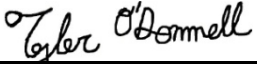




COLORADO DIVISION OF RECLAMATION, MINING AND SAFETY
MINERALS PROGRAM INSPECTION REPORT
PHONE: (303) 866-3567

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: Deer Trail Pit	MINE/PROSPECTING ID#: M-1988-090	MINERAL: Sand and gravel	COUNTY: Arapahoe
INSPECTION TYPE: Monitoring	INSPECTOR(S): Tyler V. O'Donnell	INSP. DATE: December 17, 2014	INSP. TIME: 09:30
OPERATOR: TWK Enterprises, Inc.	OPERATOR REPRESENTATIVE:	TYPE OF OPERATION: 112c - Construction Regular Operation	

REASON FOR INSPECTION: Normal I&E Program	BOND CALCULATION TYPE: Complete Bond	BOND AMOUNT: \$45,012.00
DATE OF COMPLAINT: NA	POST INSP. CONTACTS: None	JOINT INSP. AGENCY: None
WEATHER: Clear	INSPECTOR'S SIGNATURE: 	SIGNATURE DATE: December 11, 2014

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>NA</u>
(PW) PROCESSING WASTE/TAILING---- <u>N</u>	(SF) PROCESSING FACILITIES----- <u>NA</u>	(TS) TOPSOIL----- <u>N</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>Y</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>Y</u>	(OD) OFF-SITE DAMAGE----- <u>N</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

OBSERVATIONS

This was a normal routine monitoring inspection conducted by Tyler O'Donnell of the Division of Reclamation, Mining and Safety (DRMS). TWK Enterprises, Inc., the Operator, was not present during the inspection. The Operator had delegated Larry Morgan to be present during the inspection. The Deer Trail Pit is located approximately 1.25 miles southeast of Deer Trail, Colorado. The Deer Trail Pit is a 110-acre site permitted for the extraction of construction materials primarily sand and gravel. The Deer Trail Pit has an approved maximum allowed affected area of 15 acres. The approved post-mining land use is rangeland.

The sky was clear. The ground was partially covered with snow. No mining equipment was present during the inspection. The last annual report indicated that the last site activity was in 2007. It appears that the mining operation has affected approximately 11-12 acres. The site daylights to the north. The Mining operation was expanding to the south. It appears that the site has been inactive for a long period of time. The disturbed areas have filled in with volunteer vegetation and annual weeds.

Backfilling and Grading:

Some backfilling and grading has occurred however, the majority of the disturbed area has near vertical highwalls. The pit contains approximately 1300 linear feet of highwalls with an average highwall height of approximately 15 feet.

Financial Warranty:

DRMS received a letter dated May 1, 2014 from Bank of Colorado indicating the letter of credit provided as financial warranty has expired. DRMS notified the Operator of the Possible Violation and notice to appear before the Mined Land Reclamation Board. DRMS in part conducted the inspection to evaluate the financial warranty amount. The reclamation cost estimate for this pit was updated with this inspection. It was determined that the current financial warranty amount is adequate (please see the attached estimate).

Hydrologic Balance:

The bottom of the pit was dry. There was no evidence of excessive erosion. There appeared to be no significant impacts to the prevailing hydrologic balance.

Gen. Compliance With Mine Plan:

The operation appeared to be following the approved mine plan. All mining activity appeared to be within the marked boundaries approved in the permit conversion no. 1.

Reclamation Success:

This site has not yet been reclaimed, nor has any final grading or seeding occurred yet.

Sediment Control:

There was no evidence of excessive erosion (rills, gullies, or sediment fans). Some of the slopes have small rills. All storm water would run off of the affected lands and into the pit.

Inspection Contact Address

Sue Pipkin
TWK Enterprises, Inc.
P.O. Box 404
Byers, CO 80103

Enclosure: Revised financial warranty calculation

cc: Tom Kaldenbach, DRMS

PHOTOGRAPHS



Photo 1: Highwall along south end of the pit.



Photo 2: Highwall along south end of the pit.



Photo 3: Highwall along west side of the pit, County Road 213 in the background.



Photo 4: Highwall along the east side of the pit.

