Chapter XX

UNITED STATES

Karol L Kahalley, Kristin A Nichols and Erica K Nannini¹

I OVERVIEW

i Government policy towards mining and international investment

The US government values the mining industry for its production of domestic raw materials and strategic minerals, and high-wage jobs, despite the United States' reputation for creating a burdensome permitting and environmental regulatory regime. Federal, state and local governments receive billions of dollars annually in taxes, royalties and fees from the mining industry. The United States seeks and attracts international investment, including financial investment and direct investment in mining operations.

US law generally permits foreign investments in US industries, including mining. The US government places few restrictions on such investments, unless they are deemed to have national security implications. Projects involving the export of particular minerals, such as uranium or rare earth elements, can be subject to greater scrutiny when foreign companies are involved. Foreign investors are increasingly looking to the United States as a secure source of investment in mineral projects and to obtain reliable sources of minerals.

ii Risk factors

Security of title and tenure for mining claims, leases and licences is key to attracting foreign investment in US mining. There is little risk of expropriation of mining operations by government seizure or political unrest. The US political landscape is characterised by inaction in the area of mining law reform; Congress has been working towards comprehensive mining law reform for many decades, but the General Mining Law has remained relatively unchanged since its passage in 1872. Thus, there is little risk that title to land for mining operations will be threatened by government intervention as long as all required fees, rentals and royalties are paid in a timely manner.

Perhaps the biggest risk in US mining ventures is the delay caused by the environmental review, compliance and permitting of a project. These steps can be very costly and time-consuming and, even without protracted litigation, it is not unusual for a major mining project to require in excess of 10 years to obtain all the necessary environmental approvals.

iii Mine ownership

Ownership of the US mining industry is in private hands: there are no government-owned mines or mining companies. Many companies operating US mines are based in the United

¹ Karol L Kahalley is of counsel, Kristin A Nichols is an associate and Erica K Nannini is an associate at Holland & Hart LLP.

States, such as Newmont Mining Corporation (gold), Peabody Energy Corporation (coal), US Steel (iron ore) and Freeport-McMoRan (copper). Many other operations are owned by foreign companies, including Barrick Gold's numerous mines (gold) and Rio Tinto's subsidiaries, such as Kennecott Utah Copper Corporation (copper-molybdenum).

iv Significant trading agreements concerning minerals

Many international treaties of general application apply to mining industry investment by foreign persons into the United States, but none specifically addresses investments in the mining industry or trading in various minerals. However, one failed transaction of note was the attempted acquisition by Chinese National Offshore Oil Corporation of the rare earth element mine at Mountain Pass, California (then owned by Unocal), which was blocked by the US government on national security grounds in 2005.

v Notable developments

Notable developments in the legal and regulatory landscape for the US mining industry largely flow from President Trump's efforts to reform energy and environmental policies, recently aiming to decrease permitting barriers relating to the mining industry. For example, the Deputy Secretary of the Interior has issued three directives to simplify and expedite the permitting of hard rock mines on public lands. The timelines for the issuance of permits have been shortened, the length of environmental impact statements has been shortened to a maximum of 150 to 300 pages, and the National Environmental Policy Act approval and decision process has been simplified to ensure documents are processed in a timely manner. Along the same lines, the Trump administration has greatly reduced public land designations following the Secretary of the Interior's national monument review (notably, the Bears Ears and Grand Staircase-Escalante National Monuments in Utah), clearing a path for the mining industry to stake new unpatented mining claims on previously protected land. The Trump administration has also launched an evaluation process for critical and strategic minerals to ensure that vital materials are defined, and a process is developed that allows for domestic production, citing the following broad policy goals: (1) identifying new sources of critical minerals; (2) increasing exploration, mining, processing, recycling and reprocessing of critical minerals; and (3) streamlining leasing and permitting processes. Additionally, actions by the Trump administration have suggested that coal and uranium - two industries that have seen a steady decline in recent decades - should be identified as strategic minerals again. Most recently, the United States has imposed tariffs on significant Chinese imports, which include coal, industrial minerals, base metals, precious metals and various mineral commodities.

