Numerous comment letters have been submitted on the Final EIR for the Idaho-Maryland Mine project, which was released to the public on December 16, 2022. Unlike a Draft EIR, a lead agency is not required to provide written responses to public comments on a Final EIR. The County, however, recognizes that many similar concerns continue to be raised in the letters received on the Final EIR, as well as other letters that more generally address concerns related to the proposed project. As a result, this attachment to the staff report has been prepared to make certain master responses in the Final EIR readily available for the decision-makers during the review of the proposed project. Master Responses pertaining to the following environmental topics, which continue to be a central focus of public concerns, are provided below:

- Master Response 4 – Baseline (i.e., Cleanup Project is a Separate Project Under CEQA)
- Master Response 8 – Mine Waste Characterization
- Master Response 14 – Adequacy of Project Groundwater Modeling
- Master Response 15 – Adequacy of Groundwater Monitoring Wells
- Master Response 23 – Adequacy of Sampling - Asbestos

It is also important to note that, to the extent there is disagreement among experts, pursuant to CEQA Guidelines Section 15151, Standards for Adequacy of an EIR,

> An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.

From this, it can be stated that the lead agency may adopt the environmental conclusions reached by the experts that prepared the EIR even though others may disagree with the underlying data, analysis, or conclusions, so long as its reasons for doing so are supported by substantial evidence.[1] The Draft EIR and Final EIR, including the below master responses, provide substantial evidence from technical experts that the EIR's analysis is adequate.

Master Response 4 - Cleanup Project is a Separate Project Under CEQA

Comments

The County has received numerous comments asserting that the Idaho Maryland Mine Project ("IMM Project") should be analyzed in combination with the Centennial Industrial Site Clean-Up Project ("Clean-Up Project") as a single project for CEQA purposes. Some of the various commenters asserted that the Centennial Industrial Site is only being remediated for the purpose of accepting engineered fill from the IMM Project, and that the Idaho Maryland Mine Project cannot proceed without the Clean-Up Project. Accordingly, several commenters argue that the impacts associated with the clean-up project must be analyzed in the EIR for the Idaho Maryland Mine

[1] Stephen L. Kostka and Michael H. Zischke, *Practice Under the California Environmental Quality Act, Second Edition (Continuing Education of the Bar: California)*, March 2022, Section 11.35.

Project. On the Contrary, the Clean-Up Project is a separate Project to remediate site conditions including the presence of lead, asbestos, mercury and other metals, as mandated by the U.S. EPA.

Discussion

First, as a preliminary matter, the Idaho Maryland Mine Project is designed to proceed whether the DTSC clean-up project is completed or is not completed. If the DTSC clean-up project is completed, the Project is designed such that engineered fill will be transported to the Centennial Industrial Site and used to create useable land for future uses consistent with the applicable zoning. Conversely, if the DTSC clean-up project is not completed within the life of the Project, rock material from the Project that would have been transported to the Centennial Industrial Site, instead would be sold in the regional market as construction aggregate.

Second, the Clean-Up Project is a separate project from the IMM Project that is independently necessary to remediate site conditions caused by historic operations on the Centennial Industrial Site. The reason for the Clean-Up Project was the identification of the Centennial Industrial Site by the U.S. EPA as potentially requiring environmental cleanup and the later coordination between the property owner and the DTSC to implement a remedial action plan to remediate lead, arsenic, mercury and other metals found onsite. The U.S. EPA first performed a preliminary analysis on the Centennial Industrial Site in June of 2002, nearly two decades before the IMM Project was proposed, and before the IMM Project Site was owned by the current owner. Based on the report from 2002, the U.S. EPA recommended that further assessment was necessary under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The U.S. EPA subsequently performed additional assessments of the Centennial Industrial Site in 2005, 2011, 2018 and 2019. Discussions regarding cleanup of the Centennial Industrial Site began between the U.S. EPA, the DTSC and the site owner prior to any application for the IMM Project having been submitted. As the Centennial Industrial Site has been targeted by the U.S. EPA for cleanup since 2002, and discussions regarding cleanup of the Project site were well underway before the IMM Project application was submitted, statements from commenters that the Project is merely a component of a larger plan to develop an underground gold mine (the IMM Project), is factually incorrect. Third, the Clean-Up Project is under the authority of the California Department of Toxic Substances Control.

Case Law Supports the Separation of the Current Project and the Clean-Up Project for CEQA Purposes

California courts do not consider distinct activities as one CEQA project required to be reviewed together, except in two situations: 1) When the purpose of the project under review is to provide the necessary first step toward a larger development; and 2) When development of the project under review requires or presumes completion of another activity. (*Banning Ranch Conservancy v. City of Newport Beach* (2012) 211 Cal.App.4th 1209, 1223). Further, California courts have been clear that even related projects are not required to be analyzed as one project where each project has independent utility, serves a different purpose, or can be implemented independently from the completion of the related activity. (Id. at pp. 1223-1224, citing *Communities for a Better Environment v. City of Richmond* (2010) 184 Cal.App.4th 70, 99 [refinery upgrade and construction of pipeline exporting excess hydrogen from upgraded refinery were "independently justified separate projects with different project proponents"]; *Planning & Conservation League v. Castaic Lake Water Agency* (2009) 180 Cal.App.4th 210, 237 [water transfer had "significant

independent or local utility" from broader water supply agreement, and would be implemented with or without it]; *Sierra Club v. West Side Irrigation District* (2005) 128 Cal.App.4th 690, 699 [two water-rights assignments to city were "approved by different independent agencies" and "could be implemented independently of each other].)

The Clean-Up Project and the IMM Project each have independent utility, each serve a different purpose, and each can be implemented independently from the completion of the other. The utility and purpose of the Clean-Up Project is to ensure timely and efficient cleanup of the Centennial Industrial Site due to existing site conditions, and is required under both California and federal environmental regulations—not because it would benefit the IMM Project. The separate Clean-Up Project is necessary whether or not the IMM Project is approved by Nevada County. Consequently, under the holding in Banning Ranch, the Clean-Up Project should be analyzed separately from the IMM Project under CEQA. (see Banning Ranch, supra, at pp. 1223-1224.)

Conversely, the utility and purpose of the IMM Project is to allow for exploration and development of underground natural resources, and the IMM Project does not help nor hinder the environmental cleanup of the Centennial Industrial Site proposed as a separate DTSC project. The IMM Project's option to place engineered fill on the Centennial Industrial Site is not for environmental cleanup purposes, but for the purpose of creating usable industrial land on that property and for disposal of waste rock from the underground mine. While it is true that if the Clean-Up Project is not approved by the DTSC, the waste rock from the IMM Project cannot be placed on the Centennial M-1 property, the IMM Project can nonetheless proceed. As such, the IMM Project also satisfies the holding in Banning Ranch, such that it has independent utility, serves a different purpose, and can be implemented independently from the completion of the Clean-Up Project. Accordingly, the Clean-Up Project should be reviewed separately from the IMM Project under California law.

Notably, California courts have already addressed a similar situation relating to environmental cleanup activities that were not yet completed but were assumed to be completed prior to a development project on Treasure Island within San Francisco. (*Citizens for a Sustainable Treasure Island v. City and County of San Francisco* (2014) 227 Cal.App.4th 1036.) In *Citizens for a Sustainable Treasure Island*, San Francisco approved a project that included "a new, mixed-use community, including up to 8,000 residential units … up to 140,000 square feet of new commercial and retail space; up to 100,000 square feet of new office space; restoration and reuse of historic buildings on Treasure Island; about 500 hotel rooms; public utilities; 300 acres of parks, playgrounds, and public open space; bike and transit facilities; and a new ferry terminal and intermodal transit hub." (Id. at 1044.) The project site (Treasure Island) in that case was known to have extensive contamination with hazardous materials; however, cleanup had not yet been completed at the time of that project's approval. (Id. at 1056.) As stated by the court, "the 'operating assumption' is that the Navy will complete the cleanup before the property is conveyed to the City." (Id.)

However, the appellant in *Citizens for a Sustainable Treasure Island* asserted that the EIR in that case was deficient because it "provides no project-level details as to precisely where, when or to what extent [remediation] activities may be required … [and that the] City unlawfully deferred the development and adoption of mitigation measures for significant, adverse impacts resulting from the disturbance of contaminated soil and groundwater...." (Id. at 1057.) The Appellant did not prevail and the Court rejected these claims. The court ultimately concluded that the EIR in that

case was adequate and had appropriately relied on an assumption that the Navy would clean up the site consistent with applicable laws and regulations. (Id. at 1060.) Further the court rejected the argument that the EIR in that case was required to specifically analyze the clean-up activities under the separate authority of the Navy. (Id. at 1056-1061.) Similar to the situation in *Citizens for a Sustainable Treasure Island,* the Idaho Maryland Mine Project's DEIR identifies the separate clean-up project, acknowledges that the clean-up project is under the authority of the DTSC and reasonably concludes that such cleanup would be completed prior to implementation of the Project on the Centennial Site. Further, taking an even more conservative approach than the EIR in *Citizens for a Sustainable Treasure Island,* the Project's DEIR acknowledges that Project activities would not be allowed on the Centennial Site if the DTSC cleanup project is not completed. [Draft a Conclusion]

Use of Electric Vehicles to Haul Engineered Fill Should It Be Necessary to Transport Fill to Locations other than Centennial Prior to 2033

Several commenters argued that the DEIR did not adequately address the Project's air quality impacts that would occur in the situation where the Centennial Site clean-up is not completed within the life of the Project and sale of waste rock and sand tailings were to occur sooner than anticipated. The DEIR analyzed the impacts of off-site hauling of rock material to the construction aggregate market, starting in 2033; however, it was assumed that prior to 2033, rock material would be placed on the Brunswick engineered fill pile and Centennial Site engineered fill pile. Based on public comments regarding the air quality and GHG impacts associated with hauling of rock material to construction aggregate purchasers earlier than anticipated, the applicant has agreed to a condition of approval that would require the applicant to use electric trucks for any offsite sale or transport of waste rock or sand tailings from the Brunswick site (other than to the Centennial Site) if such transport occurs prior to 2033. Hauling of material to offsite locations for use as construction aggregate starting in 2033 was already assumed in the DEIR's analysis; thus, the emissions impacts associated with this activity are already included in the DEIR, regardless of whether the Centennial Site is available for placement of fill material. The below condition would ensure that the Project would not have greater air quality and GHG emissions impacts than analyzed under the DEIR even if the Centennial Site is not available for placement of engineered fill. The text of the condition of approval is provided below:

> In the event that sand tailings or waste rock material is transported from the Brunswick Site prior to 2033 to locations other than the Centennial Site, all transport of such material shall be accomplished using electric vehicles.

