
Process Memorandum to File

Summary of Process Steps taken during Review of Alternative Mining Techniques

Disclaimer: This document is deliberative and is prepared by the third-party contractor in compliance with the national environmental policy act and other laws, regulations, and policies to document ongoing process and analysis steps. This document does not take the place of any line officer's decision space related to this project.

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Revision History

- July 31, 2019. Initial preparation of process memo.

Purpose of Process Memorandum

The purpose of this process memorandum is to detail the process steps undertaken during the alternatives development process, related to evaluation of alternative mining techniques.

Summary of Process Steps

Date	Process Step	Attendees
	Identification of alternative mining technique as a scoping comment to be addressed	
December 20, 2016	Alternatives development process planning meeting <ul style="list-style-type: none"> • Identified need for work to be done on alternative mining techniques, by Dr. Kliche 	USFS: Mark Nelson, Mary Rasmussen, Chris Crawford, MaryAnn Thomas, Judd Sampson SWCA: Chris Garrett, Charles Coyle, Chris Horyza, Donna Morey, Terry Chute RCM: Cameo Flood, Jim Butler, Vicky Peacey, Andrew Luke
January 27, 2017	Alternatives meeting. <ul style="list-style-type: none"> • Reviewed Community Working Group notes from 2013, including discussion of alternative mining techniques 	USFS: Mary Rasmussen, Christina Milos SWCA: Jill Grams, Chris Horyza, Meggan Dugan, Donna Morey, Chris Garrett, Charles Coyle RCM: None
March 23, 2017	Information interview with Resolution by Dr. Chuck Kliche	SWCA and subcontractors: Dr. Chuck Kliche RCM: Vicky Peacey, Bill Hart & Kim Huether
April 11-12, 2017	Alternatives development workshop <ul style="list-style-type: none"> • Included presentation on Day 1 by Dr. Kliche reporting out his interview with Resolution, and describing alternatives to block caving. 	USFS: Mary Rasmussen, Christina Milos, Greg Olsen, Ana Ingstrom, Peter Werner, Judd Sampson, Alex Mankin, Chad Harrold SWCA and subcontractors: Chris Garrett, Charles Coyle, Donna Morey, Terry Chute, Jill Grams, Meggan Dugan, Dr. Chuck Kliche, Mike Henderson, Nick Enos, Chris Horyza, Derek Hrubes, Elliot Matthews, Troy Meyer, Dr. Mark Williamson RCM: None

Date	Process Step	Attendees
May 3, 2017	Resolution Data Gaps / Data Validation work plan meeting <ul style="list-style-type: none"> • Discussion of a draft potential data request from Dr. Kliche to RCM 	USFS: Mary Rasmussen SWCA: Chris Garrett, Charles Coyle RCM: Heather Gluski, Victoria Peacy, Cameo Flood, Jim Butler Westland: Brian Lindenlaub, David Cerasale
May 26, 2017	Biweekly Management Meeting <ul style="list-style-type: none"> • Discussion of the draft potential data request, replaced with informal data request 	USFS: Mary Rasmussen, Christina Milos, John Scaggs, Chris Crawford SWCA: Chris Garrett, Charles Coyle, Donna Morey RCM: Vicky Peacey, Mary Morissette, Jim Butler, Cameo Flood
July 12, 2017	Biweekly Management Meeting <ul style="list-style-type: none"> • Decision to proceed with Dr. Kliche's work without RCM input 	USFS: Mary Rasmussen, John Scaggs, Judd Sampson, Chris Crawford SWCA: Chris Garrett, Charles Coyle, Donna Morey, Chris Horyza, Jill Grams RCM: Vicky Peacey, Mary Morissette, Cameo Flood, Jim Butler
July 5-6, 2017	Alternatives development workshop <ul style="list-style-type: none"> • Discussed Dr. Kliche's preliminary findings on alternative mining techniques 	USFS: Peter Werner [by phone], Ana Ingstrom [by phone], Mary Rasmussen, Christina Milos, Greg Olson, Judd Sampson, Chris Crawford, Alex Mankin SWCA and subcontractors: Chris Garrett, Chris Horyza, Terry Chute, Charles Coyle, DeAnne Rietz, Jill Grams, Meggan Dugan, Donna Morey, Victoria Boyne, Mike Henderson, Derrick Hrubes, Troy Meyer, Dr. Mark Williamson, Nick Enos RCM: None
July 7, 2017	Receipt of draft Technical Memorandum for Alternative Mining Methods from Dr. Kliche	

Date	Process Step	Attendees
August 03, 2017	Cooperating Agency alternatives meeting <ul style="list-style-type: none"> • Discussed preliminary findings on alternative mining techniques 	USFS: Mary Rasmussen SWCA: Chris Garrett, Donna Morey, Chris Horyza, Charles Coyle ADWR: Vinettha Kartha, Bret Esslin, Cory Hawkins AGFD: Dana Werneke, Natalie Robb ASLD: Joe Dixon, Bob Harding, Keenan Murray ASMI: Laurie Swartsbaugh BLM: Mike Werner EPA: Jeanne Geselbracht Pinal County: Mike Sunblom, Kale Walch RCM: None
September 14, 2017	Briefing of Forest Supervisor on alternatives development progress <ul style="list-style-type: none"> • Included rationale for considering and dismissing alternative mining techniques 	USFS: Lee Ann Atkinson, John Scaggs, Mary Rasmussen, Mary Ann Thomas, Neil Bosworth, Tom Torres, Chris Crawford, Jeff Sturla SWCA and subcontractors: Donna Morey, Charles Coyle, Chris Garrett, Nick Enos, Jill Grams RCM: None
November 1, 2017	Receipt of final Technical Memorandum for Alternative Mining Methods from Dr. Kliche	
November 2017	Release of DRAFT Alternatives Evaluation Report	
December 18, 2018	Stakeholder meeting with Tonto National Forest; Chambers work on alternative mining techniques was provided after the meeting (note: information was not passed on to SWCA until after government Jan 2019 furlough had ended)	
February 13, 2019	Receipt of draft "Memorandum regarding spreadsheet analysis of mining economics: "Dave Chambers, CSP2, 2/14/05 - updated with 2018 copper prices"" from Dr. Kliche	

Date	Process Step	Attendees
March 20, 2019	Preparation of draft process memo regarding review of stakeholder analysis of alternative mining techniques	
March 24, 2019	Receipt of final "Memorandum regarding spreadsheet analysis of mining economics: "Dave Chambers, CSP2, 2/14/05 - updated with 2018 copper prices"	