



This is the 1st affidavit of
D. Chambers in this case
and was made on November 1, 2024

No. S-248097
Vancouver Registry

IN THE SUPREME COURT OF BRITISH COLUMBIA

BETWEEN:

**SKII KM LAX HA, also known as Darlene Simpson, also known as Chief Simpson,
on behalf of herself and, in her capacity as TSETSAUT SKII KM LAX HA HEREDITARY
CHIEF, on behalf of all members of the TSETSAUT SKII KM LAX HA NATION**

PETITIONERS

AND:

**THE CHIEF EXECUTIVE ASSESSMENT OFFICER,
THE MINISTER OF ENVIRONMENT AND CLIMATE CHANGE STRATEGY, and
THE MINISTER OF INDIGENOUS RELATIONS AND RECONCILIATION,
on behalf of HIS MAJESTY THE KING IN RIGHT OF
THE PROVINCE OF BRITISH COLUMBIA**

RESPONDENTS

AFFIDAVIT #1 OF DAVID CHAMBERS

I, David Chambers, Ph.D. P. Geog., whose primary workplace address is 224 North Church Avenue, in Bozeman, state of Montana, 59715, AFFIRM THAT:

1. I have personal knowledge of the facts herein deposed by me, except where stated to be based upon information and belief, in which case I have stated the source of the information and that I verily believe the same to be true.
2. I am the founder and president of the Center for Science in Public Participation, a non-profit corporation formed to provide technical assistance on mining and water quality to public interest groups and Indigenous governments.
3. I have 45 years of experience in mineral exploration and development. That experience includes 15 years of technical and management experience in the mineral exploration industry

and, for the past 30+ years, I have served as an advisor on the environmental effects of mining projects both nationally and internationally.

4. I have a Professional Engineering Degree in physics from the Colorado School of Mines, a Master of Science Degree in geophysics from the University of California at Berkeley (“**Berkeley**”), and I am a registered professional geophysicist in California (# GP 972). I received my Ph.D. in environmental planning at Berkeley. My recent research focuses on tailings dam failures, the intersection of science and technology with public policy and natural resource management, financial assurance for mine closure and post-closure, and the water impacts of mining.

5. I attach as **Exhibit “A”** to this affidavit a true copy of my curriculum vitae.

6. I am familiar with Kerr-Sulphurets-Mitchell (“**KSM**”) Project in northwestern British Columbia, owned by Seabridge Gold Inc. and its subsidiary KSM Mining ULC. I submitted Comments to the Environmental Assessment Office on the KSM Project Environmental Impact Statement in October 2013, including comments on the tailings dams. I also submitted an expert opinion that included a thorough discussion of the KSM mine in a petition to the Inter-American Commission on Human Rights in July 2020, on behalf of the Southeast Alaska Indigenous Transboundary Commission (SEITC), regarding B.C. mines, including the KSM mine. I have continued to monitor published changes to the KSM project, especially to the tailings dams, at the request of several Alaska tribal governments, and conservation groups.

7. In October 2024, I was asked by Ryan Beaton, legal counsel for the Tsetsaut Skii km Lax Ha Nation to briefly state my opinion, from the perspective of my expertise on the mining industry as described in the previous paragraphs, on the size of the proposed tailings facilities for the KSM Project relative to the size of tailings facilities for other mining projects in North America. I understand that the size of the proposed tailings facilities for the KSM Project might be relevant to assessing the potential impacts of those tailings facilities in litigation currently being contemplated.

8. In the following paragraphs, I briefly provide my opinion in response to the request from Mr. Beaton. I am aware that, in providing my opinion, my duty is to assist the court and is not to be an advocate for any party. I have given my opinion in conformity with that duty. If called on to give oral or written testimony, I will give that testimony in conformity with that duty.

9. Based on my experience and expertise with mining projects and the mineral exploration industry, as well as my knowledge of the KSM Project, I believe that the proposed Tailings Management and Processing facilities for the KSM Project, as described in the KSM (Kerr-Sulphurets-Mitchell) Prefeasibility Study and Preliminary Economic Assessment, NI 43-101 Technical Report, Seabridge Gold, Effective Date: August 8, 2022, would be one of the largest tailings facilities in North America. I have accessed the KSM (Kerr-Sulphurets-Mitchell)

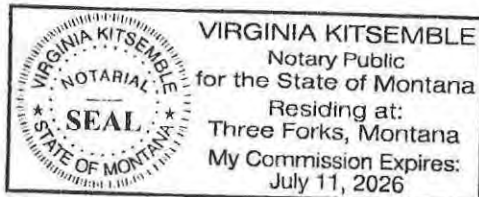
Prefeasibility Study and Preliminary Economic Assessment, NI 43-101 Technical Report at the following link: <https://ucarecdn.com/ebca9968-b874-4238-bd20-72bc9468c56d/1KSM20220808KSMPFSPEAFINALsml.pdf>.