Conclusion

The Clean-Up Project is a separate project from the IMM Project that is independently necessary to remediate site conditions caused by historic operations on the Centennial Industrial Site. The Idaho-Maryland Mine Project is designed to proceed whether the DTSC clean-up project is completed or is not completed. This Final EIR demonstrates that, should it be necessary to transport engineered fill to locations other than the Centennial Site prior to 2033, additional air emissions would not result from such hauling activities, as only electric haul vehicles would be utilized.

Master Response 8 - Mine Waste Characterization

Comments

The County received several comments asserting that the waste characterization conducted on samples from the Project site is inadequate and that further testing should be done before the project is approved, in an effort to ensure water quality impacts do not ensue from stormwater runoff at engineered fill sites.

Discussion

As discussed below, geochemical testing was already conducted on samples from the Project site to assess impacts to water quality. Moreover, the DEIR requires that a report of waste discharge (RoWD) be submitted to the Central Valley Regional Water Quality Control Board (CVRWQCB), and approval of Waste Discharge Requirements (WDRs) prior to placement of any mine waste. Significant additional testing of rock material will be required as part of the process of obtaining WDRs from the CVRWQCB. Given the geochemical testing that has already been conducted to characterize the water quality impacts of engineered fill and cemented paste backfill placement, and the further waste characterization that will be required as part of the WDRs approval process, additional testing is not required for the purposes of CEQA.

Section 4.8.4 of the DEIR provides an analysis of the environmental impact from mine wastes produced by the proposed Idaho-Maryland Mine Project. The impact to water quality from mine waste is considered potentially significant for the purposes of the DEIR's analysis, and mitigation is necessary to reduce the impact to less than significant. (see DEIR, Impact 4.8-1; Mitigation Measures 4.8-1(a) to 4.8-1(e).) These mitigation measures (4.8-1(a) to 4.8-1(e)) require the applicant to submit a RoWD and receive an approved Waste Discharge Requirement (WDR) from the CVRWQCB prior to the placement of cemented paste backfill (Mitigation Measure 4.8-1(d) and engineered fill (barren rock and sand tailings) (Mitigation Measure 4.8-1(e)).

The Project would be subject to California mining waste regulations as discussed on pages 4.8-28 and 4.8-29 of the DEIR. Barren rock, sand tailings, and cemented paste backfill will be considered mining waste under California Water Code Section 13050(q)(1) and Title 27 of the California Code of Regulations (CCR), Sections 22470 et seq. and therefore subject to regulation and oversight by the CVRWQCB prior to placement of mine waste.

Section 4.4 of Appendix K.2 of the DEIR provides geochemical testwork conducted on tailings and barren rock samples from the project. Testwork included Acid Based Accounting (ABA), Total Metals, and California Waste Extraction Testing (WET).[2] The Waste Extraction Test (WET) should be used to determine the amount of extractable substance in waste rock (CCR Title 22 Division 4.5, Chapter 11, Article 5, Appendix II). The overall purpose of the barren rock and tailings sampling and laboratory analysis was to identify the general characteristics of that specific

[2] Some commenters continue to assert that waste characterization conducted on the project site relied on two samples, from a total of 11 feet of drill core, and thus, is inadequate. This is incorrect. The sampling being referred to is for the WET testing addressed in Section 4.4.1 and Table 4-6 of Appendix K.2 of the Draft EIR. The commenters overlook the 40 samples of meta-andesite lithology which were tested for trace elements by ACZ in Colorado using EPA methods by a California Certified Lab (see page 98 and Table 4-9 of Appendix K.2). For most metals, the concentration in the 40 crushed core samples were similar to or less than the concentrations in the WET-tested barren rock samples. Thus, it is reasonable to expect that if more samples were tested using the WET method, results would be similar to those presented in Appendix K.2.

material type. As such, the results of the barren rock and tailings testing provide reliable and representative results for consideration in the DEIR and for assessment of the potential effects of the use of that material for engineered fill and cemented paste backfill.

The analysis and testwork used in the preparation of the DEIR is for the purposes of analyzing the water quality impacts of the project consistent with the California Environmental Quality Act (CEQA) but is not intended to be a RoWD. Further testing of material will be required prior to submittal of a RoWD; however, a RoWD is not required at this stage of the project. Some commenters requested that additional testwork be completed as part of the CEQA analysis similar to what will be required for the RoWD; however, the testwork already completed is sufficient to assess project impacts, and engineering level detail is not required in an EIR. (*Dry Creek Citizens Coalition v. County of Tulare* (1999) 70 Cal.App.4th 20, 26.) Based on the results of the testwork, the DEIR concludes that the effect of the proposed actions on water quality would be potentially significant. The mitigation measures, as confirmed in the April 4, 2022 comment letter from the Central Valley Water Board, identify the steps that must be taken to reduce the potential impacts to less than significant. The engineering details and intensive sampling described by many commenters would be developed and completed through the implementation of mitigation measures, and is not required to be completed as part of the CEQA process. The final determination of classification is done when the RoWD is submitted and an approved WDR is received from the CVRWQCB as required in Mitigation Measures 4.8-1(d) and 4.8-1(e). The RoWD would be prepared and submitted in compliance with CCR Title 27 Sections, 21710-21760. (CCR Title 27 Section 22470(a)). The WDR will incorporate the necessary construction, monitoring, and closure of the waste management unit, based on the waste characterization, in order to protect water quality.

As described in Section 3.7 of the DEIR, underground exploration would take place after mine dewatering is complete and throughout the life of the mine. Exploration would be done primarily with diamond core drilling throughout the mine area. Exploration would produce core samples that would be brought to the surface for analysis to determine future mining areas. Metallurgical testing would be conducted to create representative tailings samples and cemented paste backfill sample for WET testing.

The CVRWQCB requires that the sample material used for a waste characterization is representative of the entire range of mining waste discharged. Therefore, consistent with CVRWQCB requirements, a sampling plan that addresses representative sampling of the mining waste would be submitted to the CVRWQCB prior to sampling and the CVRWQCB will be notified when the samples are to be collected so that they may observe the process. (see CVRWQCB website Submitting a Report of Waste Discharge – CVRWQCB 2022). Collection of field samples and subsequent testing of the expected mining waste would be based on clearly defined objectives identified in a sampling plan, approved by the CVRWQCB, prepared by professional(s) registered to practice in California in the field of engineering or geological sciences (see appropriate professional CCR Title 27 Section 21710 (d).

Waste characterization testing that will be used in a RoWD must be performed by California certified labs. A California certified lab is a lab accredited by the California Environmental Laboratory Accreditation Program. (see CVRWQCB website Submitting a Report of Waste Discharge – CVRWQCB 2022). The WET would be used to determine the amount of extractable substances in waste rock and Acid Generation Potential testing must also be performed to

determine whether the material has the potential to generate acid (see Tech Note Mining Waste Characterizations - CVRWQCB 2008).). Further analysis may be required using kinetic testing, which would help determine the mining waste potential for long term acid generation (see Tech Note Mining Waste Characterizations - CVRWQCB 2008). The waste characterization would be done to the satisfaction of the CVRWQCB to allow them to approve the WDR.

Mining Waste is classified in accordance with CCR Title 27 Section 22480(b) as Group A, Group B, or Group C mining wastes based on an assessment of the potential risk of water quality degradation posed by each waste.

Group A

- Mining wastes of Group A are wastes that must be managed as hazardous waste pursuant to Chapter 11 of Division 4.5, of Title 22 of this code, provided the CVRWQCB finds that such mining wastes pose a significant threat to water quality.

Group B

- Mining wastes that consist of or contain hazardous wastes, that qualify for a variance under Chapter 11 of Division 4.5, of Title 22 of this code, provided that the CVRWQCB finds that such mining wastes pose a low risk to water quality; or
- Mining wastes that consist of or contain nonhazardous soluble pollutants of concentrations which exceed water quality objectives for, or could cause, degradation of waters of the state.

Group C

- Mining wastes from Group C are wastes from which any discharge would be in compliance with the applicable water quality control plan, including water quality objectives other than turbidity.

The testwork conducted in connection with preparation of the DEIR demonstrates that the engineered fill and cement paste backfill will likely be considered Group C mining waste. However, the waste characterization conducted as part of the RoWD for the project will provide the basis for which features, operation plans for waste containment, precipitation and drainage controls, are required for the project in accordance with CCR Title 27 Section 22490. As part of the WDRs, the mine operator will also be required to conduct water quality monitoring in accordance with CCR Title 27 Section 22500 and closure and post closure maintenance plans in accordance with CCR Title 27 Section 22510.

CVRWQCB Permitting over 80-Year Use Permit Term

Several comments have been received on ongoing waste characterization requirements throughout the 80-year term of the Use Permit. In accordance with CCR Title 27 Section 21710(a)(4), once WDRs for a mining waste unit have been issued, the CVRWQCB must be notified of any material change in the types, quantities, or concentration of mining wastes discharged within a reasonable time before those changes are made effective. Therefore, as exploration and mine planning continue throughout the life of the mining operation any changed or updated information would be provided to the CVRWQCB and in some cases incorporated into the WDRs.

