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: Verhoeff Gravel Pit #1	**MINE/PROSPECTING ID#:** M-2014-025	**MINERAL:** Sand and gravel	**COUNTY:** Bent
INSPECTION TYPE: Preoperation Inspection	**INSPECTOR(S):** Amy Eschberger	**INSP. DATE:** July 2, 2014	**INSP. TIME:** 10:45
OPERATOR: All-Rite Paving & Redi-Mix Inc.	**OPERATOR REPRESENTATIVE:** Angela Bellantoni	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Preoperation Inspection	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** TBD
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Cloudy	**INSPECTOR'S SIGNATURE:** Amy Eschberger	**SIGNATURE DATE:** July 9, 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---------- Y	**(FN) FINANCIAL WARRANTY-------- Y**	**(RD) ROADS---------- Y**
(HB) HYDROLOGIC BALANCE---------- N	**(BG) BACKFILL & GRADING---------- NA**	**(EX) EXPLOSIVES--------- NA**
(PW) PROCESSING WASTE/TAILING---- NA	**(SF) PROCESSING FACILITIES------- NA**	**(TS) TOPSOIL---------- NA**
(MP) GENL MINE PLAN COMPLIANCE- Y	**(FW) FISH & WILDLIFE---------- N**	**(RV) REVEGETATION---- NA**
(SM) SIGNS AND MARKERS---------- Y	**(SP) STORM WATER MGT PLAN---- N**	**(SB) COMPLETE INSP---- Y**
(ES) OVERBURDEN/DEV. WASTE--------- NA	**(SC) EROSION/SEDIMENTATION--- N**	**(RS) RECL PLAN/COMP-- Y**
(AT) ACID OR TOXIC MATERIALS------- NA	**(OD) OFF-SITE DAMAGE---------- NA**	**(ST) STIPULATIONS------- NA**

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 pre-operation inspection of the Verhoeff Gravel Pit #1 (File No. M-2014-025) conducted by Amy Eschberger of the Division of Reclamation, Mining and Safety (Division). This new 112c application was received from the Operator, All-Rite Paving & Redi-Mix Inc. on April 29, 2014. The representative present for the inspection was Ms. Angela Bellantoni of Environmental Alternatives Inc.

The site is located approximately 2 miles west of Hasty, Colorado in Bent County, on land owned by Verhoeff Farms, Inc. The site is located in the Lower Arkansas River Valley, approximately 0.75 miles north of the John Martin Reservoir. Access to the site is by a gated entrance off of Co Rd JJ at the northeastern corner of the permit area (Photo 1). This entrance is located near the intersection of Co Rd JJ and Co Rd 22. An existing ranch road runs down the eastern boundary of the permit area (Photo 2).

At the time of inspection, it was partly cloudy, breezy, and warm. It had rained recently, but no standing water was observed on site. A public notice sign was posted at the site entrance (Photo 3). Before the operation commences, a permit sign including the permit number shall be posted at the site entrance as required by Rule 3.1.12(1).

This proposed operation is for mining sand and gravel to be used for road construction and utility infrastructure. The proposed permit area is rectangular in shape and consists of 250 acres; however, the mining plan states that no more than 50 acres will be affected at any time. Mining will develop in five phases, with approximately 50 acres per phase. Phase I will be the southernmost phase, and mining will progress northward through the reserve at a maximum depth of 25 feet. The northern end of the site is relatively flat (Phases III, IV, and V), and then drops down by approximately 30 feet at the south end (Phases I and II). The proposed permit boundary is inset approximately 50 feet from the property line which is delineated by an agricultural fence. The mining plan states that each mining phase will be delineated with boundaries transecting the property from east to west.

An aggregate processing plant including portable crushers, screens, and conveyors will move with the active mining phase. A portable asphalt plant may also operate on site in the processing area. Mined material stockpiles will be stored within the bonded area of disturbance. A minimum of 6 inches of plant growth medium will be salvaged and stockpiled along the perimeter of the disturbed area. Reclamation will occur concurrently with mining in a sequential fashion. Ms. Bellantoni provided further clarification on how this will occur. Approximately half of a phase will be actively mined as the previously mined half phase is in reclamation. In this manner, no more than 25 acres will be actively mined and no more than 50 acres total will be affected at any time. All slopes will be maintained at 3H:1V or flatter. Stormwater berms constructed of overburden and fines will be stored around the perimeter of the active phase.

Groundwater is not expected to be encountered during this operation. No ponds or streams are present on site. Runoff occurs as overland flow to natural drainage ravines in the area. Site drainage is to the John Martin Reservoir to the south. The Operator commits to using Best Management Practices to limit the discharge of stormwater sediment onto adjacent properties and waterways. Historic flow will be maintained during mining. The mining plan also states that the Operator will obtain a discharge permit from CDPHE if stormwater is retained in the pit for more than 72 hours.