The US Geological Survey reports that, in 2017, US mines produced non-fuel minerals valued at an estimated US\$75.2 billion – up 6 per cent from the revised total of US\$70.8 billion in 2016. The United States also experienced an increase in the value of metal production in 2017, with an estimated value of US\$26.3 billion – 12 per cent more than in 2016 – with high prices to some metal commodity values increasing by more than 35 per cent. While some US metal mines and processing facilities continued to remain idle in 2017, new gold mines opened in late 2016 and 2017, and certain iron ore mines restarted or extended operations. The largest contributors to the total value of metal production in 2017 included gold (38 per cent), copper (30 per cent), iron ore (12 per cent) and zinc (8 per cent). Mirroring 2016, 11 US states individually generated more than US\$2 billion worth of non-fuel mineral commodities in 2017.

II LEGAL FRAMEWORK

i Introduction

The US legal system consists of many levels of codified and uncodified federal, state and local laws. The government's regulatory authority at each level may originate from constitutions, statutes, administrative regulations or ordinances, and judicial common law. The US Constitution and federal laws are the supreme law of the land, generally pre-empting conflicting state and local laws. In many legal areas, the different authorities have concurrent jurisdiction, requiring regulated entities to comply with several levels of regulation. Mining on federal lands, for example, is generally subject to many layers of concurrent federal, state and local statutes and administrative regulations.

Federal and state governments have developed comprehensive mining regulatory schemes. Although the United States is a common law nation, practising US mining law often resembles practising mining law in civil law countries because the regulatory schemes are set out in detailed codifications.² However, these mining law codifications are subject to precedential interpretation by courts pursuant to common law principles (and in some situations by quasi-judicial administrative bodies).

Determining which level of government has jurisdiction over mining activities largely depends on surface and mineral ownership. A substantial amount of mining in the United States occurs on federal lands where the federal government owns both the surface and the mineral estates. Federal law primarily governs mineral ownership, operations and environmental compliance, with state and local governments having concurrent or independent authority over certain aspects of federal land mining projects (e.g., permitting, water rights and access authorisations). If the resource occurs on private land, estate ownership is a matter of state contract law, but operations and environmental compliance are still regulated by applicable federal and state laws. Estate ownership on state-owned land is regulated by state law, and operations and environmental compliance are regulated by applicable federal and state laws.

ii Regulation of the mining industry

The General Mining Law of 1872 (GML)³ is the principal law governing locatable minerals on federal lands. The GML affords US citizens the opportunity to explore for, discover and purchase certain valuable mineral deposits on federal lands open for mineral entry. Locatable minerals include non-metallics (asphaltum, bog iron, cement, diamonds, feldspar, granite, marble, salt, slate, umber, uranium, etc.) and metallic minerals including copper, gold, lead, nickel, silver and zinc. Locating these mineral deposits entitles the locator to certain possessory interests:

- a unpatented mining claims, which provide the locator with an exclusive possessory interest in surface and subsurface lands, and the right to develop the minerals; and
- patented mining claims, which pass title from the federal government to the locator, converting the property to private land. However, a mining patent moratorium has been in place since 1994 and no new patents are being issued.

² See, e.g., 43 CFR Sections 3000.0-5 to 3936.40 (Bureau of Land Management minerals management regulations).

^{3 30} USC Sections 21 to 54 and Sections 611 to 615, as amended.

The Federal Land Policy and Management Act of 1976 (FLPMA)⁴ governs federal land use, including access to and exercise of GML rights on lands administered by the Bureau of Land Management (BLM) and the US Forest Service (USFS). The FLPMA recognises 'the Nation's need for domestic sources of minerals' and provides that the FLPMA shall not impair GML rights, including, but not limited to, rights of ingress and egress. However, the FLPMA also provides that mining authorisations must not 'result in unnecessary or undue degradation of public lands'. More generally, the BLM and the USFS have promulgated extensive regulations governing mineral development on public lands.

