Technical Revision No.4
As-built Report
Restoration and Stabilization of Little Deadwood Gulch
May Day 2 Mine Area

Prepared for
Colorado Division of Reclamation, Mining and Safety

Prepared by
May Day Idaho Mine Complex
Wildcat Mining Corporation
October 11, 2016

Table of Contents

Technical Revision No.4
As-built Report
Restoration and stabilization of Little Deadwood Gulch a the May Day 2 Area
May Day Idaho Mine Complex
M-1981-185
Wildcat Mining Corporation
October 11, 2016

1) Introduction

The following technical report presents the May Day No 2 mine area-Drainage Little Deadwood Gulch restoration completion report. The May Day Idaho Mine location is illustrated on Figure 1. The report is submitted as a requirement stipulated by the Colorado Mine Land Reclamation Board (Board)[1] and in accordance with the Colorado Division of Reclamation Mining and Safety (CDRMS) (Division) regulations.

The scope of Technical Revision (TR-4) included the following activities:

- Pre-construction site topographic map preparation;
- Conducted Little Deadwood Gulch stream hydraulics analysis;
- Conducted a site cultural resource assessment;
- Obtained an Army Corp of Engineers Nationwide Permit (September 30, 2016);
- Established field stream profile;
- Installed upgradient rock dams;
- Installed three 40 foot long-24 inch CMP culverts with trash racks in accordance with the design document;
- Installed a down gradient rip rapped apron;
- Graded the disturbed areas to conform to the design document;
- Revegetated the disturbed area with the approved seed mix;
- Installed specified erosion control blankets (ECB); and
- Installed post construction stormwater management Best Management Practices (BMPs).

2) Background

[1] January of 2016 the Colorado Mined and Reclamation Board issued an order that TR-4 be completed no later than July 1, 2016.

The submitted drainage restoration Plan (Attachment 1) was approved by the CDRMS on February 26, 2016. (Attachment 2) Subsequently, a U.S. Army Corp of Engineers Nationwide permit was approved on September 30th, 2016 (Attachment 3).

The pre-construction topography is illustrated on Figure 1. The Mountain Man Surveying "as-built" drawing is illustrated on Figure 2

3) Approach

Project activities;

- Reviewed site aerial photographs;
- Conducted stream hydraulic analysis;
- Determined riprap size requirements;
- Obtained CDRMS –Technical Revision Approval;
- Obtained Army Corp approval (Attachment 2); and
- Observed excavation and culvert installation construction activities.

4) Site construction Summary

The following assessment activities were completed:

- Confirmed pipe and restoration material specifications;
- Established channel design grades;
- Observed culvert installation (trash rack, concrete toe, end pipe, rip rap placement);;
- Installed post construction stormwater BMPs;
- Confirmed grades and contours are consistent with the approved work plan;
- Graded, seeded and installed stormwater control BMPs; and,
- Completed a final "as-built" topographic survey.

5) Conclusions

The May Day No. 2 restoration work plan was implemented as designed.

Figures

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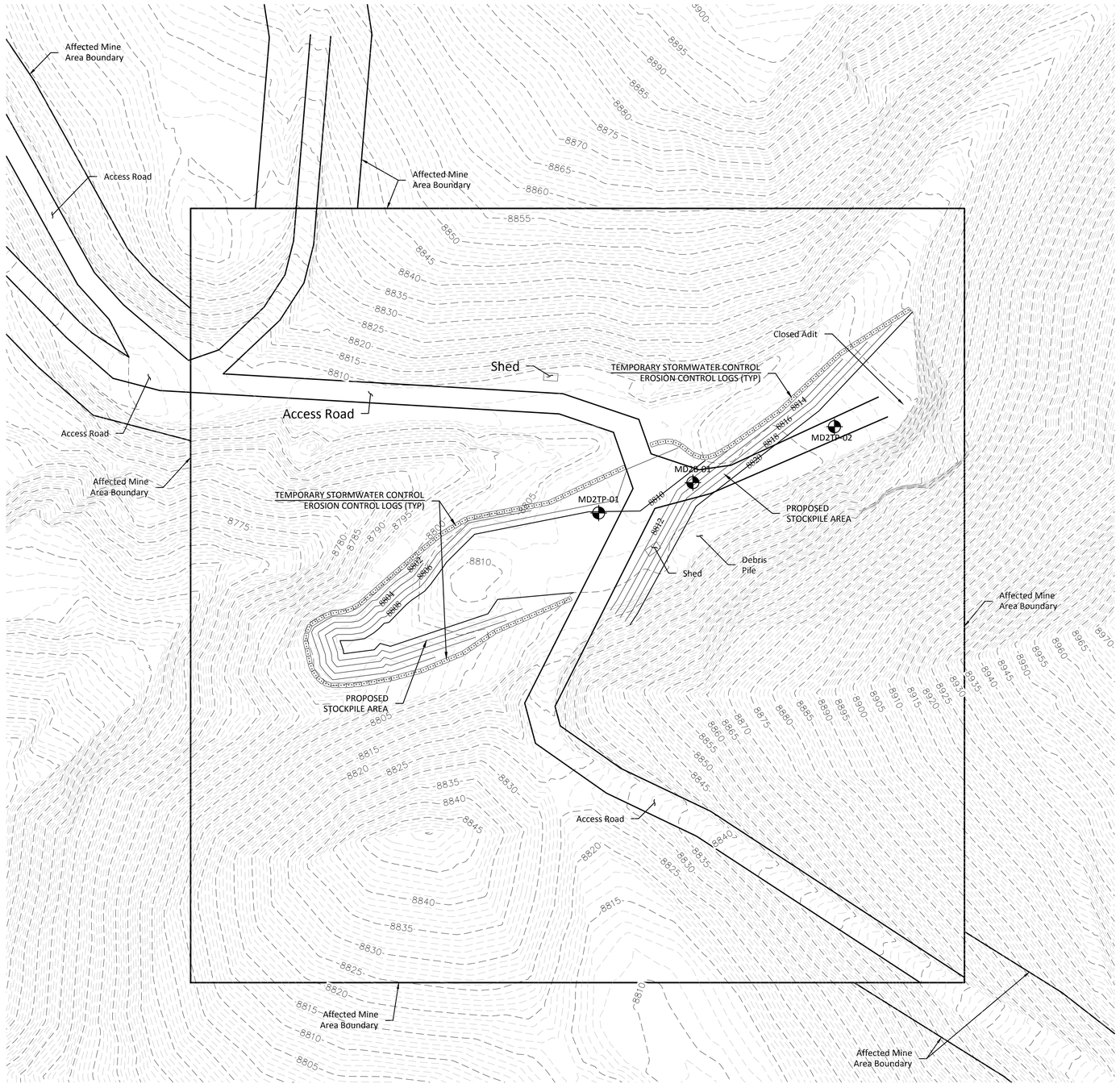
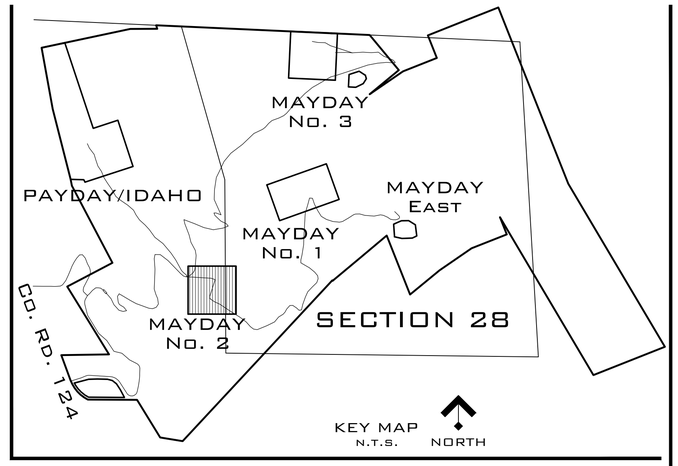
May Day 2 Area
May Day Idaho Mine Complex

