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

Permittee Name: **Midway Gold US Inc.**

Project Name: **Pan Project**

Permit Number: **NEV2012107 (New 2013)**

A. Location and General Description

Location: The Pan Project is located on public land, administered by the Bureau of Land Management, in White Pine County, within Section 34, Township 18 North, Range 55 East; Sections 3, 10, 13-15, 22-27, 34-36, Township 17 N, Range 55 E; and Sections 1-3, 11-14, 23, and 24, Township 16 N, Range 55 E, Mount Diablo Baseline and Meridian, approximately 22 miles southeast of Eureka. The project can be accessed by traveling east on US Highway 50 from Eureka approximately 17 miles, then turning south on an unnamed dirt road approximately seven (7) miles to the site.

General Description: The Pan Project consists of open pit mining and associated waste rock dumps with ore processing by conventional cyanide heap leaching technology and precious metal recovery via carbon adsorption/desorption and electrowinning. The Pan Project facilities are required to be designed and constructed, and must be operated and closed in such manner to prevent discharge or release of process fluids in excess of those standards established in regulation except for meteorological events which exceed the design storm event.

B. Synopsis

Geology

The Pan Project is located in the Pancake Range within the Great Basin section of the Basin and Range Physiographic Province, with elevations at the site ranging from 6,300 feet above mean sea level (ft amsl) to 7,400 ft amsl. The area is characterized by a series of generally north-trending mountain ranges separated by basins, a result of normal faulting begun in the Late Tertiary Period. The mountains represent the uplifted structural blocks and consist generally of Cambrian to Tertiary-aged bedrock units. The basins are generally filled with Tertiary and Quaternary lacustrine and alluvial sediments, and are an expression of the intervening structural subsidence between the uplifted blocks.

The Pan deposit is hosted in gently folded Devonian-Mississippian-age marine limestone and siltstone of the Devil's Gate and Pilot Shale formations. Waste

rock is generally comprised of solution breccias (alteration types include carbon, argillic/clay, and silicification), argillic-altered Pilot Shale, and argillic-altered Devil's Gate Limestone, non-altered Devil's Gate Limestone, and Pilot Shale. Characterization of the waste rock using Meteoric Water Mobility Procedure, with analysis of leachate for Profile I constituents (MWMP-Profile I), and acid base accounting showed that approximately 10% of the material (primarily solution breccias) will be potentially acid generating (PAG). This material will be placed in designated PAG cells within the waste rock disposal areas, encapsulated by a minimum 15-foot thickness of non-PAG material on all sides to insure that meteoric precipitation in contact with the waste rock does not produce acid runoff or draindown. Alternative means of managing the PAG material with an equivalent level of protection of waters of the State may be considered if approved in writing by the Division.

Mining

Mining will occur from two (2) main pits known as the North Pan Pit and the South Pan Pit, along with four (4) satellite pits known as the Black Stallion, South Syncline, Syncline, and North Syncline pits. None of the pits are expected to penetrate the water table. Of the main pits, the South Pan Pit will be mined first, followed by the North Pan Pit as the economic life of the South Pit comes to a close. However, the timing of the transition may change depending on economic conditions. Some mining of the North Pan Pit area will occur early on to provide heap leach pad overliner material.

Mining of the satellite pits will take place concurrently or prior to that of the South Pan Pit. Once mined out, all four (4) satellite pits will be backfilled, with the Syncline and North Syncline pits eventually covered by the North Waste Rock Disposal Area (WRDA).

Mined ore will be hauled by trucks and/or conveyors to the primary crushers located within the pit or just outside. Ore from the primary crusher (6-inch minus) will be stockpiled and fed by conveyor to a secondary cone crusher and screen. Discharge from the screen (2-inch minus) is conveyed to the agglomerator where cement and lime are added, after which the ore is placed on the heap leach pad by a mobile radial stacker. The Permittee may add a tertiary crusher stage (5/8-inch minus) in the future if conditions warrant.

