




MINERALS PROGRAM INSPECTION REPORT

PHONE: (303) 866-3567

The Division of Reclamation, Mining and Safety has conducted an inspection of the mining operation noted below. This report documents observations concerning compliance with the terms of the permit and applicable rules and regulations of the Mined Land Reclamation Board.

MINE NAME: Slab Canyon Quarry	MINE/PROSPECTING ID#: M-1977-347	MINERAL: Limestone (general)	COUNTY: Larimer
INSPECTION TYPE: Monitoring	INSPECTOR(S): Amy Eschberger	INSP. DATE: August 31, 2022	INSP. TIME: 12:15
OPERATOR: Holcim (US) Inc.	OPERATOR REPRESENTATIVE: Mike Toelle, Tom Newman	TYPE OF OPERATION: 112c - Construction Regular Operation	
REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: None	BOND AMOUNT: \$184,819.00	
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None	
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: November 9, 2022	

GENERAL INSPECTION TOPICS

This list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each. No problems or possible violations were noted during the inspection. The mine operation was found to be in full compliance with Mineral Rules and Regulations of the Colorado Mined Land Reclamation Board for the Extraction of Construction Materials and/or for Hard Rock, Metal and Designated Mining Operations. Any person engaged in any mining operation shall notify the office of any failure or imminent failure, as soon as reasonably practicable after such person has knowledge of such condition or of any impoundment, embankment, or slope that poses a reasonable potential for danger to any persons or property or to the environment; or any environmental protection facility designed to contain or control chemicals or waste which are acid or toxic-forming, as identified in the permit.

(AR) RECORDS----- <u>Y</u>	(FN) FINANCIAL WARRANTY----- <u>Y</u>	(RD) ROADS----- <u>Y</u>
(HB) HYDROLOGIC BALANCE----- <u>Y</u>	(BG) BACKFILL & GRADING----- <u>Y</u>	(EX) EXPLOSIVES----- <u>N</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>N</u>	(TS) TOPSOIL----- <u>Y</u>
(MP) GENL MINE PLAN COMPLIANCE- <u>Y</u>	(FW) FISH & WILDLIFE----- <u>N</u>	(RV) REVEGETATION---- <u>Y</u>
(SM) SIGNS AND MARKERS----- <u>Y</u>	(SP) STORM WATER MGT PLAN---- <u>Y</u>	(RS) RECL PLAN/COMP-- <u>Y</u>
(ES) OVERBURDEN/DEV. WASTE----- <u>N</u>	(SC) EROSION/SEDIMENTATION--- <u>Y</u>	(ST) STIPULATIONS----- <u>N</u>
(AT) ACID OR TOXIC MATERIALS----- <u>N</u>	(OD) OFF-SITE DAMAGE----- <u>N</u>	

Y = Inspected / N = Not inspected / NA = Not applicable to this operation / PB = Problem cited / PV = Possible violation cited

OBSERVATIONS

This was a normal monitoring inspection of the Slab Canyon Quarry (Permit No. M-1977-347) conducted by Amy Eschberger of the Division of Reclamation, Mining and Safety (Division). The operator was represented by Mike Toelle and Tom Newman during the inspection. The site is located approximately 11.5 miles north of Livermore, CO in Larimer County. The main access to the site is from the east off of Co Rd 21. **Photos 1-21** taken during the inspection are included with this report.

This is a 112c operation permitted for 250 acres (see enclosed Google Earth image of site) to mine limestone for use in the operator's cement plant located in LaPorte, CO (now closed). The permit area was increased from 30 acres to the current 250 acres through the Division's approval of Amendment No. 1 (AM-1) in 1994. AM-1 revised the mining plan to include a total of 5 mining phases (see enclosed mining plan map, approved in AM-1). The operation utilized blasting methods to mine the limestone. Mined material was hauled directly to the off-site cement plant for processing. Mining was completed at the site many years ago, with disturbance limited to the Phase 1 mining area (see enclosed Google Earth image of site showing closer view of disturbed area).

