OFFICE OF THE GUNNISON COUNTY ATTORNEY
David Baumgarten – County Attorney
Matthew R. Hoyt – Deputy County Attorney

December __, 2020

Ben Wilson, Project Manager
U.S. Army Corps of Engineers, Sacramento District
Colorado West Regulatory Section
400 Rood Avenue, Room 224
Grand Junction, Colorado 81501
Benjamin.R.Wilson@usace.army.mil

U.S. Mail and electronically submitted

Re: Comments regarding Public Notice SPK-2019-00889

Dear Project Manager,

The Board of County Commissioners of Gunnison County, Colorado ("Gunnison County") makes the following comments, and formally requests a public hearing on this matter.

As a preface, Gunnison County notes, first, that the clean white marble deposits of the Yule Creek were first discovered in the late 1870's. Minor quarrying occurred between that discovery and the early 1900's. Major development began in 1905, and some of the words to describe deposit were "gigantic, remarkable, flawless and immense." (See: www.marbletourismassocation.org/yule_marble_quarry.html). The quarry elevation is 9,500 feet and it is cut into a very steep mountainside. Among other destinations and uses of the marble was the Lincoln Memorial. The quarry was closed in 1941, but sold in 2004, re-opened in 2004 and continues in operation.

Gunnison County notes, second, that the geography of subject Colorado Stone Quarries, Inc. ("CSQ") quarry operation, the unpermitted placement of fill materials in

Yule Creek, the unpermitted and relocated alignment of Yule Creek, and the immediate location of on-site and near-site impacts all are located with the unincorporated County of Gunnison for which the Board of County Commissioners of the local government of general jurisdiction.

Gunnison County notes, third, that the geography of the subject unpermitted fill detrimentally impacted and continues to impact headwaters of the high reaches of the Yule Creek basin – which itself is headwaters directly below the Continental Divide – and, therefore, impacts water bodies that are source waters from the Divide to confluences below it.

Gunnison County notes, fourth, that despite a sentence on page 6 of the Public Notice of Permit Application, to wit: "Gunnison County entered a Memorandum of Agreement with CSQ on March 26, 2019, regarding ROWS and other road – and bridge-related agreements" – that Gunnison County was not consulted about the fill before it occurred, Gunnison County did not approve the fill before it occurred, Gunnison County did not participate in the fill, and – indeed – there is not in existence an executed Gunnison County-CSQ Memorandum of Agreement dated March 26, 2019 (or other date) addressing the fill.

It would appear from the materials provided in the Public Notice and the experience of Gunnison County that the unpermitted fill is detrimentally consequential to the natural environment of Yule Creek both on-site and down gradient, and therefore, Gunnison County makes the following requests:

1. The U.S. Army Corps of Engineers Sacramento District ("Corps") robustly monitor Yule Creek and the Crystal River on-site and down gradient of the unpermitted fill to quantify and ensure the elimination of all water quality contamination of the fill. This may best be accomplished in partnership with the

Colorado Water Quality Control Division. Gunnison County recognizes that the Application states that "water quality certification or a waiver, as required under Section 401 of the Clean Water Act from the Colorado Department of Public Health and Environment ("CDPHE") is required for this project. The applicant has been in coordination with the CDPHE regarding the need for water quality certification." (Pages 5 and 6). But no further information is provided – not the least of which is whether that CDPHE permit has been issued or – if it has – what are its parameters.

2. The Corps require on-site and down gradient restoration of riparian vegetation and macro-invertebrate life so that the pre-fill environment is fully restored.

3. Recognizing that this is not a Corps enforcement matter, nonetheless there ought to be required on-site and down gradient compensatory mitigation on Yule Creek and the Crystal River.

4. Consider this matter in the holistic perspective of the proximity of the unpermitted fill to the Raggeds Wilderness.

5. Recognize that – despite a number of references on the application to "CSQ (returning) the needed portions of the ROW to the County to provide public access to view the historical site" (p. 2), that the filling was "to allow historic public access using the former mine access road" (p. 2), and that "alternative public access was restored using the former mine access road" (p. 3) – public access has not been restored and, in all events, Gunnison County would require fulfillment of all federal, state and local permits to accomplish such restoration.

6. A public hearing is necessary:

DRAFT

● To communicate to the public the Corps' intent to gather all relevant information.

● To open publicly accessible discussions about the issue and invite public advocacy regarding damage and remediation.

● To open dialogue among the governing bodies, public and CSQ.

● To ensure a complete and robust evaluation of remediation.

● To avoid preempting public cross-comment, and to avoid "solutions' that don't fully ameliorate and eliminate the negative consequences of the unpermitted fill.

Local governments (e.g. Gunnison County, Pitkin County), non-profit organizations and private citizens have expressed frustration about the unpermitted fill, and respectfully request a federally sanctioned, public forum in which to speak.

Thank you for your consideration.

Signed on this __ day of _____, 20__.

_____

Jonathan Houck, Chairperson
Gunnison County Board of County Commissioners
200 E. Virginia Avenue
Gunnison, Colorado 81230
(p): 970.641.0248
(email): jhouck@gunnisoncounty.org

DRAFT

SPK-2019-00889, Public Notice of Permit Application, Colorado Stone Quarries, Inc., Gunnison County, CO

Published Oct. 15, 2020

Comment Period: October 15, 2020 – November 16, 2020

SUBJECT: The U.S. Army Corps of Engineers, Sacramento District (Corps), is evaluating an after-the-fact permit application to maintain fill materials within the natural alignment of 1,600 linear feet of Yule Creek and within the relocated alignment of Yule Creek for the purpose of expanding an existing marble mining operation. This notice is to inform interested parties of the proposed activity and to solicit comments.

AUTHORITY: This application is being evaluated under Section 404 of the Clean Water Act for the discharge of dredged or fill material in waters of the United States (WOTUS).

APPLICANT: Colorado Stone Quarries, Inc. (CSQ), Attn: Mr. Daniele Treves, 300 West Park Street, Marble, CO, 81623

LOCATION: The approximately 25-acre project site is located on Yule Creek at the Pride of America Mine, approximately 3 miles south of the Town of Marble, at Latitude 39.036826°, Longitude -107.168673°, Gunnison County, Colorado, and can be seen on the Marble USGS Topographic Quadrangle.

PROJECT DESCRIPTION:

Beginning on November 5, 2018, CSQ diverted approximately 1,600 linear feet of Yule Creek through a constructed channel that flows approximately 1,700 linear feet around the east side of a partially exposed marble formation known as the Franklin Ridge. After diverting the stream, the former channel was filled with approximately 97,000 cubic yards of native materials to create a permanent road access to the existing mining operation and to facilitate surface mining of the Franklin Ridge quarry site. Surface mining of the Franklin Ridge will occur on a seasonal basis due to the inability to conduct surface mining activities during freezing temperatures. It is estimated that the Franklin Ridge will require 10-20 years to extract the marble resources, after which the site will be reclaimed in accordance with the Colorado Division of Reclamation, Mining, and Safety (DRMS) requirements. Reclamation will include filling the site with native materials in a topographically stepped fashion and proposes to maintain the realigned segment of Yule Creek. The access road system also allows for

the potential future expansion of mining activities at the Adams Gallery, located on the hill slope east of the Franklin Ridge.

CSQ conducted the Yule Creek realignment activities under the assumption that the work was exempt under the Clean Water Act (33 U.S.C. 1344(f)(1)(E)). After review of all available information and conducting a site visit, the Corps determined that the work to divert and fill Yule Creek does not qualify for exemption under the Clean Water Act as it was and is being utilized for purposes other than moving mining equipment as required by the applicable exemption. In regards to this exemption, mining equipment is defined as equipment normally associated with the mining and processing of raw materials like excavators, draglines, drills, cranes, shovels, crushers, and sluices. Mining equipment does not include haul trucks transporting mined materials or other mining products. Additionally, the subject road is proposed to be retained following mining reclamation and is therefore not temporary, as required by the applicable exemption. The Corps notified CSQ that the work is in violation of the Clean Water Act on May 5, 2020.

CSQ is requesting an after-the-fact Corps permit to expand mining operations by permanently retaining the current realignment of Yule Creek around the east side of the Franklin Ridge. CSQ is also considering alternatives that include returning Yule Creek to an alignment west of the Franklin Ridge. All the alternatives being considered are summarized below in the Alternatives section.

ADDITIONAL INFORMATION:

Site History.

The mining of marble at this site began in 1895 with operations continuing until it closed in 1941. Marble mining operations began again in 1989 but several years of litigation and negotiations occurred between Gunnison County and the landowner of the Franklin Ridge resulting in a segmented (i.e., non-continuous) County right-of-way (ROW) near the mine. CSQ subsequently acquired the land that was subject to litigation (i.e., Franklin Ridge) and, in 2015, began discussions with the County to address issues related to the ROW and public access. As a result, the ROW was made whole when CSQ returned the needed portions of the ROW to the County to provide public access to view the historical site. Public access to areas within the active mine was closed in 2016 with a commitment by CSQ to develop a means to maintain public access to the historic site. Two years of discussions between CSQ, the County, and the United States Forest Service (USFS - adjacent landowner) failed to result in an agreement that allowed for alternative public access to the site.

In 2018, CSQ requested a Technical Revision from DRMS that would both allow for the expansion of mining activities at the Franklin Ridge and satisfy the County requirement to create alternative public access. The design of the technical revision included diverting and filling Yule Creek to create primary access to the mine, direct access to the Franklin Quarry, and allow historic public access using the former mine access road. Prior to beginning the work, CSQ provided the Corps with copies of technical revisions approved by the DRMS and conducted the work with the assumption that the construction of the road was exempt from Corps permitting requirements due to it being a temporary road used for moving mining equipment. No formal review or response was provided by the Corps.

The filling and diverting of Yule Creek began on November 5, 2018. Use of the new mine access road began immediately, and alternative public access was restored using the former mine access road. On October 16, 2019, approximately 5,500 gallons of diesel spilled from above-ground storage tanks located on the Franklin Ridge and in close proximity to the natural western alignment of Yule Creek. The ongoing remediation of the diesel spill is expected to take several years and is being directed by DRMS. Monitoring data indicates that remediation of the site has so far been successful. The Corps became aware of the diesel spill and Yule Creek realignment when the related DRMS spill report was provided to the Corps by CSQ on December 6, 2019. The Corps initiated an enforcement investigation on December 18, 2019.

Environmental Setting. The site is located at approximately 9,200 feet in elevation, within a steep mountain valley surrounded by subalpine habitats. Yule Creek is a perennial tributary to the Crystal River and flows north descending approximately 300 vertical feet within the project site. Yule Creek is described as having a step-pool morphology with chutes, debris flows, and waterfalls. As such, several natural, in-stream fish navigation barriers exist below, within, and above the project reach. The USFS owns and administers all directly adjacent lands surrounding the site, and USFS Raggeds Wilderness area is located directly upstream (i.e., south) from the project site. The area immediately surrounding and within the project site has been previously disturbed due to historic mining practices, including the creation of several underground marble mining portals within the hill slope directly west of Yule Creek.

The natural alignment of Yule Creek prior to the unauthorized activity was located directly west of the Franklin Ridge, measuring approximately 1,600 linear feet (0.60 acre). No wetlands are thought to have existed along this section of Yule Creek due to steep slopes and exposed bedrock surrounding the stream channel. The natural alignment of Yule Creek had been previously impacted by historic marble mining activities, mostly due to stabilizing steep slopes using large marble blocks and a no-longer-in-use practice of disposing of waste marble within the stream (i.e., dump). Fill materials placed within the natural western alignment of Yule Creek have been contaminated from the 2019 diesel spill, and remediation efforts are under way with specific monitoring to ensure that diesel is not making it into the downstream watershed.

The current alignment of Yule Creek travels around the east side of the Franklin Ridge, measuring approximately 1,700 linear feet (0.58 acre). Exposed bedrock formations within this alignment indicate that a stream channel was once present in the geologic past. Grading and seeding of adjacent slopes, especially to the east of the alignment, was conducted to prevent the slopes from eroding and contributing sediment to the channel, but additional restoration efforts are needed. Seven large, marble-block cross-vanes were constructed to stabilize the realigned channel. There are no plans to establish wetlands adjacent to this alignment as it is thought that they would not naturally occur given the slope and substrate of the site.

Alternatives. A number of project alternatives, including a no-action alternative and the applicant's preferred alternative to maintain the current alignment will be evaluated in accordance with NEPA (33 CFR Part 230) (USACE NEPA Regulations) and 33 CFR Part 325, Appendix B (NEPA Implementation Procedures for USACE Regulatory Projects). CSQ has provided the following alternatives that are currently being analyzed:

1. No-Action Alternative: The No-Action Alternative would expand mining to the Franklin Ridge without the need to place fill material into the Yule Creek. This alternative would return the historic alignment of Yule Creek and includes using the former access road (i.e., haul road) for general mine access and using the historic public access ROW adjacent to Yule Creek for public access. CSQ believes that this alternative is not possible because of the steep and unstable slope that exists below the former access road. CSQ also believes this alternative would vastly limit the volume of extractable marble resources within the Franklin Ridge due to its proximity to the public access ROW.

2. Off-site Access Alternative: This alternative would expand mining to the Franklin Ridge by constructing a crossing of Yule Creek at an off-site location and returning the historic alignment of Yule Creek. CSQ believes this alternative is not possible due to geographical access issues and lack of property ownership at potential off-site crossing locations.

3. Span Bridge Alternative: This alternative would expand mining to the Franklin Ridge using a span bridge over Yule Creek that does not require a Corps permit and maintaining the current public access ROW route. This alternative includes constructing access to the Franklin Ridge and the mine using a span bridge over Yule Creek and returning the historic alignment of Yule Creek. CSQ believes this alternative is not possible due to costs associated with constructing a bridge designed to consistently handle extremely heavy loads (approximately 75-85 tons). Additionally, construction of the bridge would limit the volume of extractable marble resources within the Franklin Ridge.

4. Former Access Alternative: This alternative would expand mining to the Franklin Ridge by reopening the former access route to the mine and constructing a road crossing of Yule Creek near the southern end of the Franklin Ridge. This alternative would require altering the Gunnison County historic public access ROW route to be moved to a different location and returning the historic alignment of Yule Creek. CSQ believes that this alternative is not possible due to a lack of alternative, safe ROW routes in addition to logistical issues related to improving the former primary mine access route as access to the Franklin Ridge.

5. Partial Yule Creek Restoration (post Franklin Ridge) Alternative: This alternative would expand mining to the Franklin Ridge by leaving Yule Creek in the eastern alignment for an estimated 5 years and returning the channel to an alignment west of the Franklin Ridge once the Franklin Ridge is mined vertically down to a point that allows for the construction of road access. It is estimated that it will take at least 5 years to conduct adequate mining of the Franklin Ridge, acquire other approvals, and return the alignment of Yule Creek to the west side of the Franklin Ridge. This alternative seeks to return Yule Creek to its natural alignment, but several unnatural modifications would be included due to the spatial relationship between the natural channel alignment and areas contaminated during the 2019 diesel spill. Additional permanent impacts to Yule Creek include placing the western channel into culverts at three separate locations to create access. CSQ believes that this alternative is possible, but it is not their preferred alternative due to the potential to create additional impacts to aquatic resources. Details regarding the development and reclamation of Alternative 5 are included in the drawings provided.

6. Applicant Preferred Alternative: This alternative would expand mining to the Franklin Ridge by permanently maintaining the current realignment of Yule Creek to the east of the Franklin Ridge. Additional work to stabilize the slopes surrounding the eastern alignment are still needed. CSQ believes that this alternative results in a lesser amount of environmental impacts than other alternatives due to less overall work in the stream (i.e., no need to re-divert the channel) and the greater spatial distance between the stream and future mining activities (i.e., relocating the stream outside of the active mining operation). CSQ also acknowledges that this alternative may limit their ability to fully mine the Adams Gallery in the future. CSQ has identified this alternative as preferred due to their belief that it results in less environmental impacts when compared to other possible alternatives. Details regarding the development and reclamation of Alternative 6 are included in the drawings provided.

7. Partial Elevated Yule Creek Restoration Alternative: This alternative would expand mining to the Franklin Ridge by removing a portion of the fill materials currently in place within the western channel of Yule Creek. This alternative includes removing the top 5-10 feet of material to create a 10-15-foot-wide channel that is elevated and mostly within the natural western alignment. Similar to Alternative 5, several unnatural modifications would be included due to the spatial relationship between the natural channel alignment and areas contaminated during the 2019 diesel spill. Modifications would include placing the channel into culverts at two locations to create access. Additionally, approximately 60 linear feet of channel would be placed in a bottomless culvert to avoid the stream becoming subject to areas potentially contaminated by the 2019 oil spill. An armored reach of stream measuring approximately 350 linear feet would need to be constructed at the outlet of the bottomless culvert. CSQ believes that this alternative is possible, but it is not their preferred alternative due to the potential to create additional impacts to aquatic resources. Details regarding the development and reclamation of Alternative 7 are included in the Drawings provided.

Additional information concerning project alternatives are identified in the attached drawings and may be available from the applicant or their agent. Other alternatives may develop during the review process for this permit application. All reasonable project alternatives, in particular those which may be less damaging to the aquatic environment, will be considered.

Mitigation. The Corps requires that applicants consider and use all reasonable and practical measures to avoid and minimize temporary and permanent impacts to aquatic resources. If the applicant is unable to avoid or minimize all impacts, the Corps may require compensatory mitigation. The applicant is currently considering various options to conduct compensatory mitigation, if needed. Compensatory mitigation plans have not been submitted as part of the proposal, but discussions thus far have included wetland enhancement and preservation near the confluence of Yule Creek and the Crystal River in effort to improve water quality within the watershed, among other options that seek to improve the ecological function of the Yule Creek watershed. CSQ is amenable to receiving information related to additional compensatory mitigation options.

OTHER GOVERNMENTAL AUTHORIZATIONS: Water quality certification or a waiver, as required under Section 401 of the Clean Water Act from the Colorado Department of Public Health and Environment (CDPHE) is required for this project. The applicant has been in coordination with the

CDPHE regarding the need for water quality certification. CDPHE previously issued a discharge permit (COG500356) for the site on December 16, 2016, and also has an ongoing addendum request initiated September 19, 2019 (07GU0782/051-0049-008 and 07GU0782/051-0049-009).

The DRMS issued a technical revision to the CSQ 112c Mining Permit # M-1999-058 on September 16, 2018.

Gunnison County entered a Memorandum of Agreement with CSQ on March 26, 2019, regarding ROWs and other road- and bridge-related agreements.

HISTORIC PROPERTIES: The State Historic Preservation Officer provided concurrence for determination of effects related to the expansion of the mine on December 1, 2016, and concurred with a plan to mitigate these effects on December 1, 2016 (CHS #57066). The Corps will initiate consultation with the State Historic Preservation Officer under Section 106 of the National Historic Preservation Act as appropriate.

ENDANGERED SPECIES: The proposed activity may affect federally listed endangered or threatened species or their critical habitat, including Canada lynx. The Corps will initiate consultation with the U.S. Fish and Wildlife Service, pursuant to Section 7 of the Endangered Species Act, as appropriate.

ESSENTIAL FISH HABITAT: The proposed project would not adversely affect Essential Fish Habitat (EFH) as defined in the Magnuson-Stevens Fishery Conservation and Management Act.

The above determinations are based on information provided by the applicant and our preliminary review.

EVALUATION FACTORS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the described activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the described activity, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the described activity will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people. The activity's impact on the public interest will include application of the Section 404(b)(1) guidelines promulgated by the Administrator, Environmental Protection Agency (40 CFR Part 230).

The Corps is soliciting comments from the public, federal, state, and local agencies and officials, Indian tribes, and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general

environmental effects, and other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

SUBMITTING COMMENTS: Written comments, referencing Public Notice SPK-2019-00889 must be submitted to the office listed below on or before **November 16, 2020**.

Ben Wilson, Project Manager
U.S. Army Corps of Engineers, Sacramento District
Colorado West Regulatory Section
400 Rood Avenue, Room 224
Grand Junction, Colorado 81501
Email: *Benjamin.R.Wilson@usace.army.mil*

The Corps is particularly interested in receiving comments related to the proposal's probable and realized impacts on the affected aquatic environment and the secondary and cumulative effects. Anyone may request, in writing, that a public hearing be held to consider this application. Requests shall specifically state, with particularity, the reason(s) for holding a public hearing. If the Corps determines that the information received in response to this notice is inadequate for thorough evaluation, a public hearing may be warranted. If a public hearing is warranted, interested parties will be notified of the time, date, and location. Please note that all comment letters received are subject to release to the public through the Freedom of Information Act. If you have questions or need additional information please contact the applicant or the Corps' project manager Benjamin Wilson, (970) 243-1199 X 1012, *Benjamin.R.Wilson@usace.army.mil*.

Attachments: 33 drawings

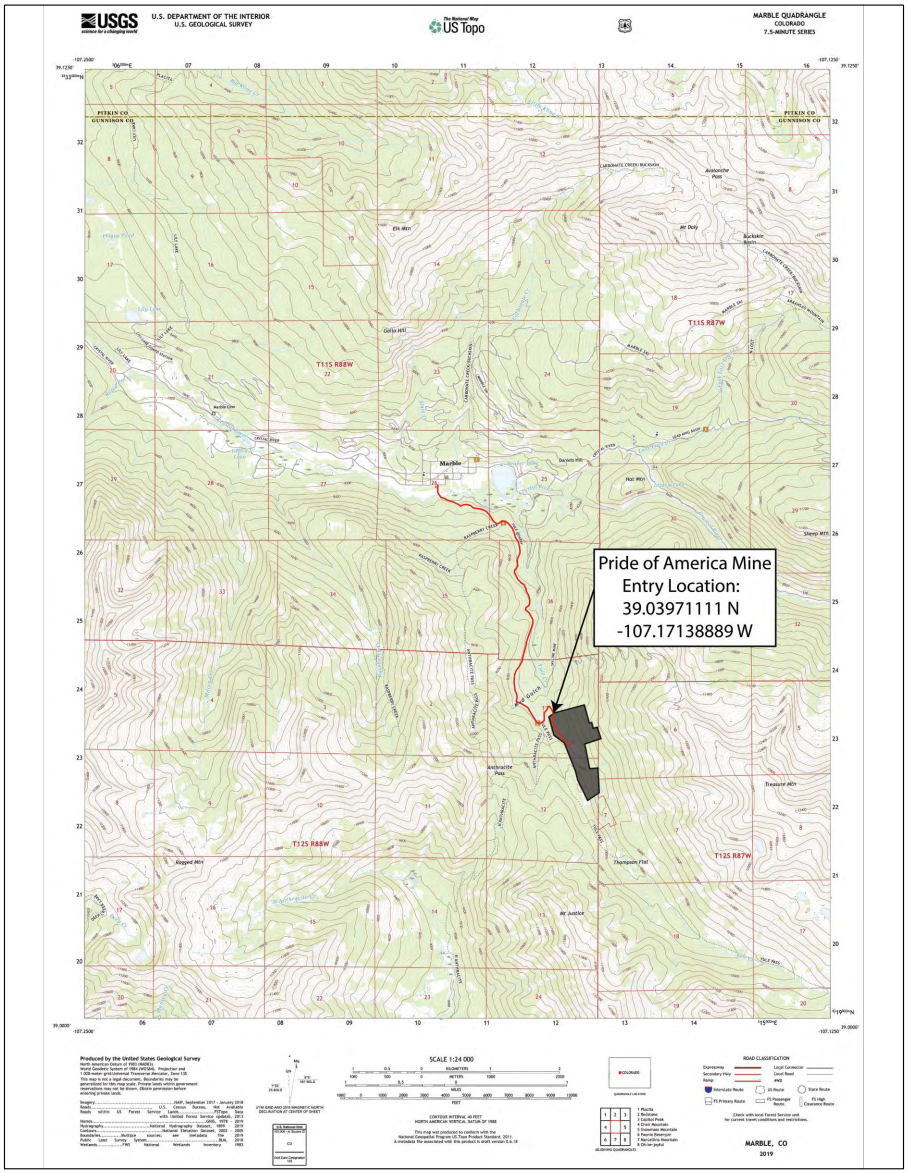
Related Story: **SPK-2019-00889 PN Drawings**
https://www.spk.usace.army.mil/Portals/12/documents/regulatory/public_notices/FY2021/EXP-Nov-2020/201900889-SP-PN-Drawings.pdf

USACE Individual Permit

Colorado Stone Quarries, Inc.