Waste rock will be used to backfill the satellite pits, and/or be placed on the North WRDA or South WRDA. Preliminary characterization of waste rock using acid base accounting and MWMP-Profile I, showed some samples of solution breccias to have low acid neutralizing potential to acid generating potential ratios (ANP:AGP). During operation, any waste rock shown by quarterly testing to be PAG will be placed in designated PAG cells within the WRDAs, encapsulated by material with high neutralizing potential, or by other, equivalent means if approved by the Division.

Additional characterization of waste rock using MWMP-Profile I, showed leachate from some of the 16 samples exceeding the Profile I reference values for aluminum (two [2] samples up to 0.35 mg/L), antimony (one [1] sample at 0.012 mg/L), arsenic (seven [7] samples up to 0.083 mg/L), fluoride (one [1] sample at 4.9 mg/L), iron (one [1] sample at 2.5 mg/L), manganese (two [2] samples up to 1.3 mg/L), mercury (two [2] samples up to 0.0071 mg/L), nickel (two [2] samples up to 3.1 mg/L), and thallium (four [4] samples up to 0.22 mg/L). The WRDAs will be covered at closure with a minimum 12-inch thick growth medium cover to store and release direct meteoric precipitation, minimizing or eliminating infiltration to the underlying waste rock. This cover configuration, taking advantage of high net evaporation at the site, and combined with great depth to groundwater (700 to 1,100 feet below ground surface [ft bgs]), is designed to prevent degradation of waters of the State.

Ore Processing

Agglomerated ore will be moved by conveyor and radial stacker to the heap leach pad (HLP). The Stage I HLP will be constructed in three (3) phases to a total buildout of approximately 3,600 feet by 2,700 feet, a total of approximately 9.7 million square feet. Ore will be stacked in approximately 30-foot lifts, with approximately 45-foot setbacks, to a maximum height of 160 feet, at which height the total capacity of the HLP will be approximately 79 million tons.

The overall slope of the HLP sides will be approximately 3:1 (horizontal:vertical). Stability analysis of the HLP configuration was conducted for static and seismic (pseudostatic) conditions. The analyses resulted in factors of safety against slope failure of 2.02 (static) and 1.55 (pseudostatic), both of which exceed the Division guidance for HLP stability.

The Stage II HLP will be located adjacent to Stage I and will be approximately half as large. Engineering plans for Stage II have not yet been submitted to the Division. Construction of Stage II will require submittal of a permit modification with appropriate plans and calculations, along with applicable fees.

The HLP liner system consists of, from bottom to top, a prepared subgrade compacted to 90% of maximum dry density according to ASTM D1557, a 12-inch subbase compacted to 95% of maximum dry density according to ASTM D1557 (maximum permeability 1×10^{-6} cm/s), and an 80-mil high-density polyethylene (HDPE) geomembrane. The geomembrane is overlain by a three (3)-foot thick overliner composed of free-draining material for protection of the liner from vehicle traffic. The entire liner system is graded to promote flow of process solution to the collection pipe system.

Dilute cyanide solution is delivered to the HLP in 20-inch diameter HDPE pipe, and applied to the HLP at an aerial rate of 0.004-0.005 gallons per minute (gpm)

per square foot, with a total application rate of 5,000 gpm. Solution is collected by a network of perforated polyvinyl chloride (PVC) pipes set over the synthetic geomembrane. Four (4)-inch diameter pipes are laid in a herringbone pattern, conveying solution to successively larger pipes (six [6]-inch, eight [8]-inch, 10-inch, 12-inch, and 24-inch diameter). The final, 24-inch diameter stage of the piping system transitions to solid pipe, booted through an 80-mil HDPE liner flap, and exits into the lined solution collection channel leading to the Pregnant Pond, always staying above the 80-mil HLP and solution channel liners.

The solution collection channel is constructed as a trapezoidal cross-section trench, lined with (from the bottom) a prepared subgrade compacted to 90% of maximum dry density according to ASTM D1557, a 12-inch subbase compacted to 95% of maximum dry density according to ASTM D1557 (maximum permeability 1×10^{-6} cm/s), and an 80-mil HDPE geomembrane. The channel is filled with a three (3)-foot thick overliner composed of free-draining material for protection of the liner from vehicle traffic. Flow of meteoric precipitation, or leaking solution from the collection pipe, through the overliner is promoted by two (2) four (4)-inch perforated PVC pipes, one on each side of the flat bottom of the channel, with the main 24-inch collection pipe running down the middle.