COST SUMMARY WORK

Task description: Reclaim Deer Trail Pit

Site: Deer Trail Pit Permit Action: November 2014 Permit/Job#: M1988090

PROJECT IDENTIFICATION

Task #: 999 State: Colorado Abbreviation: None
Date: 12/11/2014 County: Arapahoe Filename: M090-999
User: TOD

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Re-grade highwall to 3H:1V	DOZER	1	25.09	\$3,451.00
002	Push pit wall along road to 3H:1V	DOZER	1	51.56	\$7,091.00
003	Rip pit and access road	RIPPER	1	18.65	\$2,566.00
004	Site revegetation	REVEGE	1	48.00	\$9,585.00
005	Mobilization and demobilization	MOBILIZE	1	4.18	\$871.00
<u>SUBTOTALS:</u>				147.48	\$23,564

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02%	Total =	\$475.99
Performance bond:	1.05%	Total =	\$247.42
Job superintendent:	30.00 hrs	Total =	\$2,254.80
Profit:	10.00%	Total =	\$2,356.40

TOTAL O & P = \$5,334.61

CONTRACT AMOUNT (direct + O & P) = \$28,898.61

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	<u>500.00</u>	Total =	<u>500.00</u>
Engineering work and/or contract/bid preparation:	<u>0.00%</u>	Total =	<u>\$0.00</u>
Reclamation management and/or administration:	<u>5.00%</u>		<u>\$1,444.93</u>

CONTINGENCY: 0.00 Total = \$0.00

TOTAL INDIRECT COST = \$7,279.54

TOTAL BOND AMOUNT (direct + indirect) = \$30,843.54

BULLDOZER WORKTask description: **Re-grade highwall to 3H:1V**Site: **Deer Trail Pit** Permit Action: **November 2014** Permit/Job#: **M1988090****PROJECT IDENTIFICATION**

Task #: **001** State: **Colorado** Abbreviation: **None**
 Date: **12/11/2014** County: **Arapahoe** Filename: **M090-001**
 User: **TOD**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D6T XL**
 Horsepower: **200**
 Blade Type: **Semi-Universal**
 Attachment: **3-shank ripper**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$34.93	NA
Operating Cost/Hour:	\$63.76	100
Ripper op. Cost/Hour:	\$0.00	100
Operator Cost/Hour:	\$38.85	NA

Total unit Cost/Hour: **0**
 Total Fleet Cost/Hour: **\$137.54**

MATERIAL QUANTITIES

Initial Volume: **4,063**
 Swell factor: **1.230**
 Loose volume: **4,997 LCY**

Source of estimated volume: **Regrade highwall 1300 feet average height 15 feet**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **100 feet**
 Unadjusted hourly production: **303.3 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **-5 %**
 Average site altitude: **5,300 feet**

Material weight: **2,100 lbs/LCY**Weight description: **Earth - Loam****Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(AVG.)
Material consistency:	0.900	(CAT HB))
Dozing method:	1.200	(SLOT)
Visibility:	1.000	(AVG.)
Job efficiency:	0.830	(1 SHIFT/DAY)
Spoil pile:	0.800	(FND-RF)

Push gradient:	1.115	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.6567

Adjusted unit production: 199.18 LCY/hr

Adjusted fleet production: **199.18 LCY/hr**

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$0.691/LCY

Total job time: **25.09** Hours

Total job cost: **\$3,451**

BULLDOZER WORKTask description: **Push pit wall along road to 3H:1V**Site: **Deer Trail Pit** Permit Action: **November 2014** Permit/Job#: **M1988090****PROJECT IDENTIFICATION**

Task #: **002** State: **Colorado** Abbreviation: **None**
 Date: **12/11/2014** County: **Arapahoe** Filename: **M090-002**
 User: **TOD**

Agency or organization name: **DRMS****HOURLY EQUIPMENT COST**

Basic Machine: **Cat D6T XL**
 Horsepower: **200**
 Blade Type: **Semi-Universal**
 Attachment: **3-shank ripper**
 Shift Basis: **1 per day**
 Data Source: **(CRG)**

Cost Breakdown:

		<u>Utilization %</u>
Ownership Cost/Hour:	\$34.93	NA
Operating Cost/Hour:	\$63.76	100
Ripper op. Cost/Hour:	\$0.00	100
Operator Cost/Hour:	\$38.85	NA

Total unit Cost/Hour: **0**
 Total Fleet Cost/Hour: **\$137.54**

MATERIAL QUANTITIES

Initial Volume: **2,222**
 Swell factor: **1.230**
 Loose volume: **2,733 LCY**

Source of estimated volume: **Division of Reclamation, Mining & Safety**
 Source of estimated swell factor: **Cat Handbook**

HOURLY PRODUCTION

Average push distance: **250 feet**
 Unadjusted hourly production: **119.6 LCY/hr**

Materials consistency description: **Compacted fill or embankment 0.9**

Average push gradient: **5 %**
 Average site altitude: **5,300 feet**

Material weight: **2,100 lbs/LCY**Weight description: **Earth - Loam****Job 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	(SSD-AC)