Marble, CO

September 2020



Sheet Index

1 - Coversheet
2 - Legend
3 - Current Conditions
4 - Alternative 5 - Mining Plan
5 - Alternative 5 - Reclamation Plan
6 - Alternative 6 - Mining Plan
7 - Alternative 6 - Reclamation Plan
8 - Alternative 7 - Mining Plan
9 - Alternative 7 - Reclamation Plan
10 - Stream and Diversion Profiles
11 - Section 0+00 - Cross Section
12 - Section 2+00 - Cross Section
13 - Section 4+00 - Cross Section
14 - Section 6+00 - Cross Section
15 - Section 8+00 - Cross Section
16 - Section 10+00 - Cross Section
17 - Section 12+00 - Cross Section
18 - Section 14+00 - Cross Section
19 - Section 16+00 - Cross Section
20 - Section 18+00 - Cross Section
21 - Section 20+00 - Cross Section
22 - Watershed
23 - Base Stream Reach
24 - Typical Armoring (Long)
25 - Typical Armoring (Section)
26 - Typical Dump Slope

Prepared by:

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Littleton, CO 80123 E-mail: info@lewickl.biz

Coversheet (1 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th

Map Scale: 1":200' (0 200 400 600)

File Name: PAM 200916.dwg

LEGEND

BOUNDARIES

Federally Administered Area

ROADS AND RELATED FEATURES

Off-highway Vehicle Access

On-highway Vehicle Access

RIVERS, LAKES, SHORELINES, AND CANALS

Perennial Stream/ditch

Buried Aqueduct, Flume, or Conduit

Drainage Basin

Start and End of Stream Reach of Concern

Ground Water Monitoring Well

Surface Water Monitoring Location

MINING FEATURES

DRMS Permit Boundary

Gunnison County ROW

Fuel Tanks and Generators

CONTOURS

2019 Index (25') 5280

2019 Intermediate (5')

Mining Index (25') 5280

Mining Intermediate (5')

Reclamation Index (25') 5280

Legend (2 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677

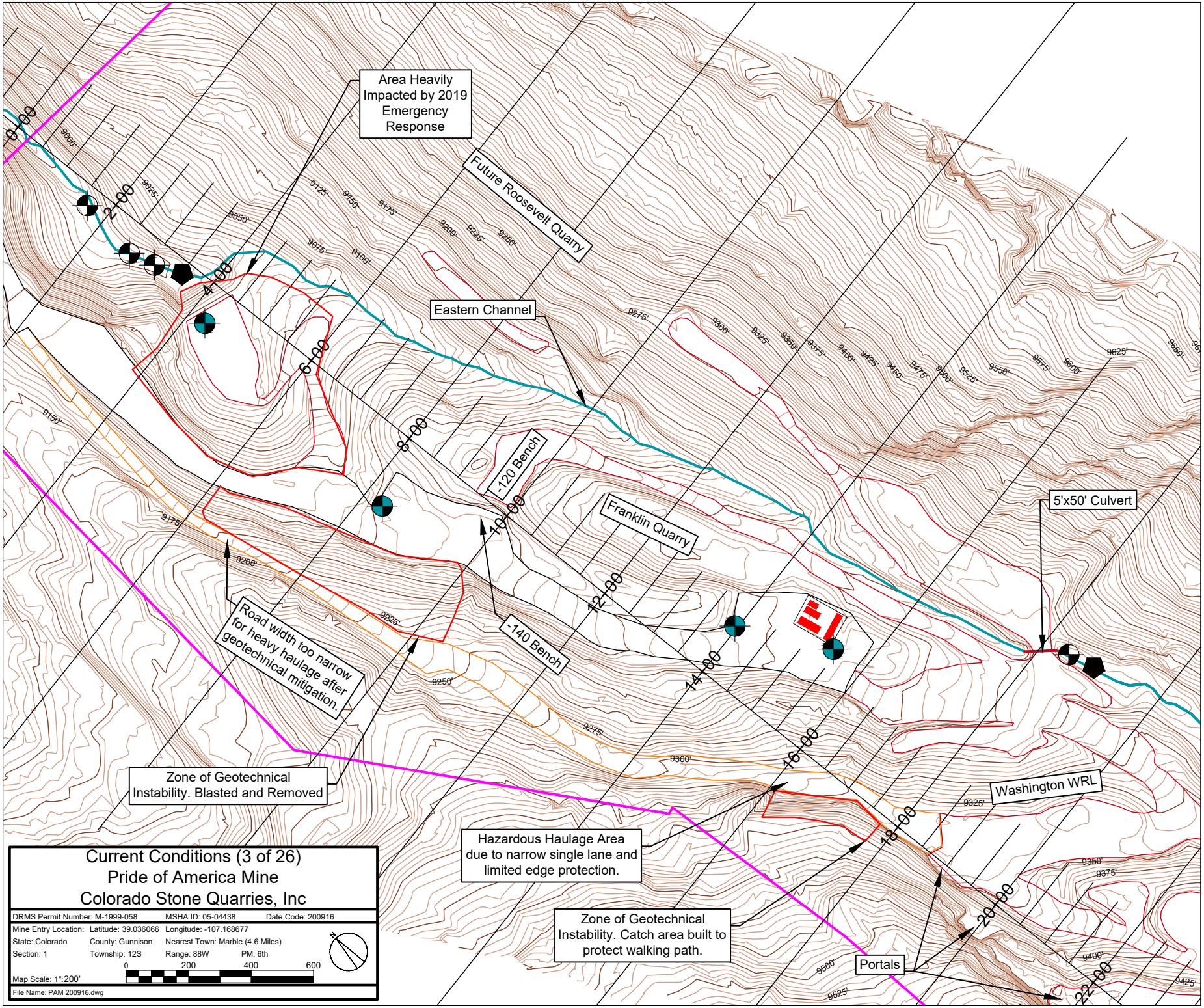
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)

Section: 1 Township: 12S Range: 88W PM: 6th

0 200 400 600

Map Scale: 1":200'

File Name: PAM 200916.dwg


Area Heavily Impacted by 2019 Emergency Response
Future Roosevelt Quarry
Eastern Channel
-120 Bench
Franklin Quarry
5'x50' Culvert
-140 Bench
Road width too narrow for heavy haulage after geotechnical mitigation.
Zone of Geotechnical Instability. Blasted and Removed
Hazardous Haulage Area due to narrow single lane and limited edge protection.
Zone of Geotechnical Instability. Catch area built to protect walking path.
Washington WRL
Portals
0+00
2+00
4+00
6+00
8+00
10+00
12+00
14+00
16+00
18+00
20+00
22+00
9050'
9075'
9100'
9125'
9150'
9175'
9200'
9225'
9250'
9275'
9300'
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Current Conditions (3 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc
DRMS Permit Number: M-1999-058
MSHA ID: 05-04438
Date Code: 200916
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th
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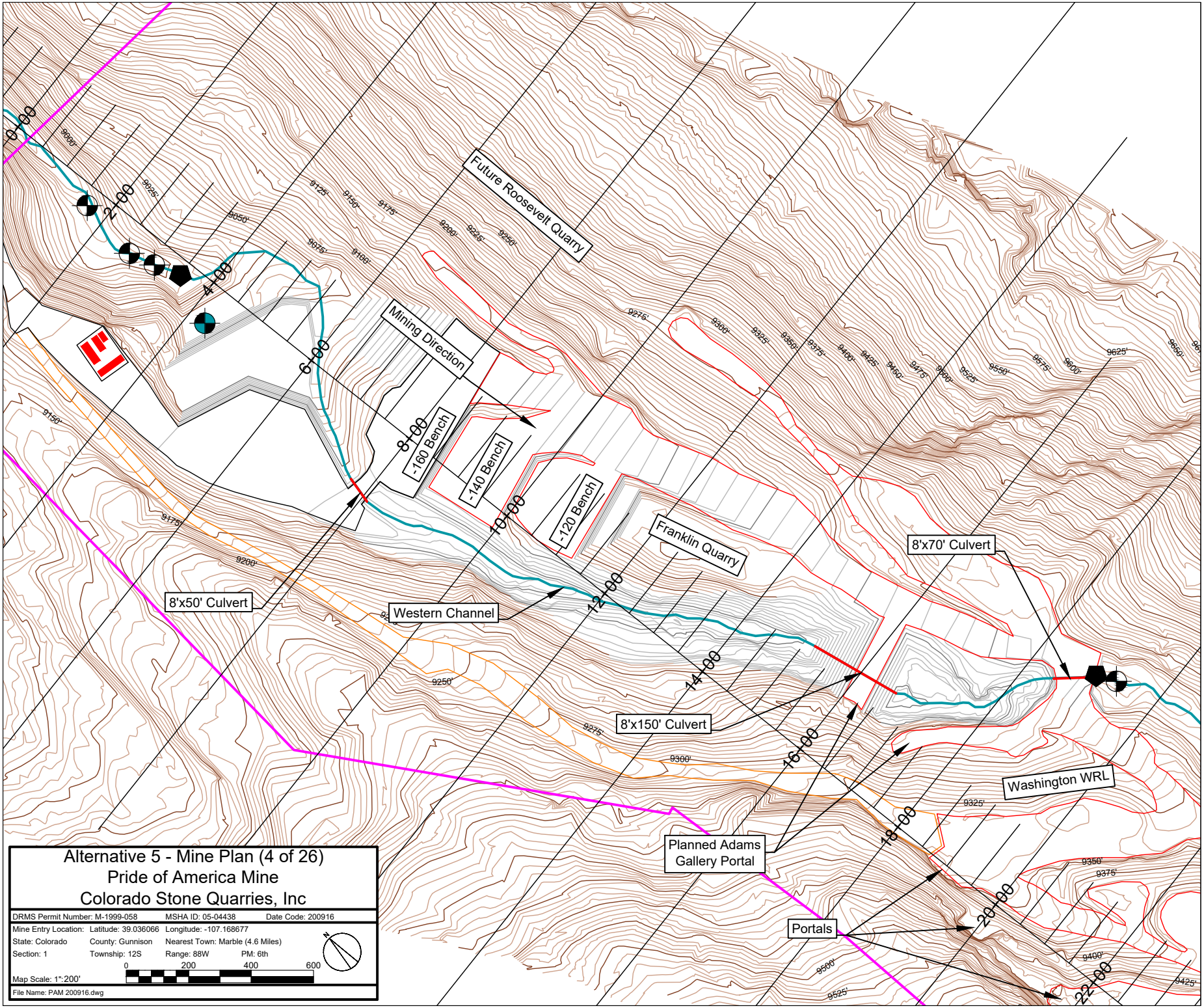
Map Scale: 1":200'
File Name: PAM 200916.dwg


Future Roosevelt Quarry
Mining Direction
-160 Bench
-140 Bench
-120 Bench
Franklin Quarry
8'x70' Culvert
8'x50' Culvert
Western Channel
8'x150' Culvert
Washington WRL
Planned Adams Gallery Portal
Portals
0+00
2+00
4+00
6+00
8+00
10+00
12+00
14+00
16+00
18+00
20+00
22+00
9050'
9125'
9150'
9175'
9200'
9225'
9250'
9275'
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9375'
9400'
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Alternative 5 - Mine Plan (4 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc
DRMS Permit Number: M-1999-058
MSHA ID: 05-04438
Date Code: 200916
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th
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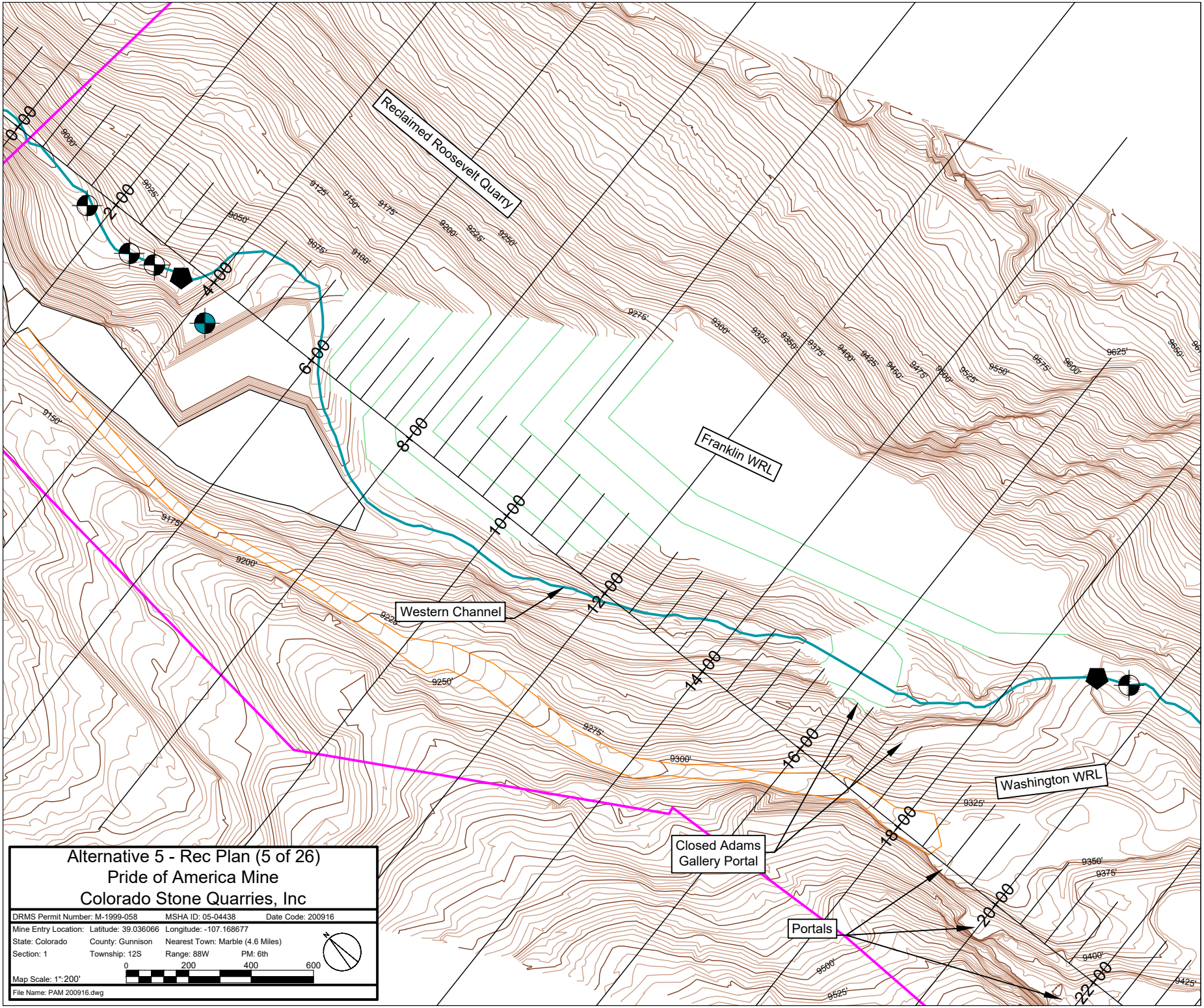
0 200 400 600
Map Scale: 1":200'
File Name: PAM 200916.dwg


Reclaimed Roosevelt Quarry
Franklin WRL
Western Channel
Washington WRL
Closed Adams Gallery Portal
Portals
0+00
2+00
4+00
6+00
8+00
10+00
12+00
14+00
16+00
18+00
20+00
22+00
9050'
9075'
9100'
9125'
9150'
9175'
9200'
9225'
9250'
9275'
9300'
9325'
9350'
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9525'
9550'
9575'
9600'
9625'
9650'
9150'
9175'
9200'
9225'
9250'
9275'
9300'
9325'
9350'
9375'
9400'
9425'
9500'
9525'
Alternative 5 - Rec Plan (5 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc
DRMS Permit Number: M-1999-058
MSHA ID: 05-04438
Date Code: 200916
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th
N
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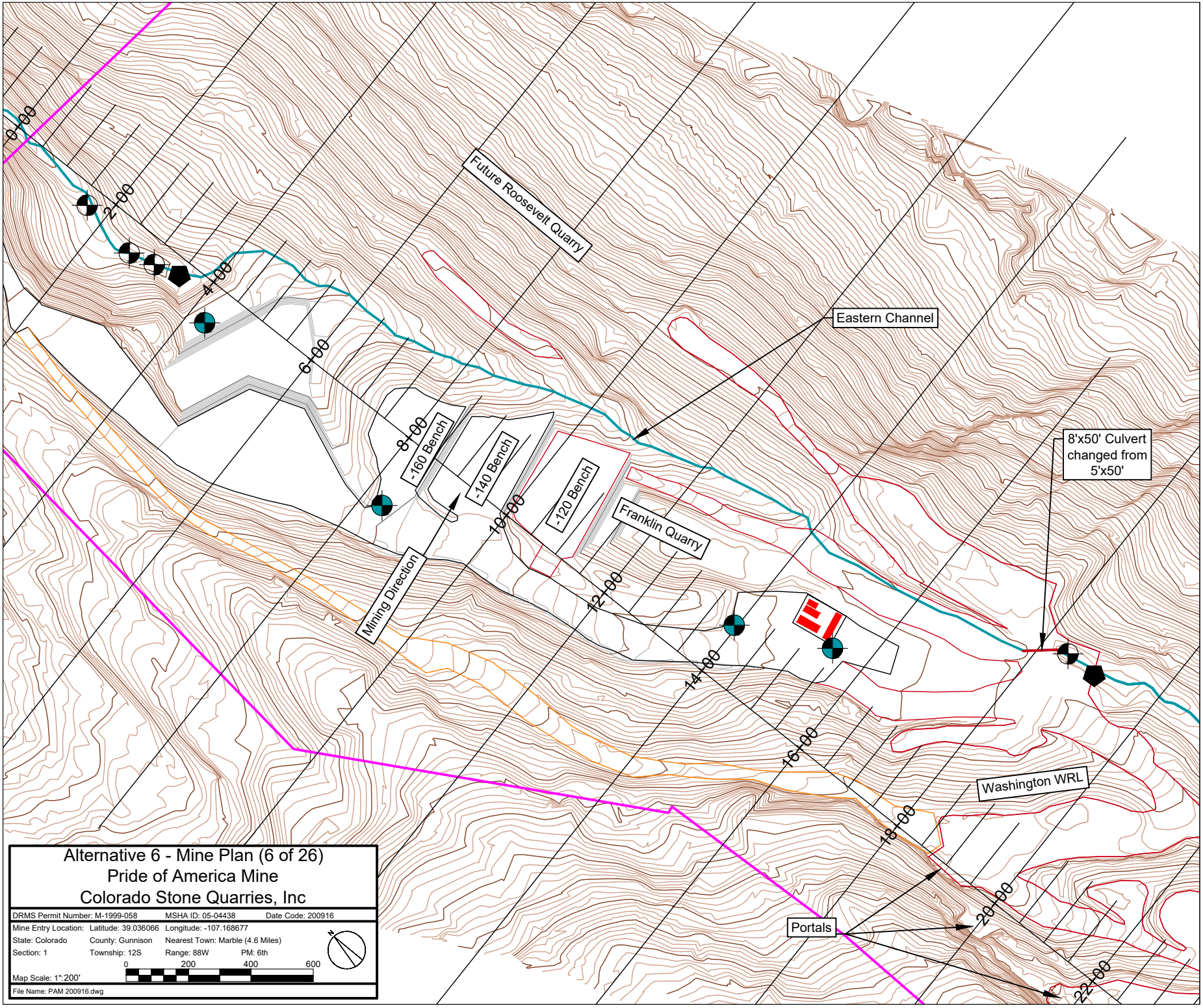
Map Scale: 1":200'
File Name: PAM 200916.dwg


0+00
2+00
4+00
6+00
8+00
10+00
12+00
14+00
16+00
18+00
20+00
22+00
Future Roosevelt Quarry
Eastern Channel
8'x50' Culvert changed from 5'x50'
-160 Bench
-140 Bench
-120 Bench
Franklin Quarry
Mining Direction
Washington WRL
Portals
Alternative 6 - Mine Plan (6 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc
DRMS Permit Number: M-1999-058
MSHA ID: 05-04438
Date Code: 200916
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th
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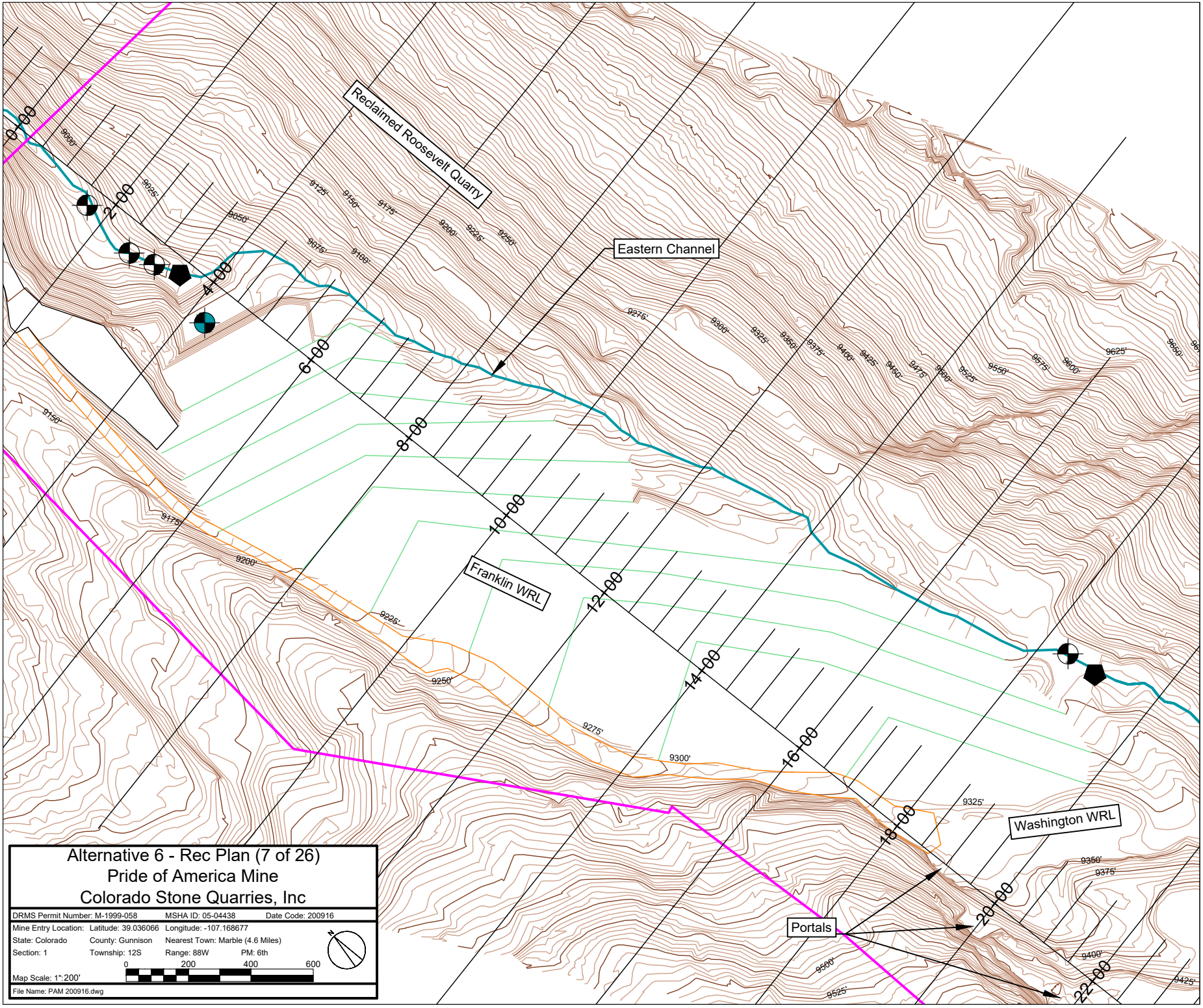
File Name: PAM 200916.dwg