As discussed in Master Response 11 – Location of Future Mining Areas, the RoWD must also include a report on the physical and chemical characteristics of the waste, in compliance with Water Code section 13260(k), that could affect its potential to cause pollution or contamination as well as a report that evaluates the potential of the discharge of mining waste to produce, over the long term, acid mine drainage, the discharge or leaching of heavy metals, or the release of other hazardous substances. The WDR's will require continuous and routine characterization and classification (Cal Code regs Title 27 section 22480(b)) of the mining waste to evaluate any possible changes in the geological or geochemical nature of the waste. The applicant will prepare and implement a Waste Characterization Plan (Characterization Plan) which will be incorporated into the approved WDR. The purpose of the Characterization Plan is to continually evaluate the different forms of mining wastes and to appropriately classify these wastes as Group A, Group B, or Group C based on an assessment of the potential risk of water quality degradation posed by each waste. Through the WDR these wastes will be required to be managed, treated, stored, or disposed of in a manner that is protective of water quality. The applicant shall not sell or utilize waste rock and tailings from the Project for construction aggregate or fill purposes offsite (i.e. sites other than the applicants Brunswick and Centennial sites) unless such material has been tested and confirmed to qualify as Group C mining waste under California Code of Regulations Section 22480 and the approved WDR. The specific methods, volumes and frequency of characterization will be established in the approved WDR. Mitigation Measure 4.8-1(e) has been revised in this Final EIR to more clearly reflect the above ongoing waste characterization requirements (please see Master Response 11 for more detail).

Finally, in accordance with CCR Title 27 Section 21720 (f), the discharger is required to maintain records of the volume and type of each waste discharged at each unit and the manner and location of the discharge. These records shall be available until the waste unit is closed and available for review by the CVRWQCB. Therefore, as mining waste is produced it would require continuous inventory and testing in accordance with the approved WDR. In accordance with CCR Title 27 Section 21720 (c), Unit classifications and WDRs for existing Units would be fully reviewed in accordance with schedules established by the CVRWQCB and specified in the WDR.

Conclusion

California Waste Extraction (WET) testing was performed on samples of mine materials and the results of these tests suggest the engineered fill (barren rock and sand tailings) will be a Group C mining waste. Nonetheless, the DEIR has concluded that the project may have a potentially significant impact on water quality and has identified Mitigation Measures 4.8-1(d) and 4.8-1(e) to address these potential impacts and reduce the impact to less than significant. The purpose of the Waste Discharge Requirement (WDR) from the Central Valley Regional Water Control Board is to ensure the effluent from mine waste does not impact water quality. Further testing will be required as part of the RoWD and WDR process as required by Mitigation Measures 4.8-1(d) and 4.8-1(e) such that any impacts will be mitigated. WDRs for the Project will require ongoing waste characterization, monitoring, and reporting to ensure compliance.

References

Central Valley Regional Water Quality Control Board (CVRWQCB). (2022). *Submitting a Report of Waste Discharge. Accessed May 2022.* https://www.waterboards.ca.gov/centralvalley/water_issues/mining/report_waste_discharge/index.html

Central Valley Regional Water Quality Control Board (CVRWQCB). (2008). *Tech Note Mining Waste Characterizations. Accessed May 2022.* https://www.waterboards.ca.gov/centralvalley/water_issues/mining/mine_waste_technote.pdf

Master Response 14 - Adequacy of Groundwater Model

Comments

Several commenters disagree with the methods and conclusions of the groundwater model, asserting such things as the model is not appropriate for use in fractured rock, the data from private wells is old and not sufficient for modelling purposes, and the modelling period does not represent the full 80-year operational life of the mine. This master response demonstrates that the groundwater model (MINEDW) used to predict the project's potential impacts to groundwater (Appendix G, X(b)) is a robust model that has a long history of use with accurate results, and is appropriate for use in evaluating the dewatering effects of the proposed project.

Discussion

As stated in Section 4.0 of Appendix K.3 of the DEIR, the groundwater flow model that was constructed for this investigation utilizes the numerical code MINEDW, which was developed by Itasca (2012) to solve 3-D groundwater flow problems with an unconfined (or phreatic) surface using the finite-element method. MINEDW is a commercial software that was thoroughly reviewed by Sandia National Laboratories (Corbet et al. 1998). MINEDW has been used at more than 100 mine sites located throughout the world and in diverse hydrogeologic and climatic conditions. MINEDW has been in use for approximately 30 years, and its predictions have been validated by field data collected over many years (see Appendix A of Appendix K.3 of the DEIR) and recognized as valid by the Nevada Division of Environmental Protection for use in permitting applications.

MINEDW Model is Acceptable Industry Practice for Use in Fractured Rock

Several commenters have stated that the model is not appropriate for use in a fractured rock. The conceptual model proposed by Itasca, in simple concepts, is that the shallow bedrock is significantly fractured so that it behaves hydraulically like a porous media. This is consistent with analysis of well data (see Section 3.3 of Appendix K.2 of the DEIR). Below the shallow, fractured bedrock is the intact bedrock whose fractures are closed due to the vertical stresses caused by the overlying bedrock. The intact bedrock also behaves as a porous media in that groundwater flow is primarily through the extremely small pores in the rock. Itasca assigned low hydraulic conductivities and storage coefficients to the intact bedrock in which mining will occur. The application of a continuum (porous media) approximation is applicable to mining projects in that it is used generally to estimate flows from the mine and drawdowns in water levels due to dewatering, a situation similar to predicting well yields. Please see Reponses to Individual Letter 232 for an in-depth discussion on this topic.

The MINEDW for the DEIR was calibrated on historic groundwater inflows into the mine, the current and historical water level in the Union Hill Mine, the current water level in the New Brunswick Shaft, ground water levels measured in domestic water wells in the area, and base flow rates of Wolf Creek and South Fork Wolf Creek. As described in Section 4.6 of the Groundwater Model Report (Appendix K.3 of the DEIR), Itasca conducted transient model calibrations by matching the change of groundwater levels at the Union Hill Mine and groundwater inflows to the historical mines. The simulated and measured ground water levels from domestic

water wells in the area and the measured water level in the New Brunswick shaft were compared. The simulated groundwater levels were within the ranges of measured water levels for domestic water wells in the area and the simulated mine-water level is essentially the same as the measured water level in the New Brunswick shaft. The hydraulic conductivity (K) values derived from the groundwater flow model calibration for different geologic units were found to be within the ranges of the estimated K values and literature values.

Private Well Data Used in Model

Several commenters state that data from private wells is old and is limited to a few years without usage data provide. Contrary to the commenters' assertions, water level data has been collected for many years over a period spanning two decades. As stated on page 26 of Appendix K.2, monitoring of water level in wells for up to 79 wells was undertaken from 1995-2001 and 2003-2007. As noted in the report, no long-term increasing or decreasing trends are observed in the data. Therefore, the age of the sample data does not limit the usefulness of this data. Nevertheless, no groundwater level measurements have been completed since 2007, which creates some uncertainty to the predicted impact to percentage of water column in domestic wells. Uncertainty in predicted impacts is addressed through the various sensitivity scenarios discussed in Appendix K.3, the application of a 100% factor of safety (see page 4.8-58 of the DEIR), and the proposed connection of all 30 properties, including properties where no significant impact is predicted, in the E. Bennett area to NID potable water (see page 4.8-66 of the DEIR). Despite this, the analysis in Chapter 4.8 of DEIR has determined that the Project could result in a significant impact to groundwater supplies without implementation of a groundwater monitoring program and well mitigation plan. Mitigation Measure 4.8-2(a) requires that a minimum of 12 months of water-level monitoring data is collected before commencement of dewatering. Impacts to domestic water wells will be measured against those current baseline measurements and not historic water levels. Mitigation Measure 4.8-2(b) requires well mitigation if, based the groundwater monitoring plan, a 10 percent reduction in the water column of a well is determined. Therefore, the determination of impact would be based on current water level data and any impacts to domestic wells would be mitigated through the proposed mitigation measures. As stated on page 4.8-67 of the DEIR, implementation of Mitigation Measures 4.8-2(a), (b), and (c) would reduce the project's groundwater impacts to a less-than-significant level.

Model Calibration

Several commenters believe that more flow measurements from the mine drains are required for calibration of the groundwater model. However, the current flow rate of mine water from the drains was not used for the calibration of the groundwater model. The current flow rate of mine water from the drains was not used for the calibration of the groundwater model because the preferential pipe flow in the mine workings is not simulated in the model and the purpose of the model is to calibrate to "current" groundwater levels, based on measurements taken from 1994 through 2007, and the current water level in the mine which is controlled by the drain outlet elevations. Additionally, there could be additional preferential recharge from surface runoff through mine workings reporting to the drains. This extra recharge, not related to groundwater flow, is not quantifiable and could result in inaccurate calibration of the groundwater model. Accordingly, the commenters' requests for inflow/outflow data is not relevant to the groundwater model and the assessment of groundwater impacts.