The approved post-mining land use for the site is a combination of rangeland and wildlife habitat. The upper portion of the disturbed area has been reclaimed by constructing the tree pads approved in the AM-1 reclamation plan. The tree pads are well vegetated with grasses, shrubs, and pine trees. According to annual reports submitted by the operator, construction of the tree pads began in 1997, and they were seeded and planted with trees in 1998. The tree pads were constructed in an offset pattern and designed to capture and retain stormwater and snow melt as it migrates down the slope. This pattern also slows wind, allowing for better moisture retention in the pads for vegetative growth. While the Division had some concerns about this experimental reclamation technique when it was first proposed in AM-1, it has proven successful in establishing vegetation and controlling erosion on the disturbed ridge top. Except for the vegetated pads, much of the ridge top consists of bare rock, per the approved plan. However, some volunteer grasses, shrubs, and pine trees are growing outside of the tree pads inside cracks in the exposed bedrock.

Mined walls at the top of the ridge were backfilled and graded in 2003. Two small sections of steeper slopes are present at the far northern edge of disturbance (adjacent to the access road) and at the far southern edge of disturbance (where a road exits the ridgetop to the southwest). These slopes appeared to be stable and will remain as-is per AM-1. A large broadcast tower, equipment building, and associated infrastructure will remain at the top of the ridge, per Technical Revision No. 1 (TR-1) approved in 2004. Reclamation of disturbed land at the top of the ridge appears to be successful and no issues were observed in this area. The rest of the disturbed areas, including the small pit created at the base of the ridge (adjacent to the access road) have also been reclaimed in accordance with the approved plan, with stable slope configurations and well-established vegetative cover. According to annual reports submitted by the operator, the reclamation earthwork and initial seeding of these areas was completed in 2015.

The only area still undergoing reclamation is a portion of the east-facing slope (located at the far southeastern edge of the disturbance). During its last inspection of the site on August 16, 2017, the Division observed rock berms that were constructed across this slope and evidence of where trees had been planted along the berms. Unfortunately, none of the planted trees survived in this area. Additionally, portions of the rock berms had eroded, allowing rocks to flow downhill. At that time, the Division recommended the operator reassess the reclamation plan for this slope giving the existing conditions. After the inspection, the operator submitted Technical Revision No. 2 (TR-2) to revise the reclamation plan to conduct trench blasting of the slope surface slabs to address surface runoff issues, allow for use of a hydro slurry mix, a wood mulch, and the addition of Ponderosa Pine seedlings in the berms. The trench blasting was meant to create breaks in the slopes to slow surface runoff and create pockets for vegetation establishment. Loose material from blasting would be used to

create berms along the slope and also to add a drainage swale to direct water from above the access road to the natural drainage to the south. Approximately 450 tons of fines would be imported to the site to add to the constructed berms in order to improve their ability to retain water for vegetation. TR-2 proposed using a hydro slurry mix that will contain a peat mix with organic fertilizer along with the seed. This was expected to help create a substitute topsoil layer to help with seed germination. After seeding, a wood mulch would be applied with a higher tackifier mixed into the product to help it last throughout the growing season. In addition to seeding the slope with the already approved grass/shrub seed mixture, Ponderosa Pine seedlings would be planted in the berms. The Division approved TR-2 on September 12, 2018. According to the operator, the reclamation work approved in TR-2 was completed in 2019.

During the current inspection, the Division observed the berms that had been constructed across the east-facing slope in accordance with TR-2. This modified configuration of the slope appeared to be more stable and no erosion issues were observed. However, none of the trees planted in 2019 had survived. There were some grasses observed growing in the depressions between the berms, and the last few downgradient berms had more grass and shrub cover. However, the majority of this slope was still void of vegetation. During the inspection, there was discussion about submitting an additional Technical Revision to further modify the revegetation plan for this slope, which has proven very difficult to revegetate. One of the possibilities discussed was removing trees from the revegetation plan since their success rate on this slope has been 0%, even with the modifications made per TR-2.

