, crushed to minus 1 ½ inches and amended with lime (6 lbs. per ton of ore). Ore was loaded from July

1988 to June 1991. Cyanide addition to recirculated solutions ceased in December 1994. The heap is 100 feet high and covers 45 acres.

Pad 2 (e.g. West Pad) was constructed in 1989 and 1990 with an 80-mil HDPE liner overlaying a fine grained sub-base compacted to a permeability of $1x10^{-5}$ cm/sec. The pad is divided into seven cells. The pad was loaded with about 3.8 million tons of run-of-mine agglomerated ore from October 1989 to June 1992. Leaching commenced in 1989 and ceased in the summer of 1995. The heap is 80 feet high and covers about 39 acres.

Pad 3 (e.g. North Pad) is a single lined heap leach pad with an 80-mil HDPE liner overlying a soil sub-base compacted to a permeability of $1x10^{-5}$ cm/sec. It was constructed in 1991. There are four cells. It was initially loaded with approximately 2.3 million tons of ore (all from the Santa Fe pit) crushed to minus 1 ½ inches and amended with lime (4-6 lbs. per ton of ore). The remainder of the pad was loaded with 500,000 tons of run-of-mine ore from the Calvada project. In its final reclaimed configuration, the heap is about 95 feet high and covers about 30 acres.

Pad 4, the only Calvada pad, was constructed in 1992 with an 80-mil HDPE liner overlying a 12 inch thick compacted clay sub-base with a permeability of not more than $1x10^{-6}$ cm/sec. The pad is subdivided into four 200-foot wide cells, similar to the Santa Fe pads. The heap was initially stacked with ore from the Slab, East Calvada, and lastly the York pit, crushed to minus 1 1/2 inches and lime-treated (4 to 6 lbs. per ton of ore) prior to deposition. The final stacked ore volume is about 3.8 million tons occupying 30 acres with a maximum height of 110 feet.

All Sante Fe and Calvada heap leach pads were regraded to final contours (3Horizontal:1Verticle) in 1994. All ore remains on containment. The pads were then covered with eight inches of growth medium. Revegetation on all four pads is very good.

The vast majority of ore (>94%) on all four pads is oxidized tertiary volcanics and barren Luning limestone. As such, the Division did not anticipate future acid generation and approximately twenty years of monitoring has validated this conclusion.

TABLE 1 – HEAP LEACH PAD ORE LITHOLOGIES AND QUANTITIES.

LITHOLOGIES AND QUANTITIES OF ORE PLACED ON THE SANTA FE AND CALVADA HEAP LEACH PADS (quantities in millions of tons)				
LITHOLOGY	**LEACH PAD 1 (South Pad)**	**LEACH PAD 2 (West Pad)**	**LEACH PAD 3 (North Pad)**	**LEACH PAD 4 (Calvada pad)**
Oxidized Tertiary Volcanics (Jasperoid/Breccia)	2.9	1.5	1.3	2.8
Barren Luning Limestone	4.3	2.2	1.4	0.9
Unoxidized Tertiary Volcanics	0.1	0.05	0.01	0.1
TOTAL	**7.3**	**3.8**	**2.8**	**3.8**
Source: Santa Fe Mine Closure Plan, Westec, 1993				

The three Santa Fe heap leach pads pH is similar and averages between 7.0 and 8.1 s.u. since early 1998. Sulfate is elevated, averaging approximately 2,000 mg/L over the same time period. Nitrate concentrations are also elevated, averaging approximately 400 mg/L. WAD cyanide averages approximately 0.2 mg/L.

The Santa Fe and Calvada heap leach pad chemistry is similar.

The Permittee will continue to record individual heap draindown flows and to provide a NDEP Profile II solution analysis.

PROCESS PONDS: Five ponds were constructed at the Santa Fe site. Ponds 1, 2, and 3 are located downgradient of Pad 1. Ponds 4 and 5 were located near Pad 3. Ponds 1, 2, and 4 were utilized as process ponds. Ponds 3 and 5 served as overflow ponds. All five ponds were double-lined and equipped with leak detection systems. The primary liners of ponds 1 through 3 are 40-mil HDPE and the secondary liners are compacted clay. The primary liners of ponds 4 and 5 were 60-mil HDPE and secondary liners were 40-mil HDPE. Ponds 1 through 3 have capacities of 2.5 million gallons each. Ponds 4 and 5 had capacities of 775,000 gallons each.

