



COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
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: Bridalveil Pit	MINE/PROSPECTING ID#: M-2001-054	MINERAL: Gravel	COUNTY: Ouray
INSPECTION TYPE: Multi Person Inspection	INSPECTOR(S): Wallace H. Erickson & G. Russell Means	INSP. DATE: November 8, 2012	INSP. TIME: 10:00
OPERATOR: Bridal Veil Construction	OPERATOR REPRESENTATIVE: Emery Lynn Olin	TYPE OF OPERATION: 110c - Construction Limited Impact	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$4,942.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Cloudy	INSPECTOR'S SIGNATURE: <i>Wallace H. Erickson</i>	SIGNATURE DATE: November 27, 2012

The following inspection topics were identified as having Problems or Possible Violations. OPERATORS SHOULD READ THE FOLLOWING PAGES CAREFULLY IN ORDER TO ASSURE COMPLIANCE WITH THE TERMS OF THE PERMIT AND APPLICABLE RULES AND REGULATIONS. If a Possible Violation is indicated, you will be notified under separate cover as to when the Mined Land Reclamation Board will consider possible enforcement action.

GENERAL INSPECTION TOPICS

The following list identifies the environmental and permit parameters inspected and gives a categorical evaluation of each

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

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

INSPECTION TOPIC: Financial Warranty

PROBLEM: The Division has reviewed the current cost of reclamation totaling \$8,292.25. Therefore, the existing \$4,942 financial warranty is not adequate to reclaim the site in accordance with the approved reclamation plan. This is a failure to maintain the proper financial warranty amount to complete reclamation of the affected lands pursuant to C.R.S. 34-32.5-117(4)(b) of the Act.

CORRECTIVE ACTIONS: Pursuant to Construction Materials Rule 4.2.1(2), the Operator shall submit adequate financial warranty, totaling not less than \$8,292.25, within 60 days, due January 26, 2013.

CORRECTIVE ACTION DUE DATE: January 26, 2013

OBSERVATIONS

This inspection occurred as part of the Division's routine monitoring program for permitted operations and as follow up to the previous inspection occurring on August 29, 2012. In the inspection report generated from the August 29, 2012 inspection, the Division identified problems with maintenance of the stormwater control structures, unauthorized importation of fill materials, and insufficient financial warranty. On October 15, 2012, the Division received the affidavit for the imported inert fill materials, required under Rule 3.1.5(9). Regarding the maintenance to the stormwater control structures, the Division approved two extensions to the corrective action deadline. On November 5, 2012, the Division received photographic evidence of maintenance performed for the stormwater control structures. Rather than pay the increased financial warranty, the Operator elected to advance the site towards final reclamation and thereby reduce the current cost of reclamation. On November 15, 2012, the Division received a reclamation cost estimation from the Operator totaling \$4,490. The reclamation cost estimation provided by the Operator did not satisfy the requirements of Rule 6.3.4(2) and the Division could not accept the Operator's estimate. This report is accompanied by nine photos, a scaled drawing titled "Stormwater Control Channel," and an updated reclamation cost estimation totaling \$8,292.25.

Mr. Eli Doose, a potential new landowner, accompanied Mr. Olin throughout the inspection. Mr. Doose indicated a desire to terminate the reclamation permit as soon as possible to facilitate his plan for development of the site for commercial/industrial purposes. Mr. Doose indicated he was working with City of Ouray regarding a special use permit for his development plans. Mr. Doose anticipated approval by local authorities in December 2012. Mr. Olin also indicated a desire to complete reclamation as soon as possible and apply for full release of warranties and termination of permit.

Outstanding reclamation tasks include, but are not necessarily limited to, the following:

- Removal of all mine related equipment, debris and stockpiled materials (see photos 1 through 4);
- Grading per the approved reclamation plan;
- Replacement of vegetative growth medium per the approved reclamation plan;
- Establishment of an appropriate and stabilizing vegetative cover per the approved reclamation plan;
- Maintenance to the stormwater control structures, as necessary to ensure appropriate capacity, stability and continued function in accordance with the approved designs.

On-site discussions included a potential Technical Revision intended to update the existing reclamation plan, better accommodate the development plans of Mr. Doose, and expedite completion of reclamation and subsequent termination of permit. The Technical Revision would address final grading to more closely reflect current conditions, establishment of a vegetative cover composed of tree seedlings and/or shrubs as opposed

to grass, and the elimination of topsoil replacement. Elimination of the topsoil replacement appears appropriate because the topsoil was originally intended to support the establishment of a vegetative cover composed of grasses.