10. To give an intuitive sense of the scale of the proposed Tailings Management and Processing facilities for the KSM Project, a diagram was created comparing the height of the proposed KSM Southeast Dam and Tailings Reservoir, with well-known landmarks, including the Hoover Dam and the Chrysler Building. The diagram was created by a group working on the Pebble Mine in Alaska, but also shows the relative height of the largest dam at KSM. I received a copy of the diagram from members of the group that created the diagram and I find that the diagram accurately represents the size of the proposed KSM Southeast Dam and Tailings Reservoir. I attach as **Exhibit "B"** to this affidavit a true copy of that diagram.

AFFIRMED BEFORE ME at
Bozeman, Montana *by David Chambers*
on November 1, 2024.

Virginia Kitsemble
Notary Public

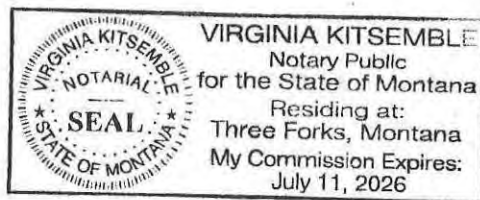
David Chambers
David Chambers



This is **Exhibit "A"** referred to in the Affidavit #1 of David Chambers,
affirmed before me in the City of Bozeman, in the State of Montana, United States,
on this 1st day of November, 2024



Notary Public



CENTER for SCIENCE in PUBLIC PARTICIPATION

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Dr. Chambers is the president of the Center for Science in Public Participation, a non-profit corporation formed to provide technical assistance on mining and water quality to public interest groups and tribal governments.

David Chambers has 45 years of experience in mineral exploration and development – 15 years of technical and management experience in the mineral exploration industry, and for the past 32 years he has served as an advisor on the environmental effects of mining projects both nationally and internationally. He has Professional Engineering Degree in physics from the Colorado School of Mines, a Master of Science Degree in geophysics from the University of California at Berkeley, and is a registered professional geophysicist in California (# GP 972). Dr. Chambers received his Ph.D. in environmental planning from Berkeley. His recent research focuses on tailings dam failures, and the intersection of science and technology with public policy and natural resource management.

Dr. Chambers has been involved with the formation of the Initiative for Responsible Mining Assurance (IRMA), and was instrumental in developing the environmental and reclamation & closure parts of the IRMA Standard. He is a frequent peer reviewer for several international publications, as well as reviewer of science & research informing further development of Natural Resource Canada's MEND (Mine Environmental Neutral Drainage) Program. Dr. Chambers has been a member of the federally chartered US Extractive Industries Transparency Initiative, the University of Alaska-Fairbanks School of Mineral Engineering Advisory Board; a member of the Western Governors' Association Abandoned Mine Waste Working Group; and, a member of the EPA's RCRA Policy Dialogue Committee, a group of industry, environmental and government representatives who worked to develop regulations for mining wastes under the authority of RCRA Subtitle D.

He has provided technical assistance to public interest groups and tribal governments on proposed, operating, and abandoned mines in Alaska, Arizona, California, Colorado, Idaho, Michigan, Minnesota, Missouri, Montana, Nevada, Oregon, South Carolina, South Dakota, Utah, Washington, Wisconsin, Canada (British Columbia, Ontario, Labrador, and the Yukon), Kyrgyzstan, and Northern Ireland. This assistance has included review of environmental impact studies and reclamation plans for underground and open pit mine design, seismic stability for tailings dams, waste rock facilities design, water quality monitoring, water treatment facility design, reclamation planning, and financial assurance for mine closure. He has also played a key role in efforts by the mining industry and NGOs to research and regulate marine mine waste disposal, and a joint industry-NGO international effort to develop a process to define and measure performance for responsible mining practices.

He is also a retired Navy Captain (O-6), a Naval Flight Officer with two Vietnam carrier combat cruises and over 30 years of military service.

Education:

University of California, Berkeley Doctor of Philosophy - Environmental Planning	May 1985
University of California, Berkeley Master of Science - Geophysics	June 1976
Colorado School of Mines, Golden, Colorado Mineral Engineer - Physics	May 1969

Working Affiliations:

- US Extractive Industries Transparency Initiative, chartered under the Department of Interior during the Obama administration, but disbanded by the Trump administration in 2017.
- International Conference on Acid Rock Drainage (ICARD), technical paper referee for 2012 conference.
- International Network on Acid Production (INAP) – Global Acid Rock Drainage (GARD) Guide Advisory Committee, 2009
- University of Alaska, Fairbanks, School of Mineral Engineering Advisory Board (1994-2001)
- Department of Energy - Integrated Non-Thermal Systems Review - Tribal and Stakeholder Working Group (1995-1996)
- Western Governors' Association Mine Waste Working Group (1993-1995)
- Alaska Minerals and Energy Education Program - Executive Review Committee (1992-1995)
- EPA Policy Dialog Committee on Mining Waste (1991-1992)
- United States Navy (1970-2000), Naval Flight Officer, Captain (O-6, Reserve-retired)

PUBLICATIONS, PRESENTATIONS, PROFESSIONAL REPORTS, TESTIMONY

DAVID M. CHAMBERS, Ph.D., P. Geop.