Another item discussed during the inspection was the possibility of the operator submitting an Acreage Reduction request to release the undisturbed mining phases from the permit area. Of the 250 acres permitted, the Division estimates approximately 35 acres were disturbed (in the Phase 1 mining area). Any proposal to release undisturbed lands should exempt the 35 acre disturbed area and associated access road. Additionally, the Division would recommend the proposed new permit boundary be a simple shape that is easy to delineate on the ground, rather than one that merely follows the outline of the 35-acre disturbance area. If the operator submits an Acreage Reduction request (see enclosed form) to release the undisturbed lands within 60 days of the date of this inspection report, an additional inspection will not be required.

It is clear the operator has put forth significant efforts over the years to complete reclamation of the east-facing slope. Nonetheless, the operator should be reminded of Rule 3.1.3, which requires that all reclamation be carried to completion with all reasonable diligence, and that each phase of reclamation be completed within 5 years from the date that reclamation of such phase commenced. Given the amount of time that has passed since mining ceased and final reclamation of the site was initiated, the Division recommends the operator either reseed/replant the bare slope or submit a Technical Revision to revise the revegetation plan for this slope as soon as feasible.

The Division currently holds a financial warranty for the site in the amount of \$184,819.00. This amount is more than sufficient for revegetating the approximately 2.5 acre east-facing slope in accordance with the approved revegetation plan.

This concludes the report.

Any questions or comments regarding this inspection report should be forwarded to Amy Eschberger at the Colorado Division of Reclamation, Mining and Safety, 1313 Sherman Street, Room 215, Denver, CO 80203, via telephone at 303-866-3567, ext. 8129, or via email at amy.eschberger@state.co.us.

PHOTOGRAPHS



Photo 1. View looking west across reclaimed area at base of ridge (adjacent to access road).



Photo 2. View looking east across reclaimed area at base of ridge (adjacent to access road).



Photo 3. View looking west at portion of east-facing slope undergoing reclamation (indicated).



Photo 4. View looking west showing closer view of east-facing slope undergoing reclamation.