If the plans submitted through the Technical Revision alter any conditions illustrated on the previously approved reclamation map, the Technical Revision shall be accompanied by an updated reclamation map, completed in accordance with the applicable requirements of Rules 6.2.1(2), 6.3.4(1), 6.3.5(1), and 6.3.5(3). Pursuant to Rule 1.9.1, the Technical Revision shall be accompanied by the appropriate filing fee of \$216.

As shown in photos 5 through 9, and drawing "Stormwater Control Channel," the Operator had repaired and maintained the stormwater control structures to ensure a similar capacity and stability as provided by the approved designs.

Previous communications from the Operator indicate confusion regarding the conditions and requirements of the permit. The Operator is encouraged to procure a complete copy of all permit documents, either from the public record available on the Division's web site, www.mining.state.co.us, or by requesting an electronic copy on CD, or by requesting a paper copy. Alternately, the Operator may make an appointment at the Division's office during which time the Operator may review the permit records and make copies of select documents at a cost of \$0.25 per page.

Notice of Insufficient Financial Warranty

Based on observations made during the inspection and recorded in this report the Division has reviewed the current cost of reclamation totaling \$8,292.25. Therefore, the existing \$4,942 financial warranty is insufficient to ensure the completion of reclamation. Please find enclosed 14 pages of summary and task sheets utilized by the Division to calculate the current cost of reclamation. Pursuant to Rule 4.2.1(2), the Operator has 60 days from the signature date of this report, by January 26, 2013, to provide a financial warranty totaling not less than \$8,292.25, or conduct additional reclamation and thereby render the existing warranty adequate.

Due to the Operator's substantial efforts regarding repair to the stormwater control structures and progress towards final reclamation, the Division has revised its previous notice of insufficient financial warranty, dated September 12, 2012, totaling \$15,015.46, and due November 12, 2012.

Inspection Contact Address

Emery Lynn Olin
Bridal Veil Construction
P.O. Box 1821
1796 N. Main Street
Ouray, CO 81427

Attachment: Certificate of Service

Enclosure: 9 photos, 1 drawing titled "Stormwater Control Channel", and an updated reclamation cost estimation totaling \$8,292.25.

cc w/enclosure: Russ Means, DRMS GJFO

CERTIFICATE OF SERVICE

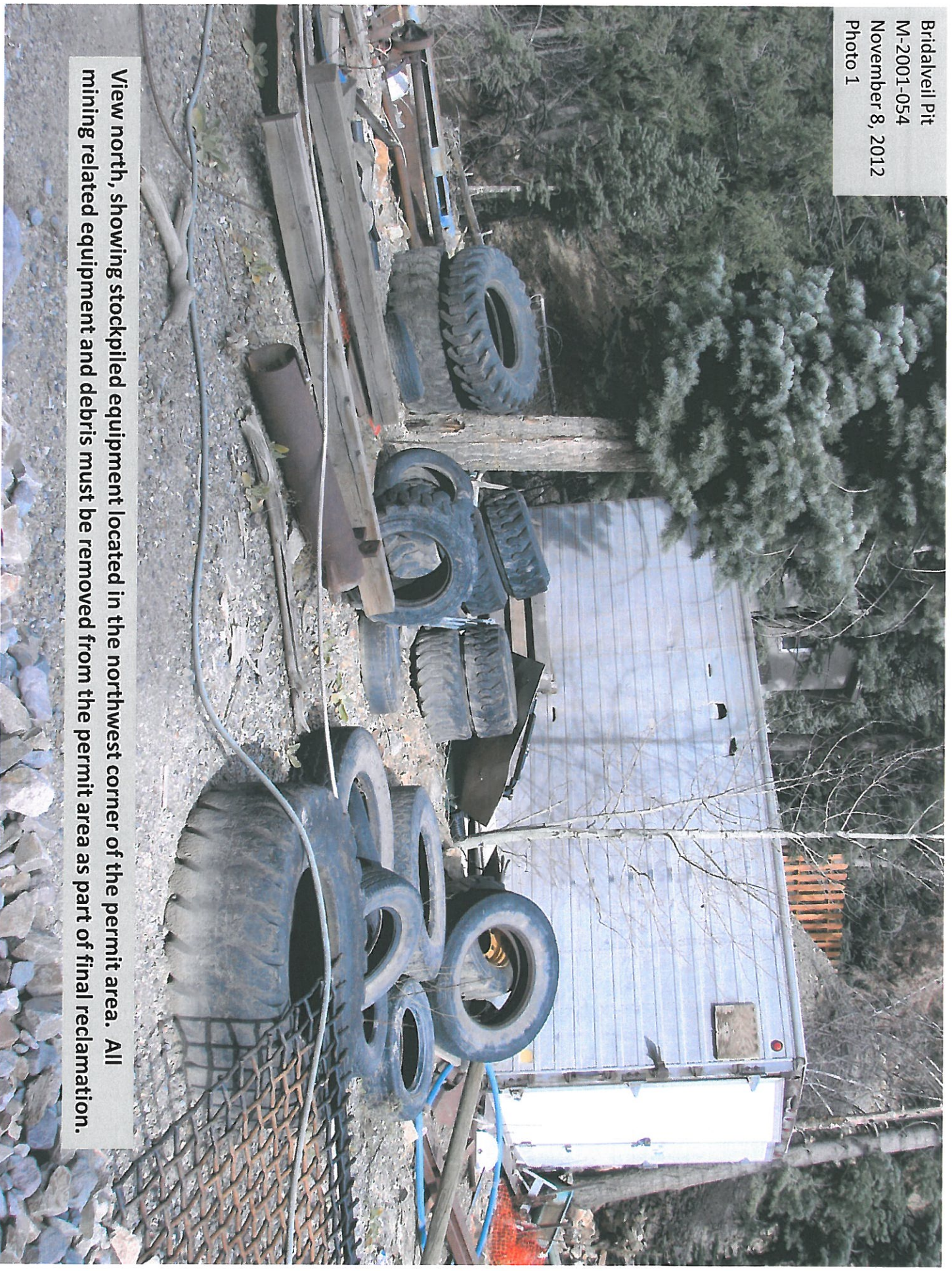
I, Wallace H. Erickson, hereby certify that on this 27th day of November, 2012, I deposited a true copy of the foregoing inspection report generated from the November 8, 2012 inspection of the Bridalveil Pit, Permit No. M-2001-054, with enclosures, in the United States Mail, postage paid, addressed to the following:

Emery Lynn Olin
Bridal Veil Construction
P.O. Box 1821
1796 N. Main Street
Ouray, CO 81427

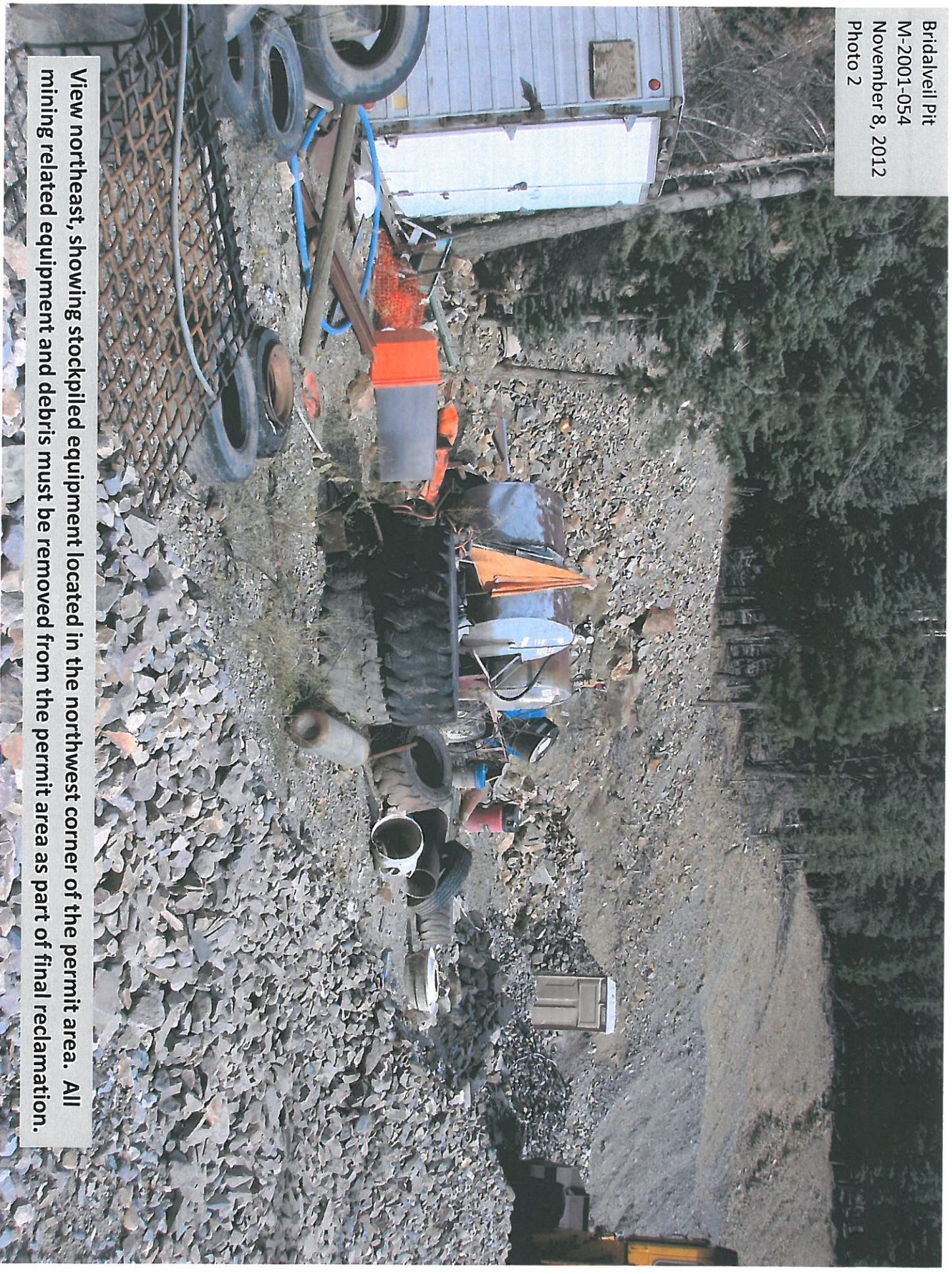
Wallace H. Erickson 11/27/12

Bridalveil Pit
M-2001-054
November 8, 2012
Photo 1

View north, showing stockpiled equipment located in the northwest corner of the permit area. All mining related equipment and debris must be removed from the permit area as part of final reclamation.



Bridalveil Pit
M-2001-054
November 8, 2012
Photo 2



View northeast, showing stockpiled equipment located in the northwest corner of the permit area. All mining related equipment and debris must be removed from the permit area as part of final reclamation.

Bridalveil Pit
M-2001-054
November 8, 2012
Photo 3