The National Environmental Policy Act (NEPA)⁹ requires federal agencies to prepare an environmental impact statement (EIS) for all major federal actions significantly affecting the quality of the human environment. Mining operations on federal lands or with a federal nexus generally will involve an EIS or a less intensive environmental assessment examining environmental impacts. The NEPA process will involve consideration of other substantive environmental statutes.

The United States Securities and Exchange Commission (SEC) regulates mineral resources and reserves reporting by entities subject to SEC filing and reporting requirements. The SEC's reporting classification system is based on the SEC's 1992 Industry Guide 7, which provides for declaration only of proven and probable reserves. The SEC generally does not recognise other reporting codes, such as the Committee for Mineral Reserves International Reporting Standards, which provide additional disclosures and are used by many other mineral-producing nations. The SEC recently issued proposed regulations, which would lead to increased disclosure obligations for mining companies. If adopted, the SEC regulations would supersede Industry Guide 7 and require the disclosure of exploration results, mineral resources and mineral reserves.

III MINING RIGHTS AND REQUIRED LICENCES AND PERMITS

i Title

In the United States, land generally can be severed into surface and subsurface estates, creating a split estate for which the surface and mineral rights can be held by different parties. The ability to sever the unified estate depends on land ownership. Federal land mineral interests are regulated by federal law and title cannot be transferred to private citizens until the minerals have been severed. Under the GML, locatable mineral claims may be patented, transferring title to the locator, but there has been a patent moratorium in place since 1994. Unpatented GML claims provide the locator with exclusive possessory surface and mineral interests, but the locator does not obtain title to the mineral estate. Ownership of state-land minerals is controlled by state law and varies by state. State laws generally are similar to federal laws, in that title remains with the state until the minerals are severed pursuant to statutory procedures. Severance of private land estates is governed by state law, and generally private citizens are free to split their surface and mineral estates.

^{4 43} USC Sections 1701 to 1787.

^{5 43} USC Section 1701(a)(12).

^{6 43} USC Section 1732(b).

^{7 43} CFR Section 3809.411(d)(3)(iii); see also 43 USC Section 1732(b).

⁸ See, e.g., 43 CFR Sections 3000.0-5 to 3936.40; 36 CFR Sections 228.1 to 228.116.

^{9 42} USC Sections 4321 to 4370m-12.

Once the mineral estate is severed and enters the private market, title to the minerals can be bought, sold, leased or rented as a matter of contract law, subject to reservations in the severance document and applicable laws. The federal government, particularly in the western United States, may have reserved the mineral estate to itself when it transferred ownership of the surface lands to private citizens or state governments, which could affect the surface owners' ability to alienate the minerals.

ii Surface and mining rights

The process for developing locatable minerals rights on federal lands under the GML involves:

- discovery of a 'valuable mineral deposit', which under federal law means that a prudent person would be justified in developing the deposit with a reasonable prospect of developing a successful mine, and that the claims can be mined and marketed at a profit;
- b locating mining claims by posting notices and marking claim boundaries;
- c recording mining claims by filing a location certificate with the proper BLM state office within 90 days of the location date and recording pursuant to county requirements;
- d maintaining the claim through assessment work or paying an annual maintenance fee; and
- additional requirements for mineral patents (as mentioned above, there is a moratorium on patents).

The Mineral Lands Leasing Act of 1920¹⁰ provides US citizens with the opportunity to obtain a prospecting permit or lease for coal, gas, gilsonite, oil, oil shale, phosphate, potassium and sodium deposits on federal lands. The process for obtaining a permit or lease involves filing an application with the federal agency office with jurisdiction over the affected land. Depending on the type of permit or lease applied for, applicants may be required to:

- a pay rent;
- *b* file an exploration plan;
- c pay royalties based on production; or
- d furnish a bond covering closure and reclamation costs.