Modelling the Project's Long-Term Mining Effects

Several commenters assert that the groundwater model should be run for an 80-year period rather than 65 years. The groundwater model was based on the expected mining plan during year one to year 25, and then Sensitivity Scenario 6 considered the significant expansion of mining in areas with potential for mineralization as shown in Figure 5.10 of Appendix K.3 of the DEIR for an additional 40 years of mining. As shown in Figure 5-12, and discussed on page 29 of the report, the 5-ft drawdown contour extent of Scenario 6 at the end of potential additional mining (to Year 65) relative to the 2019 water level expands less than 500 ft from that of the Base-Case Scenario. The drawdown contour of the Base-Case Scenario is at the end of the original planned future mining (Year 25) relative to the 2019 water level. The comparison of drawdown contours between Scenario 6 and the Base-Case Scenario confirm that the added potential mining (beyond the 65 years modeled) will not lead to significant incremental drawdowns as the mining progresses because the mining activities occur in deep, low hydraulic conductivity rocks. The decrease in fractures and hydraulic conductivity with depth is well documented. As stated on page 4.8-8 of the DEIR, the U.S. Geological Survey (Page et al., 1984) conducted a study covering a 148-square mile area of southwestern Nevada County, including the segment of the Wolf Creek watershed from Grass Valley to the Bear River. The underlying bedrock consisted of similar rock types to those encountered at the project site, including hard, dense metavolcanic and igneous rocks of pre-Tertiary age. The study results found that the degree of fracturing in the bedrock, and thus the well yield, decreases with depth, with most of the available groundwater occurring above a depth of 215 feet below the ground surface (bgs). At depths shallower than 215 feet bgs, 70 percent of the wells evaluated produced more than five gallons per minute (gpm). However, at depths deeper than 215 feet bgs, 75 percent of the wells produced five gpm or less. As stated on page 4.8-16 of the DEIR, EMKO reviewed 38 well completion reports within a 1- to 2-mile vicinity of the Project, which contained information regarding the total drawdown that occurred and the pumping rate achieved during initial testing of the wells immediately after they were drilled. A clear correlation exists between pumping rate and depth. The maximum pumping rate achieved was 125 gpm in a well with a total depth of 123 feet bgs. In contrast, at depths of 200 feet or deeper, the maximum reported pumping rate is 50 gpm. Below a depth of 300 feet, the maximum pumping rate reported was 10 gpm, and below a depth of 450 feet, the maximum pumping rate reported was only four gpm. Similarly, Todd Engineers (2007) developed a relationship between the hydraulic conductivity and depth based on information from approximately 300 driller reports. Todd Engineers (2007) found that the hydraulic conductivity of the fractured bedrock penetrated by the domestic supply wells in their study area varied significantly with depth, with greater values at shallower depths where more fractures are prevalent, and with much lower values at deeper depths, where fractures may be either less common or have smaller aperture (open) widths.

Thus, the DEIR and the associated groundwater modelling for the proposed project adequately addresses the full potential extent of the project's groundwater impacts as required in Appendix G, X(b).

Conclusion

As stated on page 4.8-41 of the DEIR, the County's independent expert West Yost found that the groundwater model was acceptably calibrated pursuant to industry practices, and adequately represented the Project's expected impacts. Accordingly, the DEIR contains concurrence of multiple experts on the suitability of the groundwater model and as such, constitutes substantial

evidence of the significance determination that, after implementation of mitigation, the proposed project would result in a less-than-significant impact related to substantially decreasing groundwater supplies (Appendix G, X(b)).

Master Response 15 - Adequacy of Groundwater Monitoring Wells

Comments

Several commenters have questioned the adequacy of the Groundwater Monitoring and Mitigation Plans required for the Project. The majority of concerns focus on 1) the use of a groundwater monitoring well network in the potential area of drawdown, rather than direct monitoring of domestic wells in the area; and 2) lack of monitoring throughout the entire mineral rights area. The alleged implication of the above concerns is that the groundwater monitoring required for the proposed project is inadequate, and thus, will not detect the full extent of wells that will be impacted by the project's dewatering.

Discussion

The analysis in the DEIR concludes that the proposed mining operations could result in adverse effects to seven domestic water supply wells in the East Bennett area during the life of the mining operation (see page 4.8-66 of the DEIR).

Groundwater Monitoring Plan

A rigorous groundwater monitoring plan (GMP) will be implemented by the applicant to assess how the hydrogeologic system responds to mining. This response to dewatering cannot be measured until mine dewatering commences; however, Mitigation Measure 4.8-2(a) requires that the monitoring wells be installed prior to dewatering. Mitigation Measure 4.8-2(b) requires that if it is determined, based on the GMP, that mining operations are resulting in a significant impact to any well(s) (i.e., a 10 percent or greater reduction of the water column of any well), pursuant to Nevada County General Plan Policy 17.12, the Project applicant shall be responsible for providing a comparable supply of water to such homes or businesses whose wells are significantly impacted, and if necessary, providing an immediate water supply until the source of the problem is determined and rectified. Mitigation measures are achievable, enforceable, and capable of reducing the Project's impacts. The GMP along with the requirement that the applicant provide water to 30 parcels and provide water to any other parcels with wells that are impacted by the Project ensures that the mitigation is enforceable by the County, achievable through water supply replacement requirements, and capable of reducing the Project's impacts.

Several commenters assert that groundwater monitoring networks need to be installed prior to dewatering. This is already required at least 12 months in advance per Mitigation Measure 4.8-2(a). This water level monitoring will provide the baseline levels prior to dewatering. The collection of 12 months of baseline data allows for the seasonal change in water levels at each location to be captured. As described in Section 3.3.2.2 of Appendix K.2 of the DEIR, the water levels in the private domestic wells have seasonal fluctuations between wet and dry times of the year but have remained relatively consistent from year to year within each individual well. No groundwater level measurements have been completed since 2007. However, impacts to domestic water wells will be measured against the current measurements of water levels, collected in the 12-month period, and not historic water levels.

The measurements of water levels in the monitoring wells can be used to verify the groundwater drawdowns as dewatering progresses to provide sufficient time to predict adverse impacts to domestic wells before they occur so that appropriate mitigation measures can be implemented. The collection of water quality information, as discussed in Section 8.0 of Appendix K.8, from the proposed monitoring wells would also be completed and would be representative of the baseline water quality in domestic water wells in the area. Hydraulic testing of monitoring wells would be conducted as described in Section 6.0 of Appendix K.8.

As previously noted, a GMP is required for the project under Mitigation Measure 4.8-2(a). As described on page 4.8-66 of the DEIR, the measurements of water levels in the monitoring wells can be used to verify the groundwater drawdowns as dewatering progresses to provide sufficient time to predict adverse impacts to domestic wells before they occur so that appropriate mitigation measures can be implemented. Monitoring wells will be specifically designed and constructed for monitoring purposes. Use of monitoring wells is preferable to monitoring of domestic wells because of uncertainties in the design, construction and operating conditions in domestic wells (pages 2-3 of the GMP, Appendix K.8 of the DEIR). The monitoring wells will be representative of the surrounding domestic water wells because they will be constructed at representative locations and depths.

As stated in Section 3.0 of the GMP, the drawdown caused by Project dewatering will propagate outward over time. Monitoring wells in closer proximity to the mine will generally experience drawdowns before wells farther away. The measurements of water levels in the monitoring wells can be used to verify the groundwater drawdowns as dewatering progresses to provide sufficient time to predict adverse impacts to domestic wells before they occur so that appropriate mitigation measures can be implemented. As discussed in the GMP, 30 groundwater monitoring wells will be installed at 15 locations. The locations of the monitoring wells are strategically placed between the mining zone and domestic wells to monitor the potential drawdown extent as the result of mining and assess the potential impacts on domestic wells. As stated in Section 7.0 of Appendix K.8, each monitoring well will be equipped with a downhole submersible data logger that will record water levels over time. The data logger will be programmed to collect water-level information on a periodic basis, such as once every 1 to 4 hours. As stated on page 10 of Appendix K.8, drilling and well installation activities will be performed under the supervision of a California-Registered Geologist. Qualified hydrogeologists would evaluate the data from groundwater monitoring.

Groundwater drawdown will be measured at the proposed monitoring wells and then used, in conjunction with data collected by the Domestic Well Monitoring Program (see below), to predict an impact to a domestic water well before any well production impact from dewatering could occur. The impact will be determined using the threshold set forth in the Well Mitigation Plan.

Water Quality Monitoring

Several commenters have raised concerns that their well could be contaminated by mine dewatering through the outward flow of alleged contaminated groundwater within underground mine workings. As stated on page 4.8-48 of the DEIR, the, dewatering causes a low-pressure area around the underground workings such that groundwater inflow is toward the mine, not away from the mine toward the domestic wells. Blasting or backfilling with CPB would be conducted exclusively within the underground mine workings. Thus, any water that contacts those components would be present only within the mine workings and would be then pumped out of the mine workings by the dewatering system and into the clay-lined pond for further water treatment. As a result, that water would not have the potential to flow into the fractured bedrock and flow toward any domestic supply wells. The primary residual components of the ammonium nitrate-fuel oil (ANFO) used for blasting, ammonia and nitrate, are very soluble and mobile in water. This means that any blasting residuals would be continually removed from the mine over time through the dewatering system. Thus, when the mine is allowed to flood again following the completion of mining, there is no reasonable potential that residuals from former blasting activities would cause a violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. As stated on page 4.8-51 of the DEIR, the proposed mining areas would primarily be at equivalent or deeper depths than the existing underground mine workings, while the potential future expansion areas all involve mining at greater depths, typically more than 1,000 feet below the surface and deeper. At those greater depths, the hydraulic conductivity is several orders of magnitude lower than it is at the depths of the domestic supply wells, due primarily to the lack of open fractures as a result of the large pressures exerted by the overlying rock mass (i.e., the lithostatic pressure). Given that the new mining activity would occur at equivalent or greater depths than the proposed mining, there is little or no potential for the proposed mining and mining in the future expansion areas to affect the quality of the groundwater in the domestic supply wells that are completed at much shallower depths.

Notwithstanding the above, as noted below in this master response, to provide property owners additional assurance regarding impacts of mine dewatering, a condition of approval will be imposed on the Project requiring that monitoring of domestic water wells will be conducted upon request for property owners within or nearby the predicted 1-ft drawdown isopleth of the Project. These 378 properties are listed in Table 3 and shown in Figure 18 below. Included in this Domestic Well Monitoring Program is water quality sampling to monitor potential changes in water quality over time.