PUBLICATIONS / PAPERS

- [“Environmental impact assessments should include rigorous scientific peer review”](#), Hughes, R.M., Chambers, D.M., et al., Water Biology and Security, April 27, 2024
- [“Risks of mining to salmonid-bearing watersheds, Science Advances,”](#) Christopher J. Sergeant, Erin K. Sexton, Jonathan W. Moore, Alana R. Westwood, Sonia A. Nagorski, Joseph L. Ebersole, David M. Chambers, Sarah L. O’Neal, Rachel L. Malison, F. Richard Hauer, Diane C. Whited, Jill Weitz, Jackie Caldwell, Marissa Capito, Mark Connor, Christopher A. Frissell, Greg Knox, Erin D. Lowery, Randal Macnair, Vicki Marlatt, Jenifer K. McIntyre, Megan V. McPhee, Nikki Skuce, Sci. Adv., 8 (26), eabn0929. DOI: 10.1126/sciadv.abn0929, July 1, 2022
- [“Safety First, Guidelines for Responsible Mine Tailings Management,”](#) Morrill, J., Chambers, D., Emerman, S., Harkinson, R., Kneen, J., Lapointe, U., Maest, A., Milanez, B., Personius, P., Sampat, P., and Turgeon, R., Earthworks, MiningWatch Canada and London Mining Network, May 2022
- [“Investigation and Documentation of Acidic Mining Exploration Drill Cuttings at the Pebble Copper–Gold Mineral Prospect, Southwest Alaska,”](#) David M. Chambers and Kendra Zamzow, International Research in Environment, Geography and Earth Science Vol. 5, Chapter 6, 2020, Print ISBN: 978-93-90431-12-0, eBook ISBN: 978-93-90431-20-5
- [“Examining the Potential Impacts to Wetlands and Water Bodies Due to Mineral Exploration, Pebble Copper-Gold Prospect, Southwest Alaska,”](#) Kendra Zamzow and David M. Chambers, International Research in Environment, Geography and Earth Science Vol. 5, Chapter 7, 2020, Print ISBN: 978-93-90431-12-0, eBook ISBN: 978-93-90431-20-5
- [“Canada’s mines pose transboundary risks,”](#) Erin K. Sexton, Christopher J. Sergeant, Jonathan W. Moore, Alana R. Westwood, David M. Chambers, Megan V. McPhee, Sonia A. Nagorski, Sarah L. O’Neal, Jill Weitz, Adrienne Berchtold, Marissa Capito, Christopher A. Frissell, Jennifer Hamblen, F. Richard Hauer, Leslie A. Jones, Greg Knox, Randal Macnair, Rachel L. Malison, Vicki Marlatt, Jennifer McIntyre, Nikki Skuce, Diane C. Whited, SCIENCE, sciencemag.org, 24 April 2020 • Vol 368 Issue 6489.
- [“The Increasing Number of Tailings Facility Failures: Navigating the Decade 2020-2029,”](#) David M. Chambers, Canadian Dam Association 2019 Annual Conference, Calgary, AB, Canada, October 7, 2019
- [“Potential Impacts to Wetlands and Water Bodies Due to Mineral Exploration, Pebble Copper-Gold Prospect, Southwest Alaska,”](#) Kendra Zamzow and David M. Chambers, Environments 2019, 6, 84; doi:10.3390/environments6070084, July 19, 2019
- [“Documentation of Acidic Mining Exploration Drill Cuttings at the Pebble Copper–Gold Mineral Prospect, Southwest Alaska,”](#) David M. Chambers and Kendra Zamzow, Environments 2019, 6, 78; doi:10.3390/environments6070078, July 4, 2019
- [“In the Dark Shadow of the Supercycle Tailings Failure Risk & Public Liability Reach All Time Highs,”](#) Lindsay Newland Bowker, David M Chambers, MDPI Journal Environments 2017, 4, 75; doi:10.3390/environments4040075, October 21, 2017
- [“Mine Tailings Storage: Safety Is No Accident,”](#) Roche, C., Thygesen, K., Baker, E., Bastos, A., Bernaudat, L., Blyth, S., Sharon Brooks, S., Chambers, D., Coumans, C., Deguignet, M., Fourie, A.,

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DAVID M. CHAMBERS, Ph.D., P. Geop.

Lottermoser, B., McLellan, B., Phillips, J., Reinhardt, W., Valix, M. Wisdom, T. A UNEP Rapid Response Assessment. United Nations Environment Programme and GRID-Arendal, Nairobi and Arendal, www.grida.no, November, 2017, ISBN: 978-82-7701-170-7

[“Independent investigation of reclamation at exploration drill holes at the remote Pebble copper prospect, Alaska,”](#) Kendra Zamzow and David M Chambers, Proceedings of the 13th International Mine Water Association Congress, 2017

[“Root Causes of Tailings Dam Overtopping: The Economics of Risk & Consequence,”](#) Lindsay Newland Bowker and David M. Chambers, Protections 2016, Colorado State University, 8Sep16

[“Post-Mount Polley Tailings Dam Safety in Transboundary British Columbia,”](#) David M. Chambers, On behalf of Earthworks, Rivers Without Borders, MiningWatch Canada, Southeast Alaska Conservation Council, Inland Passage Waterkeeper, Friends of the Stikine Society, David Suzuki Foundation, Sierra Club BC, Pacific Wild, Skeena Wild, Watershed Watch Salmon Society, Canadian Parks and Wilderness Society, Clayoquot Action, and the Wilderness Committee, March 2016.