WILDCAT MINING CORPORATION

LOCATED IN SECTION 21 AND SECTION 28
T. 36 N., R. 11 W., N.M.P.M.
LA PLATA COUNTY, STATE OF COLORADO





LEGEND

- EXISTING 1 FOOT CONTOUR
- EXISTING 5 FOOT CONTOUR
- PROPOSED 1 FOOT CONTOUR
- PROPOSED 5 FOOT CONTOUR
- AFFECTED MINE AREA BOUNDARY
- EXISTING STURCTURES
- GEOTECHNICAL BORING LOCATION
- EROSION CONTROL LOGS

NORTH 30 0 15 30
SCALE: 1" = 30'

CLC ASSOCIATES

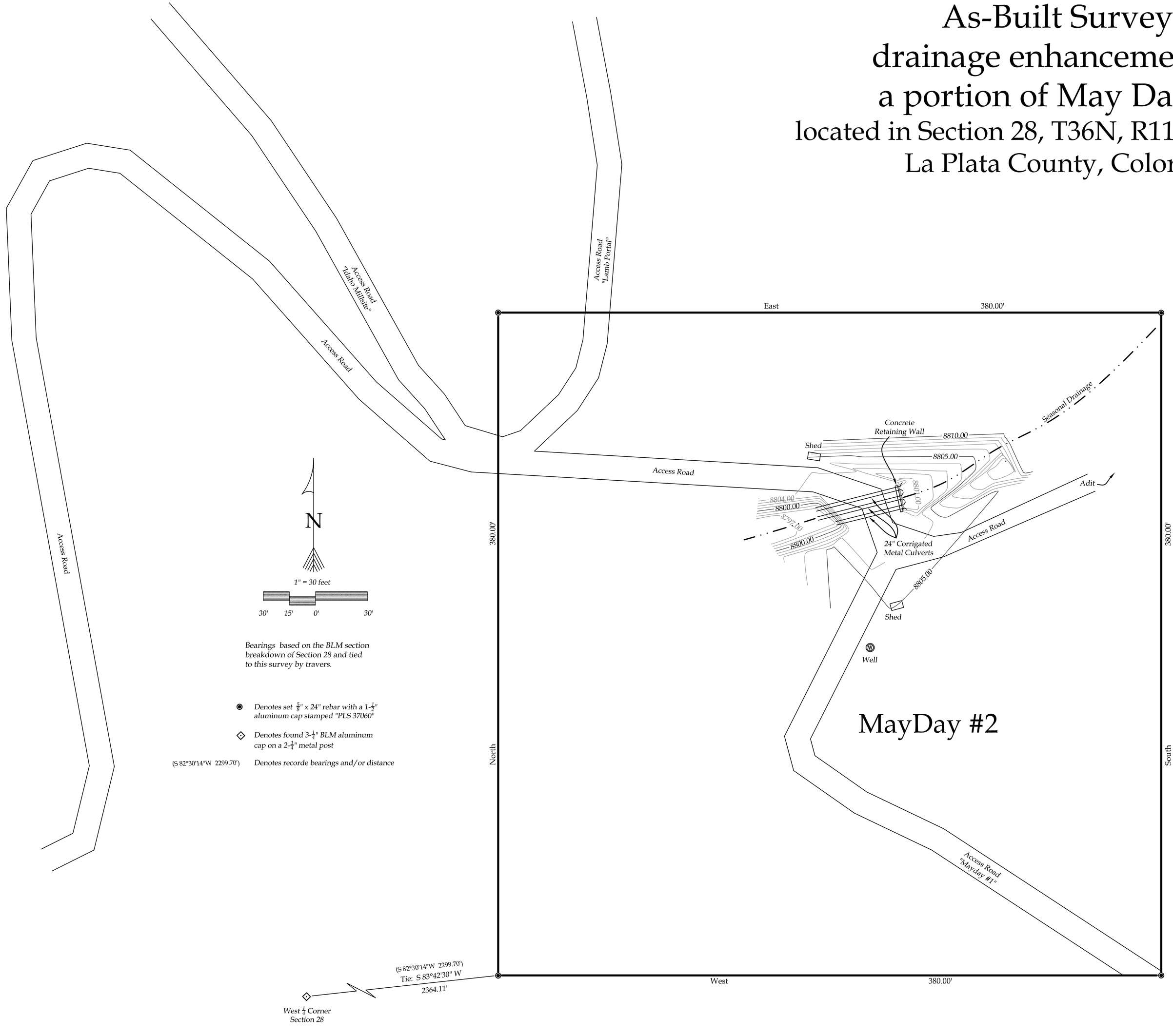
R Squared Inc.