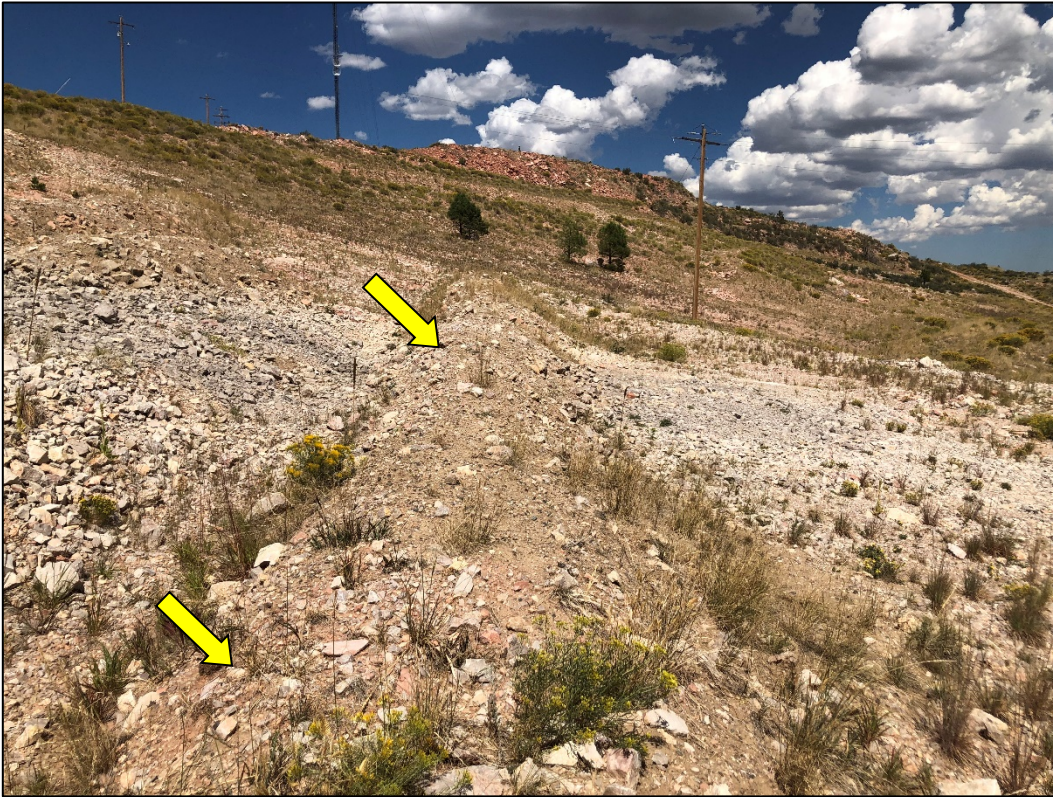


Photo 5. View looking north at berm (indicated) constructed across east-facing slope undergoing reclamation. Note some grasses and shrubs growing along edges of berm, but no trees per approved plan.



Photo 6. View looking northwest across top half of east-facing slope undergoing reclamation. Note berms constructed across slope in accordance with TR-2, but no vegetation growing in this area.



Photo 7. View looking east across bottom half of east-facing slope undergoing reclamation. Note berms constructed across slope in accordance with TR-2, but very little to no vegetation growing in this area.



Photo 8. View looking north at small section of steep rock wall (indicated) left along northern edge of ridge top disturbance, which will remain as-is for final reclamation. Backfilling this portion of the wall was complicated by its location adjacent to the access road.



Photo 9. View looking east at tree pad constructed on top of ridge, showing vegetation on pad comprised of grasses, shrubs, and pine trees.



Photo 10. View looking south across top of ridge, showing tree pad (at left) with vegetation comprised of grasses, shrubs, and pine trees. Note trees volunteering into bare rock areas between pads (at right).



Photo 11. View looking south at reclaimed southern wall of ridge top disturbance.



Photo 12. View looking west at reclaimed western wall of ridge top disturbance.



Photo 13. View looking west at small section of steep rock wall that will remain at southwestern corner of ridge top disturbance, where road exits this area to the west/southwest.



Photo 14. View looking north across ridge top disturbance, showing grasses, shrubs, and trees volunteering into bare rock areas between tree pads. Note radio tower at top of ridge (in background, at left) which will remain for final reclamation.



Photo 15. View looking south across ridge top disturbance, showing grasses, shrubs, and trees volunteering into bare rock areas between tree pads



Photo 16. View looking east across ridge top disturbance, showing tree pad with vegetation comprised of grasses, shrubs, and pine trees. Note vegetation volunteering into bare rock areas between pads.



Photo 17. View looking east/northeast from top of tree pad constructed on ridge top, looking toward another tree pad constructed downslope.



Photo 18. View looking east/southeast across ridge top, showing tree pad (in background) with bare rock exposed in between pads (in foreground).



Photo 19. View looking north at radio tower on top of ridge, which will remain for final reclamation.



Photo 20. View looking west across reclaimed northern portion of east-facing slope.



Photo 21. View looking southwest across undisturbed portion of permit area located south/southwest of phase 1 disturbance.