Well Water Quality Would Not be Impacted from Changes in Groundwater Flow Paths

Several commenters expressed a concern with the potential water quality degradation in domestic wells that may be caused by lowering of the water table and associated changes in groundwater flow paths. In response, Itasca prepared several figures of the modelled water levels at three time periods (attached to the FEIR as Appendix C); Pre-mining (before any historical mining activity), 2019 (the present/baseline condition), end of future mining (after 25 years of mining). The water levels are shown at a larger scale using 50-foot contours. However, the figures demonstrate that the drawdown during mining only has a minor effect on a few of the contours, and at a very local scale. The overall regional groundwater flow paths are not altered. As such, there would not be sufficient changes in actual groundwater levels in wells to cause groundwater with naturally-

occurring arsenic to be pulled to different locations. As demonstrated by the figures attached as Appendix C to the FEIR, water quality impacts to domestic wells due to changes in water quality flow direction would only occur if the mining changed the actual groundwater levels by hundreds of feet. There is no evidence or precedent for an effect of that magnitude. Rather, the model predicted drawdown of 10 ft is localized well within the Rise mining boundary. As such, water quality impacts to domestic wells are speculative impacts that do not require analysis under CEQA.

Well Mitigation Plan

Mitigation Measure 4.8-2(b) requires that if it is determined, based on the GMP, that mining operations are resulting in a significant impact to any well(s) (i.e., a 10 percent or greater reduction of the water column of any well), pursuant to Nevada County General Plan Policy 17.12, the Project applicant shall be responsible for providing a comparable supply of water to such homes or businesses whose wells are significantly impacted, and if necessary, providing an immediate water supply until the source of the problem is determined and rectified. As discussed in the Well Mitigation Plan, if a dewatering impact to an area outside of the East Bennett area were projected during operations, pre-emptive action would be taken as necessary to ensure immediate water supply and compensation. The 10% drawdown threshold of significance is extremely conservative and, in most cases, would not lower the water level below the casing of the domestic well. Therefore, well mitigation may not be required after inspection. If reduction of the water column was great enough to reduce the well's yield, a simple adjustment to the pumping system may only be required. For example, by installing or increasing the size of a pressure or holding tank and pumping at a lessor rate over a longer duration, if necessary. The Well Mitigation Plan has been edited to clarify the range of actions and procedures that would be taken under the Well Mitigation Plan and the performance standards required for Well Mitigation. The revised Well Mitigation Plan is attached to the Final EIR as Appendix D.

Analysis of Dewatering Effects Outside East Bennett Area

Several commenters have stated that the water supply for wells outside of the E. Bennet area must be analyzed in the DEIR. The analysis provided in Section 4.8-2 of the DEIR concludes that the proposed mining operations could result in adverse effects to seven domestic water supply wells in the East Bennett area during the life of the mining operation. No significant impacts to domestic water wells are predicted in other areas based on technical analyses. The predictions include the use of a 100% safety factor, multiple sensitivity scenarios, and have been peer reviewed by the County's independent expert consultant. The future mitigation of wells outside the East Bennett area, if any, and method of mitigation are speculative as the DEIR does not predict any significant impact in these areas, and CEQA does not require the analysis of speculative impacts. As stated in CEQA Guidelines Section 15384, "[a]rgument, speculation, unsubstantiated opinion or narrative, evidence which is clearly erroneous or inaccurate, or evidence of social or economic impacts which do not contribute to or are not caused by physical impacts on the environment does not constitute substantial evidence." Therefore, as an impact of water supply to wells outside of the East Bennett area is not predicted, such analysis is speculative and need not be analyzed in the DEIR.

Water Supply Compensation to Impacted Property Owners

Several commenters state that the applicant should pay for water for any parcel connected to NID water supply for the life of the mine, even after the parcel is sold or annexed into the City of Grass Valley. The Well Mitigation Plan (Appendix K.9 of the DEIR) takes a conservative approach and presumes that an owner who decides to connect to the NID system has been impacted by and at the fault of the mining operation, even if no impact to groundwater well supply has occurred. As such, the Well Mitigation Plan was designed to be even more conservative than Nevada County General Plan Policy 17.12, which requires an impact as a prerequisite to the obligation to pay for water, which policy states "if it is determined that the operator is at fault, impacted owners shall be compensated by the operator." A new homeowner would not be impacted because the impact would have previous occurred, and the cost of purchasing water from NID for that new homeowner would be the same as buying any other home connected to NID's water supply. The provision of free water as a selling feature to a new buyer is not contemplated by the policy. If a property was annexed into the City of Grass Valley, it would be subject to the ordinances of the City, which allows water wells to be used for irrigation purposes only (Grass Valley General Ordinance Section 13.16.020) and would therefore require a property owner to connect to the potable water supply and pay for their water use. As annexation of a home into the City would already require connection to NID water supply and purchase of NID water, continuation of payment for water by the applicant after annexation would be a windfall to the property owner rather than mitigation of an impact, and is not required by CEQA or County policy.

Domestic Well Monitoring Program

A number of property owners in the area surrounding the Idaho-Maryland Mine Project have expressed concerns about the Project's impact on their domestic wells, both in terms of drying up their well(s) and adversely affecting well water quality.

To provide property owners additional assurance regarding impacts of mine dewatering, a condition of approval will be imposed on the Project requiring that monitoring of domestic water wells will be conducted upon request for property owners within or nearby the predicted 1-ft drawdown isopleth of the Project. These 378 properties are listed in Table 3 and shown in Figure 18 below. Some of these properties do not have a domestic water well but to ensure that well owners are not excluded all owners will be contacted by the Company. Certain areas, including the City of Grass Valley, Loma Rica Industrial Area, Tim Burr Lane / Star Drive, Cedar Ridge, The Cedars, New Brunswick Court, and Brunswick Pines are known to already be serviced by NID potable water as shown in Figure 19. Property owners in these areas will not be contacted. Please see Appendix E to this Final EIR for the Domestic Well Monitoring Program.

The following measures have been added to the Domestic Well Monitoring Program, and shall be included as a condition of approval for the Project:

1) Property owner's shown in Table 3 will be contacted at least three months prior to commencement of the required 12-month groundwater monitoring period and the company will request permission to inspect and install monitoring equipment at the well.
2) Property owners who respond and grant permission for well monitoring will be added to the Domestic Well Monitoring Program.
3) The well will be inspected to determine the characteristics of the well, including location, well depth, casing and screen depth, static water level, and well yield. A water quality sample will be taken during the inspection.

4) Instrumentation will be installed to measure water level on a periodic basis (such as 1 or 4 hours) and pumping rates (to correlate water level with the wells use). Data from the instruments will be transmitted by telemetry.
5) Water level data will be collected for at least 12 months prior to the commencement of mine dewatering and will continue throughout the period of initial mine dewatering (dewatering of the historic mine workings) and for at least the first 5 years of operations.
6) All data collected and reports generated will be provided to the property owner and to Nevada County.
7) All costs of well monitoring will be paid by the company and well monitoring equipment will remain the property of the company. A property owner may terminate well monitoring upon request and the company will remove any installed monitoring equipment.
8) For any well that is monitored under the Domestic Well Monitoring Program, monitoring results will be used to supplement the analysis from the Groundwater Monitoring Plan to determine whether an individual groundwater well is expected to be impacted or has been impacted by dewatering operations, using the threshold set forth in the Well Mitigation Plan.