Reclaimed Roosevelt Quarry
Eastern Channel
Franklin WRL
Washington WRL
Portals
0+00
2+00
4+00
6+00
8+00
10+00
12+00
14+00
16+00
18+00
20+00
22+00
9050'
9075'
9100'
9125'
9150'
9175'
9200'
9225'
9250'
9275'
9300'
9325'
9350'
9375'
9400'
9425'
9450'
9475'
9500'
9525'
9550'
9575'
9600'
9625'
9650'
9150'
9175'
9200'
9225'
9250'
9275'
9300'
9325'
9350'
9375'
9400'
9425'
9500'
9525'
Alternative 6 - Rec Plan (7 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc
DRMS Permit Number: M-1999-058
MSHA ID: 05-04438
Date Code: 200916
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado
County: Gunnison
Nearest Town: Marble (4.6 Miles)
Section: 1
Township: 12S
Range: 88W
PM: 6th
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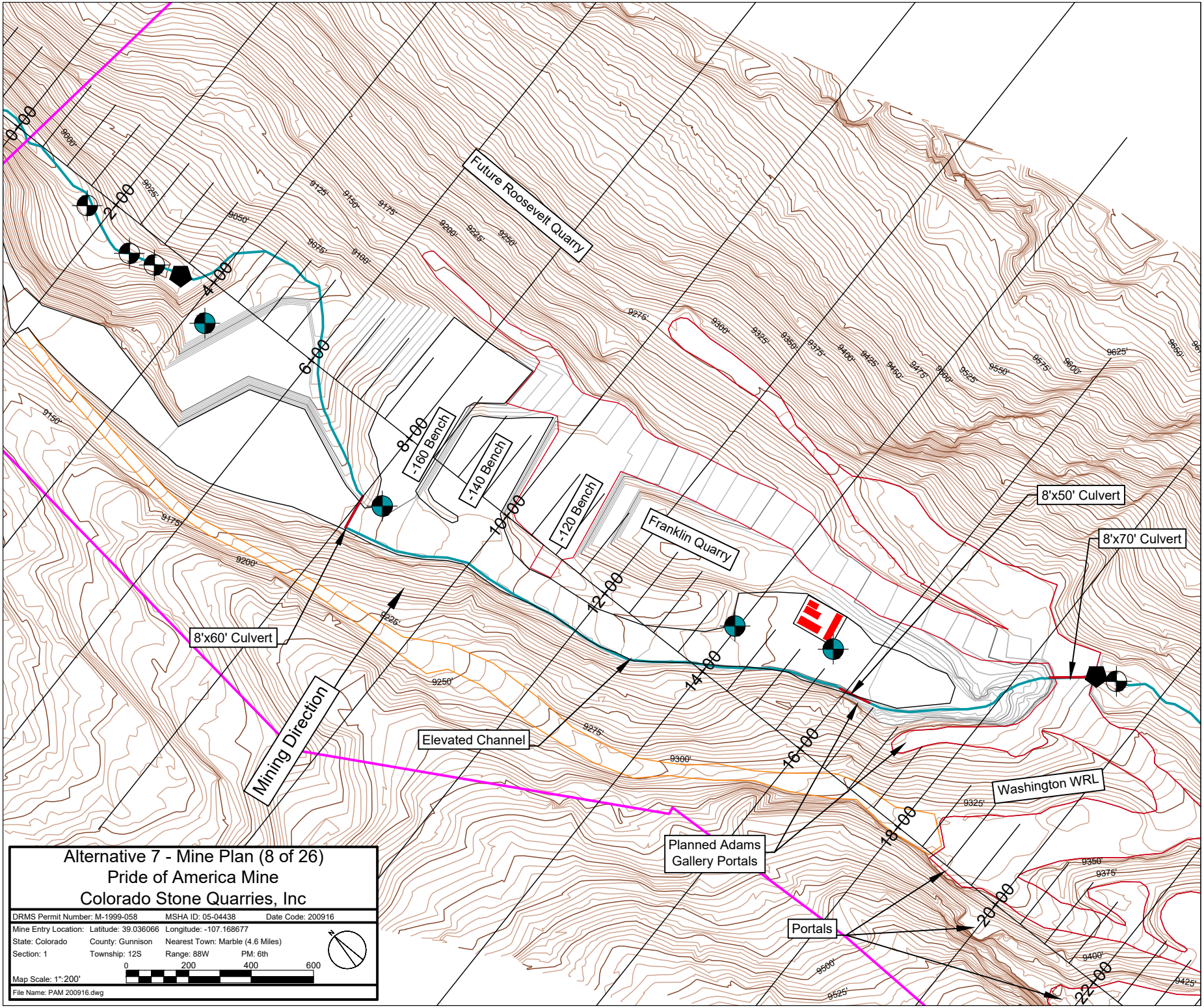
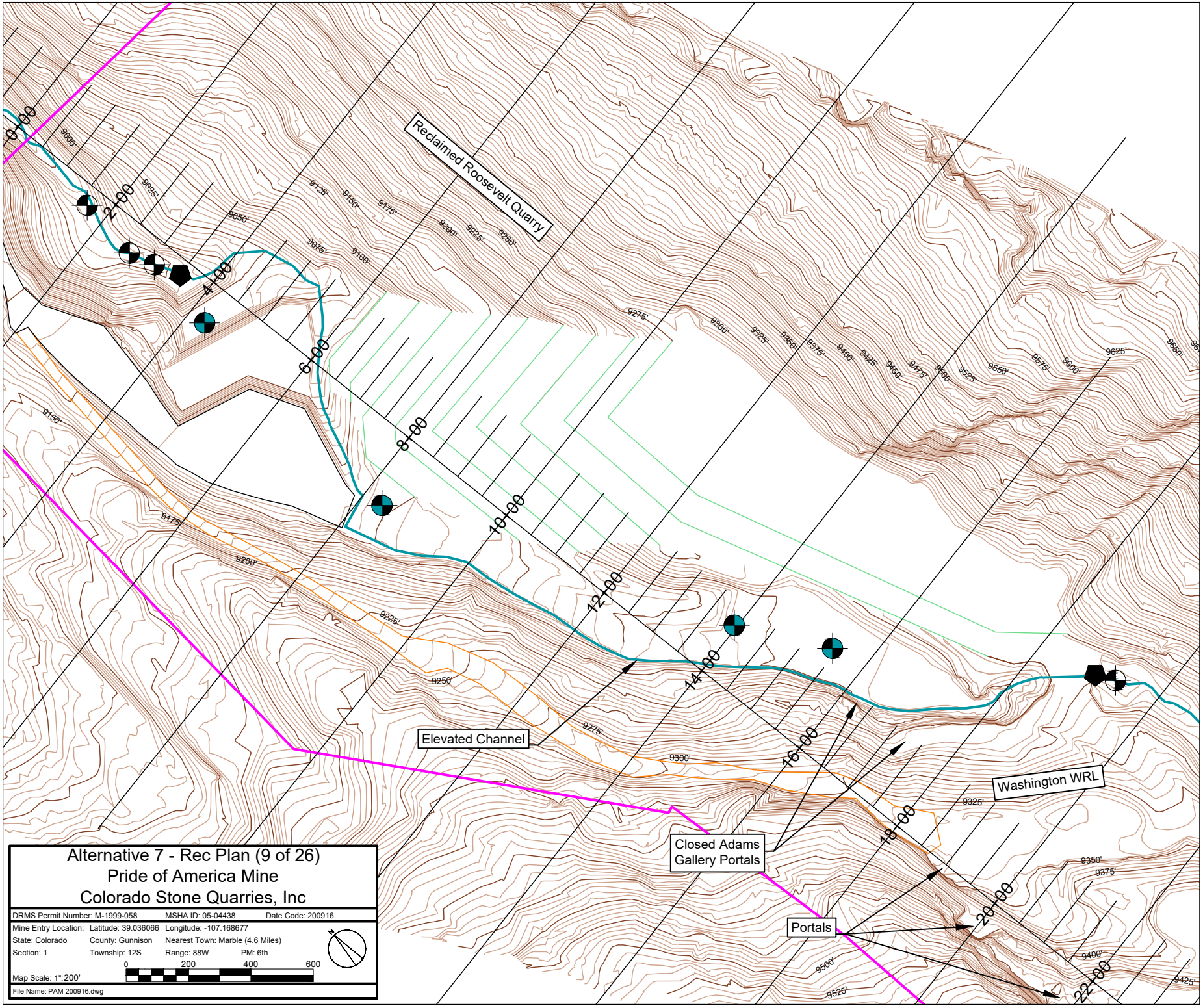

Future Roosevelt Quarry
Franklin Quarry
-160 Bench
-140 Bench
-120 Bench
8'x50' Culvert
8'x70' Culvert
8'x60' Culvert
Mining Direction
Elevated Channel
Washington WRL
Planned Adams
Gallery Portals
Portals
0+00
2+00
4+00
6+00
8+00
10+00
12+00
14+00
16+00
18+00
20+00
22+00
9050'
9075'
9100'
9125'
9150'
9175'
9200'
9225'
9250'
9275'
9300'
9325'
9350'
9375'
9400'
9425'
9450'
9475'
9500'
9525'
9550'
9575'
9600'
9625'
9650'
Alternative 7 - Mine Plan (8 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc
DRMS Permit Number: M-1999-058
MSHA ID: 05-04438
Date Code: 200916
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th
0 200 400 600
Map Scale: 1":200'
N
File Name: PAM 200916.dwg



Alternative 7 - Rec Plan (9 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th

Map Scale: 1":200' 0 200 400 600

File Name: PAM 200916.dwg

Stream and Diversion Profiles (10 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677

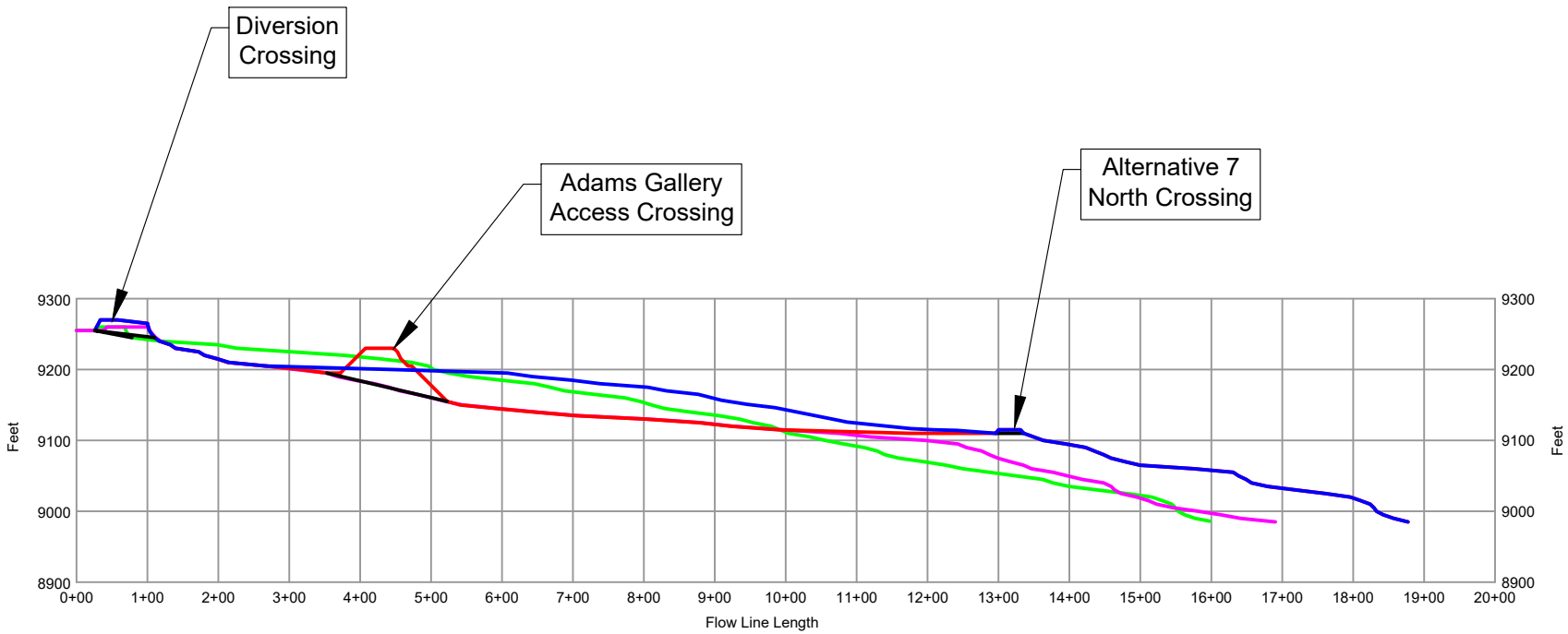
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)

Section: 1 Township: 12S Range: 88W PM: 6th

Map Scale: 1":250' 0 250 500 750

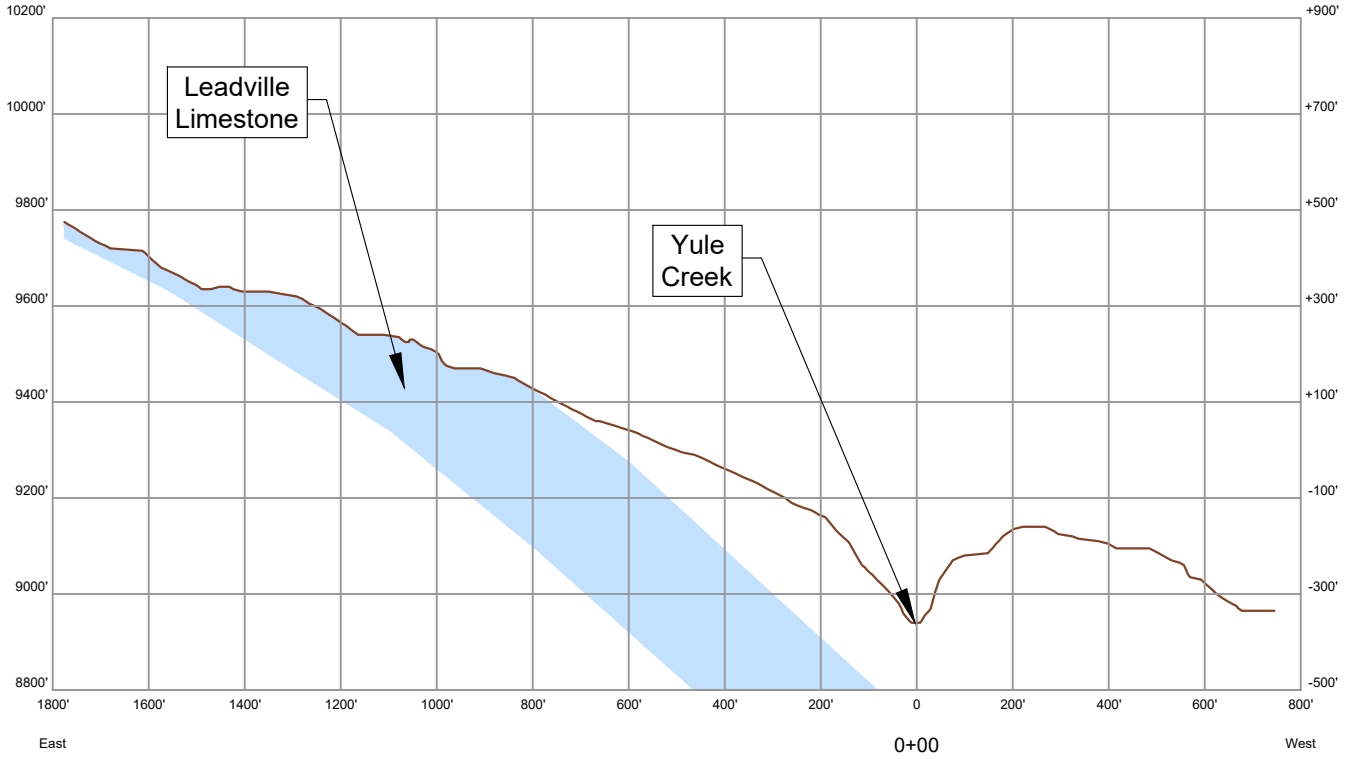
File Name: PAM 200916.dwg

2018 Creek Profile
Alternative 5
Alternative 6
Alternative 7
Culvert



Section 0+00 - Cross Section (11 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
Map Scale: 1":400'	0 400 800 1200	
File Name: PAM 200916.dwg		



Section 2+00 - Cross Section (12 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

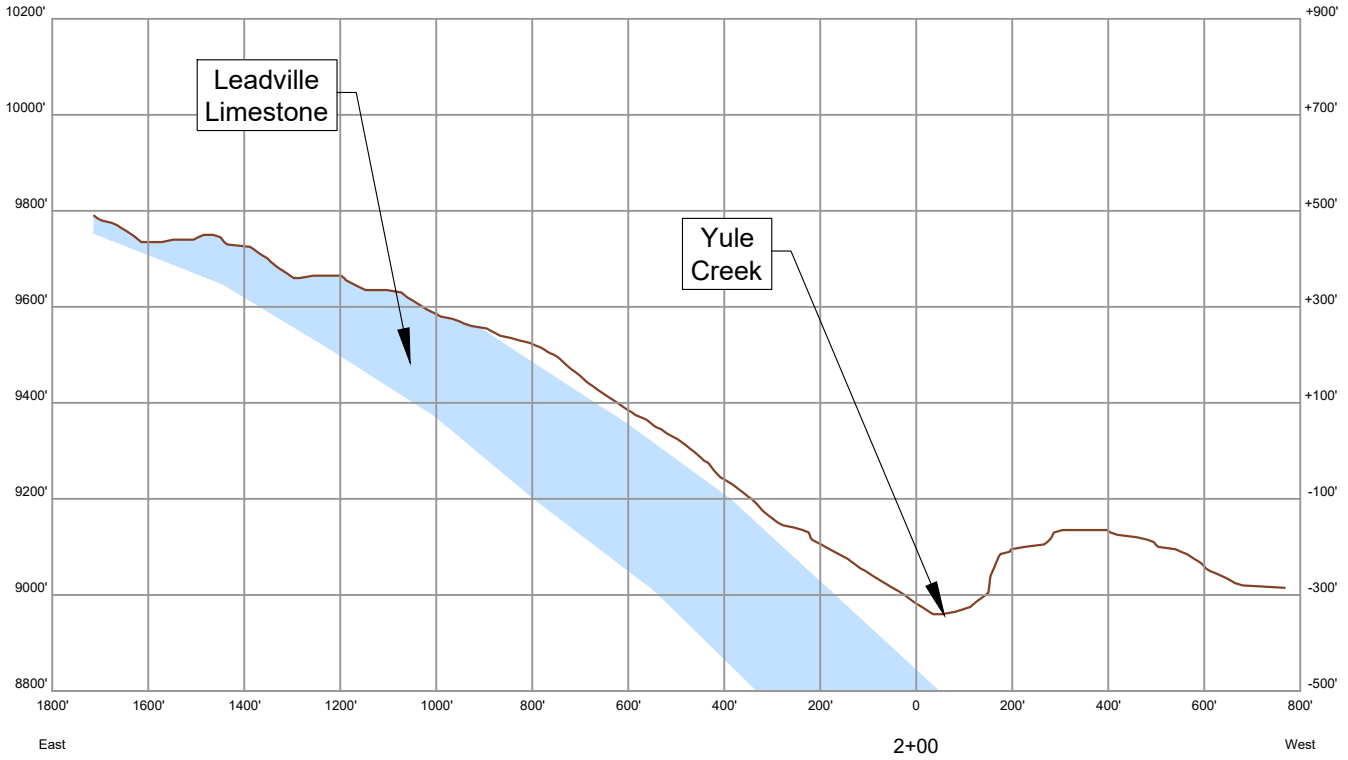
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677

State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)

Section: 1 Township: 12S Range: 88W PM: 6th

Map Scale: 1":400' 0 400 800 1200

File Name: PAM 200916.dwg



Section 4+00 - Cross Section (13 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
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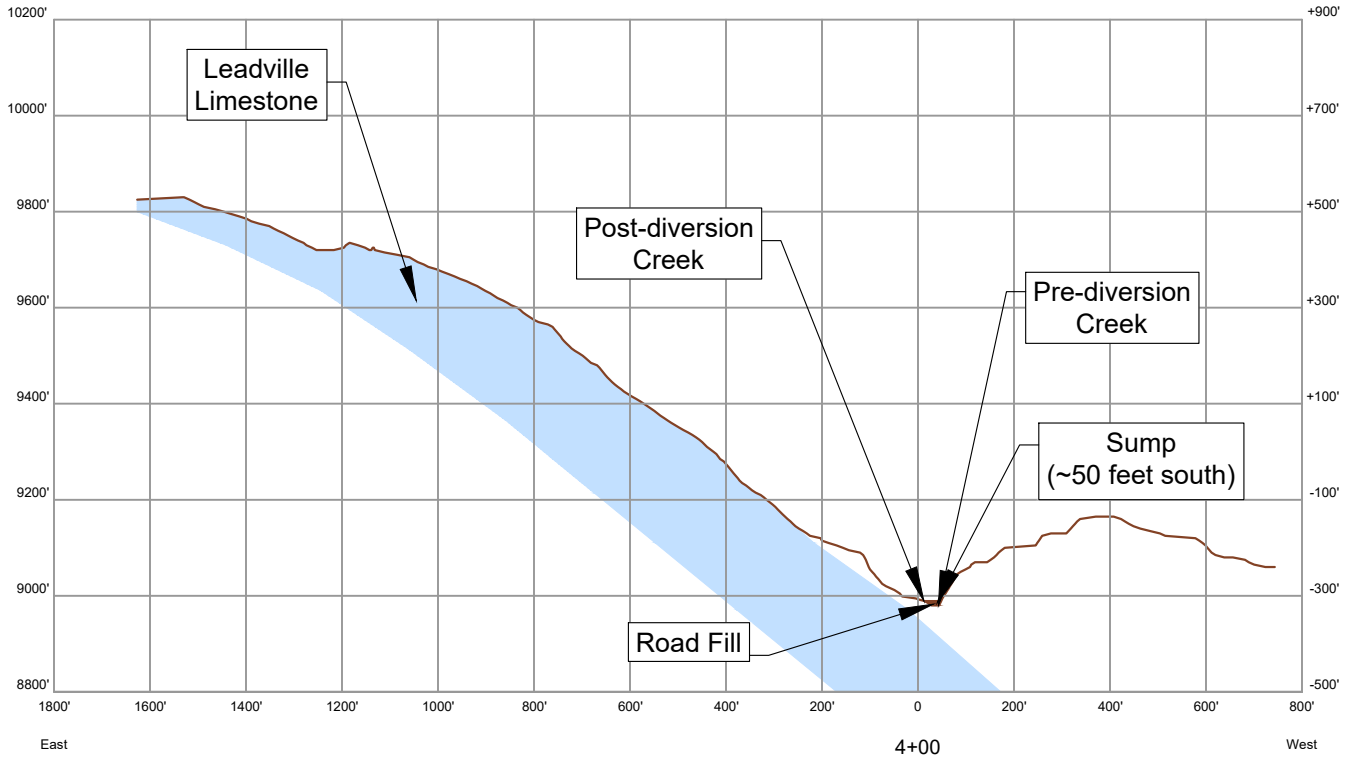