WILDCAT MINING CORPORATION

MAY DAY No. 2
SITE MAP

PREPARED BY: JJA
REVIEWED BY: DJM
REVISION DATE: 03-08-12

As-Built Survey
drainage enhancement of
a portion of May Day #2
located in Section 28, T36N, R11W, N.M.P.M.
La Plata County, Colorado



REVISED LEGAL DESCRIPTION MAYDAY 2:

A tract of land located in Section 28, T36N, R11W, N.M.P.M. and being more particularly described as follows:

Beginning at a point from which the W 1/4 Corner of said Section 28 bears S 83°42'30"W, a distance of 2364.11 feet;
Thence, North a distance of 380 feet;
Thence, East a distance of 380 feet;
Thence, South a distance of 380 feet;
Thence, West a distance of 380 feet to the point of beginning and containing 3.31 acre,s more or less.

SURVEYOR'S CERTIFICATION:

I hereby state that this survey and plat was prepared by me or under my direct responsibility, supervision and checking, and that, in my professional opinion, it is true and correct to the best of my knowledge, belief and information based on the standards of care of Professional Land Surveyors practicing in the State of Colorado.

John E. Mower, P.L.S.
Colorado Registration No. 37060

Deposited this _____ day of _____, 2011
at _____ .m., in Book ___ of the La Plata County
Surveyor's land survey plats at Page _____.
Reception Number_____.

Mountain Man Surveying

P.O. Box 636
Durango, Co. 81302
Phone: 970-375-6358
Cell: 970-946-1886

As-Built Survey
drainage enhancement of
a portion of May Day #2
located in Section 28, T36N, R11W, N.M.P.M.
La Plata County, Colorado

Prepared By: J.E.M.	Scale: 1"=30'
Checked By: J.E.M.	Project No: MAYDAY2
Date: 10-14-16	Page 1 of 1

Photos

Technical Revision No. 4
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Restoration and Stabilization of Little Deadwood Gulch
May Day No. 2 Project Area
May Day Idaho Mine Complex

Pre and Post Construction

MD-2 Pre-Construction Drainage Up Gradient

MD-2 Pre-Construction Down Gradient

MD-2-Pre Construction Cross Drainage Perspective

MD-2 Grade Control Station

MD-2 Culvert Installation-Wing Wall

Check Dams

MD-2 Culvert Installation-Down Gradient

MD-2 Culvert Installation-Upgradient

MD-2 Post Drainage Construction

MD-2-Culvert Installation Complete

MD-2 Bench Grading

Attachments

Technical Revision No. 4
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Little Deadwood Gulch
May Day 2 Area
May Day Idaho Mine Complex

Attachment 1

Drainage Plan
Technical Revision No. 4
As-Built Report
Restoration and Stabilization
Little Deadwood Gulch
May Day No. 2 Area
May Day Idaho Mine Complex

CARROLL & LANGE-MANHARD
A MANHARD CONSULTING COMPANY

February 1, 2013

Mr. Dustin Czapla
Division of Reclamation, Mining and Safety
101 South 3rd Street, Suite 301
Grand Junction, CO 81501

INTRODUCTION

This Technical Revision (TR) presents Wildcat Mining Corporation's (Wildcat) approach to restore and stabilize the Little Deadwood Gulch (LDG) to its original configuration.

Wildcat is preparing to operate the May Day Idaho Mine Complex and activated MSHA mine identification (ID) number 05-03674. Upon DRMS approval of this TR, Wildcat will implement the corrective actions described herein.

Historical mining activities in the vicinity of the May Day 2 portal constructed an access road across the LDG drainage channel impairing the historical drainage patterns. In early 2010, a cease and desist order to conduct any mining related activities, including operating equipment without written authorization from the Colorado Division of Reclamation, Mining and Safety (DRMS) was issued to Wildcat. Wildcat has followed the cease and desist order and has been unable to complete any modifications to the LDG since that time.

Wildcat submitted as Exhibit D, Attachment D-3 to its amended Section 112d permit application the May Day 2 Stormwater Control Work Plan (the Original Work Plan). This Original Work Plan generally addressed existing drainage conditions and construction activities required to repair the LDG to its original alignment. This TR provides more detailed construction documentation for the proposed construction to repair the LDG. The proposed work to restore the historical drainage pattern of the LDG is outlined below:

- Installation of erosion and sediment control BMP's at the site.
- Install two 24" corrugated metal pipes (CMP) across the existing access road. The twin 24" CMP's will convey the maximum calculated stormwater run-off in the LDG. If stormwater events larger than calculated occur the drainage will overtop the access road, flow across the roadway and be picked up downstream in the LDG.
- Grading activities to restore the drainage channel.
- Stabilize the drainage way and install BMP's to prevent erosion while vegetation establishes.

WORK PLAN

The following presents a corrective action work plan to remove debris from the LDG and stabilize the drainage channel. Based on the analysis conducted, the following design has been prepared to meet the conditions imposed by DRMS as part of the approved 112d permit. This TR uses current topographic data to further refine the design that was presented in the Original Work Plan and prepare the final construction documents for the LDG and May Day 2.