View east, taken nearby the northwest corner of the permit area. All mining related equipment, debris and stockpiled materials, including stockpiles of mined materials, must be removed from the permit area as part of final reclamation.

Bridalveil Pit
M-2001-054
November 8, 2012
Photo 4



View south, taken nearby the northwest corner of the permit area. All mining related equipment, debris and stockpiled materials, including stockpiles of mined materials, must be removed from the permit area as part of final reclamation.

Bridalveil Pit
M-2001-054
November 8, 2012
Photo 5



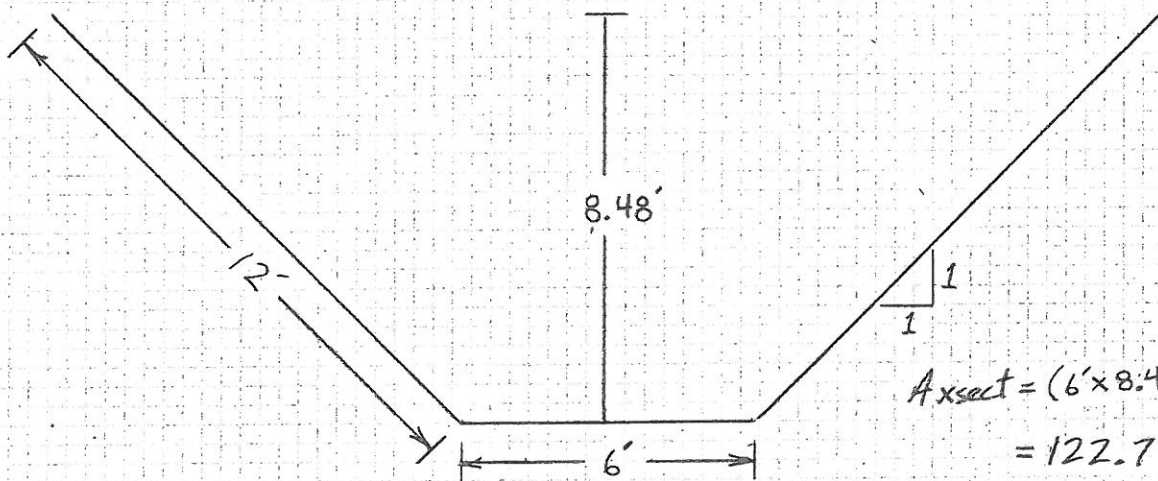
View west, showing a downstream view of the stormwater control channel. As shown in the attached scaled drawing, "Stormwater Control Channel," the configuration of the existing channel differed somewhat from the approved designs. However, the existing channel exhibited sufficient capacity to function in accordance with the approved designs.