Section 6+00 - Cross Section (14 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
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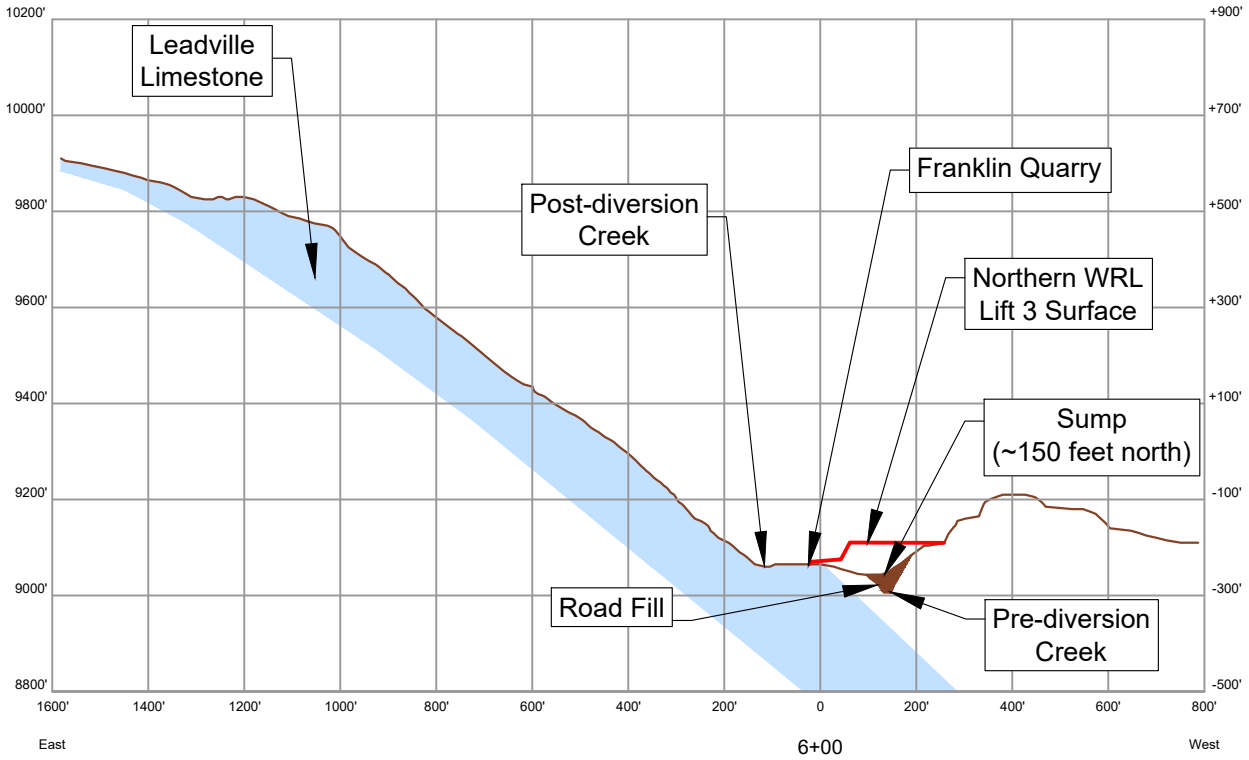
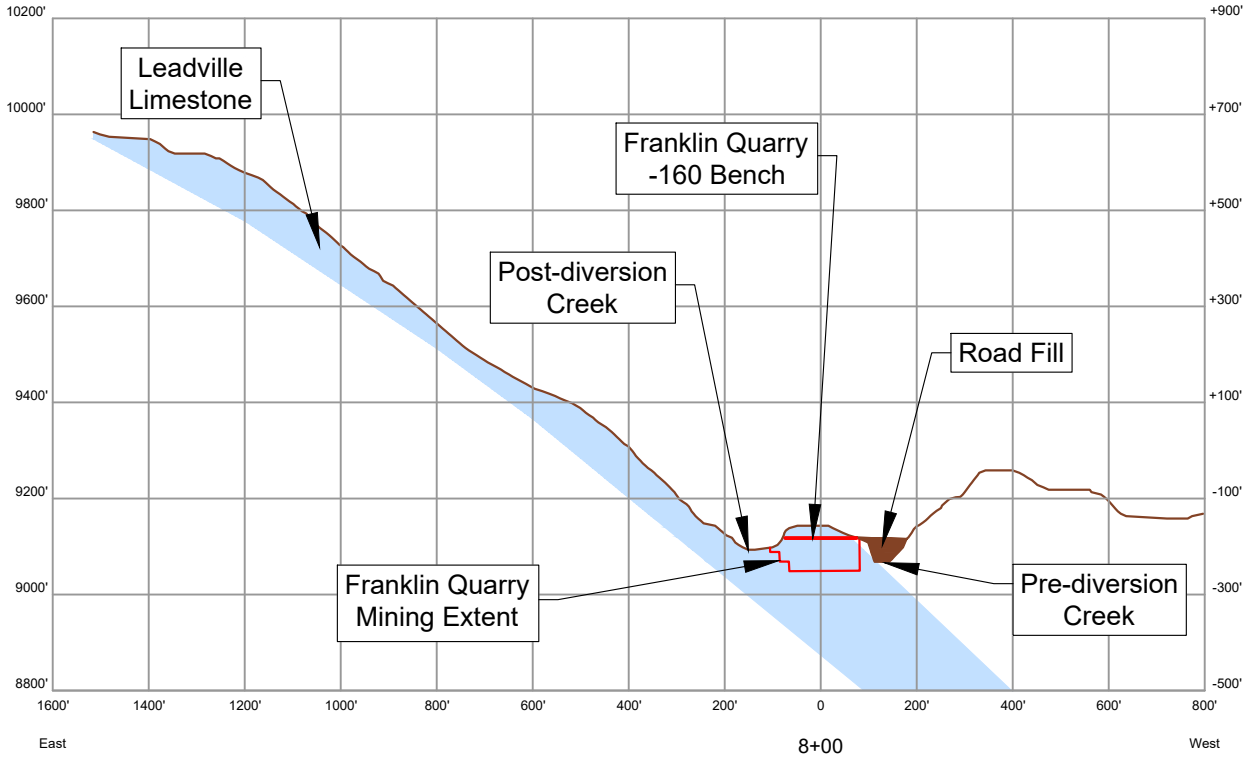
File Name: PAM 200916.dwg		



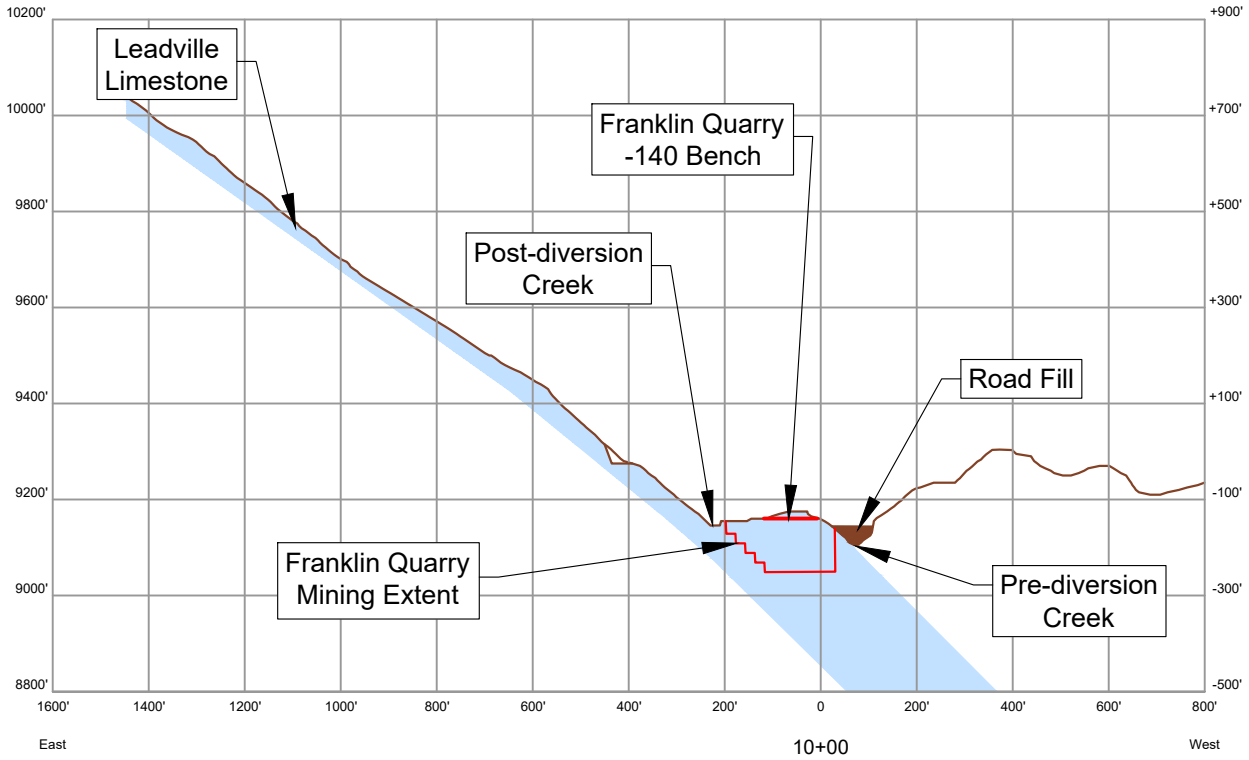
Section 8+00 - Cross Section (15 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
Map Scale: 1":400'	0 400 800 1200	
File Name: PAM 200916.dwg		



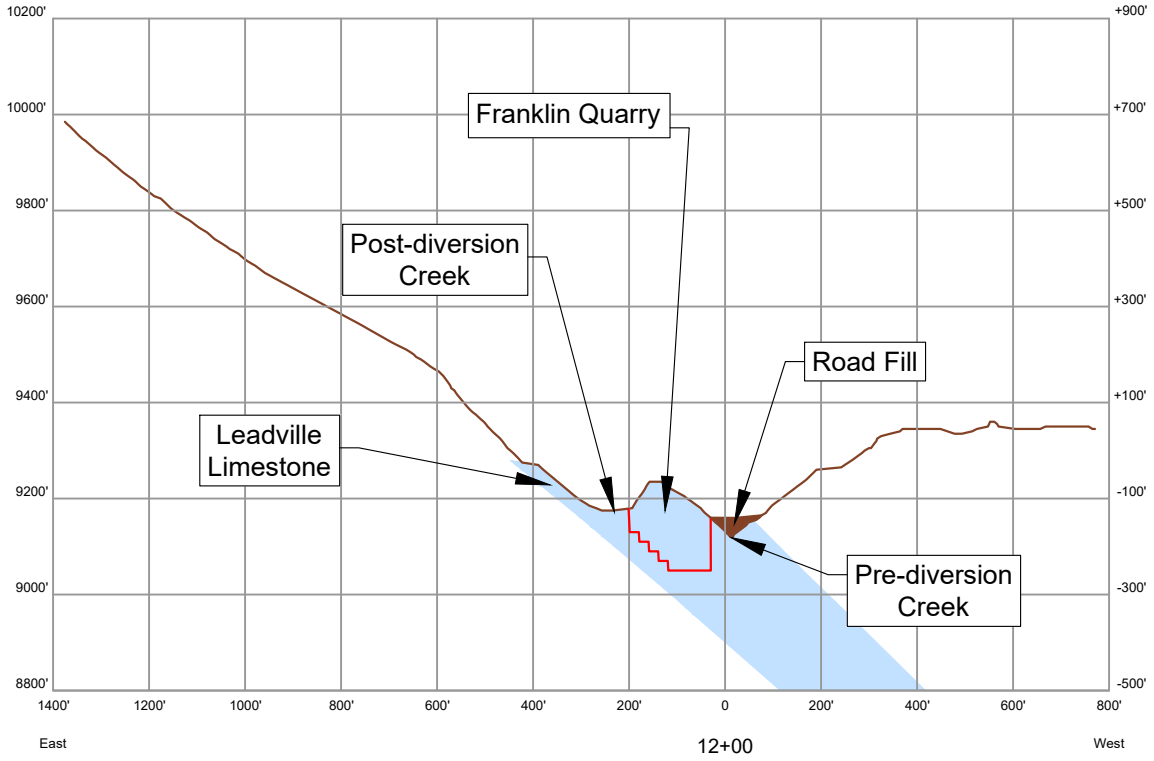
Section 10+00 - Cross Section (16 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
Map Scale: 1":400'	0 400 800 1200	
File Name: PAM 200916.dwg		



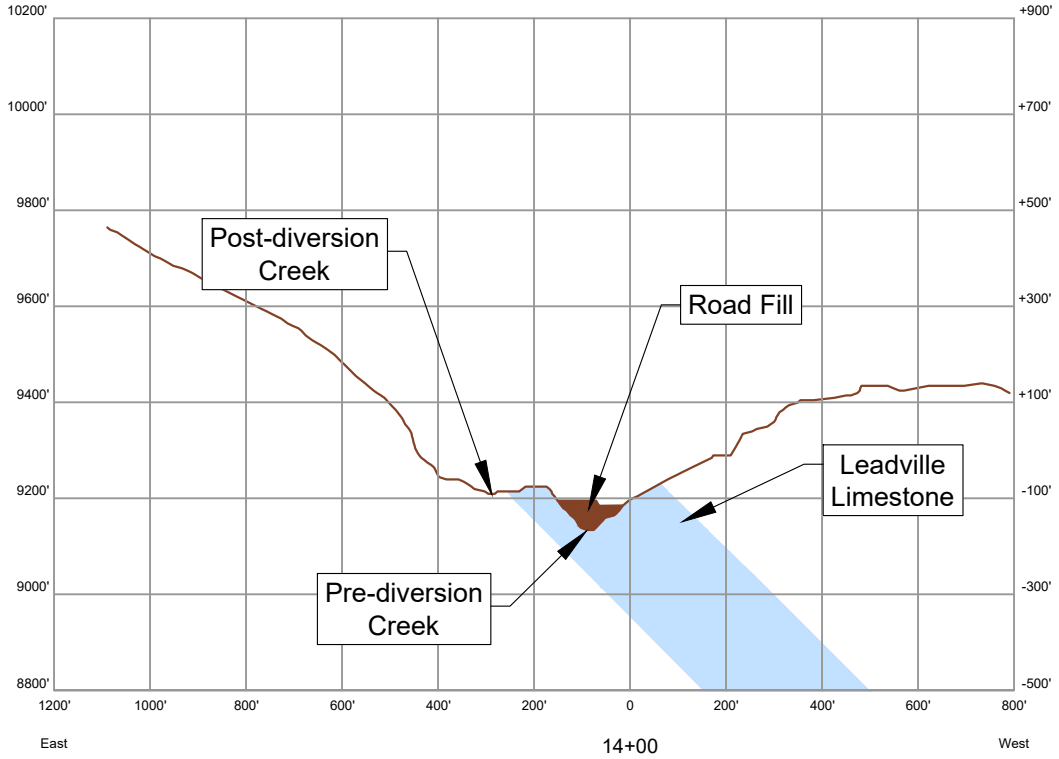
Section 12+00 - Cross Section (17 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
Map Scale: 1":400'	0 400 800 1200	
File Name: PAM 200916.dwg		



Section 14+00 - Cross Section (18 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
Map Scale: 1":400'	0 400 800 1200	
File Name: PAM 200916.dwg		

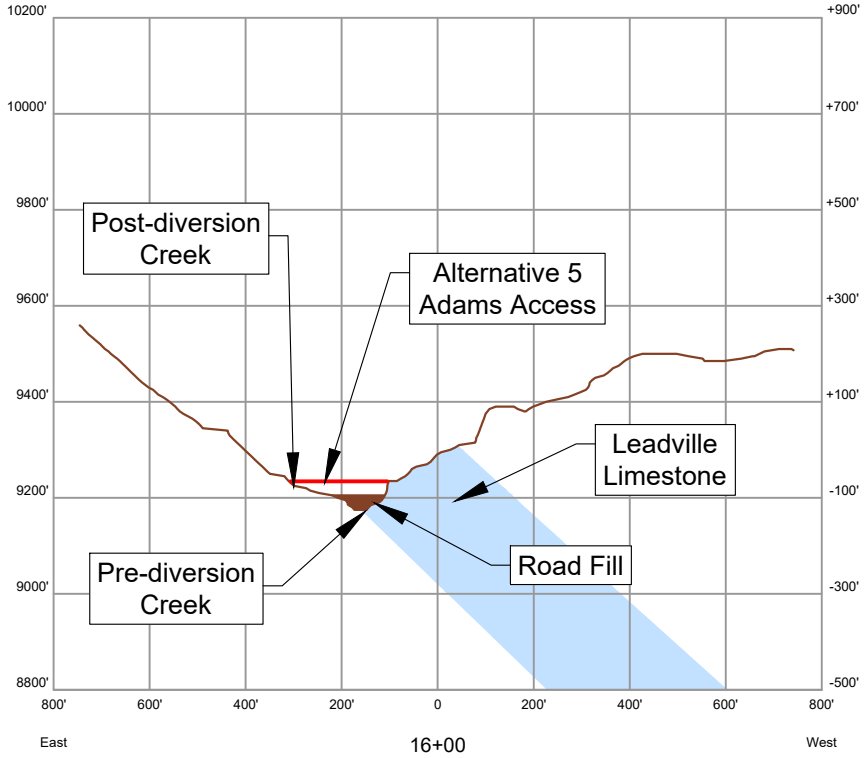


Section 16+00 - Cross Section (19 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th

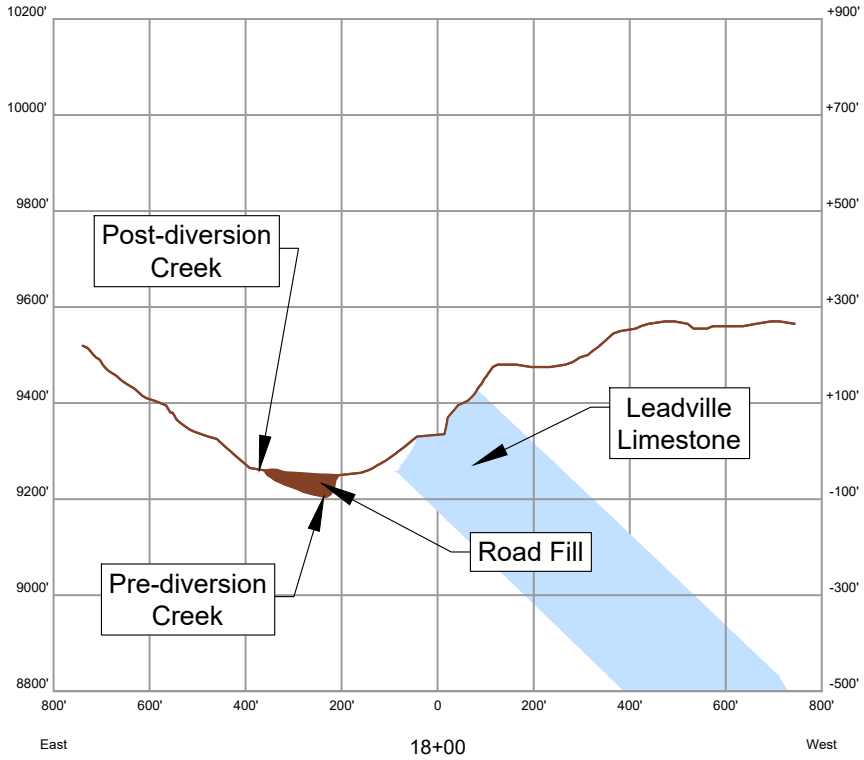
Map Scale: 1":400' (0 400 800 1200)

File Name: PAM 200916.dwg



Section 18+00 - Cross Section (20 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th
Map Scale: 1":400'	0 400 800 1200	
File Name: PAM 200916.dwg		

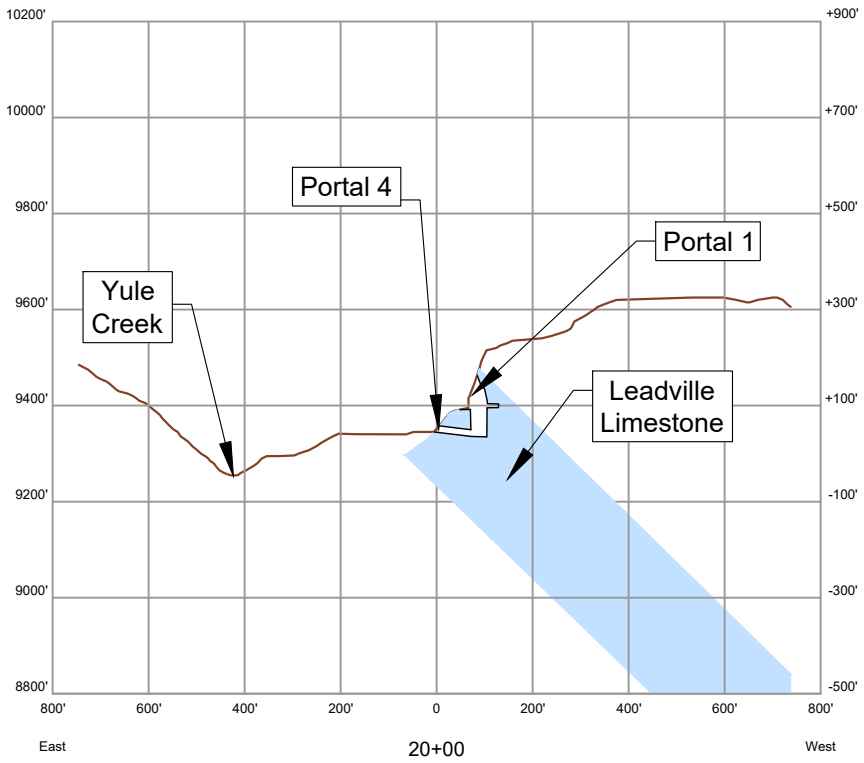


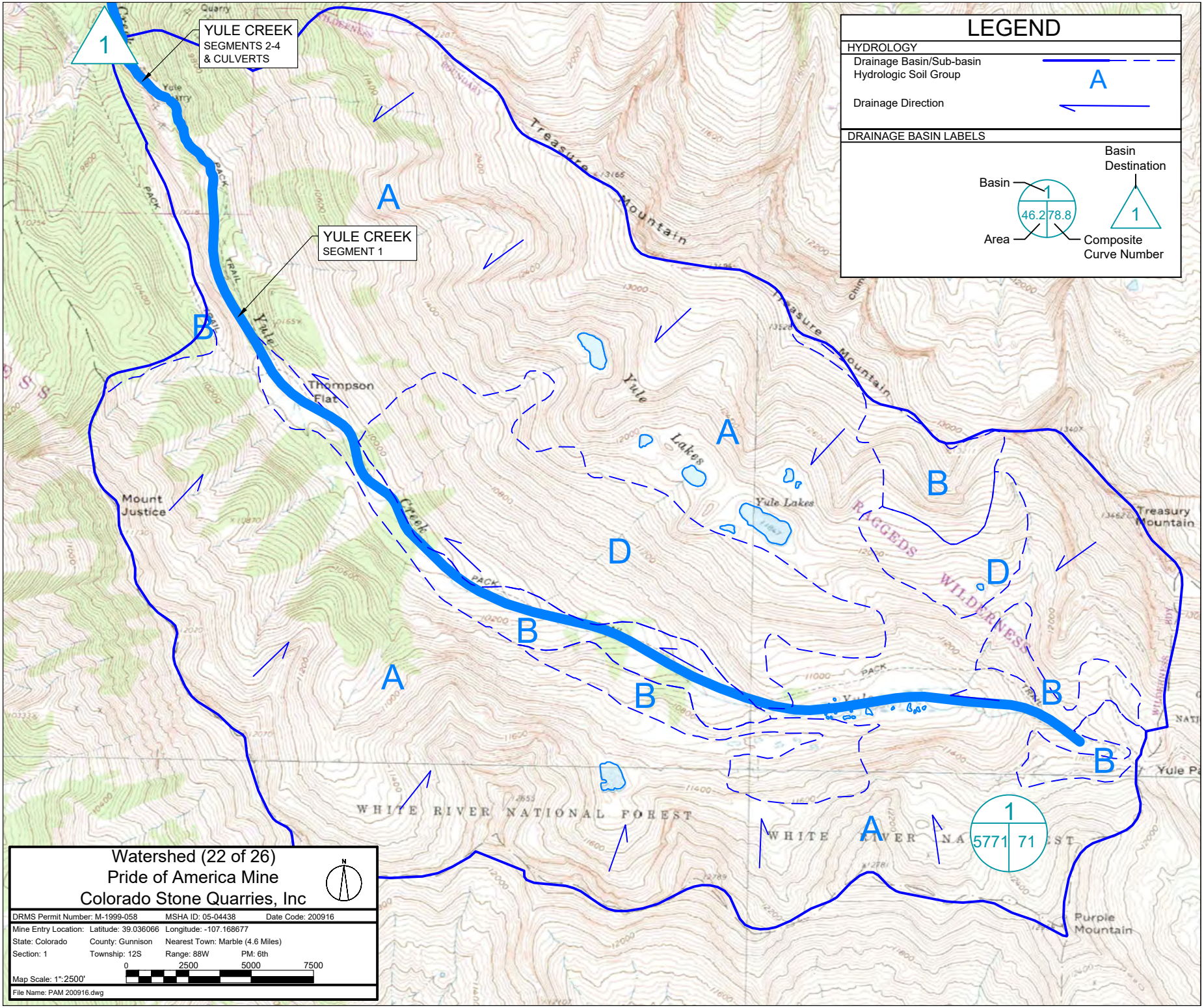
Section 20+00 - Cross Section (21 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058	MSHA ID: 05-04438	Date Code: 200916
Mine Entry Location: Latitude: 39.036066	Longitude: -107.168677	
State: Colorado	County: Gunnison	Nearest Town: Marble (4.6 Miles)
Section: 1	Township: 12S	Range: 88W PM: 6th