These permits and leases are often subject to conditions and stipulations directed at protecting resource values.

The Materials Disposal Act of 1947¹¹ provides for the disposal of common minerals found on federal lands, including, but not limited to, cinders, clay, gravel, pumice, sand or stone, or other materials used for agriculture, animal husbandry, building, abrasion, construction, landscaping and similar uses. These minerals may be sold through competitive bids, non-competitive bids in certain circumstances or through free use by government entities and non-profit entities.

Although the GML and Mineral Lands Leasing Act require mine claimants, permittees and lessees to be US citizens, a 'citizen' can include a US incorporated entity that is wholly owned by non-US entities or corporations. There are generally no restrictions on foreign acquisition of these types of US mining rights through parent-subsidiary corporate structures.

^{10 30} USC Sections 181 to 287, as amended.

^{11 30} USC Sections 601 to 615, as amended.

iii Additional permits and licences

Additional permits and licences required to conduct mining activities may include:

- a mine plan of operations;
- b a reclamation plan and permits;
- c air quality permits;
- d water pollution permits (pollutant discharge elimination system permit, storm water pollution prevention plan, spill prevention control and countermeasure plan);
- e dam safety permits;
- f artificial pond permits;
- g hazardous waste materials storage and transfer permits;
- *h* well-drilling permits;
- *i* road use and access authorisations;
- j right-of-way authorisations; and
- k water rights.

iv Closure and remediation of mining projects

The FLPMA requires the BLM and the USFS to prevent 'unnecessary or undue degradation' of public lands. ¹² Casual-use hardrock mining operations on BLM lands that will result in no or negligible surface disturbance do not require any reclamation planning. Notice-level exploration operations requiring less than five acres of surface disturbance must meet BLM reclamation standards and provide financial guarantees that the reclamation will occur. ¹³ Plan-level operations require a plan of operations that includes a detailed reclamation plan. ¹⁴ BLM reclamation standards include saving topsoil for reshaping disturbed areas, erosion and water control measures, toxic materials measures, reshaping and revegetation where reasonably practicable, and rehabilitation of fish and wildlife habitat. ¹⁵ Mining in BLM wilderness study areas additionally requires that surface disturbances be 'reclaimed to the point of being substantially unnoticeable in the area as a whole'. ¹⁶

Mining activities on national forest lands must be conducted 'so as to minimise adverse environmental impacts on National Forest System surface resources'. ¹⁷ Operators must take measures that will 'prevent or control on-site and off-site damage to the environment and forest surface resources', including erosion control, water run-off control, toxic materials control, reshaping and revegetation where reasonably practicable, and rehabilitation of fish and wildlife habitat. ¹⁸

State laws may also include closure and reclamation requirements, including, for example, water and air pollution controls, recontouring and revegetation, fish and wildlife protection and reclamation bonding requirements. Mining projects can often address both federal and state requirements through a single closure and reclamation plan and financial guarantee.

^{12 43} USC Section 1732(b).

^{13 43} CFR Sections 3809.320 and 3809.500(b).

^{14 43} CFR Sections 3809.11 and 3809.401.

^{15 43} CFR Section 3809.420.

^{16 43} CFR Section 3802.0 to 5(d).

^{17 36} CFR Section 228.1.

^{18 36} CFR Section 228.8(g).

IV ENVIRONMENTAL AND SOCIAL CONSIDERATIONS

i Environmental, health and safety regulations

NEPA is the principal environmental law implicated by mining on federal lands. NEPA requires federal agencies to take a 'hard look' at the environmental consequences of federal projects before action is taken. An agency must prepare an EIS for all major federal actions significantly affecting the quality of the human environment. An agency may first prepare an environmental assessment to determine whether the effects are significant. If the effects are significant, the agency must prepare the more comprehensive EIS. If the effects are insignificant, generally the agency will issue a finding of no significant impact, ending the process. NEPA does not dictate a substantive outcome; however, the analysis generally requires consideration of other substantive environmental statutes and regulations, including the Clean Air Act, ¹⁹ the Clean Water Act²⁰ and the Endangered Species Act.²¹ NEPA is administered by the federal agency making the decision that may significantly affect the environment.