[“AFS Position Paper and Policy on Mining and Fossil Fuel Extraction,”](#) Robert M. Hughes, Felipe Amezcua, David M. Chambers, Wesley M. Daniel, James S. Franks, William Franzin, Donald MacDonald, Eric Merriam, George Neall, Paulo dos Santos Pompeu, Lou Reynolds & Carol Ann Woody, Fisheries, Vol. 41, No. 1, January 2016

[“The Risk, Public Liability, & Economics of Tailings Storage Facility Failures,”](#) Lindsay Newland Bowker and David M Chambers, Northern Latitudes Mining Reclamation Workshop, Sep 2015

[“A Review of the Report on Mount Polley Tailings Storage Facility Breach, Independent Expert Engineering Investigation and Review Panel,”](#) David M Chambers, Feb15

[“Long-Term Risk of Tailings Dam Failure,”](#) David M Chambers, Alaska Park Science, Volume 13, Issue 2, National Park Service, Department of Interior, Anchorage, AK, pp. 54-59, December, 2014

[“Options for Defining Environmental “Go/No-Go” Zones for Mines,”](#) David Chambers, 2Jan14

[“Long Term Risk of Releasing Potentially Acid Producing Waste Due to Tailings Dam Failure,”](#) David M Chambers, Proceedings of the 9th International Conference on Acid Rock Drainage (ICARD 2012), Ottawa, ON, May, 2012

[Bristol Bay’s Wild Salmon Ecosystems and the Pebble Mine: Key Considerations for a Large-Scale Mine Proposal,](#) David Chambers, Robert Moran, Lance Trasky, produced in partnership by Wild Salmon Center and Trout Unlimited, January, 2012

[“Long-Term Risks of Tailings Dam Failure,”](#) Chambers, D. M., and B. Higman, Center for Science in Public Participation, Bozeman, MT, (letter peer review by USEPA), October, 2011

[“Perpetual Water Treatment for Mines,”](#) David M Chambers, Water Today, Volume 3, Issue 4, August, 2010, pp. 58-59.

Brief of Amici Curiae in Support of Southeast Alaska Conservation Council v. Coeur Alaska and the State of Alaska, in the Supreme Court of the United States, Nos. 07-984, 07-990; Chambers, D; Coumans, C; and, Woody, C.A., November, 2008.

[“Pebble Mine Engineering Geology Considerations,”](#) Center for Science in Public Participation, David Chambers, September, 2007.

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DAVID M. CHAMBERS, Ph.D., P. Geop.

"Alaska Large Mine Reclamation Bonding – 2005," David M Chambers, Proceedings of the Billings Land Reclamation Symposium, Billings, MT, June, 2006.

Framework for Responsible Mining: A Guide to Evolving Standards, Marta Miranda, David Chambers, and Catherine Coumans, October 19, 2005.

"The Costs of Mining: Underwriting Mine Closure Risk," David M. Chambers, in The Corporate Ethics Monitor, Volume 17, Issue 1, January-February 2005 Published by Ethicscan Canada Limited

"Some Environmental Concerns with Small Scale Mining," David M Chambers, in the Centre for Resource Studies, Queen's University, CRS Perspectives, Number 52, January 1996, p. 13-14.

"An ElectroMagnetic Array Profiling (EMAP) Case Study," D.R. Word, R. Goss, and D.M. Chambers, 1986 Technical Abstracts, Society of Exploration Geophysicists, Tulsa, Oklahoma.

"Mineral Potential Hidden Under Resource Allocation Conflicts," David M Chambers, in Forest Planning, vol. 6, no. 3, June 1985, p. 11-15.

The Use of Mineral Resource Information for Minerals Planning on National Forest Lands, David M Chambers, Ph.D. Dissertation, U.C. Berkeley, May 85

"Government Agencies Face Dilemma in Mineral Resource Planning," David M Chambers, in American Planning Association Northern News, vol.5, no. 14, Nov/Dec 1984.

Planners Guide to Geothermal Development in California, W.S. Yen, D.M. Chambers, et al., Lawrence Berkeley Laboratory, Sep. 1980.

EXPERT WITNESS & TESTIMONY

2020

Chambers Testimony on Back Forty Mining Permit Amendment, on behalf of the Menominee Indian Tribe of Wisconsin, before State of Michigan Administrative Hearing System, October 5, 2020

2019

Expert Witness testimony at the State of Michigan hearing on the wetland permit for the Aquila Back Forty Mine, in Lansing, MI, June 6, 2019

Expert Affidavit on 'Professional Opinion on the site selection for the Ash Disposal Site for the proposed Khanyisa Power Station Project, Emalahleni, Mpumalanga, South Africa' for Earthjustice, June 27, 2019

2017

Testimony before the Montana House Natural Resources in support of Montana House Bill 593, Helena, Montana, 20Mar17.

Testimony in support of Alaska House Joint Resolution 9 before the Alaska House Fisheries Committee by phone, 6Apr17.