Map Scale: 1":400' (0 400 800 1200)

File Name: PAM 200916.dwg





Watershed (22 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

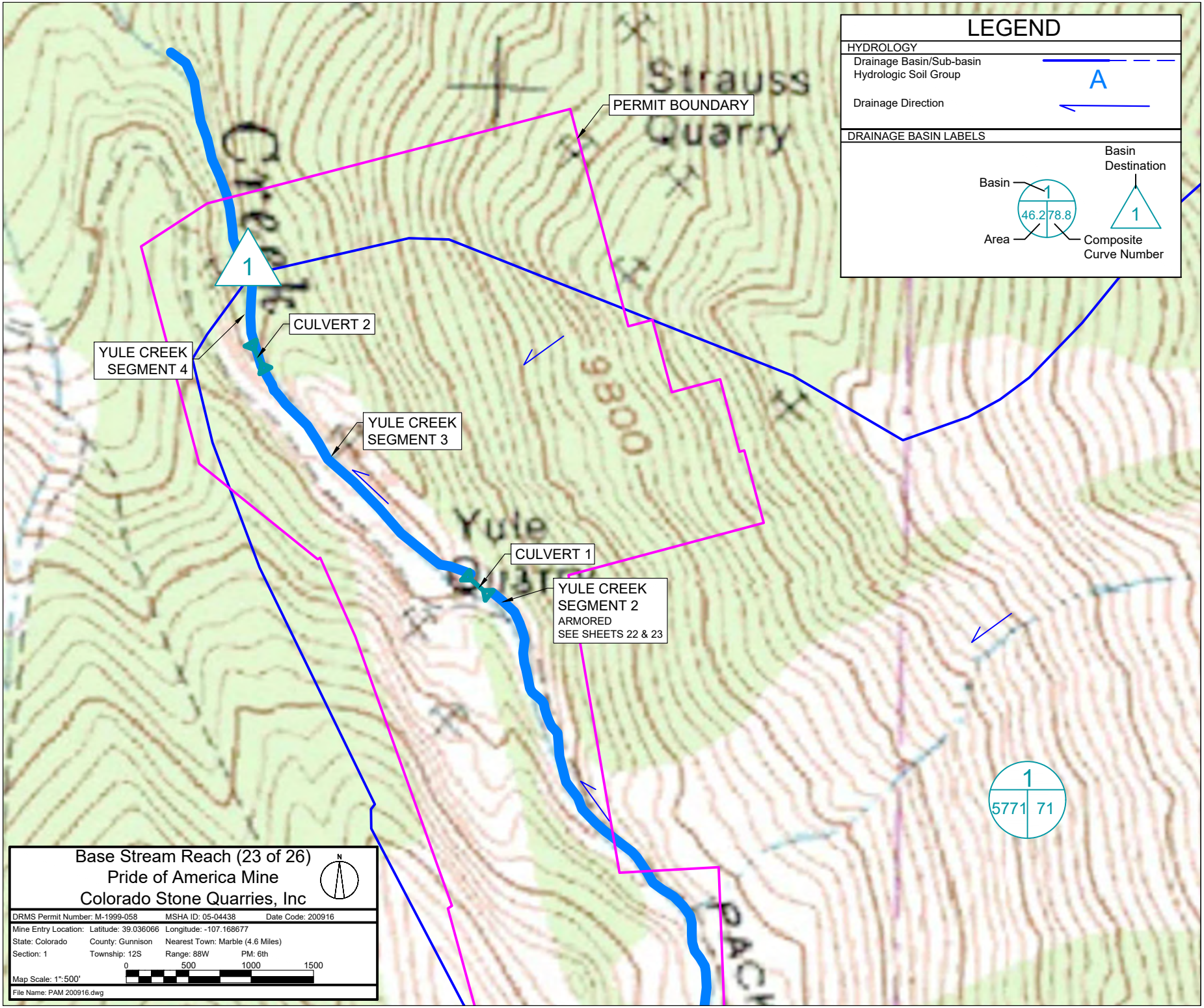
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677

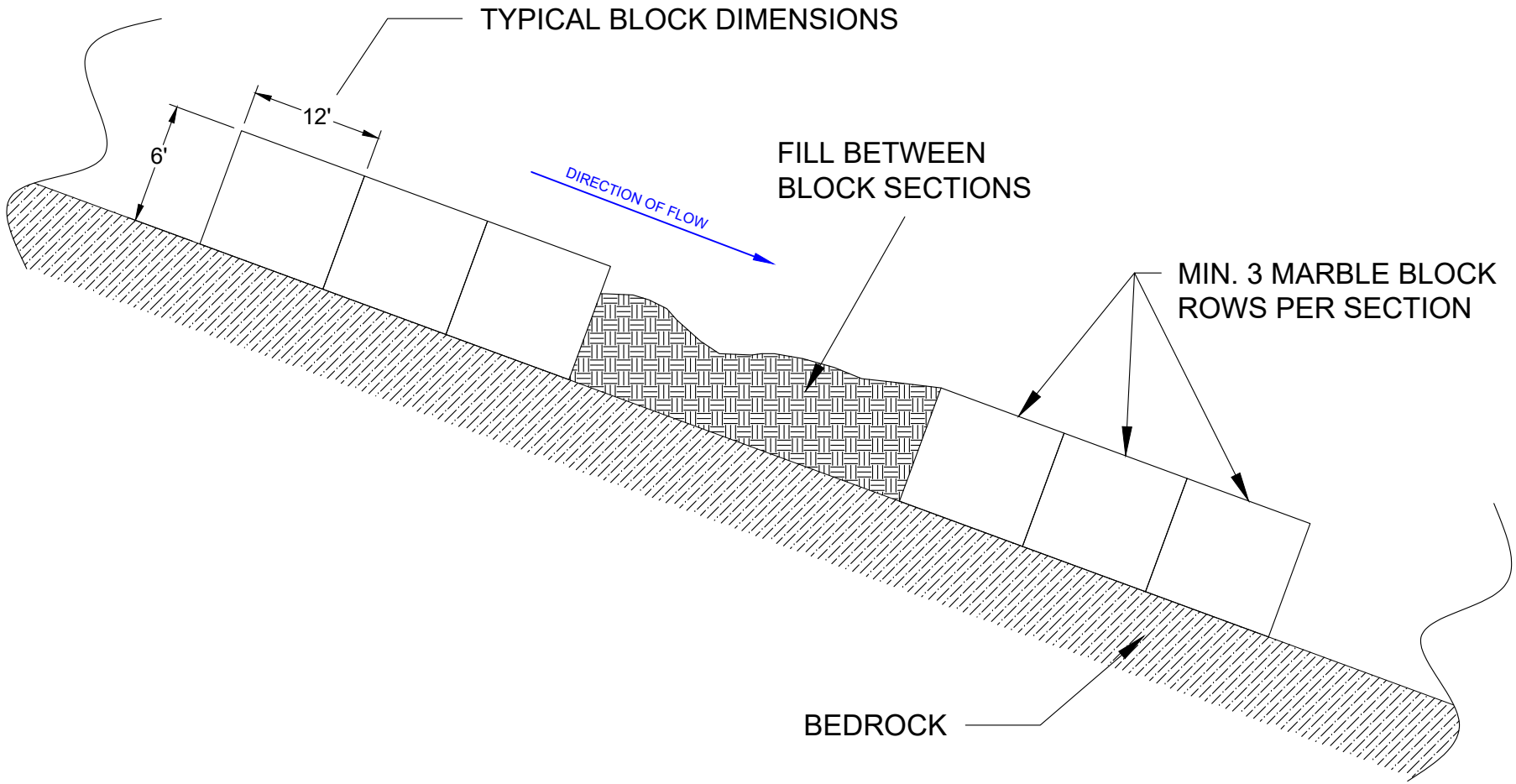
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)

Section: 1 Township: 12S Range: 88W PM: 6th

Map Scale: 1":2500' 0 2500 5000 7500

File Name: PAM 200916.dwg


LEGEND
HYDROLOGY
Drainage Basin/Sub-basin
Hydrologic Soil Group
A
Drainage Direction
DRAINAGE BASIN LABELS
Basin
Basin Destination
1
46.2 78.8
1
Area
Composite Curve Number
PERMIT BOUNDARY
Strauss Quarry
1
CULVERT 2
YULE CREEK SEGMENT 4
YULE CREEK SEGMENT 3
9300
Yule
CULVERT 1
YULE CREEK SEGMENT 2
ARMORED
SEE SHEETS 22 & 23
1
5771 71
Base Stream Reach (23 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc
N
DRMS Permit Number: M-1999-058
MSHA ID: 05-04438
Date Code: 200916
Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado
County: Gunnison
Nearest Town: Marble (4.6 Miles)
Section: 1
Township: 12S
Range: 88W
PM: 6th
0 500 1000 1500
Map Scale: 1":500'
File Name: PAM 200916.dwg



Typical Armoring (Long) (24 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

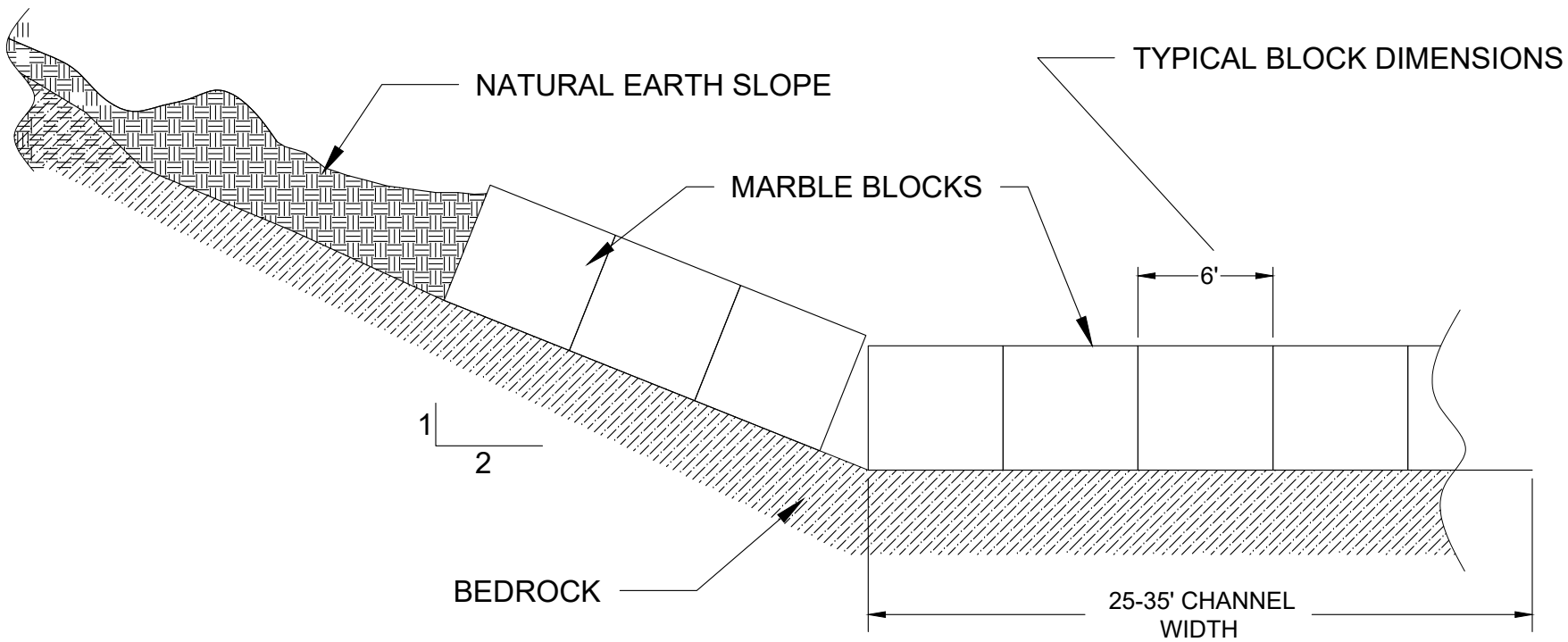
DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th

0
Map Scale: 1":NA

File Name: PAM 200916.dwg

DIRECTION OF FLOW IS INTO SHEET



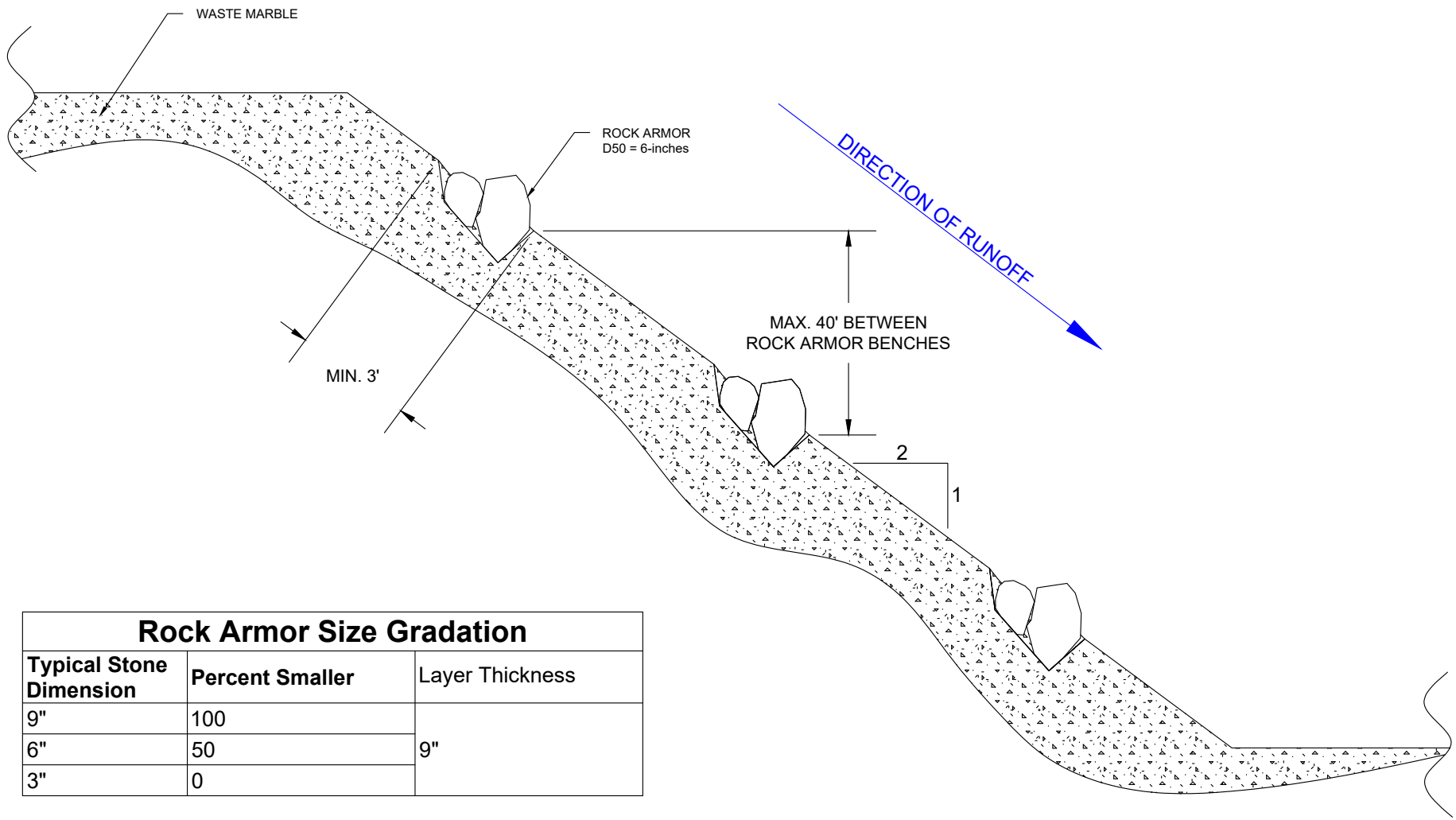
Typical Armoring (Section) (25 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th

Map Scale: 1":NA 0

File Name: PAM 200916.dwg



Rock Armor Size Gradation

Typical Stone Dimension	Percent Smaller	Layer Thickness
9"	100	9"
6"	50	
3"	0	

Typical Dump Slope (26 of 26)
Pride of America Mine
Colorado Stone Quarries, Inc

DRMS Permit Number: M-1999-058 MSHA ID: 05-04438 Date Code: 200916

Mine Entry Location: Latitude: 39.036066 Longitude: -107.168677
State: Colorado County: Gunnison Nearest Town: Marble (4.6 Miles)
Section: 1 Township: 12S Range: 88W PM: 6th

Map Scale: 1":NA 0

File Name: PAM 200916.dwg

Figure 1. View to the south of the Pride of America Mine (PAM) from the October 2, 2019 drone flight. The road in the bottom right corner of the frame is County Road 3c. The west-most and elevated 'road' within the mine area is the Gunnison County ROW walking path. The central road that switch-backs in the southern extent of the mine is the on-site haul road and includes both the on-highway truck access road and the off-highway mine vehicle and equipment road. Photo captured October 2, 2019.

Figure 2. Post-blast smoothing of Belden shale at the northern extent of the access road along cross-section alignment 6+00. The small cabin on the Franklin Ridge is now removed and was located at cross-section alignment 9+00 (location of Figure 4). View to the south, photo captured May 15, 2019.

Figure 3: 2020 Erosion control structures (armoring) and velocity attenuators installed within the eastern channel along cross-section alignment 6+00. View to the south-southeast, photo captured May 13, 2020.

Figure 4. Initial excavation of the Franklin Ridge along the TR-05 temporary access road at approximately 09+00 cross-section alignment. Mining occurred from west to east. View to the south-southeast; photo captured from the access road on October 2, 2019.

Figure 5: Off-highway vehicle and equipment access to the Franklin Quarry from the east adjacent to the eastern Yule Creek alignment along cross-section alignment 15+00. This area represents the area of the eastern alignment to be armored and widened as detailed in Alternative 2. The dump truck in view is parked adjacent to the diversion point. View to the south, photo captured May 5, 2019.

Figure 6: View of the Washington waste rock landform (dump) prior to the initiation of TR-05 construction along cross-section alignment 17+00. Marble blocks are stacked at a 0.5H:1V slope and abut the bedrock cliff to the west. The near vertical marble block wall is backfilled with mixed sized waste to create an unmovable and stable site derived waste management structure. View to the south-southwest, photo captured August 30, 2018.

Figure 7: View of the upper Washington waste rock landform (dump) prior to the initiation of TR-05 construction along cross-section alignment 18+00. Marble rip-rap caps the 1.5H:1V slope above the marble block retaining wall. Notice the bedrock cliff to the west-northwest of the slope. View to the west, photo captured August 12, 2010.

Greg Lewicki And Associates, PLLC
3375 W. Powers Circle Phone: (720) 842-5321 Fax (303) 346-6934
Littleton, CO 80123 E-mail: info@lewicki.biz

Susan Nall, Chief
Colorado West Section
US Army Corps of Engineers
400 Rood Avenue, Room 224
Grand Junction, CO 81501
970-243-1199

March 17, 2020

Delivered Via Email and Federal Express

RE: Response to Request for Enforcement Notice (SPK-2019-00889)

Ms. Nall:

This letter serves as the response of Colorado Stone Quarries, Inc. (CSQ), through Greg Lewicki and Associates (GLA), to the U.S. Army Corps of Engineers' (USACE or Corps) March 5, 2020 Enforcement Notice.

CSQ intends to apply for an Individual Permit, with such permit application to be delivered to the USACE by May 14, 2020. The application will include an Alternatives Analysis that details the three options outlined in my February 14, 2020 email correspondence to you and Ben Wilson. As you note in your March 5, 2020 letter, the time period during which CSQ can undertake construction at the site is limited by the on-going remediation and monitoring efforts associated with the October 2019 spill event. Additionally, as the site is located in a subalpine environment, the weather window for surface construction is temporally limited to May-October in any given year. Accordingly, CSQ will detail timeline limitations in their Individual Permit application.

While CSQ acknowledges that the USACE contends the work conducted by CSQ pursuant to Technical Revision (TR) 05 to its Colorado Mined Land Reclamation Permit did not qualify as an exemption under Section 404 of the Clean Water, CSQ notes that the USACE was provided with notice of the proposed creek diversion and associated road work via verbal communications and email correspondence prior to undertaking the work. USACE also was provided with a copy of TR-05 at the time it was submitted to the Colorado Division of Reclamation, Mining and Safety (DRMS). This timeline of noticing is detailed in my letter to you and to Mr. Wilson dated January 31, 2020. CSQ reasonably concluded that the USACE did not object to the proposed work.

As noted, CSQ intends to work cooperatively with USACE to reach a satisfactory solution that provides the best conditions for Yule Creek given its location immediately adjacent to an active mine site. Additionally, CSQ is willing to host a site visit for all applicable governmental agencies in the summer months to detail the options evaluated in its Individual Permit application. Please contact me should you wish to schedule a site visit and I will coordinate.

Regards,

Katie Todt
Greg Lewicki and Associates, PLLC
(314) 704-455
katie@lewicki.biz

CC: Daniele Treves, Colorado Stone Quarries; Ben Miller, Lewicki and Associates; Dustin Czapla, DRMS; David Baumgartner, Gunnison County Attorney

Greg Lewicki And Associates, PLLC
3375 W. Powers Circle Phone: (720) 842-5321 Fax (303) 346-6934
Littleton, CO 80123 E-mail: info@lewicki.biz

March 12, 2020

Dustin Czapla
Colorado Department of Natural Resources
Division of Reclamation, Mining & Safety
1313 Sherman Street, Room 215
Denver, CO 80203
303-866-3567

Delivered Via Email and Fedex Hard Copy

RE: Pride of America Mine, Colorado Stone Quarries, M-1999-058, Technical Revision - 6 to Modify Fuel Location at the Pride of America Mine, Adequacy Response 1

Dear Mr. Czapla:

Please see the following responses to the adequacy review comments set forth in your letter to me dated March 2, 2020.