Figure 1
Properties Eligible for Domestic Well Monitoring

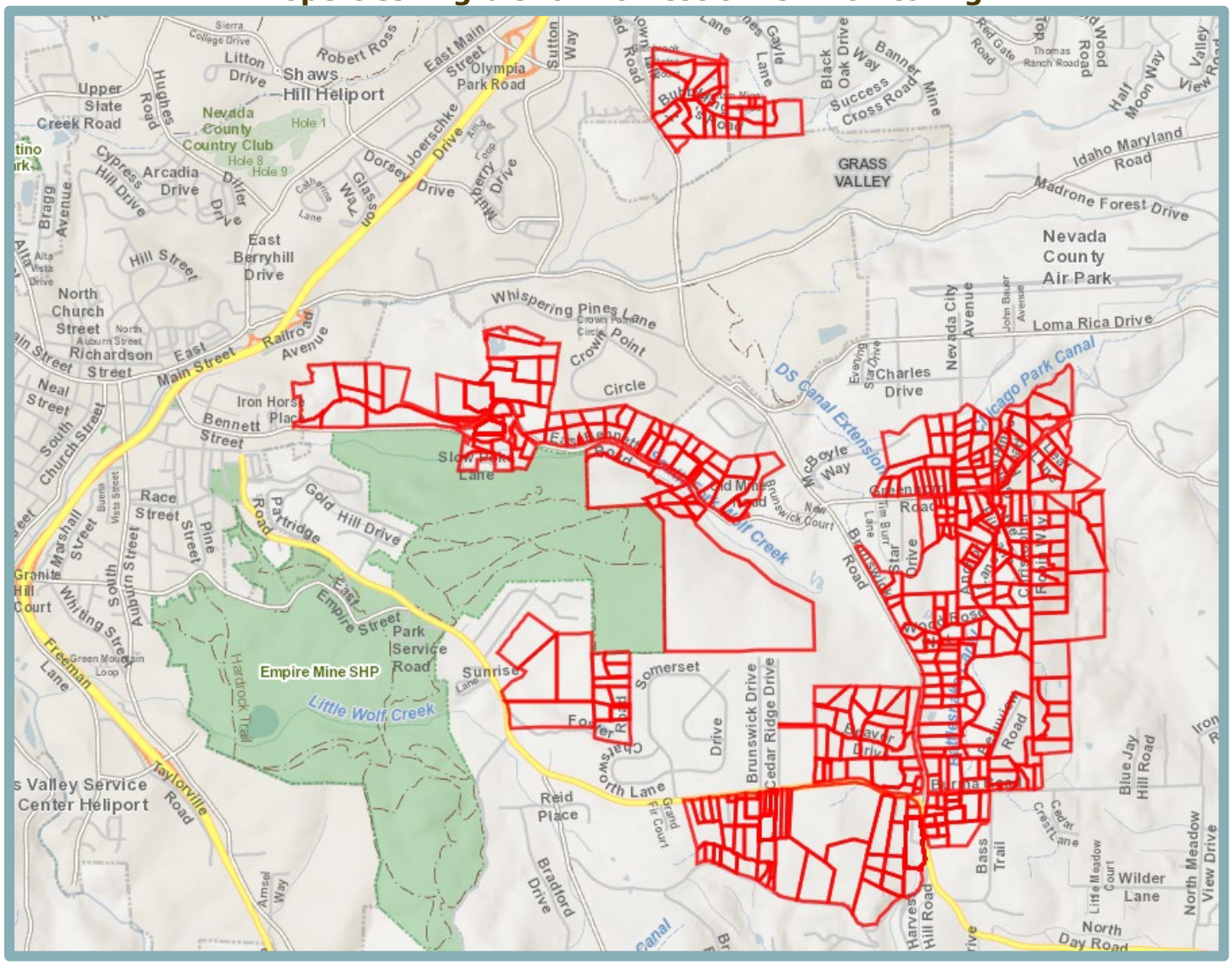

Figure 2
Areas Known to be Supplied by NID Potable Water

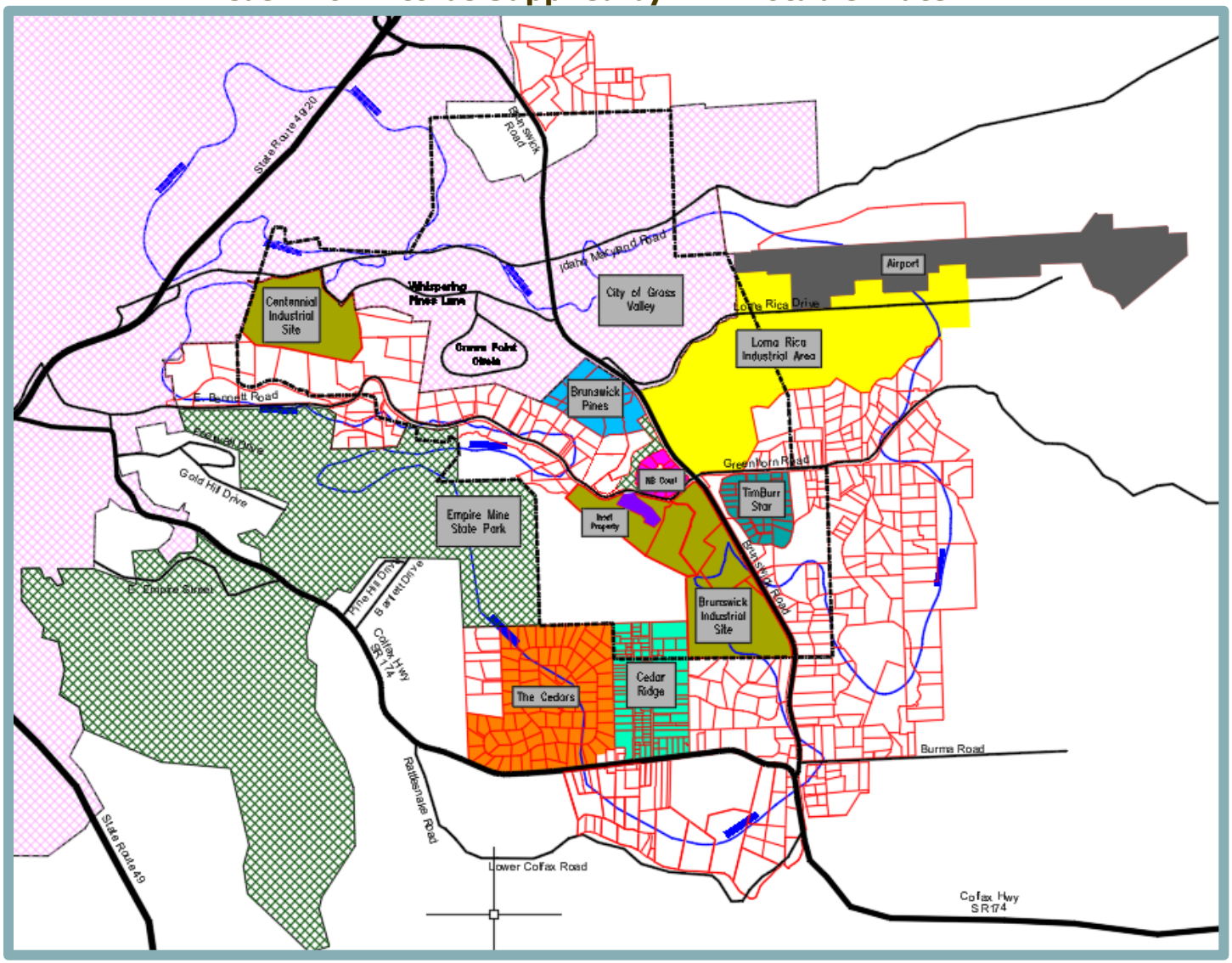

Table 1
Properties Eligible for Domestic Well Monitoring

APN	Site Address
006-391-005	12803 MCBOYLE WAY
006-391-006	13935 DOWNWIND COURT
006-391-007	13993 DOWNWIND COURT
006-391-008	14020 DOWNWIND COURT
006-391-009	13936 DOWNWIND COURT
006-391-012	12966 GREENHORN ROAD
006-391-013	12990 GREENHORN ROAD
006-391-014	13010 GREENHORN ROAD
006-391-015	13034 GREENHORN ROAD
006-391-016	13058 GREENHORN ROAD
006-391-022	12920 GREENHORN ROAD
006-391-023	12890 GREENHORN ROAD
006-391-025	13072 GREENHORN ROAD
006-391-032	12894 GREENHORN ROAD
006-391-033	12900 GREENHORN ROAD
006-441-008	13352 LOWER ANCHOR LANE
006-441-009	14149 CHRISTOPHER ROBIN WAY
006-441-010	13289 LOWER ANCHOR LANE
006-441-011	14095 CHRISTOPHER ROBIN WAY
006-441-012	14107 CHRISTOPHER ROBIN WAY
006-441-013	14027 CHRISTOPHER ROBIN WAY
006-441-014	13186 OMEGA COURT
006-441-015	13173 OMEGA COURT
006-441-016	13883 CHRISTOPHER ROBIN WAY
006-441-017	13831 CHRISTOPHER ROBIN WAY
006-441-018	13793 CHRISTOPHER ROBIN WAY

006-441-020	12748 THE HOLLOW
006-441-021	13224 OMEGA COURT
006-441-022	13217 OMEGA COURT
006-441-023	13907 CHRISTOPHER ROBIN WAY
006-441-033	12440 THE HOLLOW
006-461-038	13420 WOOD ROSE WAY
006-461-040	10996 SUNDOWN PLACE
006-461-041	11026 SUNDOWN PLACE
006-461-042	11030 SUNDOWN PLACE
006-461-043	11102 SUNDOWN PLACE
006-461-047	11202 SUNDOWN PLACE
006-471-001	12904 BRUNSWICK ROAD
006-471-003	12942 BRUNSWICK ROAD
006-471-004	12972 BRUNSWICK ROAD
006-471-005	15033 TOWLE LANE
006-471-006	12628 TOWLE COURT
006-471-007	12635 TOWLE COURT
006-471-008	12629 TOWLE COURT
006-471-009	13018 BRUNSWICK ROAD
006-471-010	13064 BRUNSWICK ROAD
006-471-011	11026 BEAUVIEW ROAD
006-471-012	14911 TOWLE LANE
006-471-013	12606 TOWLE COURT
006-481-001	13110 BRUNSWICK ROAD
006-481-002	13148 BRUNSWICK ROAD
006-481-003	13152 BRUNSWICK ROAD
006-481-004	13192 BRUNSWICK ROAD
006-481-005	12524 BURMA ROAD
006-481-006	12552 BURMA ROAD

006-481-007	12590 BURMA ROAD
006-481-008	12666 BURMA ROAD
006-481-009	11316 BEAUVIEW ROAD
006-481-010	11306 BEAUVIEW ROAD
006-481-011	11246 BEAUVIEW ROAD
006-481-012	11124 BEAUVIEW ROAD
006-481-013	11147 BEAUVIEW ROAD
006-481-014	11311 BEAUVIEW ROAD
006-481-015	11321 BEAUVIEW ROAD
006-481-016	12728 BURMA ROAD
006-481-017	12764 BURMA ROAD
006-481-018	12832 BURMA OAKS ROAD
006-481-019	12856 BURMA OAKS ROAD
006-481-020	12886 BURMA OAKS ROAD
006-481-021	13207 BURMA OAKS ROAD
006-700-040	14285 HOLLYDALE ROAD
006-700-071	12604 BRUNSWICK ROAD
006-700-072	12608 BRUNSWICK ROAD
006-720-033	12967 GREENHORN ROAD
006-720-034	13009 GREENHORN ROAD
006-720-035	13023 GREENHORN ROAD
006-720-036	13049 GREENHORN ROAD
006-720-037	13015 GREENHORN ROAD
006-720-038	14240 HOLLYDALE ROAD
006-720-039	14254 HOLLYDALE ROAD
006-720-040	13030 HOLLY BRANCH COURT
006-720-041	13025 HOLLY BRANCH COURT
006-720-042	13033 HOLLY BRANCH COURT
006-720-043	14278 HOLLYDALE ROAD

006-790-001	13103 GREENHORN ROAD
006-790-002	14277 HOLLYDALE ROAD
006-790-003	13139 GREENHORN ROAD
006-790-005	13140 LOWER ANCHOR LANE
006-790-008	14440 ANCHOR LANE
006-790-017	14458 ANCHOR LANE
006-790-020	14384 ANCHOR LANE
006-790-021	14232 ANCHOR LANE
006-790-022	13203 GREENHORN ROAD
006-790-023	14327 LITTLE HILL LANE
006-790-025	14592 LITTLE HILL LANE
006-790-026	14551 LITTLE HILL LANE
006-790-027	14554 LITTLE HILL LANE
006-790-030	14471 ANCHOR LANE
006-790-032	14325 ANCHOR LANE
006-790-034	14550 ANCHOR LANE
006-790-036	14395 LITTLE HILL LANE
006-790-037	14451 LITTLE HILL LANE
006-790-038	14581 ANCHOR LANE
006-790-039	14619 ANCHOR LANE
006-790-040	14528 LITTLE HILL LANE
006-790-041	14478 LITTLE HILL LANE
006-790-042	14349 ANCHOR LANE
006-790-043	14367 ANCHOR LANE
006-790-045	14346 ANCHOR LANE
006-790-046	13193 LOWER ANCHOR LANE
006-790-047	13231 LOWER ANCHOR LANE
006-790-048	14285 ANCHOR LANE
006-790-050	14330 ANCHOR LANE