The post-mining land use for this site is rangeland. All mining structures will be reclaimed, including interior haul roads and stormwater diversion structures. Some permanent man-made structures are present in the area and will require setbacks. Two livestock water tanks and the property fenceline owned by the landowner will require 50 foot setbacks. Water pipelines and cattle corrals owned by the landowner may be relocated or replaced as needed during mining. A transmission line owned by Lamar Light and Power traverses the northern

portion of the permit area (Photos 4 and 5), and will require 75 foot radial setbacks from the poles and 50 foot setbacks from the center of easement. Southeast Colorado Power Association owns the overhead distribution power line that runs along the south side of Co Rd JJ (within 200 feet of the northern permit boundary; Photo 6), and requests a 25 foot setback with access construction notification to ensure safe clearance from overhead lines. Bent County requests a 50 foot setback from the 60 foot ROW for Co Rd JJ. Structure agreements have been submitted for all structures listed above. No other permanent man-made structures were seen to exist within 200 feet of the permit area.

The proposed permit area is currently used for rangeland. Native vegetation includes blue grama, needleandthread, galleta, sand dropseed, winterfat, cactus, yucca, sagebrush, and juniper (Photos 7 and 8). Adjacent land uses are primarily rangeland and irrigated cropland. Land south of the permit area is part of the John Martin Reservoir State Park. No evidence of previous mining activities was found in the proposed permit area.

Comments received from the State Historic Preservation Officer (SHPO) on May 16, 2014 note that the southern portion of the property is located adjacent to a formally recognized segment of the Santa Fe Trail. The mining plan states that by maintaining the requested 50 foot buffer from the property fenceline, the proposed operation will not affect this segment of the trail. However, if an unidentified archaeological resource is identified during the mining operation, extraction will cease in the vicinity of the discovery and the SHPO will be immediately notified.

After conducting this pre-operation inspection, the Division has found the information provided in the permit application to be consistent with what was observed on site. This 112c application will be approved. The Division has calculated a bond estimate for this site in the amount of $133,000.00 (see enclosed). This bond amount will be adequate provided that no more than 50 acres is affected at any time and no backfilling or grading is required for reclamation (as indicated in the reclamation plan).

PHOTOGRAPHS

Photo 1. Gated entrance to site at northeastern corner of permit area.

Photo 2. View looking southeast from northern portion of site, showing existing ranch road (at left). Poles in background are on adjacent property.

Photo 3. Public notice sign posted at site entrance.

Photo 4. View looking southwest, showing overhead transmission line that transverses the northern portion of the permit area.

Photo 5. View looking west, showing overhead transmission line that transverses the northern portion of the permit area.

Photo 6. View looking northwest, showing overhead distribution line that runs along the south side of Co Rd JJ, just outside the northern permit boundary.

Photo 7. View looking north across permit area, showing existing vegetation.

Photo 8. View looking southeast across permit area, showing existing vegetation.

Inspection Contact Address
Jordan Sasser
All-Rite Paving & Redi-Mix Inc.
P.O. Box 165
Canon City, CO 81212

Enclosure: Division bond estimate work

CC: Angela Bellantoni
Environmental Alternatives Inc.
1107 Main Street
Canon City, CO 81212

Tom Kaldenbach, DRMS

COST SUMMARY WORK

Task description: **Cost Estimate - Direct Costs**

Permit Action: 2014 New Application - DRMS Estimate

Site: **Verhoeff Gravel Pit #1**

Permit/Job#: M2014025

PROJECT IDENTIFICATION

Task #: 777
State: Colorado
Abbreviation: None
Date: 5/20/2014
County: Bent
Filename: M025-777
User: AME

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
112	Spread topsoil stockpile 6 inches over 50 acres	SCRAPER1	1	45.15	$49,709.99
113	Revegetate 50 acres	REVEGE	1	200.00	$48,942.50
115	Mobilize/De-mobilize	MOBILIZE	1	3.77	$6,543.69
		SUBTOTALS:		**248.92**	**$105,196.18**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02%	Total =	$2,124.96
Performance bond:	1.05%	Total =	$1,104.56
Job superintendent:	40.00 hrs	Total =	$3,006.40
Profit:	10.00%	Total =	$10,519.62
		TOTAL O & P =	$16,755.54
		CONTRACT AMOUNT (direct + O & P) =	$121,951.72

LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs):	0.00	Total =	0.00
Engineering work and/or contract/bid preparation:	4.25%	Total =	$5,182.95
Reclamation management and/or administration:	5.00%		$6,097.59
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$28,036.07
		TOTAL BOND AMOUNT (direct + indirect) =	**$133,232.25**

SCRAPER TEAM WORK

Task description: **Spread topsoil stockpile 6 inches over 50 acres**

Site: **Verhoeff Gravel Pit #1** Permit Action: 2014 New Application - DRMS Estimate Permit/Job#: M2014025

PROJECT IDENTIFICATION

Task #: 112 State: Colorado Abbreviation: None
Date: 5/20/2014 County: Bent Filename: M025-Scraper
User: AME