1. In order to ensure ongoing protection of nearby Yule Creek, please commit to conducting monthly water sampling at the sump located downgradient from the fuel storage area, adjacent to Yule Creek. Samples should be analyzed for diesel and BTEX constituents. The water quality sampling results shall be submitted to the Division each year as an attachment to the annual report. If elevated levels are noted in any of the monthly samples the Division shall be notified immediately in order to determine an appropriate course of action for mitigation.

Response No. 1. Water sampling of the sump will be conducted in accordance with CSQ's Groundwater Sampling & Analysis Plan, dated March 12, 2020, and prepared by HRL Compliance Solutions, Inc. (HRL) (the Groundwater Plan). A copy is enclosed. As noted in the Groundwater Plan, samples will be analyzed for diesel and BTEX constituents. Monthly sampling of the sump groundwater monitoring well is planned for a 12-month period (January – December 2020) with the three (3) additional groundwater wells being sampled monthly for the remainder of 2020 once they are installed and developed. Sampling results will be submitted to the Division as an attachment to the annual report. The most recent sampling results dated March 6, 2020 are enclosed. In the event concentrations of diesel or BTEX constituents exceed applicable CDPHE thresholds, the Division will be promptly notified so that CSQ and its consultants and the Division can discuss the sampling results

and whether any response actions are required.

In addition to groundwater monitoring, surface water quality samples will be collected at various locations on Yule Creek as part of CSQ's overall water quality monitoring program. The surface water sampling will be conducted in accordance with the enclosed Surface Water Sampling & Analysis Plan, dated March 12, 2020, which was prepared by HRL.

2. Please provide a plan for how the operator will handle and dispose of precipitation that will be captured in the containment structure.

Response 2. CSQ anticipates that, as necessary to maintain appropriate retention capacity, precipitation collected in the containment structure for the stationary fuel tanks and gensets will be periodically pumped into a vacuum truck and hauled offsite to an approved wastewater treatment facility, such as, but not limited to, Greenleaf Environmental Service's facility located in DeBeque, CO. An operating procedure for such water disposal is in process and will be shared with the Division once it is finalized.

3. Please acknowledge that approval of TR-06 will be based on the position of Yule Creek in its present "diverted" channel. Should Yule Creek be returned to its previous channel additional protection and/or monitoring measures may be required.

Response No. 3. CSQ understands and acknowledges that DRMS' approval of TR-06 will be based on the assumption that Yule Creek will remain in its present "diverted" channel and that, should Yule Creek be returned to its previous channel, additional actions/measures may be required.

Please do not hesitate to contact me if you have any questions.

Regards,

Katie Todt, P.G.
Greg Lewicki and Associates, PLLC
(314) 704-4505
katie@lewicki.biz

CC: Daniele Treves, Colorado Stone Quarries; Ben Miller, GLA; David Baumgartner, Gunnison County Attorney

Enclosures:
- Colorado Stone Quarries - Diesel Spill - Groundwater Sampling and Analysis Plan

- (Final 3.12.20).pdf
- Colorado Stone Quarries - Master Data Tracker 3.6.20.xlsx
- Colorado Stone Quarries - Diesel Spill - Surface Water Sampling and Analysis Plan - (Final 3.12.20).pdf

COLORADO STONE QUARRIES

MARBLE QUARRY DIESEL SPILL

BIOREMEDIATION TREATMENT PLAN

Gunnison County, CO

March 12, 2020

HRL COMPLIANCE SOLUTIONS

Prepared by:
HRL Compliance Solutions, Inc.
2385 F ½ Road
Grand Junction, CO 81505

CONTENTS

I. Purpose and Scope 1
II. Plan Applicability 1
A. Bioremediation Background 1
III. Bioremediation Treatment Port Design 2
IV. Infiltration Trench 2
V. Product Application 3
B. Winter Treatment 3
C. Summer Treatment 3
D. Treatment Conditioners 3
VI. Closure 3
VII. Conclusion 3

FIGURES

Figure 1: Treatment System Design
Figure 2: Treatment System Injection Port Design

I. Purpose and Scope

This plan outlines the bioremediation treatment details associated with the diesel fuel spill that resulted in ~5,500 gallons of diesel being released to the underlying soils as the result of a diesel pump supplying fuel to a generator mishap.

Colorado Stone Quarries (CSQ) reported on October 16, 2019 to the Department of Reclamation and Mining Safety (DRMS) and Colorado Department of Public Health and Environment (CDPHE) that a diesel fuel release occurred on October 12, 2019 from an above ground storage tank, impacting the underlying soils below the tank and generator. CSQ personnel discovered diesel fuel daylighting within a downgradient sump, ~1,200 feet downgradient. The CDPHE issued the release spill tracking # 2019-0587 and noted that DRMS will be the lead agency on monitoring the remediation.

HRL Compliance Solutions Inc. (HRL) was contracted on October 23, 2019 to perform an initial onsite and evaluate the impacted area to provide support for initial clean-up in conjunction with remediation, sampling, waste management and monitoring support.

The following information is to provide details of the treatment process, frequency, contingency plans and ultimately closure of the diesel impacted material. It should be noted that changes in the project scope may directly affect the specifics of this treatment plan.

II. Plan Applicability

This plan is applicable to the in-situ bioremediation of the diesel impacted soil in the underlying fill material and area designated as the "sump basin". This plan is not intended to be used as a ground/surface water remediation plan and is limited to soil/solid media.

A. Bioremediation Background

Enhanced and augmented aerobic bioremediation technologies are used to accelerate naturally occurring in-situ remediation of petroleum hydrocarbons by indigenous microorganisms and supplement with additional hydrocarbon-degrading microbes in the subsurface. Enhanced aerobic bioremediation technologies to be utilized at this site include the addition of a specifically formulated and engineered Micro-blaze product targeting diesel range organics (C12-C15) through the addition of hydrocarbon-degrading bacteria such as pseudomonas, bacillus, brevebacterium, and others. In addition to the bacteria, there are other non-toxic trade secrete compounds that increase the production of biosurfactants to facilitate the reduction of surface tension and formation of micelles enabling the release of hydrocarbons from soil chemical bonds allowing for microbe utilization. In addition to utilizing enhanced augmented methodologies, the use of oxygen releasing compounds such H2O2 to chemically enhance the treatment water will be employed to maintain optimal aerobic activity. These technologies work by providing a supplemental supply of oxygen to the subsurface, which becomes available to aerobic, hydrocarbon-degrading bacteria. The stoichiometric ratio of oxygen per hydrocarbon is 3 M O2 per 1 mole of hydrocarbons. Oxygen is considered by many to be the primary growth-limiting factor for hydrocarbon degrading bacteria, and it is normally depleted in zones that have been contaminated with hydrocarbons. By using these technologies, rates of biodegradation of petroleum hydrocarbons can be increased at least one, and sometimes several, orders of magnitude over naturally-occurring, non-stimulated rates.

Of all the limiting factors associated with active aerobic bioremediation, the primary limiting factor will be temperature. Typically, optimal temperature for average microbe replication is 75°F to 90°F. Activity will be reduced as temperatures vary from the optimal range. Expected site conditions will be between 55°F and 60°F and slower than optimal activity is expected. Since treatment is planned through the addition of water, microbes, oxygen and nutrients utilizing treatment ports, temperature will be manipulated to maintain more optimal conditions when possible as described below.

During the treatment process, if it is identified that ground/surface water is impacted, an amendment or revision to the bioremediation plan will be conducted outlining the specifics of groundwater and surface water monitoring and remediation.

III. Bioremediation Treatment Port Design

For soils that cannot be excavated and transported offsite to disposal at South Canyon Landfill, HRL proposes to treat the impacted soils in-situ via infiltration of bioremediation treatment through a PVC infiltration piping gallery and gravity feed percolation.
Three (3) 10-slot 2" PVC laterals will be installed horizontally in the bottom of the excavation at the release point of origin. The treatment system will be installed approximately 10 feet below ground surface (bgs), with each lateral extending approximately 25-30ft. The slotted PVC piping system will be placed on the southeastern and southwestern side of the excavation, and one lateral extending through the middle of the impacted area (See Figure 1). The horizontal laterals will come together at one focal point located on the southeast corner of the excavation but contain separate ports for flow control and isolation of the treatment lateral.
The 2" PVC riser ports extending above ground will contain a butterfly valve and a threaded plug to prevent precipitation from entering the ports, as well as aid in preventing freezing of the bioremediation product.

During construction of the treatment ports, modifications to the center lateral may consist of solid stem PVC with slotted 2" PVC pipe extending off the main line to increase the effective treatment area and additional underlying pathways throughout the impacted area.
The treatment system will be backfilled with 3/4-inch washed gravel providing protection and preventing a compacted oxygen depleted environment (See Figure 2).
Once the gravel is placed around the infiltration laterals, backfilling of the excavated area will occur with clean fill material from the surrounding area. Large marble blocks will be placed within the excavation adjacent to the PVC pipe for added support. Upon backfilling of the excavated area, CSQ will install a poly liner to serve as spill containment for the generator and fuel tanks.

IV. Infiltration Trench

Groundwater monitoring wells will be installed downgradient of the in-situ treatment system to monitor the effectiveness of the treatment process. If it is determined that the treatment application is not adequately treating areas downgradient or missing target areas, infiltration trenches can be installed to allow additional application of bioremediation product.

Due to the location of this release and winter weather, as well as limited information currently available regarding the area of influence from the initial treatment, infiltration trenches would not be recommended until the spring/summer of 2020 when the soils and outside temperatures are more favorable to bioremediation.

V. Product Application

The initial application of bioremediation product will be applied at a 10% concentration to the soils within the open excavation via aspiration nozzle and pump. A total of 500-550 gallons will be utilized during the initial application from fresh water pumped from the adjacent Yule Creek. Fresh water from Yule Creek is ideal due to the water already containing the natural elements typical for this area, as well as a great source of dechlorinated water, preventing mortality of the bioremediation enzymes.
Water and Microblaze product will be mixed together at the appropriate ratios and sprayed into the excavation during the initial treatment to provide a thorough application prior to backfilling. For subsequent treatment applications, micro-blaze, nutrients and oxygenating compounds will be gravity fed through the treatment system.

B. Winter Treatment

Follow-up applications via the infiltration ports will occur monthly throughout the winter months when conditions allow. Product will be applied at an 8-10% concentration, utilizing water from Yule Creek and mixed onsite as needed. The amount of bioremediation product applied will vary on timing of the year but will typically consist of 550-1000 gallons of water to bioremediation product and amendments.

C. Summer Treatment

During the spring/summer months, when temperatures are optimal for bioremediation activity and snow runoff is occurring, a second treatment will be applied to continue the bioremediation process. Additionally, based on runoff volumes, a higher quantity may be applied using the runoff water flowing above the previous creek channel to provide the necessary ratio to activate the microbes and transport the product downgradient. Summer treatments are going to vary based on hydrocarbon concentrations within the downgradient monitoring wells and hydrocarbon concentrations within the soil. The amount of treatment product will likely remain the same, 550-1000 gallons, although concentrations and frequency are going to be dependent on conditions and contaminant concentrations.

D. Treatment Conditioners

As with all microbial activity, bioremediation products require a food source and oxygen. It will be necessary to include a periodic treatment of oxygenated water and liquid fertilizers to enhance and keep the microbial activity optimal

VI. Closure

Closure of the project will be based on the conditions set forth by the regulatory agencies providing oversight. Upon completion of the bioremediation process, PVC infiltration ports can be filled with sand and/or cut at or below ground surface and capped.

VII. Conclusion

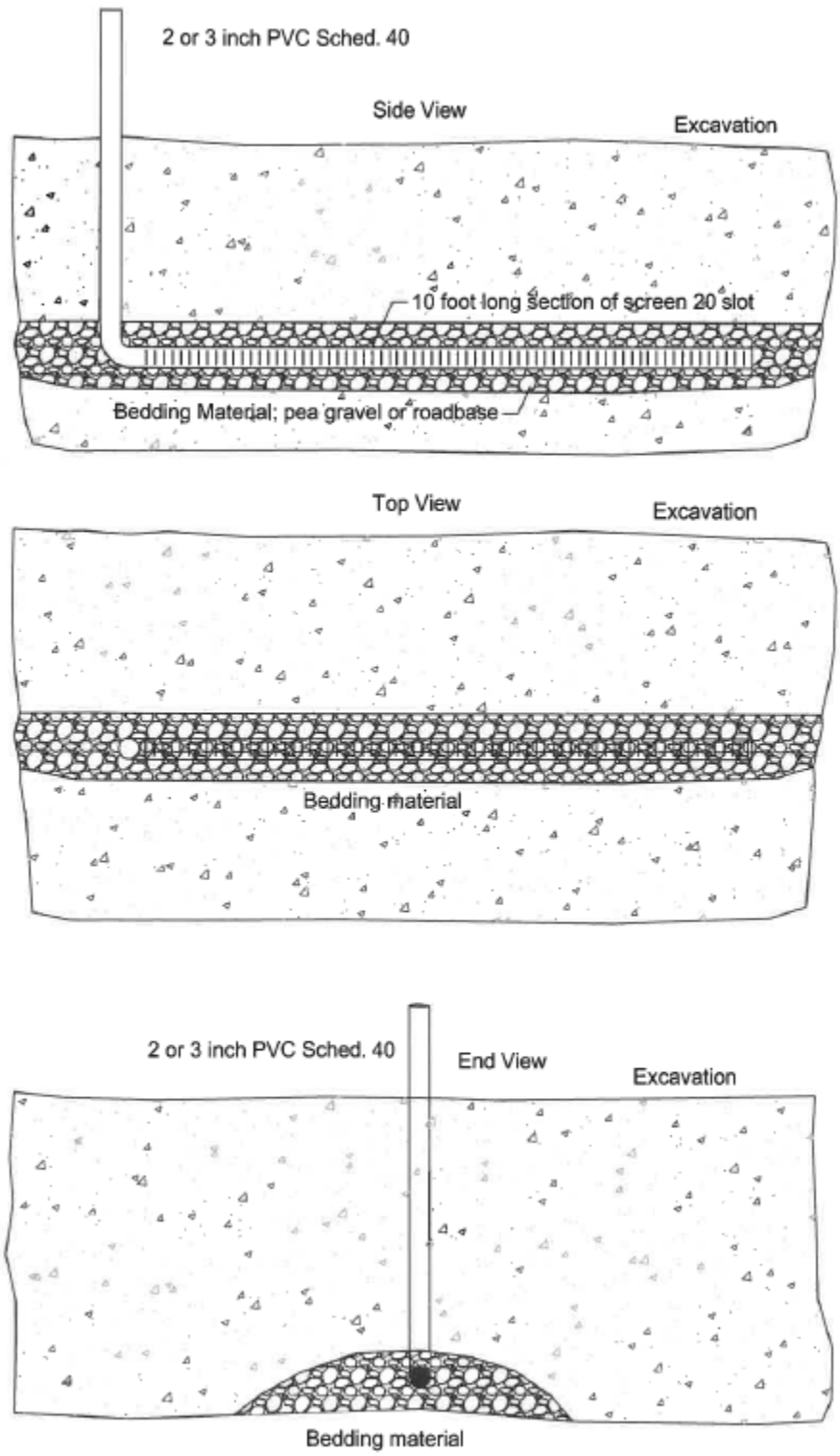
The information outlined above is designed and intended the enhance the bioremediation of diesel impacted soils. Please note that changing conditions, site activity, geochemistry and other unforeseen circumstances may

affect the treatment process which will require modifications to the treatment process. All changes or modifications to the bioremediation process will be communicated and provided in a written revision/amendment to this plan.

As underlying soil conditions have not been evaluated HRL cannot provide a timeline of when the proposed in-situ remediation will be completed, however due to the location of the release and composition of the fill material, HRL feels that in-situ is the most effective course of remediation at this time.

Figure 1: Treatment System Design

Figure 2: Treatment System Injection Port Design



COLORADO STONE QUARRIES

MARBLE QUARRY DIESEL SPILL

GROUNDWATER SAMPLING & ANALYSIS PLAN

Gunnison County, CO

March 12, 2020

HRL COMPLIANCE SOLUTIONS

Prepared by:
HRL Compliance Solutions, Inc.
2385 F ½ Road
Grand Junction, CO 81505

CONTENTS

I. Purpose and Scope 1
II. Plan Applicability 1
III. Monitoring Well Installation 1
A. Groundwater Wells 2
B Sump Well 2
IV. Sampling Schedule 3
A. Winter Sample Schedule 3
B. Summer Sampling Schedule 3
C. Compromised/Damaged/Dry Wells 3
V. Sampling Procedures 4
A. Container Prep 4
B. Equipment Prep 4
C. Purging 5
D. Sample Collection 5
VI. Sampling Analysis 5
VII. Conclusion 6

FIGURES

Figure 1: Groundwater Monitoring Well Location Map
Figure 2: Groundwater Monitoring Well Installation Diagram

I. Purpose and Scope

This plan ("Plan") outlines the groundwater monitoring well installation and sampling that will occur at the Colorado Stone Quarries (CSQ) Marble Mine to monitor groundwater for hydrocarbon constituents associated with the October 11, 2019 diesel fuel spill. The spill released approximately 5,500 gallons of diesel to the fill material near Portal 4 as a result of an accidental overfill of a generator day tank.

On October 16, 2019, Colorado Stone Quarries (CSQ) reported to the Colorado Division of Reclamation, Mining and Safety (DRMS) and the Colorado Department of Public Health & Environment (CDPHE) that a diesel fuel release occurred on October 11, 2019 from an above-ground storage tank which impacted the underlying fill material below the tank and an associated generator. CSQ personnel discovered diesel fuel daylighting within a sump, approximately 1,200 feet downgradient from the release point. CDPHE issued a release spill tracking # 2019-0587 and noted that the DRMS will be the lead agency on monitoring the remediation.

HRL Compliance Solutions Inc. (HRL) was contracted on October 23, 2019 to perform an initial onsite inspection and evaluate the impacted area to provide support for initial clean-up in conjunction with remediation, sampling, waste management and monitoring support.

The following information provides details regarding the groundwater monitoring well installation, development, and sampling & analysis of the groundwater within and/or below CSQ's road fill material. This plan is designed to outline the frequency of sampling, sampling and analytical procedures, and contingency plans should detections above the regulatory thresholds be observed. It should be noted that changes in the nature and scope of this project may directly affect the specifics of this plan.

II. Plan Applicability

This plan is applicable to groundwater monitoring at the CSQ quarry within the former channel of Yule Creek. A total of four (4) groundwater monitoring wells are proposed; one will be installed upgradient from the release point and two will be installed downgradient of the release point. The fourth monitoring well, which has already been installed within the sump basin on November 15, 2019, is located approximately 1,200 feet from the release point. (See Figure 1)

It should be noted that the sampling and analysis components of this Plan are currently being implemented for the sump well to monitor groundwater quality in the sump area. The other three wells (MW 1 – 3) located between the sump and the point of release have not yet been installed. MW 1-3 were initially planned for installation during late December 2019 or early January 2020. However, due to equipment failure, winter weather, freezing of the subsurface soils, and snow accumulation preventing access, installation of MW 1-3 was postponed until the Spring/Summer 2020.

III. Monitoring Well Installation

A groundwater monitoring well installation Notice of Intent (NOI) was submitted to the Colorado State Engineer's Office on November 12, 2019, satisfying the required 72-hour notice before installation was completed. The NOI is valid for a period of 90 days from the time of submittal. Therefore, due to the delay in installation of MW 1-3 a new NOI will need to be submitted as the previous one will have expired.

A. Groundwater Wells

During the spring/summer of 2020, three (3) groundwater monitoring wells will be installed to a depth of approximately 50-60ft, where the previous Yule Creek channel flowed as depicted in Figure 1.

- MW 1 is located approximately 225ft above the point of release and is intended to serve as an upgradient background monitoring well,
- MW 2 is located at approximately 250ft downgradient from the spill area, and
- MW 3 is located approximately 750ft downgradient from the spill area,

Figure 1 depicts the approximate locations of the wells; however, actual locations of the wells may change depending on site layout and subsurface soil conditions.

The monitoring wells will be constructed with 2" schedule 40 PVC with approximately 40-50ft of solid PVC riser and the bottom 5-10ft consisting of 10-slot perforated screen. Once the PVC is installed, pea-gravel will be utilized to backfill around the screened interval to allow for groundwater to flow. Backfill above the screened interval around the solid PVC riser may consist of road-base fill, native soil from the surrounding area, and blasting material stockpiled at the quarry as long as it does not contain rocks larger than 2 ". Refer to Figure 2 for a diagram of the groundwater monitoring well installation.

Once backfilled, the 2" PVC riser will extend above ground approximately 2-3ft and will be capped with a J-Plug or threaded plug to prevent precipitation and any foreign material from entering the well and locked for security. As outlined in the top view of Figure 2, marble blocks will be placed around the well to ensure integrity of the well and prevent damage from surface activities.

Development of the groundwater monitoring wells will be completed by utilized a submersible pump designed to remove sediment or a steel submersible bailer. A minimum of 3 casing volumes will be purged from each well.

B. Sump Well

A 4" PVC groundwater monitoring well was installed on November 15, 2019 within the sump area after it had been reinforced with marble blocks on the downgradient side and backfilled 10-12ft. Marble blocks were also placed around a small area of the backfilled sump area that had been left open to allow for groundwater monitoring and to provide protection to the well from settling/shifting soils or large snow accumulation and movement.

The well was installed to a depth of 15 feet below the current ground surface of the sump basin, with 10ft of solid 4" PVC riser and 5ft of 4" slotted PVC extending below the water table. Pea-gravel was placed around the slotted PVC to provide stabilization and allow for groundwater flow.

Development of the sump groundwater monitoring well consisted of purging water utilizing a stainless-steel bailer until the water indicated that sediment had been removed. A 4-inch J-Plug was placed in the top of the PVC riser, to prevent precipitation and foreign material from entering the well.

IV. Sampling Schedule

A. Winter Sample Schedule

During the winter/spring months, all three groundwater monitoring wells and the sump well will be sampled on a monthly basis as long as safe access is possible. If site conditions at any of the groundwater monitoring wells prevent safe access, sampling of that well will not be conducted at that time and either re-scheduled or postponed until the following month.

To access the sample locations during the winter months, sampling personnel may utilize some of, but are not limited to, the following equipment, in additional to their regular required PPE, to ensure safe sampling procedures are being followed:

- Snowshoes
- Avalanche location beacon
- Microspike footwear traction
- Ladder / Tether

If snowpack volumes accumulate to the point where the monitoring wells are inaccessible, notice will be provided to the DRMS and sampling will cease until access can be re-evaluated and deemed safe for personnel to resume sampling activities.

B. Summer Sampling Schedule

During the summer and early fall months, or when normal access is feasible, samples from the groundwater monitoring wells will occur on a monthly basis at all three (3) monitoring wells and the sump well.

It may be necessary to conduct bi-monthly (2x per month) sampling of individual monitoring wells if significant changes to groundwater quality conditions are observed between sampling events, large fluctuations in water levels due to seasonal runoff, or changes to the treatment/remediation plans.

Equipment used to access the sample locations may consist of, but is not limited to, the following:

- Waterproof / resistant clothing & PPE
- Microspike footwear traction
- Ladder / Tether

C. Compromised/Damaged/Dry Wells

Should the integrity of a well be compromised by subsurface movement or other damage that prevents sampling from occurring, the well will either be plugged and abandoned in accordance with Colorado Division of Water Resources (CDWR) (also known as the Office of the State Engineer or the State Engineer's Office) requirements and a new one installed, or the monitoring of the groundwater in that area will be re-evaluated.

If a well does not yield a measurable amount of water due to seasonal groundwater fluctuations (drought, low flow, etc.), sampling of that well will be postponed until a measurable amount of water is observed.