Scope of Work

Design Analysis:

To repair the LDG back to its original configuration an analysis was completed of the slopes and cross sections of the Gulch upstream and downstream of the disturbed area. Cross sections were cut on a 25-foot interval to determine approximate side slopes of the Gulch in an undisturbed state as well as to determine the approximate longitudinal grade of the LDG in the vicinity of the May Day 2 portal. This provided a typical section for the LDG that could be used to estimate the maximum drainage conveyed by the channel.

Based on this analysis, it was determined that the LDG could convey approximately 114 cfs of stormwater run-off. This run-off was used to determine the required pipe size to allow the drainage to pass beneath the access road. Calculations show that the flow could be conveyed in one 42" pipe. Due to vertical constraints, two 24" CMP's must be used instead of the calculated single 42" CMP. See Appendix A for drainage calculations.

Construction of Improvements:

Construction will begin with installation of necessary runoff and erosion BMP controls as shown on Figure 1 – Initial SWMP in Appendix B. Following installation of these controls, construction will start with the installation of the twin 24" CMP's. A plan and profile of the pipes was prepared showing the required slopes and length of pipe (see Figure 3 – Culvert Plan & Profile).

All CMP used for this project shall use a typical 2-2/3" x 1/2" corrugation, 16 gage steel (minimum thickness = 0.064") and shall be installed in bedding material meeting the manufacturer's specifications. Typical material used for bedding of CMP is squeegee (3/8" minus sand) due to how easy it is to work with and the squeegee's ability to convey water through the material.

The upstream side of the pipes will be supported by an 18" deep by 6" thick concrete toe wall to prevent undermining of the pipe in high flow situations. It is also recommended that a trash rack be placed over the mouth of each pipe to prevent large debris from entering the pipes.

The downstream side of the pipes will use a multi-inlet CMP flared end section to disperse the water to the greatest extent possible. Additionally, a 14-foot by 15-foot riprap pad will be installed to prevent erosion of the channel as it exits the pipe. The riprap shall have a median rock size of 12" and will be grouted in place, to prevent high velocity flows from dislodging the rock.

After installation of the culverts, grading operations can begin to reshape the LDG and restore it to its original configuration. Figure 2 – Little Deadwood Gulch Grading Plan was prepared to show proposed grading activities.

After completion of grading activities, the channel will need to be stabilized to prevent erosion and degradation of the proposed alignment. Rock Check Dams will be placed along the flow line of the channel to slow the velocity of run-off and prevent scouring. Seeding and mulch will be placed on all disturbed areas. Due to the high probability that water will flow through this area, it is recommended that all slopes disturbed during grading activities be covered with erosion control blankets. Erosion control measures are shown on Figure 4 – Final SWMP.

APPENDIX A

- **LITTLE DEADWOOD GULCH DRAINAGE ANALYSIS**

Cross Section for Trapezoidal Channel - 1

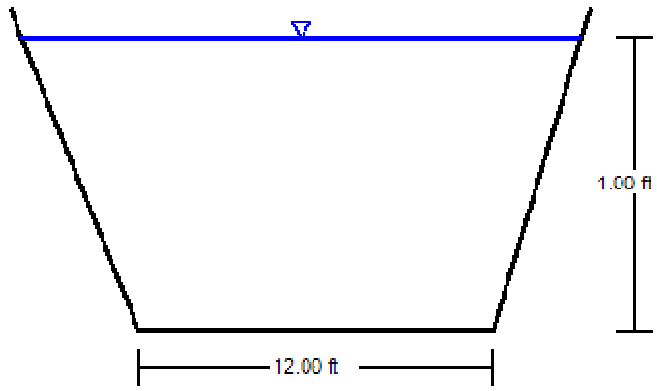
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.045	
Channel Slope	6.60	%
Normal Depth	1.00	ft
Left Side Slope	4.00	H:V
Right Side Slope	3.00	H:V
Bottom Width	12.00	ft
Discharge	113.66	ft³/s