Stormwater Control Channel

Bridalveil Pit
M-2001-054
11/21/12 WHE

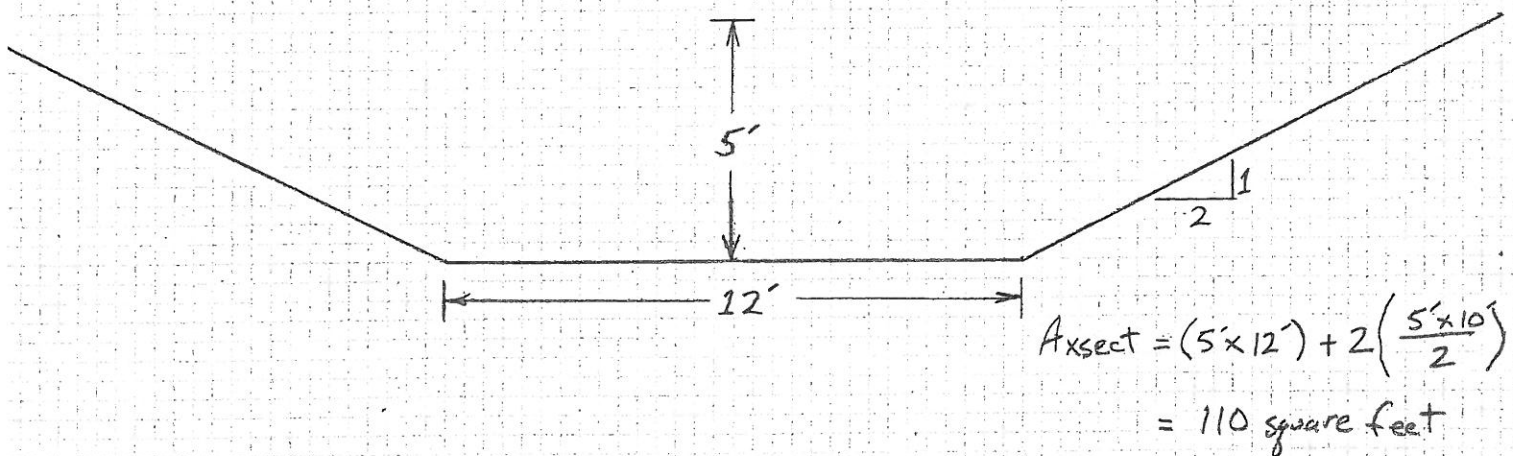
Scale 1" = 4'

Field Measurements Taken 11/8/12



$$A_{\text{sect}} = (6' \times 8.48') + 2 \left(\frac{8.48' \times 8.48'}{2} \right) \\ = 122.79 \text{ square feet}$$

Approved Design 7/31/03



$$A_{\text{sect}} = (5' \times 12') + 2 \left(\frac{5' \times 10'}{2} \right) \\ = 110 \text{ square feet}$$

Bridalveil Pit
M-2001-054
November 8, 2012
Photo 6

Upstream view of the stormwater control channel with riprap lining located immediately upstream of the access road crossing.



Bridalveil Pit
M-2001-054
November 8, 2012
Photo 7



View west, showing the stormwater sediment basin. Field measurements were taken with a tape measure and indicate a capacity of approximately 0.2459 acre-feet, or approximately 10,710 cubic feet. The approved designs for the basin requires a minimum capacity of 0.25 acre-feet, or approximately 10,890 cubic feet. Given the inherent inaccuracies of the field measurements, the basin appeared to have sufficient capacity to function in accordance with the approved designs.

Bridalveil Pit
M-2001-054
November 8, 2012
Photo 8

View west, showing downstream view of the outlet for the stormwater basin and its riprap lining.



Bridalveil Pit
M-2001-054
November 8, 2012
Photo 9

View east, taken nearby the southwest corner of the permit area, showing the upstream view of the outlet for the stormwater basin.