Any material changes to the groundwater sampling schedule or integrity of the monitoring wells will be reported to the DRMS.

V. Sampling Procedures

All samples will be collected by individuals experienced with water quality sampling and sent to a laboratory accredited by the National Environmental Laboratory Accreditation Program (NELAP). Sampling personnel will ensure the following procedures are followed at each sample location.

A. Container Prep

New, unused sample containers required by the lab for the specified analysis will be obtained the week before sampling is scheduled to ensure preservation volumes within the containers meet laboratory specifications.

Sample containers will consist of the following:

- (6) 40 ml clear glass vials preserved with HCL
- (2) 125 ml amber glass jars (no preservative)
- (1) 500 ml poly jar (no preservative)

B. Equipment Prep

To reduce the risk of cross contamination, sampling personnel will ensure new, unused nitrile gloves are used during each sampling event, which includes changing gloves between each sample location. Utilizing nitrile gloves will also ensure that acid preservation within the sample bottles do not come in contact with the sampler's hand/skin.

All sampling equipment (bailer, submersible pump, water level indicator, peristaltic pump, etc.) will be properly decontaminated between sample locations. Single use sampling equipment, such as poly submersible bailer and rope will be discarded after the sample usage for that well.

- Sample Coolers – All coolers will contain the necessary volume of ice to preserve sample containers to 4° F and each cooler will contain a temperature and trip blank to accompany the samples to the lab.
- Water Level Indicator - A 200ft water level indicator will be utilized to obtain water level measurements before each sampling event.
- Submersible pump – A GeoSub SS submersible pump with a flow controller and polyethylene tubing will be utilized to purge the monitoring well the necessary casing volume and obtain the necessary sample.
- Water Quality Meter - All water quality readings will be collected utilizing a YSI 556 MPS water quality meter.

Equipment will be calibrated prior to use to ensure accuracy of readings collected. Field parameters will be recorded on a groundwater field data sheet and retained for trend analysis. If conditions

(freezing, fast runoff, presence of free phase product, etc.) are present, then field parameters may not be collected as these conditions can be detrimental to the field parameter unit.

C. Purging

Each of the groundwater monitoring wells will be purged by pumping 3-casing volumes prior to sample collection to ensure that an accurate representation of the groundwater is obtained. All purge water will be collected in a clean 5-gallon poly bucket and evaluated for contamination. If the purge water is believed to be impacted by hydrocarbons, it will be properly contained and disposed of at an approved and permitted disposal facility.

If during the purge process, water levels drop or a well does not recharge (runs dry), personnel will continue on to the subsequent wells for purging and sampling and revisit the well at the end of the day. If the well has still not recharged at that time, the well will be allowed to recharge for a 24-hour period and resampled the following day without purging.

D. Sample Collection

Samples will be collected from the polyethylene tubing connected to the submersible pump from each of the monitoring wells.

Containers requiring zero headspace will be checked to ensure that no bubbles are present exceeding the laboratory specifications. If a bubble is observed, the sample will be retained and remain within the container as it contains an acid preservation. However, a second container will be filled to fulfill the laboratory container requirements. Both samples will be submitted to the lab for proper management.

VI. Sampling Analysis

Each monitoring well sample will be submitted for the following analysis;

• Diesel Range Organics (DRO)	Method 8015C
• Gasoline Range Organics (GRO)	Method 8015D
• Poly-Aromatic Hydrocarbons (PAH)	Method 846 8270D
• Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	Method 8260C

Additional analysis will be added as requested by regulatory agencies or as needed to evaluate other parameters of water quality.

Samples will be submitted to Pace Analytical Laboratories (Pace). Analysis will be requested on a standard five (5) business day turn, unless rush analysis is required, at which time 24-hour reporting will be requested from the lab. Should Pace be unable to meet the demands of the project, an alternate NELAP lab will be identified and approved by personnel overseeing this project and the applicable regulatory agency(ies) before utilization.

VII. Conclusion

The information above is designed to outline the sampling procedures and processes to evaluate the groundwater quality at the CSQ Marble Quarry and the subsurface hydrocarbon contamination associated with the diesel release.

As outlined in this Plan, monthly sampling of the sump groundwater monitoring well is planned for a 12-month period (January – December 2020) with the three (3) additional groundwater wells being sampled monthly for the remainder of 2020 once they are installed and developed.

A summary of the groundwater data will be compiled into an annual report. In the event the timeline of sampling and monitoring is materially revised as a results of data results obtained throughout 2020 or for other reasons, the DRMS (and other regulatory agencies, as applicable) will be so advised.

If changes occur to the site and project, alterations to this plan may be required. This document is intended to be a living document and any revisions will be noted on the cover page with the revision date and provided to the DRMS (and other regulatory agencies, as applicable) for approval.

FIGURE 1

Groundwater Well Location Map

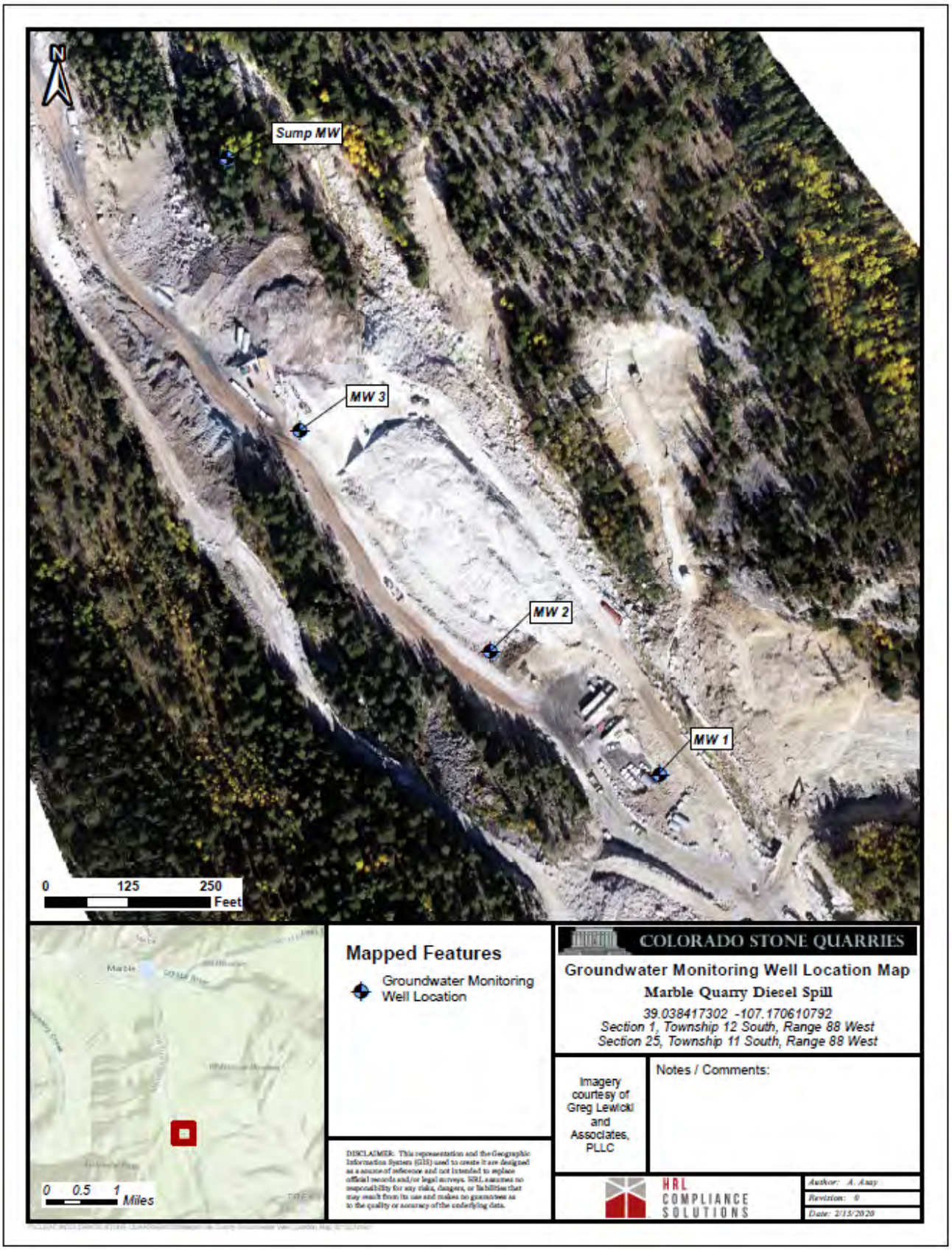
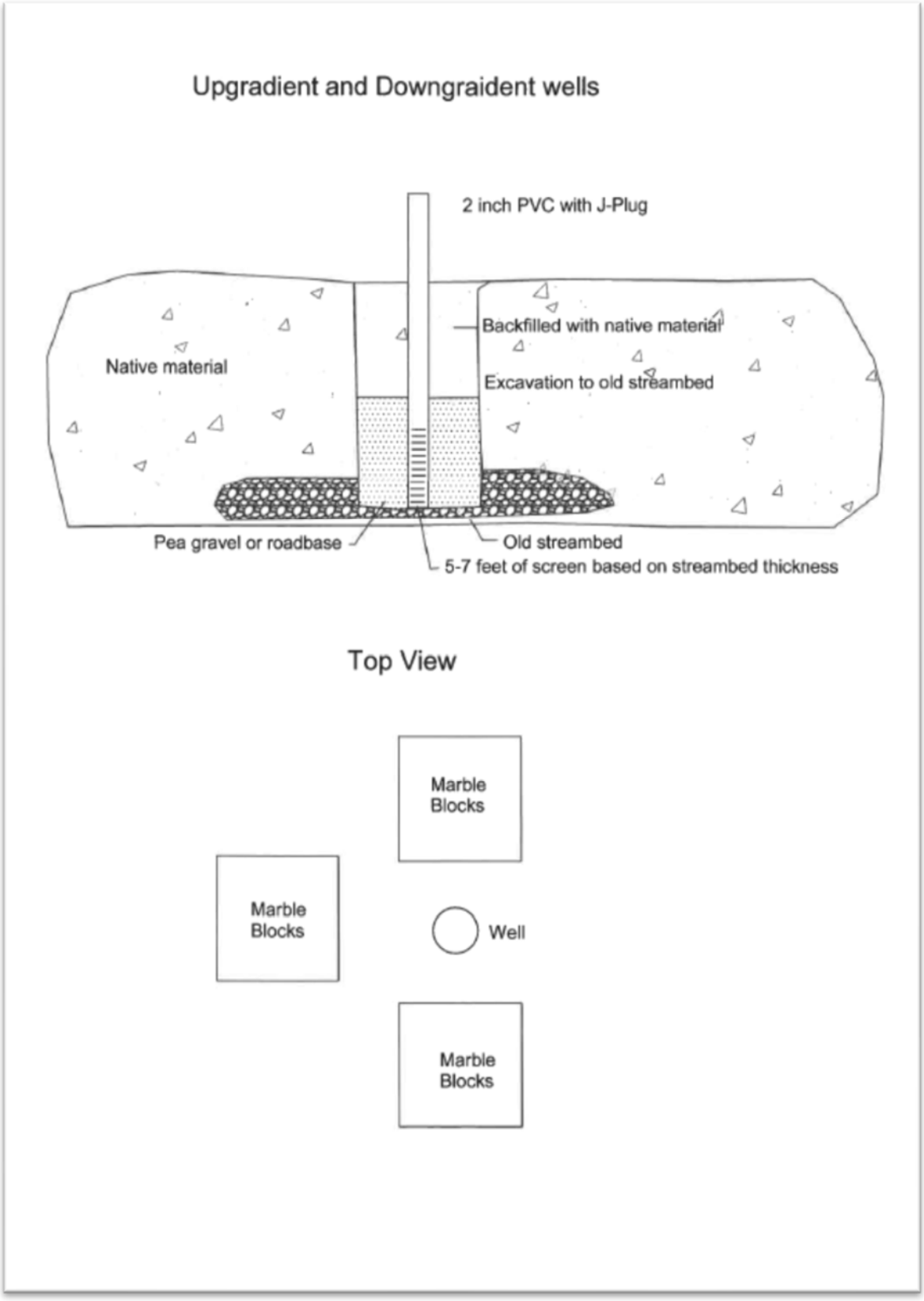


FIGURE 2

Groundwater Well Install Diagram



COLORADO STONE QUARRIES

MARBLE QUARRY DIESEL SPILL

SURFACE WATER SAMPLING & ANALYSIS PLAN

Gunnison County, CO

March 12, 2020

HRL COMPLIANCE SOLUTIONS

Prepared by:
HRL Compliance Solutions, Inc.
2385 F ½ Road
Grand Junction, CO 81505

CONTENTS

I. Purpose and Scope 1
II. Plan Applicability 1
III. Sampling Locations 1
A. Upgradient (UG 1) 1
B. Cross Gradient (CG 1) 1
C. Downgradient #1 (DG 1) 2
D. Downgradient #2 (DG 2) 2
E. Downgradient #3 (DG 3) 2
F. Downgradient #4 (DG 4) 2
G. Downgradient #5 (DG 5) 2
H. Confluence Point 2
IV. Sampling Schedule 2
A. Winter Sample Schedule 2
B. Summer Sampling Schedule 3
C. Quarterly/Contingent Sampling 3
V. Sampling Procedures 4
A. Container Prep 4
B. Equipment Prep 4
C. Sample Collection 5
VI. Sampling Analysis 5
VII. Conclusion 5

FIGURES

Figure 1: Surface Water Sample Location Map
Figure 2: Surface Water Sample Location Map (overview)
Figure 3: Surface Water Sample Location Map (aerial image)

I. Purpose and Scope

This plan outlines the surface water sampling and analysis that will be conducted to monitor the water quality in Yule Creek and other surface water sampling locations associated with the October 2019 diesel fuel spill. That spill released approximately 5,500 gallons of diesel to road fill material near Portal 4 as a result of an accidental overfill of a generator day tank.

On October 16, 2019 Colorado Stone Quarries (CSQ) reported to the Department of Reclamation and Mining Safety (DRMS) and Colorado Department of Public Health and Environment (CDPHE) that a diesel fuel release occurred on October 11, 2019 from an above ground storage tank which impacted the underlying fill material below the tank and an associated generator. CSQ personnel discovered diesel fuel daylighting within a sump, approximately 1,200 feet downgradient from the release point. CDPHE issued a release spill tracking # 2019-0587 and noted that the DRMS will be the lead agency on monitoring the remediation.

HRL Compliance Solutions Inc. (HRL) was contracted on October 23, 2019 to perform an initial onsite inspection and evaluate the impacted area to provide support for initial clean-up in conjunction with remediation, sampling, waste management and monitoring support.

The following information provides details of the surface water sampling on Yule Creek, outlining the frequency, sample procedures, analysis and contingency plans should detections above the regulatory threshold be observed. It should be noted that changes in the project and scope may directly affect the specifics of this surface water sampling & monitoring plan.

II. Plan Applicability

This plan is applicable to the surface water monitoring on Yule Creek and any other associated surface water sampling and/or monitoring that may be incorporated after the date of this plan. This plan is intended to ensure that all surface water samples collected as of January 2020 are sampled in accordance with this plan and documented properly. For specifics regarding groundwater sampling and monitoring, please refer to CSQ's "Groundwater Sampling & Monitoring Plan."

Ongoing surface water sampling of Yule Creek will be conducted at previously established sample locations along Yule Creek to monitor for the presence of hydrocarbons associated with the October 2019 diesel release. Sample locations will vary during the winter months as access is limited or entirely inaccessible due to snowpack.

III. Sampling Locations

Upon discovery of the release, the following surface water sample locations have been established on Yule Creek;

A. <u>Upgradient (UG 1)</u>
   A sample point has been established upgradient from the point of release to serve as a background sample for comparison to current water quality conditions in Yule Creek.

B. <u>Cross Gradient (CG 1)</u>
   A sample point immediately cross gradient from where the release occurred has been established to monitor if any cross-gradient movement of hydrocarbon impacts are occurring.

C. Downgradient #1 (DG 1)
The first downgradient sample point is a mid-point on Yule Creek, approximately halfway between the point of release and where the release was observed daylighting.

D. Downgradient #2 (DG 2)
The second downgradient sample point is located on Yule Creek cross-gradient from the sump area where the release daylighted.

E. Downgradient #3 (DG 3)
The third downgradient sample point is located approximately 110 feet below the sump basin, within the discharge path where pooling occurred. DG 3 is currently a confluence point of the sump discharge path and Yule Creek.

F. Downgradient #4 (DG 4)
The fourth downgradient point is located on Yule Creek at a distance of approximately 408 feet from the sump basin.

G. Downgradient #5 (DG 5)
The furthest downgradient point is located on Yule Creek at a distance of approximately 790 feet from the sump basin.

H. Confluence Point
The confluence point is where Yule Creek and the Crystal River (including water features supplied by the Crystal River) meet. The sample point is located approximately 100-150 feet upstream from where Yule Creek discharges into a wetland area that is influenced by the Crystal River.

It should be noted that DG 3 was established during a period of low flow. The actual confluence point of the discharge water from the sump basin and Yule Creek may change with the varying water levels, thereby requiring DG 3 to move as the sump basin to Yule Creek confluence point changes.

IV. Sampling Schedule

A. Winter Sample Schedule

During the winter months when snow accumulations prevent personnel from safely accessing sample locations and where the underlying ground support or terrain cannot be determined, surface water sample collection will be limited to the following locations, access dependent:

- UG 1
- DG 3
- DG 4
- Confluence

In addition, some sample locations on Yule Creek may require an alternate route of access due to snow accumulation or water levels. This may require access through private property, which will be dependent on landowner authorization.

To access the sample locations during the winter months, sampling personnel may utilize some of, but not limited to, the following equipment in additional to their regular required PPE to ensure safe sampling procedures are being followed:

- Snowshoes
- Avalanche location beacon
- Microspike footwear traction
- Ladder / Tether
- Snowmobile / Snow Machine

If snowpack volumes accumulate to the point where Yule Creek is inaccessible, notice will be provided to the DRMS and sampling will cease until access can be re-evaluated and deemed safe for personnel to resume sampling activities.

DG 5 is located within an avalanche zone and will only be sampled if detections at DG 3 and DG 4 indicate a hydrocarbon presence exceeding regulatory thresholds.

B. Summer Sampling Schedule

During the summer and early fall months, or when normal access is feasible, samples from the following locations will occur monthly:

- UG 1
- DG 3
- DG 4
- Confluence

Equipment used to access the sample locations may consist of, but not be limited to, the following:

- Waterproof / resistant clothing & PPE
- Microspike footwear traction
- Ladder / Tether

C. Quarterly/Contingent Sampling

CG, DG 1 and DG 2 will be sampled quarterly to monitor water quality parameters on Yule Creek upgradient from the sump. If analytical results indicate that water quality parameters have changed and diesel related contaminants are detected at DG 3, sample locations (CG, DG 1, DG 2) will be included in the monthly sampling and monitoring to evaluate potential lateral movement of hydrocarbon impacts

DG 5 is an additional sample location which will be sampled contingent on the water quality parameters at DG 3 and DG 4. If contaminants of concern (COC's) are detected in DG 3 and DG 4 at

or above regulatory thresholds, sampling at DG 5 will be included in the monthly sampling and monitoring to provide additional water quality data in Yule Creek.

Additional sample locations may be added as needed to aid in the monitoring of water quality in Yule Creek. Changes to the sampling schedule, frequency and/or locations will be reported to the DRMS.

V. Sampling Procedures

All samples will be collected by individuals experienced with water quality sampling and sent to a laboratory accredited by the National Environmental Laboratory Accreditation Program (NELAP). Sampling personnel will ensure the following procedures are followed at each sample location.

A. Container Prep

New un-used sample containers required by the lab for the specified analysis will be obtained the week before sampling is scheduled to ensure preservation volumes within the containers meet laboratory specifications.

Sample containers will consist of the following:

- (6) 40 ml clear glass vials preserved with HCL
- (2) 125 ml amber glass jars (no preservative)
- (1) 500 ml poly (no preservative)

B. Equipment Prep

To reduce the risk of cross contamination, sampling personnel will ensure new un-used nitrile gloves are used during each sampling event, which includes changing gloves between each sample location. Utilizing nitrile gloves will also ensure that acid preservation within the sample bottles do not come in contact with the sampler's hand/skin.

All sampling equipment (extension pole, dip rod, peristaltic pump, etc.) will be properly decontaminated between sample locations. Single use sampling equipment, such as poly jars utilized to capture low flow volumes will be triple rinsed with the water to be sampled prior to collection and transfer. All single use containers will be discarded after each use.

Sample coolers will contain the necessary volume of ice to preserve sample containers to 4° F and each cooler will contain a temperature and trip blank to accompany the samples to the lab.

In-stream flow meter readings will be collected at each sample location utilizing a Global Water Flow Probe (Model FP101) and will record the average and max flow volumes in ft/sec. In instances where a sampling extension pole is needed to collect a sample due to high flow volumes, ice danger, or other unforeseen circumstances, flow volumes will not be recorded for that sample location.

All water quality readings will be collected utilizing a YSI 556 MPS water quality meter. Equipment will be calibrated prior to use to ensure accuracy of readings collected. Field parameters will be recorded on a surface water data sheet and transferred to a master tracking spreadsheet for trend analysis. If conditions (freezing, fast runoff, presence of free phase product, etc.) are present, then

field parameters may not be collected as these conditions can be detrimental to the field parameter unit.

C. Sample Collection

Samples will be collected directly from the surface water at the same locations mentioned above. A new un-used poly container included in the sample kit will be triple rinsed and utilized to transfer the surface water to sample containers that contain a preservative. When transferring water to the smaller containers, special precaution will be taken to prevent overfilling and diluting the container preservation.

Containers requiring zero headspace will be checked to ensure that no bubbles are present exceeding the laboratory specifications. If a bubble is observed, the sample will be retained and remain within the container as it contains an acid preservation. However, a second container will be filled to fulfill the laboratory container requirements. Both samples will be submitted to the lab for proper management.

VI. Sampling Analysis

After a baseline of analysis that was established through the investigation process, sampling and analysis of each sample location will consist of the following constituents;

- Diesel Range Organics (DRO) — Method 8015C
- Gasoline Range Organics (GRO) — Method 8015D
- Poly-Aromatic Hydrocarbons (PAH) — Method 846 8270D
- Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX) — Method 8260C

Additional analysis will be added as requested by regulatory agencies or as needed to evaluate other parameters of water quality.

Samples will be submitted to ALS Global, USA. All samples will be on a standard five (5) business day turn, unless rush analysis is required, at which time 24-hour reporting will be requested from the lab. Should ALS be unable to meet the demands of the project, an alternate NELAP lab will be identified and approved by personnel assisting with this project and regulatory agencies before utilization.

VII. Conclusion

The information above is designed to outline the sampling procedures and processes to monitor the water quality in Yule Creek and ensure no impacts are occurring downgradient of the spill area exceeding regulatory thresholds. Monthly sampling of Yule Creek is planned for a 12-month period (January – December 2020), allowing for a full year of analysis and monitoring covering all the seasonal water fluctuations. When 12 months of sampling is complete, a summary of the surface water data will be compiled into an annual report. Should contaminant concentrations remain below regulatory threshold limits for a 12-month period, sampling frequency will be reduced to quarterly. Quarterly sampling will continue until four consecutive (4) quarters of data are below regulatory thresholds.

If changes occur to the site and project, alterations to this plan may be required. This document is intended to be a living document and any revisions will be noted on the cover page with the revision date and provided to the regulatory agencies for approval.