Inspection Contact Address

Mike Toelle
Holcim (US) Inc.
3500 Highway 120
Florence, CO 81226

Encls: Google Earth image showing entire permit area
Google Earth image showing closer view of disturbed area
Mining plan map approved in AM-1
Acreage Reduction request form

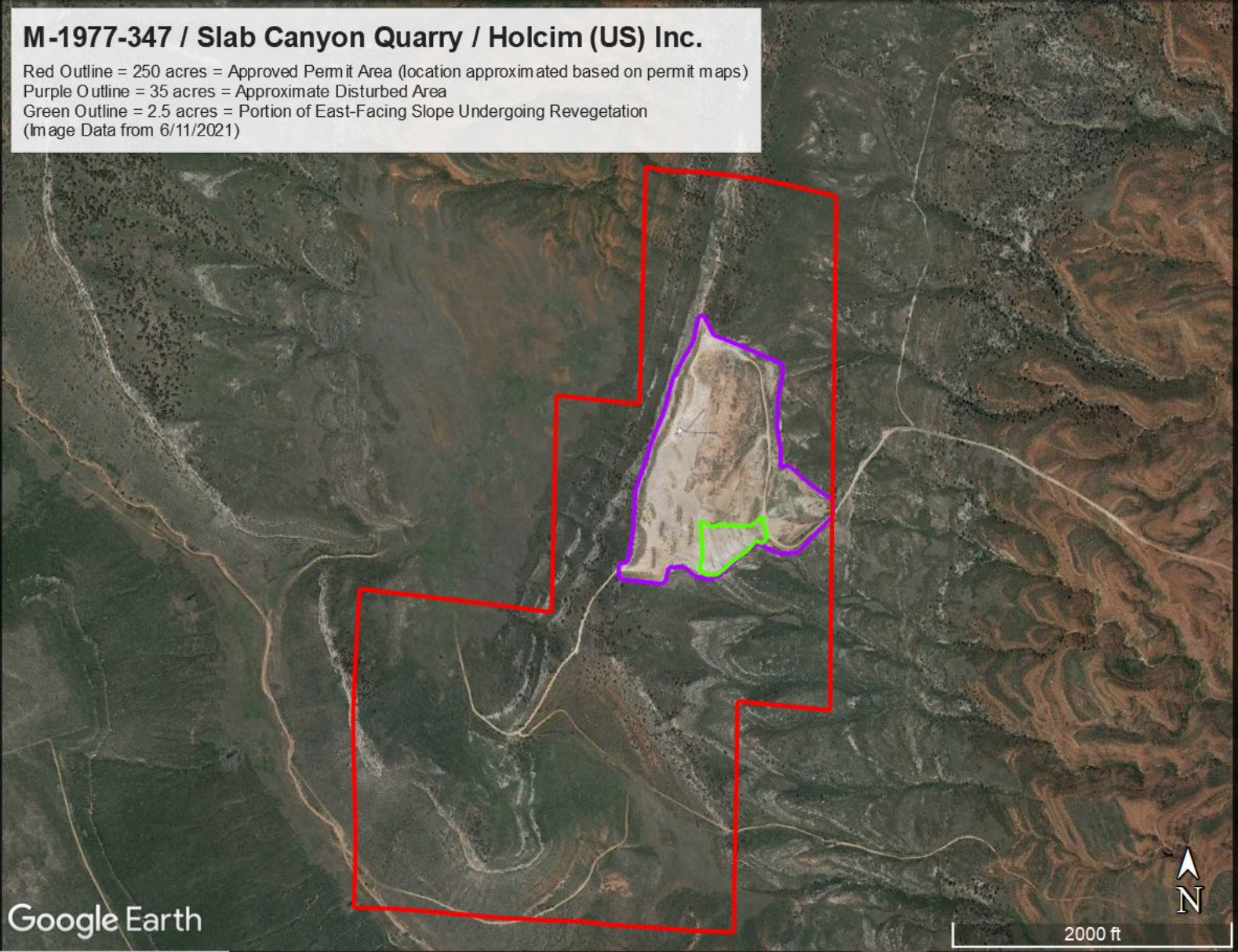
CC: Travis Weide, Holcim (US) Inc.
Michael Cunningham, DRMS

M-1977-347 / Slab Canyon Quarry / Holcim (US) Inc.