Push gradient:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4432

Adjusted unit production: 53.01 LCY/hr

Adjusted fleet production: **53.01** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)

Unit cost: \$2.595/LCY

Total job time: **51.56** Hours

Total job cost: **\$7,091**

BULLDOZER RIPPING WORK

Task description: Rip pit and access road

Site: Deer Trail Pit Permit Action: November 2014 Permit/Job#: M1988090

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 12/11/2014 County: Arapahoe Filename: M090-003
User: TOD

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D6T XL Horsepower: 200
Ripper Attachment: 3-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	<u>\$34.93</u>	<u>NA</u>
Operating Cost/Hour:	<u>\$63.76</u>	<u>100</u>
Ripper Operating Cost/Hour:	<u>\$0.00</u>	<u>100</u>
Operator Cost/Hour:	<u>\$38.85</u>	<u>NA</u>
Total Unit Cost/Hour:	<u>\$137.54</u>	
Total Fleet Cost/Hour:	<u>\$137.54</u>	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA Bank Volume: NA BCY NA
Area: 12.00 acres Rip Depth (ft): 1.50 Volume: 29,040 BCY or CCY

Source of estimated quantity: DRMS inspection

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth: 1.64 mph
Average Ripping Width: 6.58 degrees
Average Ripping Length: 750.00 feet
Average Dozer Speed: 88.00 feet
Average Maneuver Time: 0.25 feet
Production per unit area: 0.775 acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.775 Acres/hr
Site Altitude: 5,300 feet
Altitude Adj: 1.00 (CAT HB)
Job Efficiency: 0.83 (1 shift/day)
Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.64 Acres/hr
Adjusted Hourly Fleet Production: **0.64** Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **18.66** Hours

Unit cost: \$213.863 Per acre Total job cost: **\$2,566**

REVEGETATION WORKTask description: Site revegetationSite: Deer Trail PitPermit Action: November 2014Permit/Job#: M1988090**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 12/11/2014County: ArapahoeFilename: M090-004User: TODAgency or organization name: DRMS**FERTILIZING****Materials**

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
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$98.01
Weed control spraying (MEANS 31 31 16.13 3100)	\$145.20
Total Tilling Cost/Acre	\$243.21

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indiangrass - Cheyenne	5.00	15.24	\$45.95
Little Bluestem - Native	3.50	20.89	\$49.98
Sand Bluestem - Garden Co.	8.00	20.75	\$122.56
Western Wheatgrass - Native	8.00	20.20	\$24.32
Prairie Sandreed - Goshen	3.50	21.94	\$39.34
Totals Seed Mix	28.00	99.02	\$282.15

Application

--	--

Description	Cost /Acre
Drill seeding (DRMS Cost Data)	\$88.20
Total Seed Application Cost/Acre	\$88.20

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:	12	Cost /Acre:	\$613.56
Estimated Failure Rate:	50%	Cost /Acre*:	\$370.35
*Selected Replanting Work Items:	SEEDING		
Initial Job Cost:	\$7,362.72		
Reseeding Job Cost:	\$2,222.10		
Total Job Cost:	\$9,585		
Job Hours:	48.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: **Mobilization and demobilization**Site: **Deer Trail Pit**Permit Action: **November 2014**Permit/Job#: **M1988090****PROJECT IDENTIFICATION**Task #: **005**State: **Colorado**Abbreviation: **None**Date: **12/11/2014**County: **Arapahoe**Filename: **M090-005**User: **TOD**Agency or organization name: **DRMS****EQUIPMENT TRANSPORT RIG COST**Shift basis: **1 per day**Cost Data Source: **CRG Data**Truck 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 XL	25.01	\$0.00	\$88.67	1	\$88.67	\$88.67	\$250.00
Subtotals:					\$88.67	\$88.67	\$250.00

ROADABLE EQUIPMENT:

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

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	<u>BENNETT</u>	
Total one-way travel distance:	<u>30.00</u>	miles
Average Travel Speed:	<u>55.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$870.80</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$0.00</u>
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	<u>0.55</u>	<u>0.55</u>
Return Time (Hours):	<u>0.55</u>	<u>0.55</u>
Loading Time (Hours):	<u>0.50</u>	<u>NA</u>
Unloading Time (Hours):	<u>0.50</u>	<u>NA</u>
Subtotals:	<u>2.09</u>	<u>1.09</u>

JOB TIME AND COST

Total job time:	<u>4.18</u>	Hours
-----------------	-------------	-------

Total job cost:	<u>\$871</u>
-----------------	--------------