2013

Testimony before the Maine Joint House/Senate Standing Committees, Environment and Natural Resources on the Environmental Impact of Hardrock Mining, Augusta, ME, 24Apr13

PUBLICATIONS, PRESENTATIONS, PROFESSIONAL REPORTS, TESTIMONY

DAVID M. CHAMBERS, Ph.D., P. Geop.

2012

Expert Witness in Wisconsin Resources Protection Council, Center for Biological Diversity, and Laura Gauger, Plaintiffs, v. Flambeau Mining Company, Defendant, Case No. 11-cv-45, in the United States District Court for the Western District of Wisconsin, Madison, WI, 20Mar12

Expert Witness Testimony, before the Water Quality Appeals Board, Department of Administration, State of Arizona, Gregory C. and Carol A. Shinsky, Appellants, versus the Department of Environmental Quality, Phoenix, AZ, 20Sep12

Testimony before the Alaska Senate Judiciary Committee, in Juneau, on the viability of restoring the geology/hydrology of groundwater flow during reclamation for the proposed Chuitna Coal mine, 2Mar12

2011

Expert Report on Water Quality Violations at the Flambeau Mine, 10Oct11;

Expert Report on Potential Mitigation Measures for the Water Discharge at the Flambeau Mine, 24Feb12; and Deposition in Madison, WI, 20Mar12.

2010

Testimony in The Superior Court for the State of Alaska, Third Judicial District, at Anchorage, Nunamta Aulukestai, et al., Plaintiffs, vs. State of Alaska, Department of Natural Resources, Defendant, and Pebble Limited Partnership, Intervenor-Defendant, Case No.: 3 AN-09-09173 CI, December 8-9, 2010

2008

Testimony before a Joint Panel of the Minnesota Legislature (the House Environment and Natural Resources Finance Division; the House Higher Education and Work Force Development Policy and Finance Division; the Senate Environment, Energy and Natural Resources Budget Division; and the Senate Economic Development Budget Division) on sulfide mining, in St. Paul, MN, 25Jan08

Provide technical comment to HB134 on the definition of a “sulfide ore body” before the Alaska House Special Committee on Fisheries, by teleconference, Monday, February 18, 2008

2003

Testimony to the Yukon Water Board on the applicability of a requested change for selenium in the Water License for the Brewery Creek Mine, in Whitehorse, Yukon, 24 Nov 03.

PROFESSIONAL REPORTS

2023

CSP2 Memorandum on Idaho-Maryland FEIR Response to Comments, 12Apr23

Comments on the Draft Supplemental Environmental Impact Statement (DSEIS) for the Greens Creek North Extension Project, to the US Forest Service, 22May23

Comments on Palmer Project Glacier Creek Exploration Application Amendment, APMA J20195690#1, to the Alaska Department of Natural Resources, 1Jun23

PUBLICATIONS, PRESENTATIONS, PROFESSIONAL REPORTS, TESTIMONY

DAVID M. CHAMBERS, Ph.D., P. Geop.

Comments on Draft APDES Permit for the Pogo Mine, to the Alaska Department of Environmental Conservation, 18Aug23

Comments on the Ambler Road Draft Supplemental Impact Statement, to the Bureau of Land Management, 8Dec23

2022

Comments on APDES DRAFT PERMIT AK0053708 – Niblack Project, LLC – BlackWolf Copper and Gold LTD, to the Alaska Department of Environmental Conservation, 4Mar22

Comments on the Draft EIR for the Idaho-Maryland Mine Project, to the Nevada County Planning Department, 11Mar22

Comments on the 2022 Kensington Mine Reclamation and Closure Plan, to the Alaska Department of Environmental Conservation, 28May22

Peer review of “The Use of the Silva-Lambe-Marr Method for Estimating the Annual Probability of Failure of the Tailings Dams at the Copper Mountain Mine, British Columbia, Canada”, Steven H. Emerman, Draft of June 9, 2022, reviewed for Conservation Northwest and the Colville Confederated Tribes, 16Jun22

Comments on the East Boulder Mine Lewis Gulch TSF and Dry Fork Waste Rock Storage Area, to the Custer-Gallatin National Forest, 15Jul22

Comments on the Hazelwood Mine, Australia, Closure Proposal, prepared for Earthjustice International Program and Environmental Justice Australia, 26Jul22

Technical comments on the proposed Jadar Lithium Project, prepared for Mars sa Drine, Serbia, 5Aug22

Comments on Management Pond Dams on the BC EAO EAC Tenas Project Application, provided to What Matters In Our Valley, Telkwa, British Columbia, 15Aug22

Expert Responses to the Submissions of Canada and British Columbia on Admissibility, David M. Chambers, to the Inter-American Commission on Human Rights, on behalf of the Southeast Alaska Indigenous Transboundary Commission and Earthjustice, November 4, 2022

Stibnite Gold Project Supplemental Draft Environmental Impact Statement, submitted to the US Forest Service at the request of the Idaho Conservation League and American Rivers, 29Dec22

2021

Comments on the Rosemont Copper World Project, Arizona Mined Land Reclamation Plan, for Save the Scenic Santa Ritas, 13Oct21

Technical review of the NI 43-101 Technical Report on the Rovina Valley Project in Romania, for Declic Association, 18Oct21

2020

Potential litigation issues for the Black Butte FEIS, for Trout Unlimited, 8May20

Mount Polley Disaster — Six Years Later is B.C. Any Safer?, First Nations Energy and Mining Council, July 2020, <http://fnemc.ca/mining/>

PUBLICATIONS, PRESENTATIONS, PROFESSIONAL REPORTS, TESTIMONY

DAVID M. CHAMBERS, Ph.D., P. Geop.