Red Outline = 250 acres = Approved Permit Area (location approximated based on permit maps)

Purple Outline = 35 acres = Approximate Disturbed Area

Green Outline = 2.5 acres = Portion of East-Facing Slope Undergoing Revegetation
(Image Data from 6/11/2021)



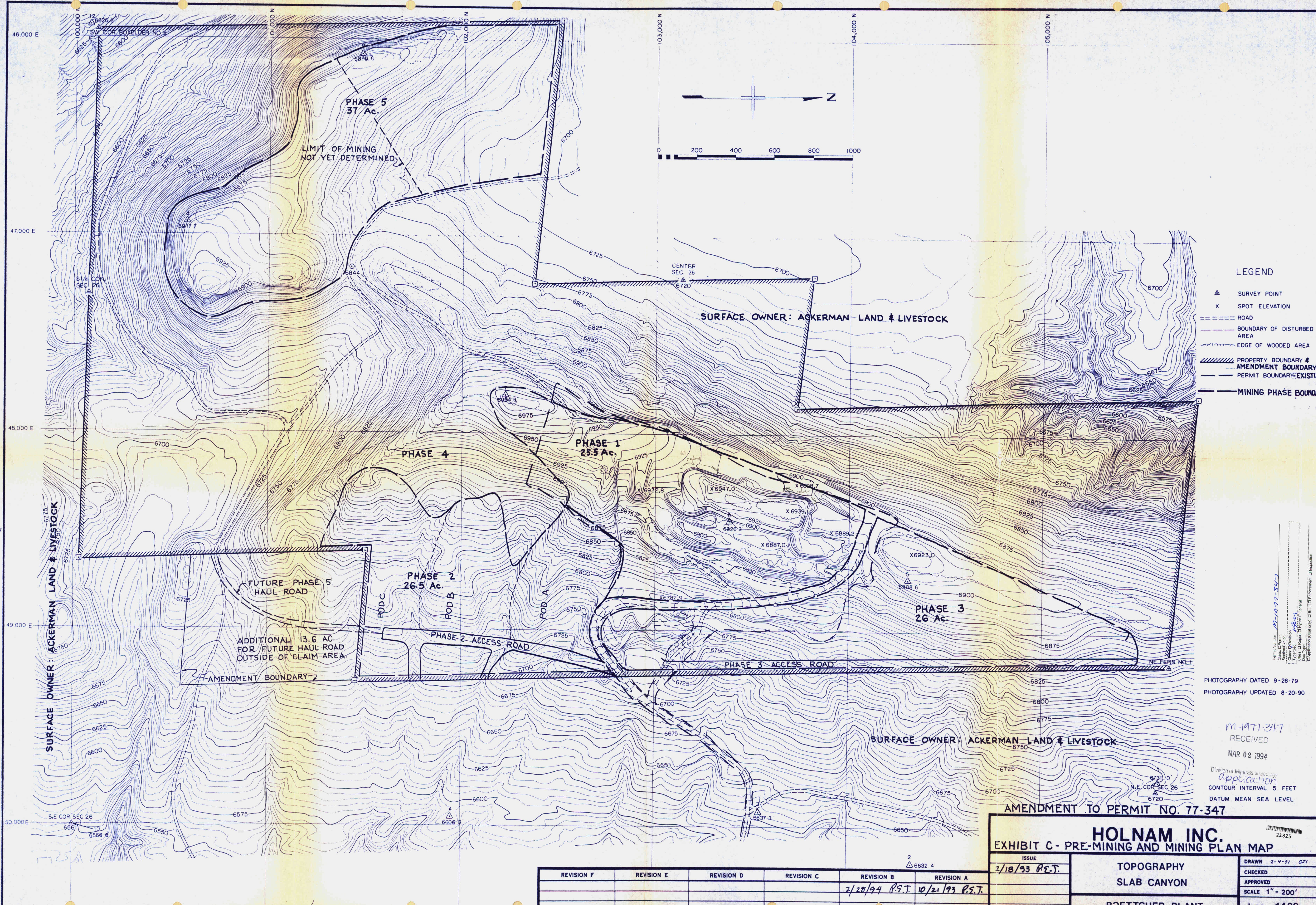
M-1977-347 / Slab Canyon Quarry / Holcim (US) Inc.