006-790-051	14418 ANCHOR LANE
006-790-053	14482 ANCHOR LANE
006-800-001	12616 BRUNSWICK ROAD
006-800-002	12684 BRUNSWICK ROAD
006-800-003	12730 BRUNSWICK ROAD
006-800-005	14744 TOWLE LANE
006-800-006	14794 TOWLE LANE
006-800-007	14793 TOWLE LANE
006-800-008	14749 TOWLE LANE
006-800-009	14719 TOWLE LANE
006-800-010	14689 TOWLE LANE
006-800-011	12980 WOOD ROSE WAY
006-800-016	13183 WOOD ROSE WAY
006-800-017	13320 WOOD ROSE WAY
006-800-018	13326 WOOD ROSE WAY
006-800-022	12768 BRUNSWICK ROAD
006-800-023	14712 TOWLE LANE
006-800-024	12999 WOOD ROSE WAY
006-800-026	13041 WOOD ROSE WAY
006-800-027	13052 WOOD ROSE WAY
006-800-028	13034 WOOD ROSE WAY
006-800-029	13018 WOOD ROSE WAY
006-800-030	13120 WOOD ROSE WAY
006-800-031	13129 WOOD ROSE WAY
006-800-032	13171 WOOD ROSE WAY
006-800-033	13259 WOOD ROSE WAY
006-800-034	10830 LANTANA LANE
006-800-035	10856 LANTANA LANE
006-820-004	14093 GLENN PINES ROAD

006-820-005	14138 GLENN PINES ROAD
006-820-006	13399 NEVADA CITY AVENUE
006-820-007	13966 LIQUIDAMBAR LANE
006-820-008	14006 LIQUIDAMBAR LANE
006-820-009	14054 LIQUIDAMBAR LANE
006-820-010	14096 LIQUIDAMBAR LANE
006-820-011	14130 LIQUIDAMBAR LANE
006-820-012	14168 LIQUIDAMBAR LANE
006-820-013	13198 GREENHORN ROAD
006-820-014	14137 LIQUIDAMBAR LANE
006-820-015	14107 LIQUIDAMBAR LANE
006-820-016	14087 LIQUIDAMBAR LANE
006-820-017	14119 LIQUIDAMBAR LANE
006-820-019	14076 GLENN PINES ROAD
006-820-020	14046 GLENN PINES ROAD
006-820-022	13935 GLENN PINES ROAD
006-820-023	13448 GREENHORN ROAD
006-820-024	13530 GREENHORN ROAD
006-820-029	13549 GREENHORN ROAD
006-820-030	13505 GREENHORN ROAD
006-820-034	13413 GREENHORN ROAD
006-820-035	13315 GREENHORN ROAD
006-820-036	13226 GREENHORN ROAD
006-820-037	13227 GREENHORN ROAD
006-820-039	13203 GREENHORN ROAD
006-820-042	13974 GLENN PINES ROAD
006-820-043	13955 GLENN PINES ROAD
006-820-045	14108 YAMA WAY
006-820-046	12681 LEAF LANE

006-820-047	12719 LEAF LANE
006-820-048	12757 LEAF LANE
006-820-049	12975 LEAF LANE
006-820-052	14065 GLENN PINES ROAD
006-820-053	14023 GLENN PINES ROAD
006-820-056	13564 GREENHORN ROAD
006-820-057	13949 LIQUIDAMBAR LANE
006-820-059	14027 LIQUIDAMBAR LANE
006-830-068	12469 THE HOLLOW
006-890-001	12933 ELK LANE
006-890-002	12955 ELK LANE
006-890-003	12966 MINK COURT
006-890-004	12940 MINK COURT
006-890-005	12951 MINK COURT
006-890-006	12702 BEAVER DRIVE
006-890-007	12372 BEAVER DRIVE
006-890-008	12436 BEAVER DRIVE
006-890-009	13010 MINK COURT
006-890-010	12975 MINK COURT
006-890-011	12540 BEAVER DRIVE
006-890-012	12640 BEAVER DRIVE
006-890-013	12353 BEAVER DRIVE
006-890-014	12405 BEAVER DRIVE
006-890-015	12467 BEAVER DRIVE
006-890-016	12545 BEAVER DRIVE
006-890-017	12645 BEAVER DRIVE
006-890-018	12998 STATE HIGHWAY 174
006-890-019	13024 STATE HIGHWAY 174
006-890-020	13064 STATE HIGHWAY 174

006-890-021	13136 STATE HIGHWAY 174
006-890-022	13194 STATE HIGHWAY 174
006-890-023	13177 BRUNSWICK ROAD
006-890-024	13215 BRUNSWICK ROAD
006-890-025	13253 BRUNSWICK ROAD
006-890-026	13270 STATE HIGHWAY 174
006-920-013	13634 VINCENT COURT
006-920-014	13636 VINCENT COURT
009-320-001	11431 EAST BENNETT ROAD
009-320-003	11889 SLOW POKE LANE
009-320-012	11497 EAST BENNETT ROAD
009-320-013	11343 LAVA ROCK AVENUE
009-320-024	11273 LAVA ROCK AVENUE
009-320-025	11773 SLOW POKE LANE
009-320-027	11565 EAST BENNETT ROAD
009-320-028	11613 EAST BENNETT ROAD
009-320-029	11527 EAST BENNETT ROAD
009-320-030	10423 EAST BENNETT ROAD
009-320-031	11337 EAST BENNETT ROAD
009-320-032	11317 EAST BENNETT ROAD
009-320-033	11269 EAST BENNETT ROAD
009-320-035	11752 EAST BENNETT ROAD
009-560-004	10662 EAST BENNETT ROAD
009-560-005	10780 EAST BENNETT ROAD
009-560-010	10966 EAST BENNETT ROAD
009-560-013	11612 EAST BENNETT ROAD
009-560-014	11542 EAST BENNETT ROAD
009-560-016	11452 EAST BENNETT ROAD
009-560-018	N/A

009-560-019	N/A
009-560-029	N/A
009-560-030	N/A
009-560-032	N/A
009-560-033	N/A
009-560-034	N/A
009-560-035	N/A
009-560-037	N/A
009-560-038	N/A
009-560-039	N/A
009-560-045	11454 EAST BENNETT ROAD
009-560-046	11336 EAST BENNETT ROAD
009-560-047	11352 EAST BENNETT ROAD
009-581-016	12477 OLD MINE ROAD
009-581-017	12401 OLD MINE ROAD
009-581-045	12504 OLD MINE ROAD
009-581-053	12448 OLD MINE ROAD
009-590-005	11918 EAST BENNETT ROAD
009-590-006	11882 AMETHYST COURT
009-590-007	12047 AMETHYST COURT
009-590-008	11866 EAST BENNETT ROAD
009-590-009	12052 CORDELL COURT
009-590-010	12034 CORDELL COURT
009-590-011	12051 CORDELL COURT
009-590-012	11780 EAST BENNETT ROAD
009-590-013	11828 EAST BENNETT ROAD
009-590-014	11818 EAST BENNETT ROAD
009-600-004	12108 EAST BENNETT ROAD
009-600-008	11966 EAST BENNETT ROAD

009-600-009	12002 EAST BENNETT ROAD
009-600-010	12176 EAST BENNETT ROAD
009-600-011	12228 EAST BENNETT ROAD
009-600-012	14070 DIAMOND COURT
009-600-013	14036 DIAMOND COURT
009-600-014	14035 DIAMOND COURT
009-600-015	14069 DIAMOND COURT
009-600-016	13997 EMERALD COURT
009-600-017	12040 EAST BENNETT ROAD
009-600-018	11948 EAST BENNETT ROAD
009-600-019	11948 EAST BENNETT ROAD
009-600-024	11753 EAST BENNETT ROAD
009-600-026	12093 EAST BENNETT ROAD
009-600-027	12161 EAST BENNETT ROAD
009-600-028	12261 EAST BENNETT ROAD
009-600-029	12261 EAST BENNETT ROAD
009-600-030	12195 EAST BENNETT ROAD
009-600-031	12233 EAST BENNETT ROAD
009-600-032	N/A
009-600-033	11903 EAST BENNETT ROAD
009-630-008	10879 BARTLETT DRIVE
009-630-040	N/A
009-640-001	12716 FOSTER ROAD
009-640-002	12782 FOSTER ROAD
009-640-003	12764 FOSTER ROAD
009-640-005	12802 FOSTER ROAD
009-640-006	12866 FOSTER ROAD
009-640-007	12852 FOSTER ROAD
009-640-008	12870 FOSTER ROAD

009-640-009	12904 FOSTER ROAD
009-640-010	12960 FOSTER ROAD
009-640-019	11690 STATE HIGHWAY 174
009-640-020	11782 STATE HIGHWAY 174
009-640-028	11744 STATE HIGHWAY 174
009-680-051	N/A
009-680-052	N/A
012-010-004	11922 LOWER COLFAX ROAD
012-010-032	13460 NOEL LANE
012-010-034	11946 LOWER COLFAX ROAD
012-010-035	11938 LOWER COLFAX ROAD
012-010-036	13376 NOEL LANE
012-010-037	13377 NOEL LANE
012-010-038	13434 NOEL LANE
012-010-039	13435 NOEL LANE
012-010-042	13189 NOEL LANE
012-010-047	11900 LOWER COLFAX ROAD
012-010-048	11910 LOWER COLFAX ROAD
012-010-057	13196 NOEL LANE
012-010-059	13299 NOEL LANE
012-010-060	13071 STATE HIGHWAY 174
012-010-061	12018 LOWER COLFAX ROAD
012-010-062	12114 LOWER COLFAX ROAD
012-010-063	12218 LOWER COLFAX ROAD
012-010-066	12795 STATE HIGHWAY 174
012-010-067	12817 STATE HIGHWAY 174
012-010-068	12851 STATE HIGHWAY 174
012-010-069	12873 STATE HIGHWAY 174
012-010-070	12887 STATE HIGHWAY 174