Significant Omissions in the Pebble Project EIS Final Environmental Impact Statement, submitted to the U.S. Army Corps of Engineers, Alaska District, August 19, 2020

Comments on the Stibnite Gold Project Draft Environmental Impact Statement, to the Payette National Forest, 8Oct20

Scoping comments for the Greens Creek Mine North Extension Project SEIS, to the USFS, Tongass National Forest, 20Nov20

2019

Comments on Twin Metals Lease EA, to the Bureau of Land Management, for Save the Boundary Waters, 17Jan19

Comments on the Back Forty Amended Mining Permit Application, for Upper Peninsula Environmental Coalition Mining Action Group, Kendra Zamzow and David Chambers, 7Feb19

Black Butte DEIS Comments, to the Montana Department of Environmental Quality, at the request of Montana Trout Unlimited, Trout Unlimited, Earthworks, American Rivers, and Montana Environmental Information Center, May 1, 2019

Comments on Constantine Integrated Waste Management Permit No. 2019DB0001, to the Alaska Departments of Natural Resources and Environmental Conservation, May 14, 2019

Comments on the Pebble Mine Draft Environmental Impact Statement, to the US Army Corps of Engineers, May 20, 2019

Flambeau Mine: Water Contamination and Selective “Alternative Facts”, Robert E. Moran, Ph.D., May 2019 (posthumous), David M Chambers, editor

Request to Informally Review DEC’s decision to issue Waste Management Permit 2019DB0001 for the Palmer Project, David M Chambers, 2Aug19

Comments on Resolution Copper Draft EIS, for the San Carlos Apache Tribe and Arizona Mining Reform Coalition, 28Oct19.

Comments on the Draft Global Tailings Standard, to the Global Tailings Review, 30Dec19

2018

Potential for Acid Mine Drainage in the Duluth Complex Magmatic PGE Deposits, 16Feb18

Alaska & Transboundary Rivers Summary, report for Edgerton Foundation, 22Feb18

PolyMet Mining, Permit to Mine Application, NorthMet Project, 23Feb18

Professional Opinion on the site selection for the Ash Disposal Site for the proposed Khanyisa Power Station Project, Emalahleni, Mpumalanga, South Africa, 21Mar18

Feasibility Studies for Alaska Mines, Background Paper, David Chambers and Stuart Levit, 28Mar18

Expert Opinion on the Impacts of British Columbia-Alaska Mining, for Earthjustice, 18Apr18

Comment on the Environmental Protection Agency Proposed Rule: Clean Water Act Coverage of Discharges of Pollutants via a Direct Hydrologic Connection to Surface Water, April 24, 2018

PUBLICATIONS, PRESENTATIONS, PROFESSIONAL REPORTS, TESTIMONY

DAVID M. CHAMBERS, Ph.D., P. Geop.

Important Recommendations Missing in the Changes to the Health, Safety and Reclamation Code for Mining in British Columbia, David M Chambers, Center for Science in Public Participation, June 6, 2018

Comments on Department of the Army Pebble Mine Permit Application POA-2017-271 Scoping, June 22, 2018

Responses to Board Questionnaire Regarding the Metallic Mine Backfill Regulations, Stuart M. Levit & David M. Chambers, 11 July 2018

Regulatory & Industry Response to Mt Polley Expert Panel Recommendations, for 30Jul18

Comments on the Donlin Gold Project Draft Reclamation Plan Approval, to the Alaska Department of Natural Resources, 2Aug18

Comments on Blackwater Gold Project Draft Environmental Assessment, to the Canadian Environmental Assessment Agency, for Salmon Beyond Borders, 11Dec18.

2017

Comments on Preliminary Draft Permit AK0053341, Pogo Mine, to the Alaska Department of Environmental Conservation, 9Feb17

Comments on MEND Tailings Study Version 2, for MiningWatch Canada, 14Apr17

Comments on IPRP Report Clinton Creek, for Tr'ondëk Hwëch'in First Nation, 20Apr17

Analysis of Cemented Paste Backfilling at Rock Creek and Montanore, for Earthworks, 7Aug17

Report on Sisson Project Consistency with Mt Polley Expert Panel Recommendations, for MiningWatch Canada, 11Aug17

Comments on MEND Tailings Study Version 3, for MiningWatch Canada, 20Sep17

Submissions on groundwater impact analysis of the Central Queensland Coal Project, 5Dec17

2016

Review of the Cemented Tailings Facility seepage, and the proposal for Land Application of Treated Effluent for the Black Butte Copper Project, for Montana Trout Unlimited, 22Jan16