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

Equipment Description	
-Scraper:	Cat 637G
-Dozer:	Cat D8T - 8SU
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance –Motor Grader:	CAT 14M
-Water Truck:	Water Tanker, 3,500 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	75	NA	NA	50	50
Ownership cost/hour:	$107.02	$62.67	NA	NA	$42.03	$10.57
Operating cost/hour:	$239.91	$81.17	NA	NA	$34.94	$18.21
Ripper op. cost/hour:	NA	$0.00	NA	NA	$0.00	$0.00
Operator cost/hour:	$33.56	$38.01	NA	NA	$24.47	$27.88
Unit Subtotals:	$380.50	$181.85	NA	NA	$101.43	$56.67
Number of Units:	2	1	0	0	1	1
Group Subtotals:	Work:	$942.85	Support:	$0.00	Maint:	$158.10

Total work team cost/hour: **$1,100.95**

MATERIAL QUANTITIES

Initial volume: 40,333 CCY Swell factor: 1.115
Loose volume: **44,971** LCY

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

HOURLY PRODUCTION

Material weight: 2,100 lbs/LCY
Material description: Earth - Loam
Rated Payload: 81,600 pounds
Payload Capacity: 38.86 LCY

Scraper Bowl (volume) Basis:

Struck Volume: 24.00 LCY
Heaped Volume: 34.00 LCY
Average Volume: 29.00 LCY
Adjusted Capacity: **29.00** LCY

Cycle Time:

Scraper Loading Time: 0.80 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 3918 feet

	Scraper	Push Dozer	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)
Net Correction:	0.830	0.830	

Travel Time:

Road Condition: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1350.00	-7.60	3.00	-4.60	2972	0.51

Haul Time: **0.51** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1350.00	7.60	3.00	10.60	1434	0.99

Return Time: **0.99** minutes

Total Scraper team cycle time: **2.90** minutes
Adjusted for job conditions: 498.00 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 996.00 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **996.00** LCY/Hour

Unadjusted unit production/hour: 600.00 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **45.15** Hours

Unit cost: $1.105 /LCY Total job cost: **$49,709.99**

REVEGETATION WORK

Task description: **Revegetate 50 acres**

Site: **Verhoeff Gravel Pit #1** Permit Action: 2014 New Application - DRMS Estimate Permit/Job#: M2014025

PROJECT IDENTIFICATION

Task #: 113 State: Colorado Abbreviation: None
Date: 5/20/2014 County: Bent Filename: M025-113
User: AME

Agency 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
Total Tilling Cost/Acre	**$98.01**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	0.60	9.79	$6.21
Sand Dropseed	0.20	23.88	$1.40
Sideoats Grama - Butte	2.30	7.55	$25.62
Yellow Sweet Clover - Madrid	0.40	2.39	$1.02
Western Wheatgrass - Native	3.20	8.08	$9.73
Totals Seed Mix	6.70	51.69	**$43.98**

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
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$265.00	$530.00
Total Mulch Materials Cost/Acre				**$530.00**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$65.89
Power mulcher (MEANS 32 91 13.16 0250)	$86.68
Total Mulch Application Cost/Acre	**$152.57**

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: 50
Estimated Failure Rate: 50%
*Selected Replanting Work Items: SEEDING

Cost /Acre: $912.76
Cost /Acre*: $132.18

Initial Job Cost: **$45,638.00**
Reseeding Job Cost: **$3,304.50**
Total Job Cost: **$48,942.50**
Job Hours: **200.00**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilize/De-mobilize**

Site: **Verhoeff Gravel Pit #1**

Permit Action: 2014 New Application - DRMS Estimate

Permit/Job#: M2014025

PROJECT IDENTIFICATION

Task #: 115
State: Colorado
Abbreviation: None
Date: 5/20/2014
County: Bent
Filename: M025-115
User: AME

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 637G	57.28	$107.02	$125.45	2	$464.95	$250.90	$500.00
CAT 14M	23.57	$42.03	$88.67	1	$130.70	$88.67	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$39.59	$88.67	1	$128.26	$88.67	$250.00
Cat D8T - 8SU	47.71	$62.67	$117.55	1	$180.22	$117.55	$250.00
Power Mulcher (Reinco M90)	6.00	$7.03	$88.67	1	$95.70	$88.67	$250.00
Subtotals:					**$999.83**	**$634.46**	**$1,500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 3,500 Gal.	$102.75	1	$102.75	$102.75
Subtotals:			**$102.75**	**$102.75**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	LAMAR	
Total one-way travel distance:	20.00	miles
Average Travel Speed:	45.00	mph

Total Non-Roadable Mob/Demob Cost *	$6,452.36
'* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	$91.33
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.44	0.44
Return Time (Hours):	0.44	0.44
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	1.89	0.89

JOB TIME AND COST

Total job time:	**3.78**	Hours
Total job cost:	**$6,543.69**	