Six (6) monitoring ports are included at various locations along the main 24-inch collection pipe. These allow samples of pregnant solution to be taken from the outflow of different HLP areas, and from the outfall into the Pregnant Pond, for comparison. In addition, six (6) standpipe piezometers will be constructed within the solution collection channel to allow inspection of solution flow in the channel. The standpipes provide access for the Permittee to confirm that meteoric precipitation is dissipated rapidly without building up excessive head on the 80-mil liner, and to identify the area from which leakage is escaping the solution collection pipe, if it should occur.

Process Ponds

Two (2) process ponds will be constructed just to the west of the HLP as part of the facility. The ponds will be aligned end-to-end in a north-south arrangement (Barren Pond to the south), with a spillway between them to insure that the full volume of both ponds combined is available during a storm event. The liner system for each will consist of (from the bottom) 12 inches of prepared subgrade, a 60-mil HDPE secondary liner, and an 80-mil HDPE primary liner. To promote drainage of solution between the liners, either a geonet will be installed, or one of the liners will be of the drainliner configuration, with raised studs to separate the two. Each liner system will slope to a leak detection and recovery sump, located between the primary and secondary liners, filled with free-draining gravel, with a net fluid capacity of approximately 1,000 gallons. An eight (8)-inch HDPE pipe, perforated in the area within the sump, will run up the embankment, between the primary and secondary liners, and daylight at the crest to provide access for inspection and evacuation of the sump.

Each pond is approximately 350 feet wide by 950 feet long, with a total fluid capacity of approximately 24.6 million gallons at two (2) feet of freeboard. This provides sufficient storage at two (2) feet of freeboard for the normal operating inventory, draindown during a 24-hour power loss, and direct precipitation on the HLP and pond system resulting from the 100-year, 24-hour storm event.

Process Building

The process building will be located between the Barren Pond and Pregnant Pond just to the west of the HLP. The building will contain all tanks, pipes and vessels required for the processing of leach solution from the HLP. All process equipment is located within a concrete slab and stemwall containment system, which provides more than 110% of the volume of the largest vessel. The floors are graded to convey any spills or leaks to floor sumps for collection. Fluid which accumulates in the sumps will be pumped to channels which convey the solution to the Barren Pond.

Perimeter stem walls for the concrete containment are 36 inches high, with minimum eight (8)-inch high curbs separating smaller areas. Cold joints within the concrete construction are sealed with water stops to prevent seepage, and exposed surfaces will be sealed with epoxy. The entire building is enclosed and roofed to prevent entry of meteoric precipitation. Entrances for personnel pass over the stem walls and curbs, and vehicle entrances are ramped over the stem walls to maintain continuous containment.

Process solution is piped into the building from the Pregnant Pond and is run through a carbon-in-column (CIC) circuit. Each of the six (6) columns has a volume of 2,700 gallons and all are arranged so that solution cascades by gravity through each tank in succession as carbon is pumped counter-current to the flow. Barren solution exiting column six (6) is conveyed to the Barren Pond.

Loaded carbon from the CIC circuit is washed with hydrochloric acid and then stripped. The stripped carbon is regenerated in a kiln and then stored for future use. Strip solution is conveyed to a storage tank from which it is fed to the electrowinning tank. The gold bearing sludge generated in the electrowinning cell is retorted to remove mercury, then sent to the refinery where the gold is removed and poured into bars (doré). Mercury from the retort is stored in flasks for resale or disposal at a properly licensed facility.

Stormwater Diversion System

Based on the topography surrounding the facilities, a series of stormwater diversion ditches and sediment basins will be constructed on the upgradient sides of the major components to protect them from run-on during the 100-year, 24-

hour storm event or periods of high snow melt. These protected areas include the following:

North Pan Pit Stormwater Collection Pond – this is a single, 60-mil HDPE lined pond to the northwest of the North Pan Pit located within a natural drainage leading toward the pit. The pond will intercept any stormwater running in the drainage, impounding it until it evaporates. If large volumes are present, the pond water may be pumped to one of the nearby diversion channels to be conveyed to a natural drainage.