Review of the Casino Mine Supplemental Information Report B, for the Tr'ondëk Hwëch'in Government, 26Jan16

Comments on the Draft Environmental and Socio-economic Effects Statement Guidelines for the Casino Mine, for the Tr'ondëk Hwëch'in Government, 14Apr16

Comments on the Rock Creek Mine Draft Supplemental Environmental Impact Statement, Zamzow & Chambers, for Earthworks and the Rock Creek Alliance, 18Apr16

Comments on Sisson Project Comprehensive Study Report, to the Canadian Environmental Assessment Agency, for Conservation Council of New Brunswick, 4May16

Comments on the Draft Environmental Assessment Palmer Exploration Project Constantine North, Inc., to the Bureau of Land Management, Glennallen, Alaska, Field Office, 23May16

PUBLICATIONS, PRESENTATIONS, PROFESSIONAL REPORTS, TESTIMONY

DAVID M. CHAMBERS, Ph.D., P. Geop.

Comments on the Donlin Mine Draft Environmental Impact Statement, to the Army Corps of Engineers, Zamzow and Chambers, 24May16

Comments on the Proposed Amendment to the Environmental Assessment Certificate #M05-02 granted to Red Chris Development Company Ltd. (Proponent) on August 24, 2005, to British Columbia Environmental Assessment Office, 7Jul16

Resolution Copper EIS Scoping Comments, to US Forest Service for Arizona Mining Reform Coalition, 8Jul16

Comments on the Code Review Changes to Part 10, Mine Health Safety and Reclamation Code for Mines in British Columbia, to the British Columbia Ministry of Energy and Mines, on behalf of the Sierra Club of BC and Northern Confluence, 9Aug16

Comments on the Red Dog Mine Reclamation Plan and Financial Assurance Calculations, to the Alaska Department of Natural Resources, 12Sep16

Investigation of Reclaimed Drill Sites, Pebble Prospect, 2016, Kendra Zamzow and David Chambers, 3Nov16

Comments on the Code Review Changes to Part 10, Mine Health Safety and Reclamation Code for Mines in British Columbia, 30Sep16

Lucky Minerals Exploration Draft Environmental Assessment Comments, to Montana Department of Environmental Quality, for Greater Yellowstone Coalition, 12Nov16

2015

Comments on the Draft Permit GP POA 2014-55 Mechanical Placer Mining Activities within the State of Alaska, to the Army Corps of Engineers, 12Jan15

Comments on Preliminary Draft Permit AKG370000 Mechanical Placer General Permit, to the Alaska Department of Environmental Conservation, 6Feb15

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Comments on the Rasmussen Valley Draft EIS, to the BLM Pocatello Field Office, for the Greater Yellowstone Coalition, 2Nov15

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2011

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2022

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NGO/communities in Philippines Reclamation Workshop, Initiative for Responsible Mining Assurance (IRMA), Zoom meeting, 23Oct21

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2019

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2018

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2017

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2016

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Presentation on Tailings Dam Overtopping at Protections 2016, Colorado State University, Ft Collins, CO, 8Sep16

Presentation on Tailings Dam Failures, Western Mining Action Network Meeting, San Carlos, AZ, 19Nov16

2015

Presentation on “Expert Panel Report on the Mt Polley TSF Dam Failure,” for WMAN, teleconference, 17Mar15

Panel: Save Our Salmon and United Tribal Transboundary Working Group, “Stories & Science of Our Transboundary Rivers,” Juneau, AK, 3Apr15
Presentation on “Tailing Dam – Types & Lessons,” for the Takshanuk Watershed Council, Haines, AK, 7Apr15

Presentation on “Tailing Dam – Types & Lessons,” for the Takshanuk Watershed Council, Klukwan, AK, 8Apr15

Panel: InfoMine Mine Water Solutions Conference, Vancouver, BC, "Bridge Over Troubled Waters" - Technical / Community Information Divide, 14Apr15

Panel: “Prioritization and Best Available Techniques,” at Reclaiming the Sierra 2015 Conference, for The Sierra Fund, Sacramento, CA, 21Apr15

Presentation on “Standards for Responsible Mine Reclamation,” at Reclaiming the Sierra 2015 Conference, for The Sierra Fund, Sacramento, CA, 21Apr15

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Presentation: Tailings Dam Failure History, BIA Providers Conference Presentation – Anchorage, AK 3Dec15

2014

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2013

Presentation to the University of Alaska Fairbanks OLE! Course on Pebble Mine Technical Concerns, Anchorage, 7Mar13

Presentation to Lynn Canal Conservation on Alaska Large Mines, Haines, AK, 18Apr13

2012

Presentation on Alaska mining to the Alaska Conservation Foundation Board, in Seattle, WA, 2Feb12

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DAVID M. CHAMBERS, Ph.D., P. Geop.