The Clean Air Act regulates air emissions from stationary and mobile sources. The Clean Water Act regulates pollutant discharges into the 'waters of the United States, including the territorial seas'. ²² The Clean Air Act and the Clean Water Act are administered by the Environmental Protection Agency, the US Army Corps of Engineers and states with delegated authority. The Endangered Species Act requires federal agencies to ensure their actions are not likely to jeopardise the continued existence of any threatened or endangered species, or to destroy or adversely modify designated critical habitat, and prohibits the unauthorised taking of such species. The US Fish and Wildlife Service and National Marine Fisheries Service administer the Endangered Species Act.

The Federal Mine Safety and Health Act²³ requires the Mine Safety and Health Administration (MSHA) to inspect all mines each year to ensure safe and healthy work environments.²⁴ The MSHA is prohibited from giving advance notice of an inspection and may enter mine property without a warrant.²⁵ MSHA regulations set out detailed safety and health standards for preventing hazardous and unhealthy conditions, including measures addressing fire prevention, air quality, explosives, aerial tramways, electricity use, personal protection, illumination and others.²⁶ MSHA regulations also establish requirements for testing, evaluating and approving mining products, miner and rescue team training programmes, and notification of accidents, injuries and illnesses at a mine.²⁷

Currently, there are no specific mining sustainable development regulations. However, issues of socio-economic impact, cumulative effects and environmental impact often are addressed during a NEPA review.

^{19 42} USC Sections 7401 to 7671.

^{20 33} USC Sections 1251 to 1388.

^{21 16} USC Sections 1531 to 1544.

^{22 33} USC Section 1311(a); 33 USC Section 1362 (defining 'navigable waters').

^{23 30} USC Sections 801 to 966.

^{24 30} USC Section 813.

²⁵ id

²⁶ See, e.g., 30 CFR Sections 56.1 to 56.20014 (safety and health standards for surface metal and non-metal mines).

^{27 30} CFR Sections 5.10 to 36.50, 46.1 to 49.60, 50.10.

ii Environmental compliance

Mining projects on federal lands, or that otherwise have a federal nexus, will likely have to go through some level of NEPA environmental review. State laws may also require an environmental analysis. Where analysis is required by different agencies, it may be possible to pursue an agreement between the agencies to allow the operator to produce one comprehensive environmental review document that all agencies can rely on.

There is no statutory deadline for federal agencies to complete their NEPA review. Small mine project reviews may take more than a year to complete. Larger project reviews usually take even longer. Third parties may sue the federal agency completing the review to ensure that the agency considered all relevant factors and rationally related the decisions made to the facts found. Prosecuting the litigation would extend the project approval time, and if the agency loses, additional time would be required for the agency to redo its flawed NEPA analysis. In some instances where mines were proposed in especially sensitive areas, it has taken decades to obtain approval.

iii Third-party rights

The United States contain numerous reservations comprised of federal lands set aside by treaty or administrative directive for specific native American tribes or Alaska natives. Tribal reservation title generally is held by the United States in trust for the tribes and the US Bureau of Indian Affairs administers the reservations. Alaska native lands are owned and administered by Alaska native corporations. Mineral development within the tribal reservations and Alaska native lands requires negotiation with the appropriate administrator.