Ponds 4 and 5 were subsequently backfilled with a minimum of 4 feet of native soil over the excised and folded pond liners. Final regrading and reclamation/revegetation was completed in 2001. Ponds 1, 2, and 3 have

remained as open ponds to date. Santa Fe pond 2 currently receives and evaporates all residual heap draindown from the three Santa Fe heaps.

Two process ponds (Calvada Pond 6 and Calvada Pond 7) and one overflow pond (Calvada Pond 8) were constructed at the Calvada site. All three ponds are double-lined and equipped with leak detection systems. The primary liners are 60-mil HDPE and the secondary liners are 40-mil HDPE. Calvada Ponds 6 and 7 had a 1.25 million gallon capacity while the Calvada Pond 8 had a 2.1 million gallon capacity. The sludge from Calvada Ponds 6 and 7 has been moved into the Calvada Pond 8. A biopass system has been installed into the Calvada Pond 7. The Calvada Pond 6 has been reclaimed. Calvada Pond 8 remains open and is used to collect and evaporate treated biopass solution.

HEAP LEACH PAD RESIDUAL DRAINDOWN MANAGEMENT: Since closure began in 1992, residual heap draindown from all three Santa Fe pads is interconnected and gravity feeds into Santa Fe pond 2 where it evaporates. The combined draindown flows, on an annual average, is approximately 0.70 gpm. Santa Fe pond 2 leak detection system has remained dry to date.

In 1996, the Permittee constructed a passive treatment (Biopass) system in the former barren pond (pond 7) at the Calvada site. This Biopass system was constructed as an alternative to rinsing the heap. The system consists of an anaerobic biochemical passive treatment cell that discharges into Calvada pond 8 to evaporate. The draindown flow, on an annual average, is approximately 0.20 gpm. Calvada pond 7 leak detection system has remained dry to date.

The Permittee updated the Final Plan for Permanent Closure (FPPC) in August 2015. This updated FPPC finalizes the design for the permanent closure of the site. This final long-term closure approach will continue the current zero-discharge of process solution.

Overall details include:

--Evaporation Cells (E-Cells) are proposed for both Santa Fe and Calvada long-term heap draindown management;

The E Cells will be constructed by partially backfilling one existing process pond at each site to form shallow basins for passive evaporation;

--E-Cells will be passive;

--E-Cells are preferred over Evapo-Transpiration Cells (ET-Cells) due to the potential for salt accumulation to inhibit the ability of vegetation to establish and grow in an ET-Cell;

--Excess water from storm events (minimum 100-year/24-hour event per NAC455A.433) or periods of greater than normal precipitation must be stored in the E-Cell system; and

--Minimize the expression of a free-water surface, which could be an attractant to wildlife.

Santa Fe E-Cell: After removal of the solids and existing geomembranes, pond 2 will be backfilled with random fill compacted to 92 percent of the maximum dry density as determined by ASTM D-1557 to within approximately eight feet from the existing pond crest. A lining system consisting of a 60-mil smooth secondary liner under a geonet covered by an 80-mil textured HDPE primary liner will be installed. A leak detection sump will be constructed in the northwest corner of the pond to monitor for leakage. The geonet will underlie the primary liner over the entire pond and will convey any leakage to the leak detection sump. The liner in the bottom of the pond will be covered with two feet of random fill placed in a single loose lift followed by a six-inch layer of rock material. Four-inch diameter perforated pipes will be installed on 20-foot centers running north-south on top of the random fill under the protective rock layer and will be connected to a four-inch solid distribution pipe from the distribution box. The distribution box will have an overflow that will report to the top of the protective rock fill layer in the event the distribution line is overwhelmed or plugged. The distribution box will have a totalizing flow meter (tipping bucket) installed on the inlet pipe to record flows continually. The E-Cell will have a piezometer with a recording transducer to monitor solution levels in the E-Cell.

Calvada E-Cell: The existing lining system, including leak detection, will be left in place and random fill will be carefully placed in Pond 8. Once the design elevation is reached, the random fill will be covered with 80-mil textured liner to form the shallow basin for the E-Cell. The leak detection port will remain in place under the existing liner. Additional details include:

--Installation of a new 80-mil HDPE geomembrane over the random fill and sides of the existing liner;

--Piping placed on fill similar to the Santa Fe cell;

--Place two feet of random fill covered by a layer of 6-inch minus protective rock; and

--Plumb the bypass and existing Biopass effluent pipe lines into the E-Cell piping network via distribution boxes.