COST SUMMARY WORK

Task description: Summary of tasks and associated costs

Site: Bridalveil Pit Permit Action: Follow up calculation Permit/Job#: M2001054

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 11/26/2012 County: Ouray Filename: M054-000
User: WHE

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade slopes and benches	DOZER	1	4.37	\$555.56
002	Load and carry growth medium for revegetation	LOADER	1	8.94	\$769.00
003	Redistribute growth medium for revegetation	DOZER	1	2.63	\$334.59
004	Revegetate 1 acre affected land	REVEGE	1	8.00	\$1,843.43
005	Maintain stormwater sediment basin	EXCAVATE	1	12.50	\$908.00
006	Maintain stormwater channel	DOZER	1	3.61	\$458.98
007	Haul reclamation equipment to and from job site	MOBILIZE	1	2.80	\$1,614.94
008	Remove misc debris 10'L x 10'W x 10'H @ \$0.5/cu.ft.	NA	1	4.00	\$500.00
<u>SUBTOTALS:</u>				46.85	\$ \$6,984.50

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	\$141.09
Performance bond:	1.05	Total =	\$73.34
Job superintendent:	0.00	Total =	\$0.00
Profit:	10.00	Total =	\$698.45
		TOTAL O & P =	\$912.88
		CONTRACT AMOUNT (direct + O & P) =	\$7,897.38

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	0.00	Total =	\$0.00
Reclamation management and/or administration:	5.00		\$394.87

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$1,307.75

TOTAL BOND AMOUNT (direct + indirect) = \$8,292.25

BULLDOZER WORKTask description: Grade slopes and benchesSite: Bridalveil PitPermit Action: Follow up calculationPermit/Job#: M2001054PROJECT IDENTIFICATIONTask #: 001State: ColoradoAbbreviation: NoneDate: 11/23/2012County: OurayFilename: M054-001User: WHEAgency or organization name: DRMSHOURLY EQUIPMENT COST

Basic Machine: Cat D6T
 Horsepower: 185
 Blade Type: Semi-Universal
 Attachment: NA
 Shift Basis: 1 per day
 Data Source: (CRG)

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$31.46	NA
Operating Cost/Hour:	\$57.18	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$127.14Total Fleet Cost/Hour: \$127.14MATERIAL QUANTITIES

Initial Volume: 807
 Swell factor: 1.000
 Loose volume: 807 LCY

Source of estimated volume: (1ac)(43560sq.ft./ac)(0.5'D) / 27 = 806.67 cySource of estimated swell factor: NAHOURLY PRODUCTIONAverage push distance: 50 feetUnadjusted hourly production: 444.6 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: -15 %Average site altitude: 7,665 feetMaterial weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% EarthJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4152

Adjusted unit production: 184.60 LCY/hr
Adjusted fleet production: 184.6 LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.689/LCY

Total job time: 4.37 Hours
Total job cost: \$555.56

WHEEL LOADER – LOAD AND CARRY WORKTask description: Load and carry growth medium for revegetationSite: Bridalveil PitPermit Action: Follow up calculationPermit/Job#: M2001054PROJECT IDENTIFICATIONTask #: 002State: ColoradoAbbreviation: NoneDate: 11/23/2012County: OurayFilename: M054-002User: WHEAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: CAT 446DHorsepower: 101Attachment 1: ROPS CabShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$17.87	NA
Operating Cost/Hour:	\$29.61	100
Operator Cost/Hour:	\$38.49	NA
Total Unit Cost/Hour:	\$85.97	
Total Fleet Cost/Hour:	\$85.97	

MATERIAL QUANTITIESInitial volume: 807

CCY

Swell factor: 1.000Loose volume: 807

LCY

Source of estimated volume: (1ac)(43560sf.ft./ac.)(0.5'D) / 27 = 806.67 cySource of estimated swell factor: NAHOURLY PRODUCTIONLoader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.475 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	No adjustment - factor not applicable 0.00	0.000	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		0.000	minutes
Adjusted Basic Cycle Time:		0.475	minutes

Rolling Resistance – Road ConditionsHaul: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0Return: Soft, rutted dirt, no maintenance or water, 4" tire penetration 8.0Haul and Return Time

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	200	5.00	8.00	13.00	0.2776	(Cat HB)
Return Route:	200	-5.00	8.00	3.00	0.1128	(Cat HB)

Total Travel Time: 0.3904 minutes
Total Cycle Time: 0.8654 minutes

Load Bucket Capacity

Rated Capacity: 1.50 LCY (heaped)
Bucket Fill Factor: 1.100 Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity: 1.65 LCY

Job Condition Correction Factors

Site Altitude: 7665 feet

Altitude Adj:	<u>0.95</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.79</u>	(1 shift/day)
		multiplier

Unadjusted Hourly Unit Production: 114.40 LCY/Hour
Adjusted Hourly Unit Production: 90.20 LCY/Hour
Adjusted Hourly Fleet Production: 90.20 LCY/Hour

JOB TIME AND COST

Fleet size: 1 Loader(s) Total job time: 8.94 Hours
Unit cost: \$0.953 /LCY Total job cost: \$769.00