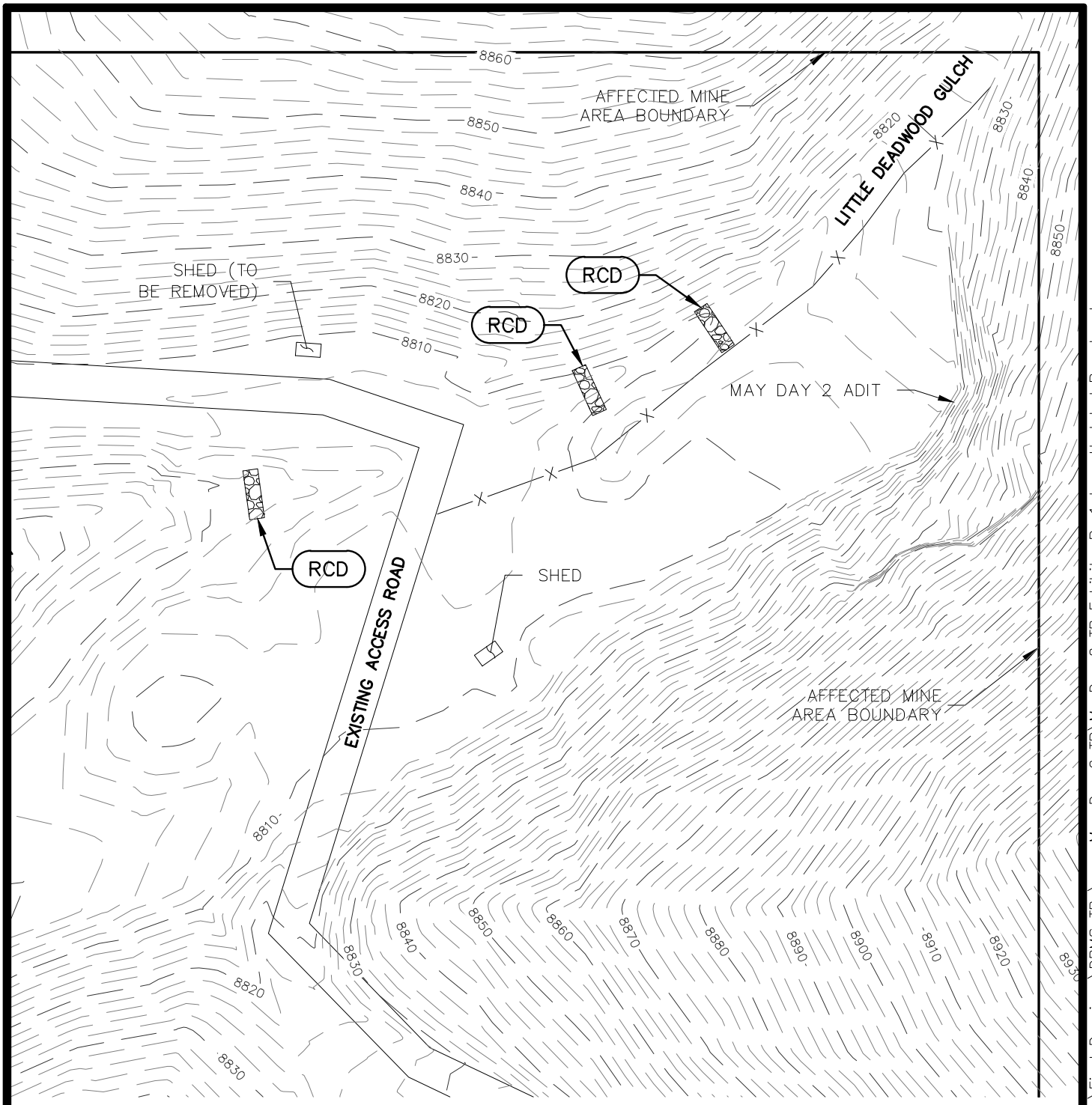
Cross Section Image



V: 10
H: 1

APPENDIX B – PHASE 1 CONSTRUCTION FIGURES

- **FIGURE 1 – INITIAL SWMP**
- **FIGURE 2 – LITTLE DEADWOOD GULCH GRADING PLAN**
- **FIGURE 3 – CULVERT PLAN & PROFILE**
- **FIGURE 4 – FINAL SWMP**



LEGEND

- 8715 — EXISTING MAJOR CONTOUR
- 8717 — EXISTING MINOR CONTOUR
- X — EROSION CONTROL WADDLE
- RCD — ROCK CHECK DAM

NORTH

0 20 40
SCALE: 1" = 40'

CARROLL & LANGE-MANHARD
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7442 South Tucson Way, Suite 190-A, Centennial, CO 80112 ph:303.708.0500 fx:303.708.0400 manhard.com
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

WILDCAT MINING CORPORATION
LA PLATA COUNTY, CO
MAY DAY 2 - INITIAL SWMP

PROJ. MGR.:	DJM
DRAWN BY:	TLR
DATE:	01/29/13
SCALE:	1"=40'

SHEET 1 OF 4

WMCDUC 120574

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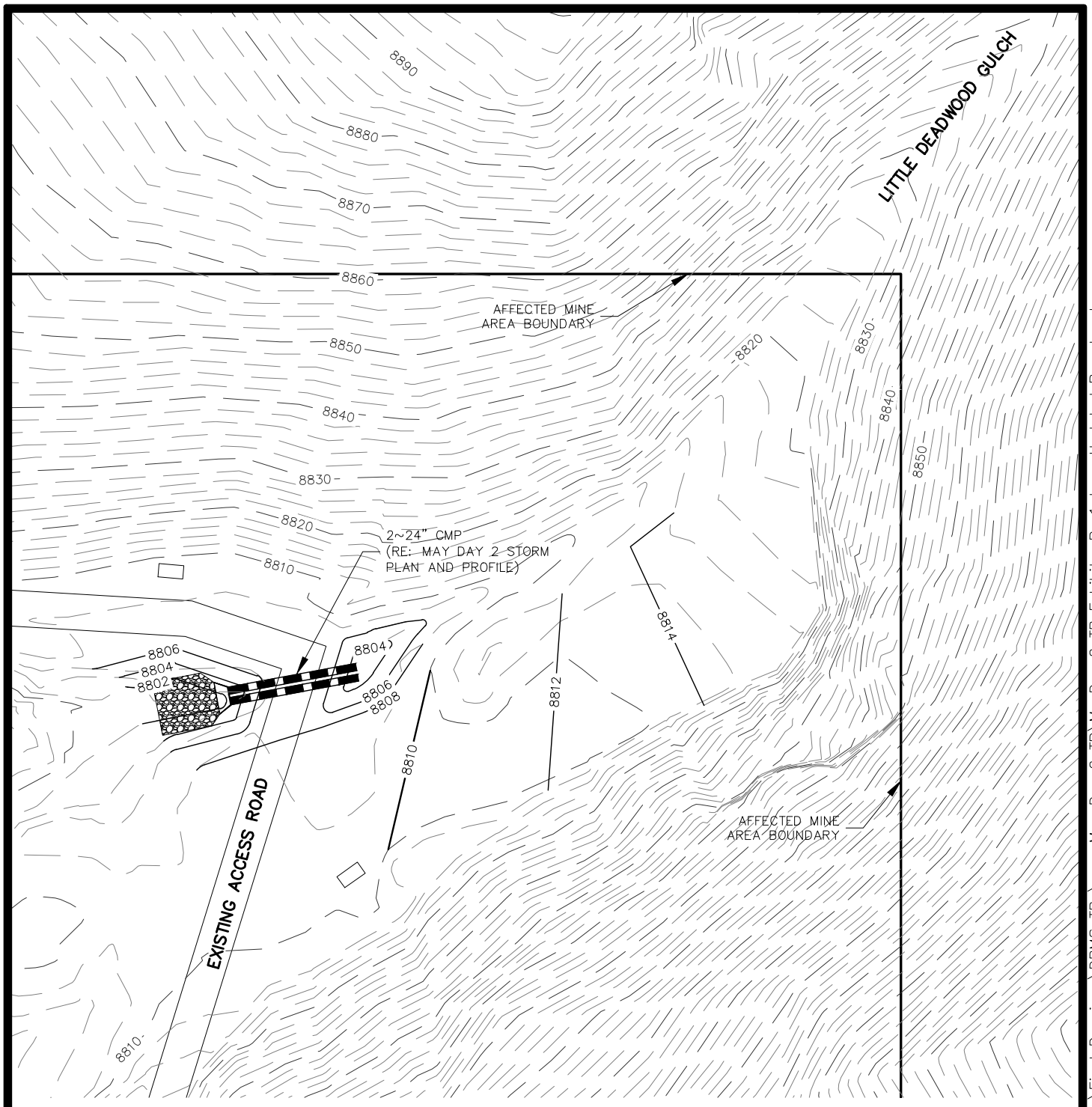