Presentation on Chuitna Coal Reclamation, at the Silverbow Inn in Juneau, 1Mar12

Presentation at Western Alaska Interdisciplinary Science Conference, Dillingham, on Long Term Risk of Releasing Potentially Acid Producing Waste Due to Tailings Dam Failure, Dillingham, AK, 30Mar12

International Conference on Acid Rock Drainage (ICARD), Opening Plenary Panel Presentation, Ottawa, ON, 22May12

Session Chair, Social License, International Conference on Acid Rock Drainage (ICARD), Ottawa, ON, 23May12

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2011

Presentation on responsible mining at the invitation of the City and Borough of Juneau, AJ Mine Advisory Committee, Juneau, AK, 30Mar11

Presentation “Should Lakes be Used for Mine Waste Disposal?” at the American Fisheries Society annual meeting, Seattle, WA, 6Sep11

2010

Public Presentation on Responsible Large-Scale Mining: Global Perspectives at the Keystone Center Dialogue, December 3, 2010, University of Alaska Anchorage Consortium Library

Presentation on Pebble Mine to a joint meeting of the Senate Resources and House Fisheries Committees of the Alaska Legislature, Juneau, AK, 19Mar10.

2009

Public presentation on analyzing the impacts from mining at the Kasaan Mining Symposium, Craig, AK, 7May09

Presentation on titanium mining to the Yakutat Tlingit Tribal Council, 11May09

Presentation to the Kuskokwim River Watershed Council on “Standards and Guidelines for Responsible Mining, Aniak, AK, 7Aug09

Public presentation on Responsible Mining to the Minnesota Environmental Initiative Forum, St Paul, MN, 15Sep09

Presentation to the Alaska Board of Fisheries on Pebble Mine risks, Anchorage, AK, 5Dec09

Presentation to members of the Alaska Legislature in Juneau on the potential environmental impacts of the Pebble mine, 17Feb09

2008

Presentation on the Pebble mine at the Western Alaska Interdisciplinary Science Conference, University of Alaska Fairbanks, Dillingham Campus, 4Apr08

Presentation on the Pebble mine to the American Society of Fisheries, Alaska Chapter, in Anchorage, 29Oct08

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DAVID M. CHAMBERS, Ph.D., P. Geop.

Presentations (3) at Indigenous Environmental Network (IEN) meeting on Fond du Lac Reservation, MN, 19-21Nov08

2006

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"Alaska Reclamation Bonding 2005," Mine Environmental Neutral Drainage (MEND) Maritimes Workshop, Halifax, NS, 23May06.

"Alaska Reclamation Bonding 2005," Billings Land Reclamation Symposium, Billings, MT, 5Jun06.

"Long Term Water Quality Concerns at the Rock Creek and Big Hurrah Mines," public presentation in Nome, AK, 4Oct06.

"Alaska Reclamation Bonding 2005," National Orphaned/Abandoned Mines Initiative Workshop, Winnipeg, Manitoba, 26Oct06.

2005

"Alaska Reclamation Bonding 2005," EPA "Hard Rock 2006" Conference in Tucson, 14Nov06.

Presentations on Acid Mine Drainage to the Indigenous Mining Conference, Edmonton, AB, 28Jul05; and, on Financial Assurance for Mines, 29Jul05.

Presentation on Pebble mine to University of Alaska, School of Fisheries and Ocean Sciences, graduate seminar, Juneau, 16Sep05.

Public Meeting Presentation on Open Pit Mining and Pebble Mine in Homer, AK, 17Nov05

Presentation to The Nature Conservancy Alaska Board on the Pebble mine, Anchorage, AK, 18Nov05.

2003

Presentation to the City of Juneau Planning Commission on the Juneau Mining Ordinance, 22 Apr 03.

Presentation to the Non-Ferrous Metals Sustainable Development Production Working Group Meeting, Toronto, ON, 11 Mar 2002.

Panel Presentation to the Global Mining Initiative "Resourcing the Future" Conference Sub-Plenary Session on "Large Volume Wastes," Toronto, ON, 14 May 02.

Presentation to a general meeting of the Tr'ondëk Hwech'in First Nation on the potential cyanide and water quality impacts from the Brewery Creek Mine, in Dawson City, Yukon, 4 Jun 02.

2002

Resources For the Future Panel Presentation on "The Long-Run Availability of Minerals," Washington, DC, April 23, 2001.

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PUBLICATIONS, PRESENTATIONS, PROFESSIONAL REPORTS, TESTIMONY

DAVID M. CHAMBERS, Ph.D., P. Geop.

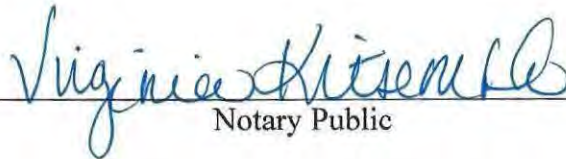
Presentation to the United Nations Environmental Program / International Council on Metals and the Environment Cyanide Management Code Steering Committee, Vancouver, BC, July 23, 2001.

Panel Presentation to the Montana Center for International Visitors Environmental Forum, Bozeman, MT, August 15, 2001.

2000

Panelist for an Issues Forum on “Toward the Zero-Discharge Mine,” Mining Millennium 2000, Toronto, Ontario, March, 2000.

This is **Exhibit "B"** referred to in the Affidavit #1 of David Chambers,
affirmed before me in the City of Bozeman, in the State of Montana, United States,
on this 1st day of November, 2024



Notary Public