BULLDOZER WORKTask description: Redistribute growth medium for revegetationSite: Bridalveil PitPermit Action: Follow up calculationPermit/Job#: M2001054PROJECT IDENTIFICATIONTask #: 003State: ColoradoAbbreviation: NoneDate: 11/26/2012County: OurayFilename: M054-003User: WHEAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat D6THorsepower: 185Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$31.46	NA
Operating Cost/Hour:	\$57.18	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$127.14Total Fleet Cost/Hour: \$127.14MATERIAL QUANTITIESInitial Volume: 807Swell factor: 1.000Loose volume: 807 LCYSource of estimated volume: (1ac)(43560sq.ft./ac)(0.5'D) / 27 = 806.67 cySource of estimated swell factor: NAHOURLY PRODUCTIONAverage push distance: 50 feetUnadjusted hourly production: 444.6 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: -15 %Average site altitude: 7,665 feetMaterial weight: 2,650 lbs/LCYWeight description: Decomposed rock - 25% Rock, 75% EarthJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	1.200	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)
Push gradient:	1.329	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.868	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6894

Adjusted unit production: 306.51 LCY/hr
Adjusted fleet production: **306.51** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$0.415/LCY

Total job time: **2.63** Hours
Total job cost: **\$334.59**

REVEGETATION WORKTask description: Revegetate 1 acre affected landSite: Bridalveil PitPermit Action: Follow up calculationPermit/Job#: M2001054PROJECT IDENTIFICATIONTask #: 004State: ColoradoAbbreviation: NoneDate: 11/26/2012County: OurayFilename: M054-004User: WHEAgency or organization name: DRMSFERTILIZINGMaterials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			Total Fertilizer Materials Cost/Acre	\$0.00

Application

Description	Cost /Acre
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

Description	Cost /Acre
Hand raking (MEANS 32 91 13.23 0250)	\$1,197.90
Total Tilling Cost/Acre	\$1,197.90

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alpine Bluegrass	0.54	12.40	\$8.10
White Dutch Clover - VNS	0.56	10.93	\$2.01
Sheep Fescue - Azay	0.64	9.99	\$1.74
Meadow Foxtail - Garrison	0.46	6.12	\$3.11
Red Top	0.12	13.75	\$0.72
Tufted Hairgrass	0.50	28.70	\$5.40
Totals Seed Mix	2.82	81.88	\$21.08

Application

Description	Cost /Acre
Broadcast seeding [DMG]	\$255.76
Total Seed Application Cost/Acre	\$255.76

MULCHING and MISCELLANEOUS**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
Total Mulch Materials Cost/Acre				\$0.00

Application

Description	Cost /Acre
	\$
Total Mulch Application Cost/Acre	\$0.00

NURSERY STOCK PLANTING

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost /Acre
					\$
Totals Nursery Stock Cost / Acre					\$0.00

JOB TIME AND COST

No. of Acres: 1 Cost /Acre: \$1,474.74
 Estimated Failure Rate: 25% Cost /Acre*: \$1,474.74
 *Selected Replanting Work Items: TILLING,SEEDING

Initial Job Cost: \$1,474.74
 Reseeding Job Cost: \$368.69
 Total Job Cost: \$1,843.43
 Job Hours: 8.00

HYDRAULIC EXCAVATOR WORK

Task description: Maintain stormwater sediment basin

Site: Bridalveil Pit Permit Action: Follow up calculation Permit/Job#: M2001054

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 11/26/2012 County: Ouray Filename: M054-005
User: WHE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat 307D 7'-3" Stick
Attachment 1: ROPS Cab

Horsepower: 56
Weight (MT): 7.23
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$15.06	NA
Operating Cost/Hour:	\$18.88	100
Operator Cost/Hour:	\$38.67	NA
Total Unit Cost/Hour:	\$72.62	
Total Fleet Cost/Hour:	\$72.62	

MATERIAL QUANTITIES

Initial volume: 403 CCY Swell factor: 1.000
Loose volume: 403 LCY

Source of estimated volume: 0.25 ac-ft capacity = 10890 cu.ft. = 403 cy
Source of estimated swell factor: NA

HOURLY PRODUCTION

Excavator Cycle Time (load bucket, swing loaded, dump bucket, swing empty):

Basic Job Condition Description: AVERAGE
Secondary Job Condition within Basic Description: AVERAGE
Cycle Time Value: 0.242 minutes

Load Bucket Capacity

Rated Capacity: 0.20 LCY (heaped)
Bucket Fill Factor: 0.900 Other - soil, boulders, roots (80 -100%) 0.900
Adjusted Capacity: 0.18 LCY