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WILDCAT MINING CORPORATION

LA PLATA COUNTY, CO

MAY DAY 2 - GRADING PLAN

PROJ. MGR.:	DJM
DRAWN BY:	TLR
DATE:	01/29/13
SCALE:	1"=40'

SHEET 2 OF 4

WMCDUC 120574

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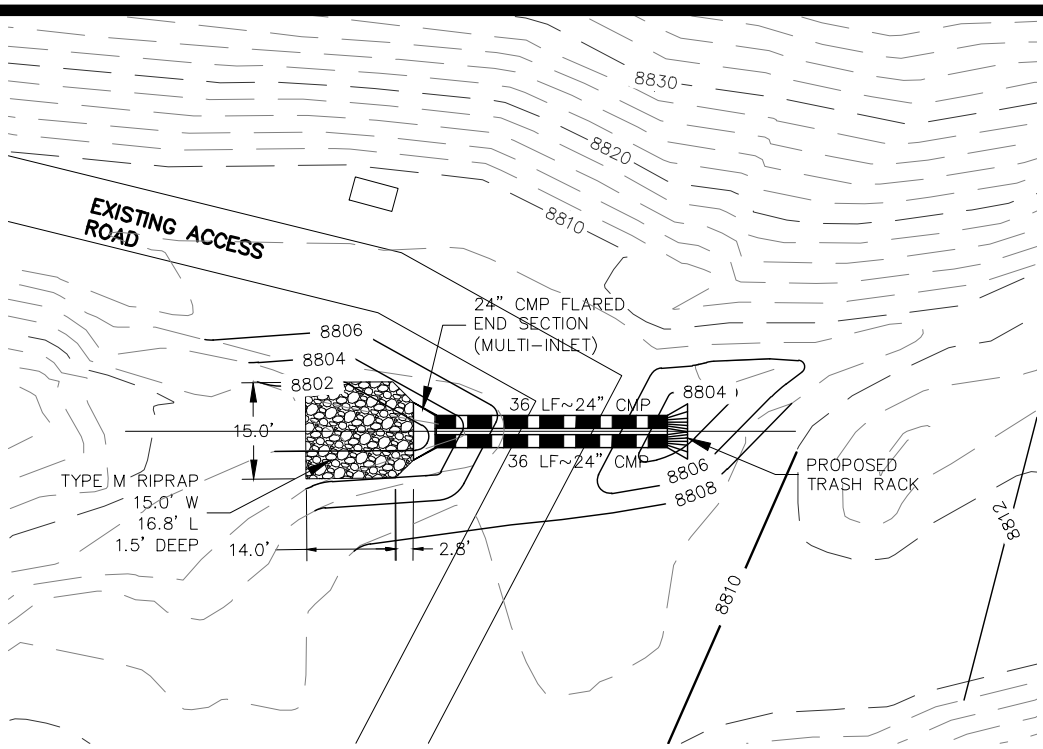
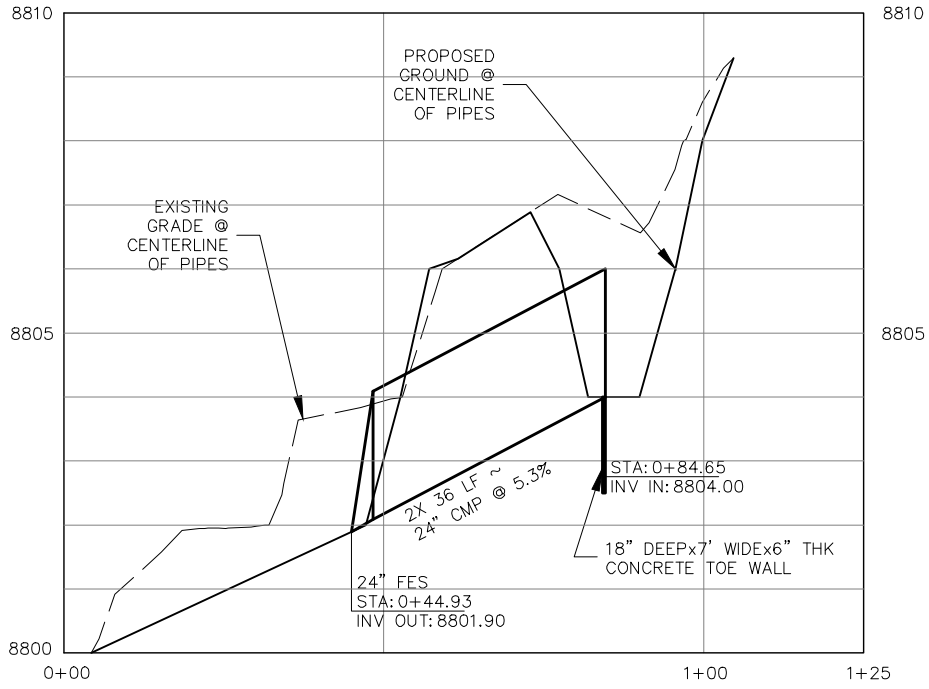
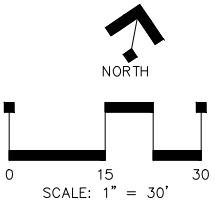