Tribal cultural interests are considered through NEPA, the National Historic Preservation Act (NHPA)²⁸ and the Native American Graves Protection and Repatriation Act (NAGPRA).²⁹ NEPA analysis will include social and cultural impacts and may require tribal consultation. Section 106 of the NHPA requires federal agencies to draw up inventories of historic properties on federal lands and lands subject to federal permitting, and to consult with interested parties and the State Historic Preservation Office.³⁰ NAGPRA imposes procedural requirements that apply to inadvertent discovery and intentional excavation of tribal graves and cultural items on federal or tribal lands.

iv Additional considerations

Not all federal lands are open to mineral entry, including national parks, national monuments, most Reclamation Act project areas, military reservations, wilderness areas, and wild and scenic river corridors. Project proponents should research mineral access when considering exploration activities on federal lands.

Federal mining laws do not require community engagement or corporate responsibility. Those projects that require NEPA review, however, will be subject to public notice and comment requirements, and the review will involve consideration of the project's cultural, societal and economic impacts. State laws may impose a 'public interest' standard for projects

^{28 54} USC Sections 300101 to 307108.

^{29 25} USC Sections 3001 to 3013.

^{30 54} USC Section 306108.

requiring state approval. For example, mining operations that require state water rights may need to show that the use of the water is in the public interest, which may include consideration of wildlife, fisheries and aquatic habitat values.

V OPERATIONS, PROCESSING AND SALE OF MINERALS

i Processing and operations

US mining laws do not restrict or limit imports of mining equipment or machinery. If the equipment has dual military-civilian use, it is on the Commercial Control List and may be licensable by the Department of Commerce pursuant to the Export Administration Regulations.³¹

Foreign employees are governed by general US immigration laws and are required to obtain a work visa or other authorisation. A limited number of visas are available for skilled workers, professionals and non-skilled workers, but these workers must be performing work for which qualified US workers are not available.³²

ii Sale, import and export of extracted or processed minerals

There are no restrictions or limitations on the sale, import or export of extracted or processed minerals, unless deemed a national security risk by the US Department of Homeland Security or State Department.

iii Foreign investment

US mining laws generally do not restrict or limit foreign investment. As discussed in Section III.ii, although there is a US citizenship requirement for obtaining locatable and leasable minerals on federal lands, foreign companies are free to rely on a US subsidiary to secure such rights.

Foreign investments are subject to US national security laws. The Committee on Foreign Investment in the United States, for example, is an inter-agency committee chaired by the Secretary of the Treasury that has authority to review foreign investments to protect national security and make recommendations to the President to block the same.³³ The President may exercise this authority if he finds that the foreign interest might take action that impairs national security, and other provisions of the law do not provide the President with appropriate authority to act to protect national security.³⁴

VI CHARGES

i Royalties

There are generally no royalties levied on the extraction of federally owned minerals, with the exception of fuel minerals and others governed by the Mineral Leasing Act. Many states,

^{31 15} CFR Sections 730.1, 774 Supp. No. 1.

^{32 8} USC Section 1153(b)(3)(C).

^{33 50} USC Section 4565.

^{34 50} USC Section 4565(d)(4).

however, charge royalties on mineral operations on state-owned lands and taxes that function like a royalty on all lands, such as severance taxes, mine licence taxes or resource excise taxes. These functional royalties can differ depending on land ownership and the minerals extracted.

ii Tax considerations

There are no federal taxes specific to mineral extraction (see above regarding state mining taxes as functional royalties). General federal, state, county and municipal taxes apply to mining companies, including income taxes, payroll taxes, sales taxes, property taxes and use taxes.

Federal tax laws generally do not distinguish between domestic and foreign mining operators. However, if a non-US citizen acquires real property, the buyer must deposit 10 per cent of the sale price in cash with the US Internal Revenue Service as insurance against the seller's income tax liability. The cash requirement can be problematic for a cash-strapped buyer that may have purchased the mine property with stock.

There are no federal tax advantages or incentives specific to mining.

iii Duties

There are no federal duties on minerals extraction.

iv Indemnification

Locatable minerals claimants must pay an annual maintenance fee of US\$155 per claim in lieu of performing assessment work required pursuant to the GML and the FLPMA.³⁵ Failure to perform assessment work or pay maintenance fees will open the claim to relocation by a rival claimant as if no location had been made.³⁶ Certain waivers and deferments apply.