Closer View of Disturbed Area

Red Outline = 250 acres = Approved Permit Area (location approximated based on permit maps)

Purple Outline = 35 acres = Approximate Disturbed Area

Green Outline = 2.5 acres = Portion of East-Facing Slope Undergoing Revegetation
(Image Data from 6/11/2021)



- LEGEND
- △ SURVEY POINT
 - x SPOT ELEVATION
 - ==== ROAD
 - BOUNDARY OF DISTURBED AREA
 - ~~~~~ EDGE OF WOODED AREA
 - ===== PROPERTY BOUNDARY
 - ===== AMENDMENT BOUNDARY
 - ===== PERMIT BOUNDARY-EXISTING
 - ===== MINING PHASE BOUNDARY

Permit Number
M-1977-347
Application
Division of Minerals & Geology
CONTOUR INTERVAL 5 FEET
DATING MEAN SEA LEVEL

PHOTOGRAPHY DATED 9-26-79
PHOTOGRAPHY UPDATED 8-20-90

M-1977-347
RECEIVED
MAR 02 1994

Application
CONTOUR INTERVAL 5 FEET
DATING MEAN SEA LEVEL

AMENDMENT TO PERMIT NO. 77-347

HOLNAM INC.
EXHIBIT C - PRE-MINING AND MINING PLAN MAP

REVISION F	REVISION E	REVISION D	REVISION C	REVISION B	REVISION A
				2/28/94 P.S.T.	10/21/93 P.S.T.

ISSUE 2/18/93 P.S.T.	TOPOGRAPHY SLAB CANYON	DRAWN 2-4-91 C.T.
	ROETTER PLANT	checked
		APPROVED
		SCALE 1" = 200'
		bcc - 1429



COLORADO

**Division of Reclamation,
Mining and Safety**

Department of Natural Resources

1313 Sherman Street, Room 215
Denver, CO 80203

REQUEST FOR FULL OR PARTIAL RELEASE OF PERMIT AREA/SURETY REDUCTION

Please indicate if you are requesting:

FULL/FINAL RELEASE OF ENTIRE PERMITTED AREA (per Rule 4.17)

ACREAGE REDUCTION (PARTIAL RELEASE per Rule 4.17)

I wish to release _____ acres at this time.

You will need to submit with this request: a map showing the acreage to be released from the current permit and updated mining and reclamation plan maps that will accurately depict the new permit boundary if the release is approved.

SURETY (Bond) REDUCTION (per Rule 4.14)

If you are requesting a surety (bond) reduction you will need to include with this request a new estimate of the actual cost to reclaim the site based on what it would cost an independent contractor to complete reclamation, including unit costs for reclamation activities as appropriate to the operation to comply with the provisions of Rule 3.1 and the Permit's approved Reclamation Plan.

File No.: M _____

Site Name: _____

County: _____

Permittee: _____

Permittee Address: _____
(Street Address)

(City)

(State)

(Zip)



Operator (If Other than Permittee): _____

Permittee Representative: _____

Certified Mail # _____

In accordance with Rule 4.17.1(2) the Operator shall include the names, addresses and phone numbers of all owners of record to the affected land. Please attach additional sheets for this information if required.

<u>Name</u>	<u>Address</u>	<u>Phone Number</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

In accordance with Rule 4.17.1(4), if requesting a partial acreage release the Operator or their agent MUST sign that they have complied with the following statement: “All applicable portions of the Reclamation Plan requirements have been satisfied in accordance with these Rules and all applicable requirements under the Act.”

Signature of Permittee, Operator or their authorized agent _____
Date

Important: In accordance with Rules 4.14.2(a) and 4.17.1(3) This release request must be submitted to the Division via certified mail and separate from any other correspondence to the Division.