STORM CROSS-SECTION
H 1:1 - V 1:10



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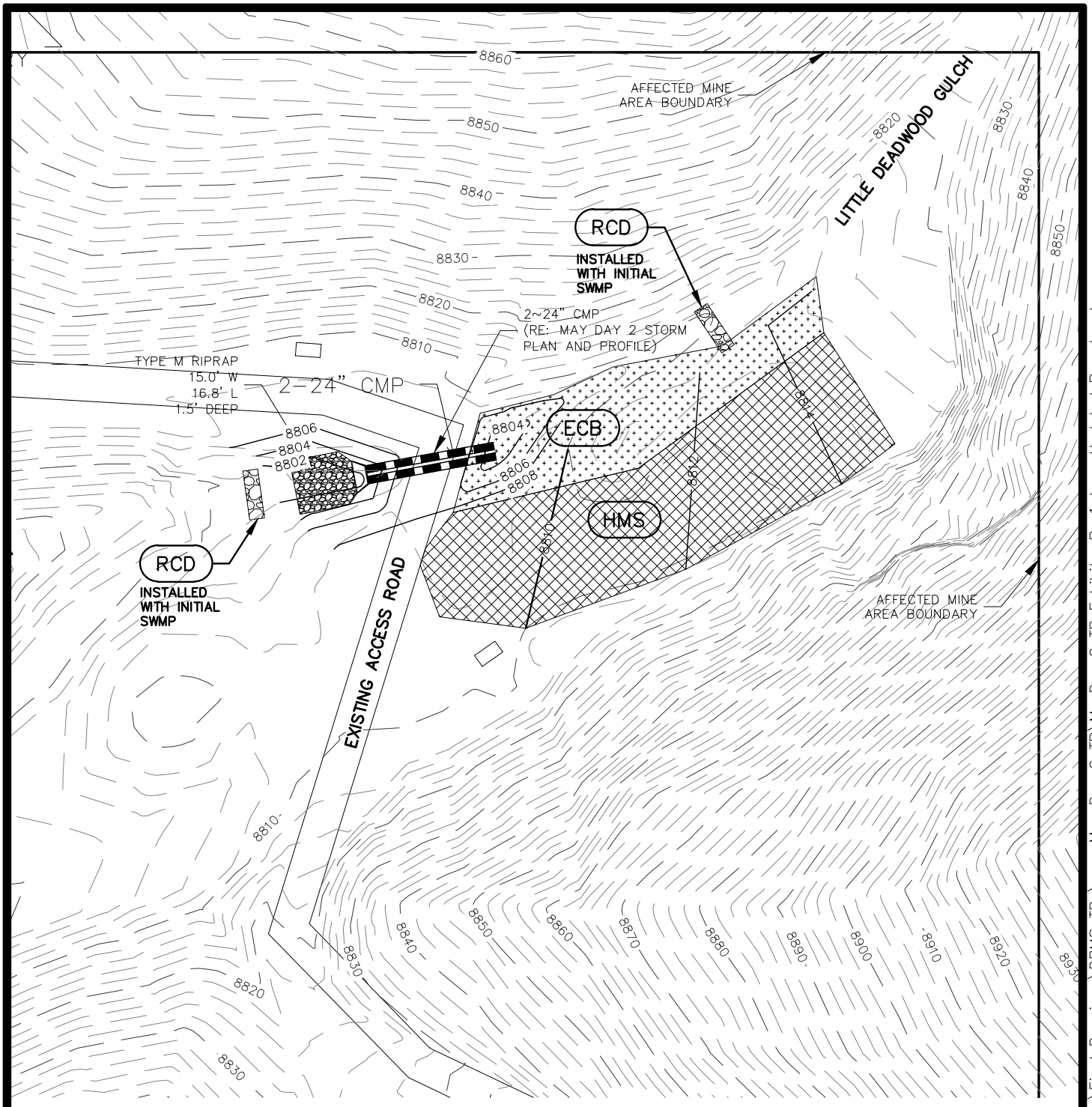
Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers
Construction Managers • Environmental Scientists • Landscape Architects • Planners

WILDCAT MINING CORPORATION
LA PLATA COUNTY, CO
MAY DAY 2 - STORM PLAN AND PROFILE

PROJ. MGR.:	DJM
DRAWN BY:	TLR
DATE:	01/29/13
SCALE:	1"=30'

SHEET 3 OF 4
WMCDUC 120574



LEGEND

8715 / 8717	EXISTING MAJOR / MINOR CONTOUR
8715 / 8717	PROPOSED MAJOR / MINOR CONTOUR
ECB	EROSION CONTROL BLANKET WITH PERMANENT SEEDING
HMS	HYDROMULCH / SEEDING
RCD	ROCK CHECK DAM
	RIPRAP

NORTH

0 20 40

SCALE: 1" = 40'

CARROLL & LANGE-MANHARD

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Civil Engineers • Surveyors • Water Resource Engineers • Water & Wastewater Engineers

Construction Managers • Environmental Scientists • Landscape Architects • Planners

WILDCAT MINING CORPORATION

LA PLATA COUNTY, CO

FINAL SWMP

PROJ. MGR.:	DJM
DRAWN BY:	TLR
DATE:	12/24/12
SCALE:	1"=40'

SHEET 4 OF 4

WMCDUC 120574

Attachment 2

CDRMS Approval Letter
Technical Revision No.4

As-Built Report
Restoration and Stabilization
Little Deadwood Gulch
May Day 2 Area
May Day Idaho Mine Complex

STATE OF COLORADO

DIVISION OF RECLAMATION, MINING AND SAFETY
Department of Natural Resources

1313 Sherman St., Room 215
Denver, Colorado 80203
Phone: (303) 866-3567
FAX: (303) 832-8106

COLORADO DIVISION OF RECLAMATION MINING & SAFETY

February 26, 2013

Randy Oser
Wildcat Mining Corporation
1630 Ringling Blvd.
Sarasota, FL
34236

RE: May Day Idaho Mine Complex, Permit No. M-1981-185, Technical Revision (TR-4) Approval

Dear Mr. Oser:

On February 26, 2013 the Division of Reclamation, Mining and Safety (Division) approved the Technical Revision request (TR-4), which was submitted to the Division on February 6, 2013, addressing the following:

Restoration and stabilization of Little Deadwood Gulch at the May Day 2 area.