North Pan Pit South Diversion Channel – this channel is located to the southeast of the North Pan Pit and protects the pit from an upgradient watershed area. Runoff that would normally enter the pit will instead be diverted in the channel to a natural drainage around the pit to the south. The upper section of the channel has a triangular cross-section excavated into bedrock, with a center depth of two (2) feet. The lower section has a trapezoidal cross-section, also two (2) feet deep, armored with rip-rap.

North WRDA North Diversion Channel – this channel is located to the north of the North WRDA and protects the WRDA from an upgradient watershed area. Runoff that would normally contact the WRDA will instead be diverted in the channel to a natural drainage around the WRDA to the west. The entire channel has a triangular cross-section with a center depth of two (2) feet. The upper and lower sections will be armored with rip-rap, while the center section will not (flow velocity in the center section predicted to be less than five [5] ft/s).

North WRDA Northeast Diversion Channel – this channel is located to the east (northern portion) of the North WRDA and drains the area between the WRDA and the North Pan Pit. Runoff that would normally contact the WRDA will instead be diverted in the channel to a natural basin east of the North WRDA. The center section of the channel has a triangular cross-section with a center depth of two (2) feet. The upper and lower sections will have trapezoidal cross-sections two (2) feet deep. The entire channel will be unarmored (excavated into bedrock and/or flow velocity predicted to be less than five [5] ft/s).

North WRDA Southeast Diversion Channel – this channel is located to the east (southern portion) of the North WRDA and drains the area between the WRDA and the North Pan Pit. Runoff that would normally contact the WRDA will instead be diverted in the channel to a natural basin east of the North WRDA. The channel alternates between triangular and trapezoidal cross-sections, all with a center depth of two (2) feet. The entire channel will be unarmored (excavated into bedrock and/or flow velocity predicted to be less than five [5] ft/s).

North WRDA South Diversion Channel – this channel is located to the southeast of the North WRDA and protects the WRDA from an upgradient watershed area. Runoff that would normally contact the WRDA will instead be diverted in the channel to a natural drainage around the WRDA to the south. The entire channel is two (2) feet deep, with both triangular and trapezoidal cross-sections. The lower section will be armored with rip-rap, while the upper section will not (excavated into bedrock and/or flow velocity predicted to be less than five [5] ft/s).

North WRDA Sediment Basins – these are unlined ponds to the northwest and southwest of the North WRDA located along the toe of the WRDA. The basins will intercept any stormwater running off of the WRDA or along the toe, impounding it until it either infiltrates or evaporates. If large volumes are present, the basin water may be pumped to one of the nearby diversion channels to be conveyed to a natural drainage.

South Pan Pit East Diversion Channel – this channel is located to the northeast of the South Pan Pit and protects the pit from an upgradient watershed area. Runoff that would normally enter the pit will instead be diverted in the channel to a natural drainage around the pit to the north. The upper section of the channel has a triangular cross-section, with a center depth of two (2) feet. The center and lower sections are trapezoidal in cross-section, also 2 feet deep. The lower section will be armored with rip-rap, while the upper and center sections will not (excavated into bedrock and/or flow velocity predicted to be less than five [5] ft/s).

South WRDA East Diversion Channel – this channel is located to the northeast of the South WRDA and drains the area between the South Pan Pit and the WRDA. Runoff that would normally contact the WRDA or run into the pit will instead be diverted in the channel around the WRDA to the north where it empties into the HLP South Side Diversion Channel. The entire channel is trapezoidal in cross-section, excavated into bedrock, with a center depth of two (2) feet.

South WRDA Sediment Basins – these are unlined ponds to the northwest and southwest of the South WRDA located along the toe of the WRDA. The basins will intercept any stormwater running off of the WRDA or along the toe, impounding it until it either infiltrates or evaporates. If large volumes are present, the basin water may be pumped to one of the nearby diversion channels to be conveyed to a natural drainage.