Random fill (four-inch minus sub-angular alluvial material borrowed from the Santa Fe pond regrading) will be placed over the 80-mil HDPE liner to a depth of two feet. The random fill will then be covered with a six-inch-thick layer of six-inch minus open-graded rock.

A distribution box will be installed in the existing line going from the leach pad to the Biopass to direct solution either to the Biopass or the E-Cell. A second distribution box will be installed at the E-Cell to deliver solution to the perforated pipes in the bottom of the E-Cell. The perforated pipes will be placed on 20-foot centers running east-west in the bottom of the E-Cell. An overflow outlet will also be included in the distribution box in the event the perforated pipes cannot handle the flow. The outlet will feed a pipe that extends to the top surface of the protective rock surface in the bottom of the pond. A piezometer will be installed in the E-Cell along the slope and fitted with a recording transducer to monitor solution levels.

As with the Santa Fe design, the proposed Calvada design allows solution to be introduced into the E-Cell subsurface and evaporate (from within the soil cover) before any surface expression occurs. Under average conditions, the solution will remain below the surface of the fill material. During extreme storm events or periods of greater than average precipitation, surface water expression may develop. Surface water is expected to be temporary as the open surface will have an increased evaporation potential to handle the surge.

The shallower basins will have reduced capacity compared to the unaltered process ponds, but will maximize surface area for increased evaporation. However, based on assumed conservative draindown rates the E-Cell capacities will be more than adequate to contain draindown and above average precipitation and will generally not have a free water surface except during wet years or larger storm events (minimum 100-year/24-hour). The E-Cells for both sites are the same design concept; however, each site has unique conditions necessitating slightly different construction requirements.

All existing Santa Fe pond solids will be buried within the leach pads. The quantity of residual process solution solids in Calvada Pond 8 is relatively small, amounting to around 12 inches or less across the bottom of the pond (estimated to be less than 75 cubic yards). The liner in Calvada Pond 8 is in good condition; as such, the residual solids in the pond will remain in place and be covered with random fill.

The two E-Cells will be fenced to preclude livestock/terrestrial access. Should E-Cell solution remain exposed for long periods (potentially encouraging wildlife contact), the Permittee may be required to mitigate. Initially, both E-Cells will be monitored quarterly.

CALVADA BIOPASS CELL PERMANENT CLOSURE: The biopass cell is a fully encapsulated system, consisting of a drain layer surrounded by a HDPE geomembrane and covered by growth media and vegetation. The soil cover protects the liner from UV radiation and extreme temperature variations thereby extending the liner life greatly. The soil cover and geomembrane prevent meteoric

water from entering the matrix. The geomembrane liner also inhibits oxygen infusion into the matrix. Neither the leak detection port, nor the down gradient monitoring well (MW-4) for the Calvada site indicate any leakage problems.

The biopass cell functions by removing cyanide and nitrate from the leach pad draindown prior to reporting to E Cell (Pond 8) for evaporation. The biopass system is currently functioning as designed. However the effectiveness of the system has recently shown a slight decline. The system, per design, may be approaching its end life. As such, the system will be bypassed as part of the long term solution management at the site.

The permanent closure of the biopass system will be in-situ. Actions will consist of sealing the influent and effluent pipes while rerouting residual heap leach pad solution flow to the proposed E Cell. The influent pipe would be sealed off with the installation of the new distribution box associated with construction of the E cell. The effluent pipe would remain open to allow drainage into the E cell until flow ceases at which time it would be sealed. The influent and effluent pipes would be sealed by installing end caps on each pipe using electrofusion couplers.

As the system is fully encapsulated, cell matrix is stable in the current condition in as much as impacts to waters of the State are not anticipated upon closure of the facility.

C. Receiving Water Characteristics

The elevation of the two sites is approximately 6,000 feet above mean sea level. The nearest climatological data recording station to the mines is located in Mina, approximately 18 miles southwest of the sites and about 1,000 feet lower. On average, annual precipitation at Mina is about 5 inches evenly distributed throughout the year except for summer. Precipitation at the site would, therefore, be expected to be higher, approximately 6 to 8 inches annually. The annual pan evaporation rate in the area of the mine site is approximately 55 inches.