The terms of TR-4 approved by the Division are hereby incorporated into Permit No. M-1981-185. All other conditions and requirements of the permit remain in full force and effect.

Please note that the new access road from CR124 may not be utilized for vehicular access to the site to conduct the activities proposed through TR-4 until the road improvements, proposed and approved through TR-2, have been completed and approved by the Division.

If you require additional information, have questions or concerns, please contact me at the DRMS Grand Junction Field Office.

Sincerely,

Dustin Czapla
Environmental Protection Specialist
Department of Natural Resources
Division of Reclamation, Mining and Safety
101 South 3rd, Suite 301
Grand Junction, CO 81501
Phone: (970) 243-6299
Fax: (970) 241-1516

Ec: Mike Thompson
Daniel Madruga

Attachment 3

U.S. Corp of Engineers-Nationwide Permit

Technical Revision No.4
As-built Report
Restoration and stabilization
Little Deadwood Gulch
May Day 2 Area
May Day Idaho Mine Complex

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

September 29, 2016

Regulatory Division (SPK-2007-00980-DC)

Wildcat Mining Corporation
Attn: Mr. George Robinson
PO Box 62
Hesperus, Colorado 81326

Dear Mr. Robinson:

We are responding to your request for an after-the-fact Department of the Army permit for the May Day Idaho Mine project. The project sites are located at both the access road to May Day Idaho Mine near the La Plata River and at the Chief Portal near Little Deadwood Gulch, Latitude 37° 20" 57.33", Longitude -108°04"28.86" and Latitude 37° 21" 19.28", Longitude -108°04"6.09", Hesperus, La Plata County, Colorado.

Based on the information you provided to this office, the May Day Idaho Mine project involves the construction of stormwater pond near the La Plata River, and access into the Chief Portal, in accordance with the *Restoration and Compliance Plan for May Day Idaho Mine Complex*, dated June 2016, prepared by Bikis Water Consultants. The specific activities that require the discharge of dredged or fill material in waters of the United States include the installation of a new culvert at the Chief Portal and the construction of a stormwater management pond. These activities will result in the permanent loss of approximately 0.015 acre of Little Deadwood Gulch for the Chief Portal access and 0.028 acre of a wetland adjacent to the La Plata River for the construction of a stormwater pond.

We have determined activities in waters of the U.S. associated with the project are authorized by Nationwide Permit Number (NWP) 14 to install a new culvert at the Chief Portal, and NWP 32 to retain fill within a wetland adjacent to the La Plata River for the stormwater management pond.

You must comply with all terms and conditions of the NWP and applicable regional conditions. Information about the NWP and regional conditions are available on our website at *www.spk.usace.army.mil/Missions/Regulatory/Permitting/NationwidePermits.aspx*. Within 30 days after completion of the authorized work, you must sign the enclosed Compliance Certification and return it to this office.

This verification is valid until March 18, 2017, when the existing NWPs are scheduled to be modified, reissued, or revoked. Furthermore, if you commence or are under contract to commence this activity before the date the NWP is modified, reissued, or revoked, you

will have 12 months from the date of the modification, reissuance or revocation to complete the activity under the present terms and conditions. Failure to comply with the general and regional conditions of this NWP, or the project-specific special conditions of this authorization, may result in the suspension or revocation of your authorization.

We would appreciate your feedback on this permit action including your interaction with our staff. At your earliest convenience, please tell us how we are doing by completing the Corps' Regulatory Program national customer service survey found on our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx.*

Please refer to identification number SPK-2007-00980-DC in any correspondence concerning this project. If you have any questions, please contact me at the Durango Regulatory Office, 1970 E 3rd Ave., #109, Durango, Colorado 81301, by email at *Kara.A.Hellige@usace.army.mil*, or telephone at 970-259-1604.

Sincerely,

Kara A. Hellige
Senior Project Manager, CO West Branch
Regulatory Division

Enclosures
1) Compliance Certificate

cc: (w/o encls)
Mr. Dave Mehan, Bikis Water Consultants, 555 Rivergate Lane, Suite B4-82, Durango, Colorado 81301
Ms. Leslie Jakoby, La Plata County, 1060 Main #104, Durango, Colorado 81301;
Mr. Ken Champagne, US Environmental Protection Agency, 1595 Wynkoop Street, Denver, Colorado 80202
Mr. Steve Shuey, Colorado Division of reclamation, Mining, and Safety, 101 South 3rd Street, Suite 301, Grand Junction, Colorado 81501
,

COMPLIANCE CERTIFICATION

Permit File Name: May Day Idaho Mine: Stormwater Facility and Chief Portal

Action ID: SPK-2007-00980-DC

Nationwide Permit Number: NWP 14 and 32

Permittee: Wildcat Mining Corporation
Attn: Mr. George Robinson
PO Box 62
Hesperus, Colorado 81326

County: La Plata

Date of Verification: September 29, 2016

Within 30 days after completion of the activity authorized by this permit, sign this certification and return it to the following address:

U.S. Army Corps of Engineers
Sacramento District
1970 E. 3rd Ave, #109
Durango, Colorado 81301
DLL-CESPK-RD-Compliance@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with the terms and conditions of the permit your authorization may be suspended, modified, or revoked. If you have any questions about this certification, please contact the U.S. Army Corps of Engineers.

* * * * * * * * *

I hereby certify that the work authorized by the above-referenced permit, including all the required mitigation, was completed in accordance with the terms and conditions of the permit verification.

Permittee Signature _____ Date _____