HLP South Side Diversion Channel – this channel is located to the south of the HLP and drains the area between the HLP and the South WRDA to the HLP south sediment basin. This includes flows from the South WRDA East Diversion Channel and the HLP East Diversion Channel.

The entire channel is trapezoidal in cross-section, armored with rip-rap, with a center depth ranging from three (3) to 3.5 feet.

HLP East Diversion Channel – this channel is located along the southeast edge of the HLP and protects the HLP from an upgradient watershed area. Runoff that would normally contact the HLP will instead be diverted in the channel around the HLP to the south where it empties into the HLP South Side Diversion Channel. The entire channel is trapezoidal in cross-section, armored with rip-rap, with a center depth of 2.5 feet.

HLP Sediment Basins – these are unlined ponds to the north and south of the HLP. The north basin is located within a natural drainage near the warehouse and shop area. The south basin is located at the outflow of the HLP South Side Diversion Channel. Both basins will collect any stormwater, impounding it until it either infiltrates or evaporates. If large volumes are present, the water in either basin may be pumped to one of the nearby diversion channels to be conveyed to a natural drainage.

All diversion channels and basins are designed to convey stormwater only. Introduction of process solution is prohibited.

Ancillary Facilities

The mine facility will also include truck wash, maintenance shop, fueling facilities, and laboratories. Each of these will be constructed in such a way that all fluid spills or releases are collected on appropriate containment for clean-up and disposal. All hydrocarbon and laboratory waste will be stored on approved containment prior to removal off-site by a licensed waste handler for disposal.

C. Receiving Water Characteristics

The project is located in the Central Nevada Hydrographic region within the Newark Valley watershed. The bedrock aquifer is part of the Basin and Range Carbonate Aquifer System, which spans much of central-eastern Nevada. Regional groundwater flow is generally controlled by alluvial sediments filling the basins or valleys between the high ranges, and by bedrock that is exposed within the mountain ranges and extends beneath the alluvial sediments of the basins. Recharge to the alluvial aquifers results primarily from surface recharge in the alluvial valleys from both direct precipitation and runoff in ephemeral drainages from the “range” topography, as well as from subsurface recharge along the top of the bedrock from surface water that recharges alluvial “veneers” and descends into the thicker basin alluvial aquifers. The bedrock aquifer will be monitored by two (2) wells – DMW-1 (upgradient) and OBS-1 (downgradient).

Groundwater gradient is generally south to north in the project area. Based on a regional groundwater study (USGS, 2007), the depth to groundwater in the

bedrock aquifer was estimated to be on the order of 700 to 800 ft bgs at the proposed heap leach pad, 700 to 1,100 ft bgs at the proposed waste rock disposal areas, and 900 to 1,200 ft bgs at the proposed pit sites. Based on a maximum design pit depth of 580 ft, pit lakes are not expected.

Alluvial groundwater has been observed only along the north-south, unnamed drainage west of the mine area. This drainage is poorly developed and the dry conditions result in the discontinuous nature of the alluvial groundwater system. Depth to alluvial groundwater is estimated at 30 ft bgs based on measurements at the existing "Black Shale" well. The alluvial groundwater will be monitored by four (4) wells – MW-1 and MW-2 (downgradient), as well as MW-3 and MW-4 (upgradient).

No perennial surface streams or springs have been identified near the project site. Surface water consists of ephemeral drainages that run only in response to large precipitation events or spring snowmelt. No monitoring of surface water is included in the Permit.

D. Procedures for Public Comment

The Notice of the Division's intent to issue a Permit authorizing the facility to construct, operate and close, subject to the conditions within the Permit, is being sent to the **Ely Daily Times** 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 issue the Permit.

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

See Section I of the Permit.

G. Rationale for Permit Requirements

The facility is located in an area where annual evaporation is greater than annual precipitation. Therefore, it must operate under a standard of performance which authorizes no discharge(s) except for those accumulations resulting from a storm event beyond that required by design for containment.

The primary method for identification of escaping process solution will be placed on required routine monitoring of leak detection systems as well as routine sampling of downgradient monitoring wells. Specific monitoring requirements can be found in the Water Pollution Control Permit.

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, 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.

Prepared by:	Paul Eckert
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