Bucket Size Class: Small

Job Condition Correction Factors

Site Altitude: 7665 feet

Altitude Adj:	<u>0.87</u>	Source
Job Efficiency:	<u>0.83</u>	(CAT HB)
Net Correction:	<u>0.72</u>	(1 shift/day)
		multiplier

Unadjusted Hourly Unit Production:	<u>44.63</u>	LCY/Hour
Adjusted Hourly Unit Production:	<u>32.23</u>	LCY/Hour
Adjusted Hourly Fleet Production:	<u>32.23</u>	LCY/Hour

JOB TIME AND COST

Fleet size: 1 Excavator Total job time: 12.51 Hours
Unit cost: \$2.253 /LCY Total job cost: \$908.00

BULLDOZER WORKTask description: Maintain stormwater channelSite: Bridalveil PitPermit Action: Follow up calculationPermit/Job#: M2001054PROJECT IDENTIFICATIONTask #: 006State: ColoradoAbbreviation: NoneDate: 11/26/2012County: OurayFilename: M054-006User: WHEAgency or organization name: DRMSHOURLY EQUIPMENT COSTBasic Machine: Cat D6THorsepower: 185Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$31.46	NA
Operating Cost/Hour:	\$57.18	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.49	NA

Total unit Cost/Hour: \$127.14Total Fleet Cost/Hour: \$127.14MATERIAL QUANTITIESInitial Volume: 263Swell factor: 1.000Loose volume: 263 LCYSource of estimated volume: [(258'L x 110 sq.ft.) / 27 = 1,051 cy] / 4 = 262.75 cySource of estimated swell factor: NAHOURLY PRODUCTIONAverage push distance: 50 feetUnadjusted hourly production: 444.6 LCY/hrMaterials consistency description: Dry, non-cohesive 0.8Average push gradient: 10 %Average site altitude: 7,665 feetMaterial weight: 3,300 lbs/LCYWeight description: Decomposed rock - 75% Rock, 25% EarthJob Condition Correction Factor

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.800	(CAT HB)
Dozing method:	1.000	(GEN.)

Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.600	(FND-SF)
Push gradient:	0.786	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.697	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.1637

Adjusted unit production: 72.78 LCY/hr
Adjusted fleet production: **72.78** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: \$1.747/LCY

Total job time: 3.61 Hours
Total job cost: **\$458.98**

EQUIPMENT MOBILIZATION/DEMobilIZATIONTask description: Haul reclamation equipment to and from job siteSite: Bridalveil PitPermit Action: Follow up calculationPermit/Job#: M2001054**PROJECT IDENTIFICATION**Task #: 007State: ColoradoAbbreviation: NoneDate: 11/26/2012County: OurayFilename: M054-007aUser: WHEAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck Tractor Description: GENERIC ON-HIGHWAY TRUCK TRACTOR, 6X4, DIESEL POWERED,
400 HP (2ND HALF, 2006)Truck Trailer Description: GENERIC FOLDING GOOSENECK, DROP DECK EQUIPMENT TRAILER
(25T, 50T, AND 100T)**Cost Breakdown:**

Available Rig Capacities	0-25 Tons	26-50 Tons	51+ Tons
Ownership Cost/Hour:	\$16.63	\$18.37	\$22.33
Operating Cost/Hour:	\$44.38	\$46.13	\$50.07
Operator Cost/Hour:	\$27.66	\$27.66	\$27.66
Helper Cost/Hour:	\$0.00	\$25.39	\$25.39
Total Unit Cost/Hour:	\$88.67	\$117.55	\$125.45

NON ROADABLE EQUIPMENT:

Machine Description	Weight/ Unit (TONS)	Owner ship Cost/hr/ unit	Haul Rig Cost/hr/unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet	DOT Permit Cost/ fleet
Cat D6T	23.25	\$31.46	\$88.67	1	\$120.13	\$88.67	\$250.00
CAT 446D	9.80	\$17.87	\$88.67	1	\$106.54	\$88.67	\$250.00

Subtotals: **\$226.67** **\$177.34** **\$500.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
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Subtotals: **\$0.00** **\$0.00**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	OURAY	
Total one-way travel distance:	5.00	miles
Average Travel Speed:	25.00	mph

Total Non-Roadable Mob/Demob Cost *	\$1,614.94
* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$0.00
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.20	0.20
Return Time (Hours):	0.20	0.20
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.40	0.40

JOB TIME AND COST

Total job time:	2.80	Hours
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Total job cost:	\$1,614.94
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