012-010-071	12837 STATE HIGHWAY 174
012-020-003	12535 STATE HIGHWAY 174
012-020-005	12621 STATE HIGHWAY 174
012-020-007	13240 IRISH ACRES CIRCLE
012-020-009	12757 STATE HIGHWAY 174
012-020-010	12779 STATE HIGHWAY 174
012-020-011	13270 IRISH ACRES CIRCLE
012-020-017	11856 LOWER COLFAX ROAD
012-020-018	11810 LOWER COLFAX ROAD
012-020-019	11740 LOWER COLFAX ROAD
012-020-030	12685 STATE HIGHWAY 174
012-020-032	12647 STATE HIGHWAY 174
012-020-036	13350 HOBART LANE
012-020-037	13322 HOBART LANE
012-020-038	13288 HOBART LANE
012-020-041	12719 STATE HIGHWAY 174
012-020-042	12573 STATE HIGHWAY 174
012-020-043	12555 STATE HIGHWAY 174
012-020-044	11718 LOWER COLFAX ROAD
012-020-045	11696 LOWER COLFAX ROAD
012-040-004	12637 BURMA ROAD
012-040-005	12689 BURMA ROAD
012-040-015	13460 STATE HIGHWAY 174
012-040-019	13383 STATE HIGHWAY 174
012-040-020	13345 STATE HIGHWAY 174
012-040-024	12577 CEDAR CREST COURT
012-040-029	12615 CEDAR CREST COURT
012-040-030	12599 CEDAR CREST COURT
012-040-033	13420 STATE HIGHWAY 174

012-040-034	12560 LOS CEDROS LANE
012-040-035	12509 BURMA ROAD
012-040-036	12588 CEDAR CREST COURT
012-040-037	13328 BRUNSWICK ROAD
012-040-038	13458 STATE HIGHWAY 174
012-040-039	12567 LOS CEDROS LANE
012-040-060	13255 BRUNSWICK ROAD
012-040-065	13623 LAWS RANCH CROSS ROAD
012-040-067	13453 STATE HIGHWAY 174
012-040-082	13332 BASS TRAIL
035-430-021	10728 GLENBROOK ESTATES COURT
035-460-004	12125 CRYSTAL SPRINGS ROAD
035-460-017	N/A
035-460-018	12134 CRYSTAL SPRINGS ROAD
035-550-001	10833 BUBBLING WELLS ROAD
035-550-002	10871 BUBBLING WELLS ROAD
035-550-008	10682 BUBBLING WELLS ROAD
035-550-010	10750 BUBBLING WELLS ROAD
035-550-011	10706 BUBBLING WELLS ROAD
035-550-012	10826 BUBBLING WELLS ROAD
035-550-013	12178 BOREHAM MINE ROAD
035-550-014	10794 BUBBLING WELLS ROAD
035-550-016	10651 BUBBLING WELLS ROAD
035-550-017	10923 BUBBLING WELLS ROAD
035-550-018	10938 BUBBLING WELLS ROAD
035-550-019	10985 BUBBLING WELLS ROAD
035-550-020	11000 BUBBLING WELLS ROAD
035-550-021	11052 BUBBLING WELLS ROAD

035-550-022	11068 BUBBLING WELLS ROAD
035-550-023	10730 GLENBROOK ESTATES COURT
035-550-024	10763 BUBBLING WELLS ROAD
035-550-025	10741 BUBBLING WELLS ROAD
035-550-026	UNKNOWN ADDRESS

Conclusion

The DEIR (Mitigation Measure 4.8-2(a)) requires a groundwater monitoring plan that includes installation and monitoring of numerous groundwater monitoring wells to verify the groundwater drawdowns as dewatering progresses to provide sufficient time to predict adverse impacts to domestic wells before they occur so that appropriate mitigation measures can be implemented. Mitigation Measure 4.8-2(b) requires the applicant to be responsible for replacing water for any impacted wells (i.e., a 10 percent or greater reduction of the water column of any well) beyond the expected drawdown impact area, pursuant to Nevada County General Plan Policy 17.12. While the GMP is adequate to ensure early detection of potential well impacts (both quantity and quality), the applicant has agreed to implement a Domestic Well Monitoring Program, that would work in concert with the GMP to ensure early detection of potentially significant well impacts beyond the anticipated drawdown area, such that well mitigation measures can be implemented.

Master Response 23 - Adequacy of Sampling - Asbestos

Comments

Several commenters have expressed concerns about the adequacy of asbestos sampling of geological materials conducted for the Idaho-Maryland Mine Project. Many commenters assert that the amount of rock sampled was insufficient for purposes of determining concentration of asbestos and associated risks of exposure.

Discussion

As stated on page 7 of the Asbestos, Serpentinite, and Ultramafic Rock (ASUR) Management Plan attached to the DEIR, Rise completed 19 exploration drill holes, totalling 67,500 feet of drilling, from 2017 to 2019. Forty-two (42) samples, mainly from diamond drill core from various lithologies at the Idaho-Maryland Mine Project, were submitted for asbestos testing in 2019. PLM testing was done on forty samples and TEM testing was done on two samples. In 2021, Rise requested the 40 samples previously submitted (and analyzed by PLM) to be reanalyzed using the TEM method. Grouping by lithology is important as mining is planned and completed in the distinct geological units present in the mine. For example, serpentine is a lithology of concern due to the presence of chrysotile asbestos.

Several commenters have asserted that the applicant stopped exploration drilling when asbestos was detected. Drilling was stopped when the exploration geologist determined there was little potential for discovery of gold mineralization. Serpentinite is a poor host rock for gold mineralization and holes which encounter it are not continued in this lithology. Continued drilling, and sampling in geological units that have low potential for gold mineralization, would not be representative of the rock that will be encountered during mining operations. Asbestos sampling is not done at the same time as drilling and cannot be detected visually at the low levels present without sophisticated microscopy. Samples from various lithologies at the Idaho-Maryland Mine Project were selected for asbestos testing. The volume and methodology for sampling from the mine area is adequate for the intended purpose of supporting the thresholds and assumptions used in the ASUR Plan and HRA attached to the DEIR (see Master Response 22 – Conservatism Used for Asbestos Assessment). Samples were taken from geological units of the type where gold mining is expected to occur. The sampling methods requested by some commenters with more samples being taken from serpentine rocks and at greater depths than the gold mineralization would be inappropriate for the purpose of estimating asbestos from the planned mining operation, as these samples would not be representative of rock that would be encountered during gold mining activities.

Prior to underground gold mining, intensive planning efforts will be conducted as required under the ASUR Plan and as required to meet state and federal regulations and achieve safety, environmental, and economic goals. Please see Section 6.0 of the ASUR Plan (Appendix E.2 of the DEIR). Underground mine planning, as required in the ASUR Plan, includes exploratory drilling, geologic mapping, material logging, and testing. These same processes also ensure future mining operations avoid and manage rock types that may contain naturally occurring asbestos to ensure that applicable thresholds are not exceeded. In other words, the mandatory mine planning that is required by the DEIR in the ASUR Plan will provide information to the mine

operator on asbestos content of rock prior to mining that area.[3] This is a standard component of modern underground mine planning, and was made an explicit requirement of the ASUR Plan, which will be required through a Condition of Approval. As such, the ASUR Plan will be binding on the mine operator and any potential successors in interest to the mine.

Additionally, the HRA is based on conservative assumptions, such that the analysis overestimates health impacts rather than underestimates those impacts. Please see Master Response 22 – Conservatism Used for Asbestos Assessment.

Conclusion

Based on these conservative assumptions, the DEIR concludes that the Project could result in a significant impact with respect to exposing receptors to substantial concentrations of asbestos and requires mitigation to reduce the impact to a less than significant level. Mitigation Measure 4.3-2 of the DEIR requires the submission of an Asbestos Dust Mitigation Plan (ADMP) to Northern Sierra Air Quality Management District (NSAQMD) for review and approval. The ADMP has minimum requirements as described in Mitigation Measure 4.3-2. Additional measures, such as air monitoring, if required by the NSAQMD, would be detailed in the ADMP.

[3] Some commenters continue to express concern about the length of testing for asbestos and the need for stockpiling mined material until testing results are received. As stated in Response to Comment Grp 7-121 in the Final EIR, two methods of asbestos testing are required under the ASUR Plan. Polarized Light Microscopy (PLM) testing is required to comply with the State (CARB) Asbestos Airborne Toxic Control Measure (ATCM). Transmission Electron Microscopy (TEM) testing is done to verify that mine planning is effectively minimizing the potential for public exposure to airborne asbestos from the project. PLM testing is required to comply with the Asbestos ATCM for Surfacing and trucks may not transport material without a receipt based on the PLM results. Any materials with detectable asbestos would not be allowed to be used for surfacing. PLM testing will be conducted on-site, in the headframe structure, by trained personnel using microscopes. Three grab samples will be taken in the silo for every 1,000 tons of material. Off-site PLM testing may also be utilized with estimated 12-hour turn around time.

The purpose of TEM testing in the ASUR Plan is not to control the fate of the rock and tailings after it reaches surface. The TEM testing is done to verify that mine planning is effectively minimizing the potential for public exposure to airborne asbestos from the project. The rolling inventory in the Asbestos Inventory (Section 8.3 of the ASUR Plan) is a digital accounting of asbestos sample results. It does not refer to a physical inventory of mined materials. Thus, TEM testing will not hold up transfer/processing of mined material, such that outdoor stockpiling would be required.