Leasable minerals permittees and lessees must pay annual rent based on acreage. The rental rates differ by mineral and some rates increase over time.³⁷ Prospecting permits automatically terminate if rent is not paid on time; the BLM will notify late lessees that they have 30 days to pay.³⁸

State laws may also include closure and reclamation requirements, including water and air pollution controls, recontouring and revegetation, fish and wildlife protection, and reclamation bonding requirements. Mining projects often can address both federal and state requirements through a single closure and reclamation plan and financial guarantee.

Federal and state laws generally require financial guarantees prior to commencing operations to cover closure and reclamation costs. These reclamation bonds ensure that the regulatory authorities will have sufficient funds to reclaim the mine site if the permittee fails to complete the reclamation plan approved in the permit.

VII OUTLOOK AND TRENDS

The US minerals industry is showing positive trends. Both non-fuel and metal mineral production increased in 2017. The US Geological Survey forecasts that 2017 growth rates indicate strength in primary metals industry activity, and near-term strength in the

^{35 43} CFR Sections 3834.11(a), 3830.21.

^{36 43} CFR Section 3836.15.

^{37 43} CFR Section 3504.15.

^{38 43} CFR Section 3504.17.

non-metallic mineral products industry. According to the National Mining Association's US Coal Production Trends, US coal production increased slightly in 2017. However, the US Energy Information Administration projects decreases in coal production until 2022 because of retirements of coal-fired electricity generating capacity and competitive pricing from natural gas and renewables, and that subsequently, under the Clean Power Plan, coal production is projected to decrease to 629 million short tons by 2030 and to decline gradually thereafter. However, the outlook for coal may be affected by the Trump administration's efforts to replace the Clean Power Plan.

Note

Authors' biographies will be listed in Appendix 1 of the book in strict alphabetical order.

KAROL KAHALLEY

Holland & Hart LLP

Karol Kahalley has been a mining and Indian law attorney with the firm of Holland & Hart, LLP in Denver, Colorado for over 20 years. As a leading expert on US mining law, Ms Kahalley has successfully represented clients in acquiring mineral properties and developing mining operations throughout the United States, including on tribal lands. Her work includes hard rock minerals, oil and gas, oil shale, potash, uranium, coal, rare earth minerals, aggregates, and geothermal resources. She is a recognised expert on the creation and interpretation of mining royalties.

Ms Kahalley has been a lecturer and has published numerous articles for the Rocky Mountain Mineral Law Foundation. She is an adjunct professor at the University of Denver College of Law in international mining law and policy.

ERICA K NANNINI

Holland & Hart LLP

Erica Nannini is an associate in the energy, environment and natural resources practice group of Holland & Hart, LLP in Reno, Nevada. Ms Nannini advises clients in the natural resources and mining industries on a range of disputes and regulatory issues involving public lands. Ms Nannini also works on a variety of other regulatory issues, including public utilities, water law and geothermal resources.

KRISTIN A NICHOLS

Holland & Hart LLP

Kristin Nichols is an associate in the energy, environment and natural resources practice group of Holland & Hart, LLP in Denver, Colorado. Ms Nichols advises clients on a wide variety of natural resource issues, including energy development on federal, state and tribal lands, regulatory compliance and public land use litigation. She represents natural resource clients in appeals to federal district court and federal administrative boards, including the Interior Board of Land Appeals.

HOLLAND & HART LLP

Denver Tech Center 6380 South Fiddlers Green Circle Suite 500 Greenwood Village Colorado 80111 United States

Tel: +1 303 290 1600 Fax: +1 303 290 1606 kkahalley@hollandhart.com kanichols@hollandhart.com

5441 Kietzke Lane Suite 200 Reno Nevada 89511 United States Tel: +1 775 327 3000 eknannini@hollandhart.com

www.hollandhart.com