FIGURE 1

Surface Water Sample Location Map

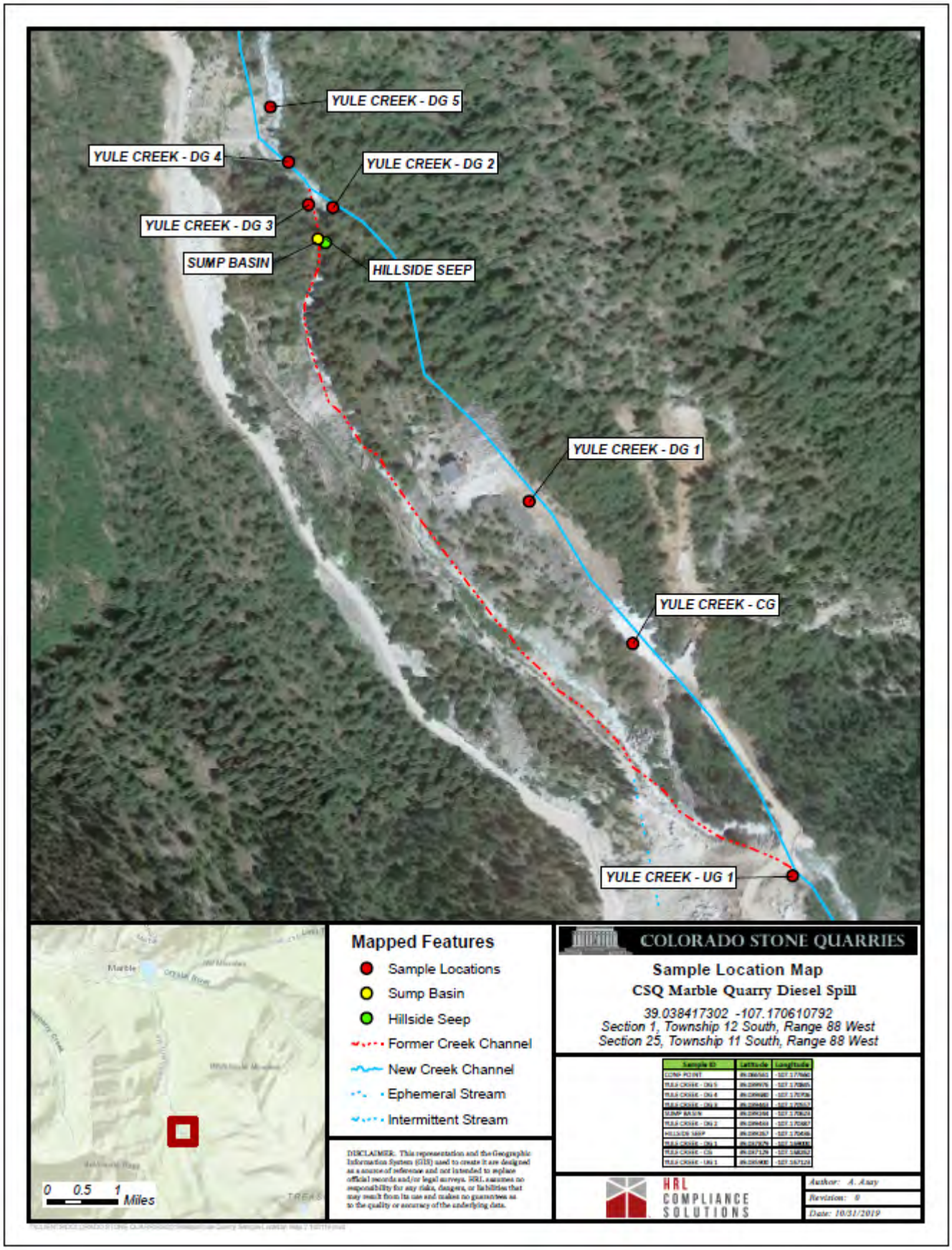


FIGURE 2

Surface Water Sample Location Map – Overview

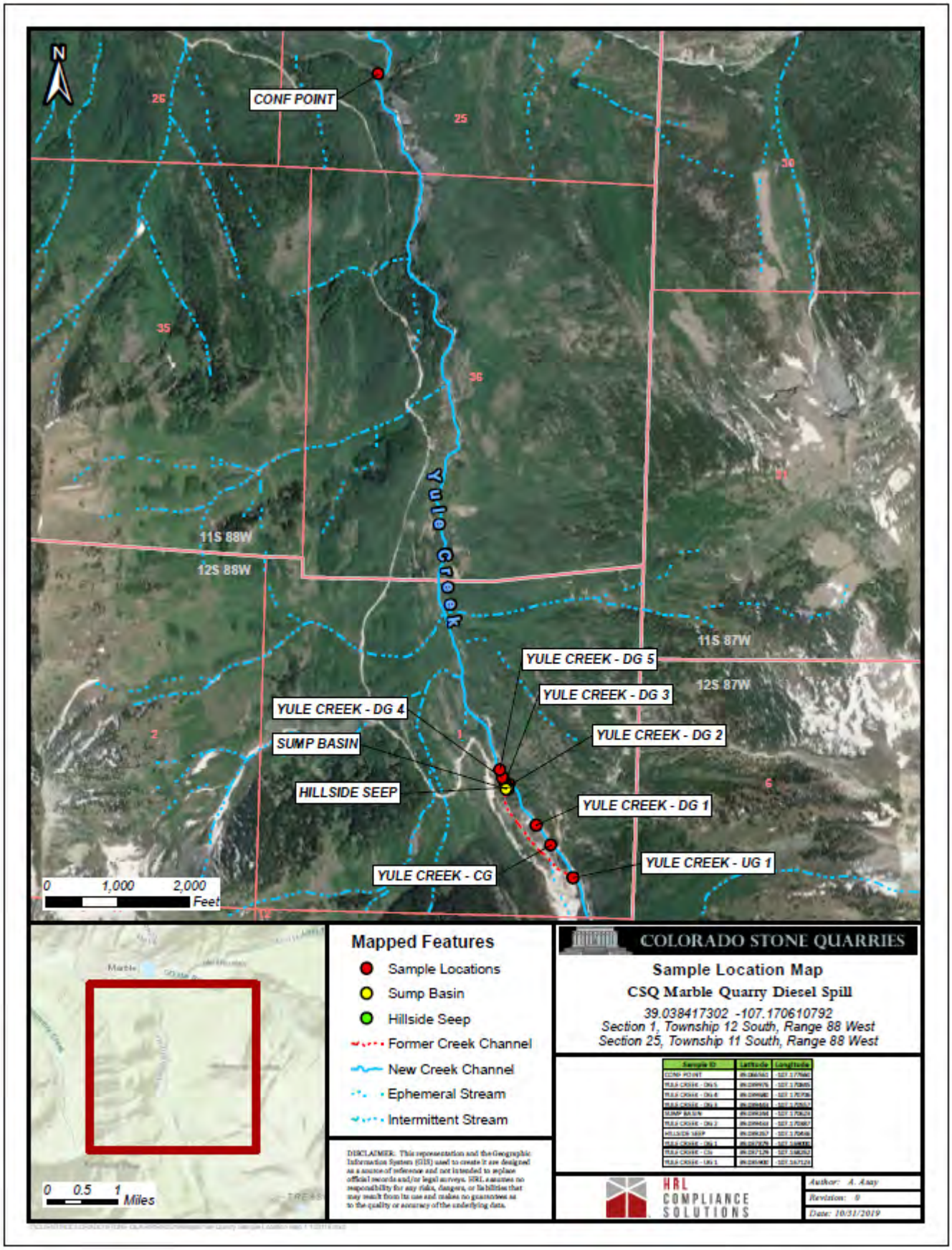
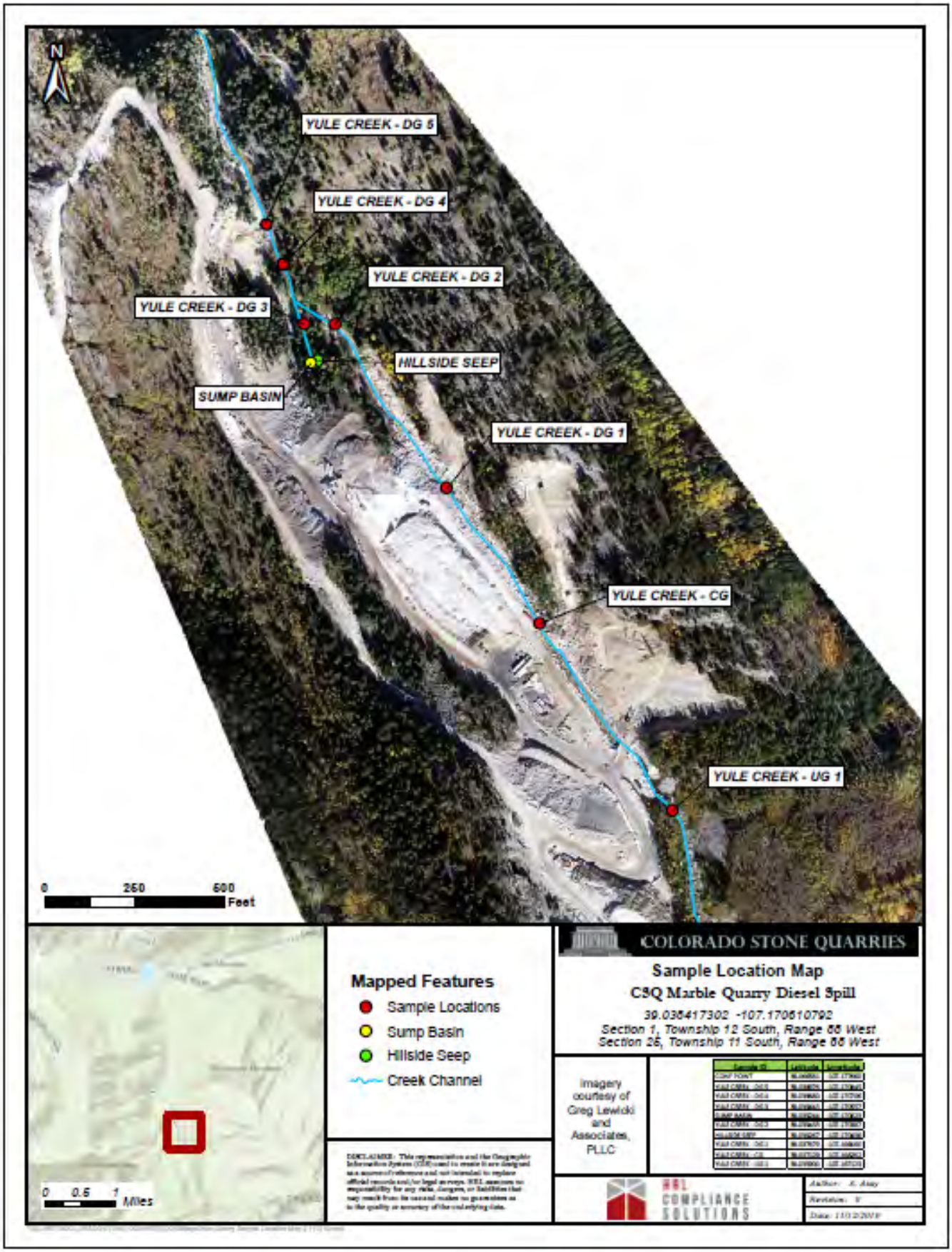


FIGURE 3

Surface Water Sample Location Map – Aerial Image



Colorado Stone Quarries Diesel Spill

Water Qualtiy - Data Tracking

							Analytical Analysis																			
							Analyte	TVPH (GRO)	TEPH (DRO)	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Acenaphthene	Anthracene	Benzo (A) anthracene	Benzo (B) fluoranthene	Benzo (K) fluoranthene	Benzo (A) pyrene	Chrysene	Dibenzo (A,H) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-C,D) pyrene	Naphthalene	Pyrene
				Indicates the lowest standard for the respective analyte			**CSEV Water Standard (mg/L)**	NA	NA	0.005	0.56	0.70	1.40	0.42	2.10	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	0.28	0.28	4.8 E-06	0.14	0.21
Location	**Sample Location**	**Sample Type**	**Sampler**	**Date**	**Time**	**Laboratory**	**CDPHE Thresholds reference EPA Regional Screening Levels (RSLs)**	-	(0.5)	0.005	1.0	0.7	10.0	4.2 E-1	2.1 E+0	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	2.8 E-01	2.8 E-01	4.8 E-06	1.4 E-01	2.1 E-01
Yule Creek	UG 1	Baseline	Rowe	10/28/19	11:25	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Post Stop Pump	Smith	11/14/19	9:25	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Dec -Monitoring	Smith	12/17/19	11:10	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Jan - Monitoring	Smith	01/30/20	12:45	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	Smith	02/24/20	10:20	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	CG	Baseline	Rowe	10/28/19	11:50	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DG 1	Baseline	Rowe	10/28/19	12:15	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DG 2	Baseline	Rowe	10/28/19	12:25	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Dec -Monitoring	Smith	12/18/19	2:00	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DG 3	Baseline	Rowe	10/28/19	12:40	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Post Berm Breach	Smith	10/30/19	13:00	ALS		ND	ND	ND	0.014	0.012	0.068	0.043	ND	ND	ND	ND	ND	ND	ND	ND	0.053	ND	0.0061	ND
		Post Stop Pump	Rowe	11/01/19	9:45	ALS		ND	ND	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Post Stop Pump	Smith	11/14/19	15:15	ALS		ND	ND	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Jan - Monitoring	Smith	01/30/20	14:18	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	Smith	02/24/20	11:25	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DG 4	Post Berm Breach	Smith	10/30/19	13:20	ALS		ND	ND	ND	ND	ND	0.0035	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.033	ND
		Post Stop Pump	Rowe	11/01/19	9:55	ALS		ND	ND	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Post Stop Pump	Smith	11/14/19	15:00	ALS		ND	ND	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Jan - Monitoring	Smith	01/30/20	14:40	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	Smith	02/24/20	11:50	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DG 5	Baseline	Smith	10/30/19	13:50	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.032	ND
Yule Creek & Crystal River	Confluence Point	Baseline	Rowe	10/28/19	13:00	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Post Stop Pump	Smith	11/14/19	16:00	ALS		ND	ND	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Jan - Monitoring	Smith	01/31/20	12:15	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	Smith	02/25/20	12:05	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Seeps	Hillside Seep	Baseline	Rowe	10/28/19	12:55	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sump	Catchment Basin	Baseline	Rowe	10/28/19	13:10	ALS		1.1	0.79	0.0017	0.03	0.023	0.14	0.071	ND	ND	ND	ND	ND	ND	ND	ND	0.0011	ND	0.011	ND
	Inflow	South Side Inflow	Smith	10/30/19	12:45	ALS		0.57	1.1	0.0015	0.027	0.021	1.2	0.00082	ND	ND	ND	ND	ND	ND	ND	ND	0.0011	ND	0.0087	0.0024
	Catchment Basin	Post Pump Stop	Rowe	11/01/19	10:07	ALS		ND	ND	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0055	ND
	Well	Sump Well	Smith	11/15/19	15:15	ALS		0.4	0.86	-	-	-	-	0.00039	ND	ND	ND	ND	ND	ND	ND	ND	0.00045	ND	0.0028	ND
		Dec -Monitoring	Smith	12/18/19	2:30	ALS		ND	ND	ND	ND	ND	0.0045	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Jan - Monitoring	Smith	01/30/20	13:40	Pace		0.363	1.98	ND	ND	0.0029	0.0460	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	Smith	02/24/20	11:00	Pace		ND	ND	ND	ND	ND	0.00629	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Colorado Stone Quarries Diesel Spill

Water Quality - Data Tracking

								Analytical Analysis																					
								Analyte	TVPH (GRO)	TEPH (DRO)	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Acenaphthene	Anthracene	Benzo (A) anthracene	Benzo (B) fluoranthene	Benzo (K) fluoranthene	Benzo (A) pyrene	Chrysene	Dibenzo (A,H) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-C,D) pyrene	Naphthalene	Pyrene
					Indicates the lowest standard for the respective analyte			**CSEV Water Standard (mg/L)**	NA	NA	0.005	0.56	0.70	1.40	0.42	2.10	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	0.28	0.28	4.8 E-06	0.14	0.21
Location	**Sample Location**	**Sample Type**	**Flow Reading (ft/sec)**	**Sampler**	**Date**	**Time**	**Laboratory**	**CDPHE Thresholds reference EPA Regional Screening Levels (RSLs)**	-	(0.5)	0.005	1.0	0.7	10.0	4.2 E-1	2.1 E+0	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	2.8 E-01	2.8 E-01	4.8 E-06	1.4 E-01	2.1 E-01
Yule Creek	UG 1	Jan - Monitoring	Not Accessible	Smith	01/30/20	12:45	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	Not Accessible	Smith	02/24/20	10:20	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DG 3	Jan - Monitoring	5.13	Smith	01/30/20	14:18	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	4.35	Smith	02/24/20	11:25	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	DG 4	Jan - Monitoring	6.19	Smith	01/30/20	14:40	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	7.40	Smith	02/24/20	11:50	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Yule Creek & Crystal River	Confluence Point	Jan - Monitoring	0.34	Smith	01/31/20	12:15	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	Freezing equip prevented reading	Smith	02/24/20	12:05	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Colorado Stone Quarries Diesel Spill

Water Qualtiy - Data Tracking

									Analytical Analysis																				
									Analyte	TVPH (GRO)	TEPH (DRO)	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Acenaphthene	Anthracene	Benzo (A) anthracene	Benzo (B) fluoranthene	Benzo (K) fluoranthene	Benzo (A) pyrene	Chrysene	Dibenzo (A,H) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-C,D) pyrene	Naphthalene	Pyrene
						Indicates the lowest standard for the respective analyte			**CSEV Water Standard (mg/L)**	NA	NA	0.01	0.56	0.70	1.40	0.42	2.10	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	0.28	0.28	4.8 E-06	0.14	0.21
Location	**Sample Location**	**Sample Type**	**Depth to Water (ToC)**	**Total Well Depth (to ToC)**	**Sampler**	**Date**	**Time**	**Laboratory**	**CDPHE Thresholds reference EPA Regional Screening Levels (RSLs)**	-	(0.5)	0.01	1.0	0.7	10.0	4.2 E-1	2.1 E+0	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	2.8 E-01	2.8 E-01	4.8 E-06	1.4 E-01	2.1 E-01
Seeps	Hillside Seep	Baseline	N/A	N/A	Rowe	10/28/19	12:55	ALS		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sump	Catchment Basin	Baseline	N/A	N/A	Rowe	10/28/19	13:10	ALS		1.1	0.79	0	0.03	0.023	0.14	0.071	ND	ND	ND	ND	ND	ND	ND	ND	0.001	ND	0.011	ND
	Inflow	South Side Inflow	N/A	N/A	Smith	10/30/19	12:45	ALS		0.6	1.1	0	0.03	0.021	1.2	0.0008	ND	ND	ND	ND	ND	ND	ND	ND	0.001	ND	0.009	0.002
	Catchment Basin	Post Pump Stop	N/A	N/A	Rowe	11/01/19	10:07	ALS		ND	ND	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND
	Well	Sump Well	N/A	N/A	Smith	11/15/19	15:15	ALS		0.4	0.86	-	-	-	-	0.0004	ND	ND	ND	ND	ND	ND	ND	ND	5E-04	ND	0.003	ND
		Dec -Monitoring	N/A	N/A	Smith	12/18/19	2:30	ALS		ND	ND	ND	ND	ND	0.0045	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Jan - Monitoring	7'	15.6'	Smith	01/30/20	13:40	Pace		0.4	1.98	ND	ND	0.0029	0.0460	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Feb - Monitoring	5.7	15.6'	Smith	02/24/20	11:00	Pace		ND	ND	ND	ND	ND	0.00629	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

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Recently sampled analytical results are highlighted in blue for easier reference

Colorado Stone Quarries Diesel Spill Quarry Water Storage Supply							Analytical Analysis																			
							Analyte	TVPH (GRO)	TEPH (DRO)	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Acenaphthene	Anthracene	Benzo (A) anthracene	Benzo (B) fluoranthene	Benzo (K) fluoranthene	Benzo (A) pyrene	Chrysene	Dibenzo (A,H) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-C,D) pyrene	Naphthalene	Pyrene
				Indicates the lowest standard for the respective analyte			**CSEV Water Standard (mg/L)**	NA	NA	0.005	0.56	0.70	1.40	0.42	2.10	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	0.28	0.28	4.8 E-06	0.14	0.21
Location	**Sample Location**	**Sample ID**	**Sampler**	**Date**	**Time**	**Laboratory**	**CDPHE Thresholds reference EPA Regional Screening Levels (RSLs)**	-	(0.5)	0.005	1.0	0.7	10.0	4.2 E-1	2.1 E+0	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	4.8 E-06	2.8 E-01	2.8 E-01	4.8 E-06	1.4 E-01	2.1 E-01
Water Storage	Portal 6	Valve	Kris Rowe	1/30/2020	10:40	Pace		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Colorado Stone Quarries - Diesel Spill Soil Data Tracking							Analytical Analysis																				
							Analyte	TVPH (GRO)	TEPH (DRO)	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Acenaphthene	Anthracene	Benzo (A) anthracene	Benzo (B) flouranthene	Benzo (K) fluoranthene	Benzo (A) pyrene	Chrysene	Dibenzo (A,H) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-C,D) pyrene	Naphthalene	Pyrene
Location	**Sample Location**	**Sample ID**	**Sampler**	**Date**	**Time**	**Laboratory**	**CDPHE Thresholds reference EPA Regional Screening Levels (RSLs)**	520	96	1.2	4,900	5.8	580	3,600	18,000	1.1	1.1	11	0.11	110	0.11	2,400	2,400	1.1	3.8	1,800
Point of Release	South Excavation Pothole	Side Wall @ 2ft	Rowe	10/28/19	14:10	ALS		32	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.0052	ND	ND	0.0045
Spill Impacted Area	Excavation	SE Wall @3ft	Rowe	11/01/19	11:00	ALS		1,900	17,000	-	-	-	-	1.1	0.71	ND	ND	ND	ND	ND	ND	0.16	2.6	ND	4.5	1.9
		North Wall @ 2ft			11:10	ALS		6.5	35	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	0.004
		NE Wall @ 2ft			11:20	ALS		ND	18	-	-	-	-	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		Exc Bottom @10ft			11:30	ALS		320	1,800	-	-	-	-	0.14	ND	ND	ND	ND	ND	ND	ND	ND	0.32	ND	0.76	0.26

(-) indicates data is still in process by the lab
- Indicates analytical that is no longer being monitored
Exceedances are highlighted in yellow. Results below the standard or reporting limit are reported as ND
All results are presented in mg/kg, unless otherwise noted

Colorado Stone Quarries Diesel Spill Stockpile Data Tracking							Analytical Analysis																		
							Analyte	TVPH (GRO)	TEPH (DRO)	Benzene	Toluene	Ethylbenzene	Xylenes (total)	Acenaphthene	Anthracene	Benzo (A) anthracene	Benzo (B) flouranthene	Benzo (K) fluoranthene	Benzo (A) pyrene	Chrysene	Dibenzo (A,H) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-C,D) pyrene	Naphthalene	Pyrene
Location	**Sample Location**	**Sample ID**	**Sampler**	**Date**	**Time**	**Laboratory**	**CDPHE Thresholds reference EPA Regional Screening Levels (RSLs)**	520	96	1.2	4,900	5.8	580	3600	18,000	1.1	1.1	11	0.11	110	0.11	2,400	2,400	1.1	3.8	1,800
Spill Area	Stockpile	Comp #1	Rowe	10/28/19	14:45	ALS		200	1,200	ND	0.16	0.24	1.6	0.11	0.063	ND	ND	ND	ND	ND	ND	ND	0.29	ND	0.42	0.18
		Comp #2		11/01/19	11:45			470	3,300	ND	0.49	0.41	2.5	0.15	ND	ND	ND	ND	ND	ND	ND	ND	0.55	ND	1.2	0.61

(-) indicates data is still in process by the lab
- Indicates analytical that is no longer being monitored
Exceedances are highlighted in yellow. Results below the standard or reporting limit are reported as ND
All results are presented in mg/kg, unless otherwise noted