The two sites are located in different hydrological basins. The Calvada site is located in the Gabbs Hydrologic Basin while the Santa Fe site is located in the East Soda Springs Hydrologic Basin.

There are no perennial surface water bodies or streams within a 5-mile radius of the site. There are no known surface springs or seeps with the site boundary. The nearest spring is the York Spring which is located about 1.5 miles to the south of the Calvada pad.

The process wells that supplied both sites are situated in the Soda Springs Valley, 2 to 3 air miles west of the Santa Fe mine site. The wells encountered a regional productive aquifer at depths of 800 to 1,395 feet below ground surface. The

process wells were placed away from the sites due to absence of groundwater at either site.

As part of the overall closure process, a borehole was drilled near to and downgradient of the Santa Fe process ponds. This borehole was drilled to a depth of 400 feet below ground surface and did not encounter groundwater. The actual pit floor elevations also confirm groundwater depths are deep. The floor of the Santa Fe pit is about 400 feet deep. The floors of the Slab, East Calvada, and East York pits are 200, 250, and 230 feet, respectively, below ground surface. None of the pits at the Santa Fe and Calvada sites intersected groundwater.

As part of the closure process at the Calvada site, a borehole was drilled downgradient to a depth of 452 feet. This borehole was then converted into a monitoring well (MW-4). Currently, depth to groundwater is fifteen feet. Analysis of water samples taken from this monitoring well indicate that the groundwater meets all NDEP Profile I reference values. The monitoring well will continue to be monitored.

D. Procedures for Public Comment

The Notice of the Division's intent to issue a Permit authorizing the facility to close, subject to the conditions within the Permit, is being sent to the Tonopah Times-Bonanza & Goldfield News for publication. The Notice is being mailed to interested persons on the Bureau of Mining Regulation and Reclamation mailing list. Anyone wishing to comment on the proposed Permit can do so in writing within a period of 30 days following the date of public notice. The comment period can be extended at the discretion of the Administrator. All written comments received during the comment period will be retained and considered in the final determination.

A public hearing on the proposed determination can be requested by the applicant, any affected State, any affected intrastate agency, or any interested agency, person or group of persons. The request must be filed within the comment period and must indicate the interest of the person filing the request and the reasons why a hearing is warranted.

Any public hearing determined by the Administrator to be held must be conducted in the geographical area of the proposed discharge or any other area the Administrator determines to be appropriate. All public hearings must be conducted in accordance with NAC 445A.403 through NAC 445A.406.

E. Proposed Determination

The Division has made the tentative determination to renew the Permit.

F. Proposed Limitations, Schedule of Compliance, Monitoring, Special Conditions

See Section I of the Permit.

G. Rationale for Permit Requirements

Both the Santa Fe and Calvada sites have always operated as zero discharge facilities and this condition will continue into the long term.

The primary method for identification of escaping process solution will be placed on required routine monitoring of leak detection systems. Specific monitoring requirements can be found in the WPCP.

H. Federal Migratory Bird Treaty Act

Under the Federal Migratory Bird Treaty Act, 16 U.S.C. 701-718, it is unlawful to kill migratory birds without license or permit, and no permits are issued to take migratory birds using toxic ponds. The Federal list of migratory birds (50 CFR 10, 15 April 1985) includes nearly every bird species found in the State of Nevada. The U.S. Fish and Wildlife Service is authorized to enforce the prevention of migratory bird mortalities at ponds and tailings impoundments. Compliance with State permits may not be adequate to ensure protection of migratory birds for compliance with provisions of Federal statutes to protect wildlife.

Open waters attract migratory waterfowl and other avian species. High mortality rates of birds have resulted from contact with toxic ponds at operations utilizing toxic substances. The Service is aware of two approaches that are available to prevent migratory bird mortality: 1) physical isolation of toxic water bodies through barriers (e.g., by covering with netting), and 2) chemical detoxification. These approaches may be facilitated by minimizing the extent of the toxic water. Methods which attempt to make uncovered ponds unattractive to wildlife are not always effective. Contact the U.S. Fish and Wildlife Service at 1340 Financial Boulevard, Suite 234, Reno, Nevada 89502-7147, (775) 861-6300, for additional information.

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