COLORADO
Division of Reclamation, Mining and Safety
Department of Natural Resources

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: J&J Stone Pit #1	**MINE/PROSPECTING ID#:** M-2011-004	**MINERAL:** Sandstone (silica, sto quartzite)	**COUNTY:** Fremont
INSPECTION TYPE: Surety-Related Inspection	**INSPECTOR(S):** Timothy A. Cazier	**INSP. DATE:** February 16, 2017	**INSP. TIME:** 09:45
OPERATOR: KrauthCo Inc	**OPERATOR REPRESENTATIVE:** Mike Krauth, Angela Bellantoni	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Surety Related	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $5,608.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:**	**SIGNATURE DATE:** March 2, 2017

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.

INSPECTION TOPIC: Signs & Markers
PROBLEM/POSSIBLE VIOLATION: Problem: The affected area boundary markers are incorrectly placed. This is a problem for failure to maintain boundary markers around the affected area as required by Section 3.1.12(2) of the rule.
CORRECTIVE ACTIONS: The operator shall conduct a survey and replace the boundary markers in the correct location(s). The operator shall provide proof to the Division that this has been done by the corrective action date.
CORRECTIVE ACTION DUE DATE: 5/01/17

OBSERVATIONS

This pre-operational inspection was required as part of the review process for the AM-01 application. The Operator (KrauthCo Inc) was represented during the inspection by Mr. Mike Krauth and Dr. Angela Bellantoni. The J&J Stone Pit #1 is accessed from Fremont Co Rd 9 approximately 4 miles north of Cañon City and is located approximately 0.6 miles east of FCR 9. This is a 112c sandstone mine. It was operating at the time of the inspection.

Availability of Records: Annual fees are paid through September 2016. There are no open infractions. Adequacy issues related to bonding with the AM-01 review process have been addressed (as of 3/1/2017). However, after georeferencing the AM-01 Exhibit C-2 map with the GPS points (see **Figure A**) collected during the inspection, there appears to be significant discrepancies between features on the ground and those on C-2 (see **Figure A.1**). This will need to be addressed via the adequacy review process for AM-01.

Backfilling and Grading: Backfill material is not required as the mined areas will be benched at a final configuration of 10 ft high and no less than 8 ft wide.

Complete Inspection: The entire permit area was inspected. No problems were observed during the inspection. However, post inspection, permit boundary discrepancies were noted as discussed below in "Signs & Markers".

Excess Spoil and Dev. Waste: Mr. Krauth stated there are no overburden piles. He tries to use/market all materials excavated from the active area while salvaging the small amounts of topsoil.

Financial Warranty: A review of the pending AM-01 also includes a financial warranty review. A revised cost estimate is attached to this inspection report. The bond estimate is $8,490.00. Unless the Division receives comments on this estimate, the $8,490 will be due upon approval of AM-01.

Fish and Wildlife: No impact on wildlife was observed. Two deer were seen north of the phase 1 boundary during the inspection.

Hydrologic Balance: No standing water was observed in the pit and no exposed groundwater was observed.

Gen. Compliance with Mine Plan: The operation appeared to be in compliance with the approved mine plan. Google Earth was used to measure the disturbed area, which was estimated to be approximately 2.67 acres (including the ~1/4 acre of access road through the staging area that is to remain). The current working face consists of exposed sandstone (see **Photo 1**). Mr. Krauth indicated he would continue to have the east-west benches in the active mine area drain towards the unnamed gulch until the high point is knocked down and the 10' x 8' benches are developed.

Off-site Damage: The operation appeared to be confined to the permit boundary as approved on paper, but discrepancies exist between permit maps and the boundary as marked on the ground (see discussion under "Signs & Markers".

Processing Waste: Mr. Krauth stated he tries to use/market all materials excavated from the active area.

Roads: Haul and access roads did not appear to be a source of sediment that could be tracked offsite.

Sediment Control: No erosion was observed, no BMPs were needed at the time of the inspection.

Support Facilities On-site: A grizzly screen, backhoe, small drill rig, and a forklift were observed on site.

Signs and Markers: The permit sign was properly posted (see **Photo 2**) and boundary markers were observed delineating the permit boundary (see **Photos 3** and **4**). However, the boundary markers on the ground delineate an area less than that on the approved permit (and proposed AM-01) permit drawings (Exhibit C) making a portion of the staging area outside the marked permit boundary, but most likely inside the permit boundary approved on paper. **This discrepancy is cited as a problem on p. 1 of this report.**

Permit Stipulations: There are no permit stipulations.

Storm Water MGT Plan: No oil or fuel spills observed. Site sediment pond appeared adequate.

Topsoil: Mr. Krauth pointed out the topsoil stockpile at the base of the access road to the active pit area (see **Photo 5**). The pile is small (~ 60 to 80 CY, *estimated*). The topsoil necessary for AM-01 is 1,882 CY. The Division strongly recommends stockpiling additional topsoil to ensure an adequate volume for reclamation.

Please contact Tim Cazier (303-866-3567, ext. 8169) if you have any questions regarding this report.

PHOTOGRAPHS

Photo 1. Current working face (looking east).

PHOTOGRAPHS (cont.)

Photo 2. Permit sign.

Photo 3. Southwest corner Phase 1 boundary marker (note GPS).

PHOTOGRAPHS (cont.)

Photo 4. South Phase 1 boundary fence line from SW corner (looking east).

Photo 5. Topsoil stockpile.

GENERAL INSPECTION TOPICS

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

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

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

Inspection Contact Address
Mike Krauth
KrauthCo Inc
1068 Red Canyon Road
Cañon City, CO 81212

Enclosures

CC: DRMS file
Angela Bellantoni, EAI

Figure A. M-2011-004 Georeferenced Area Map

Based on GPS Points 011, 019 & 017 taken 2/16/2017

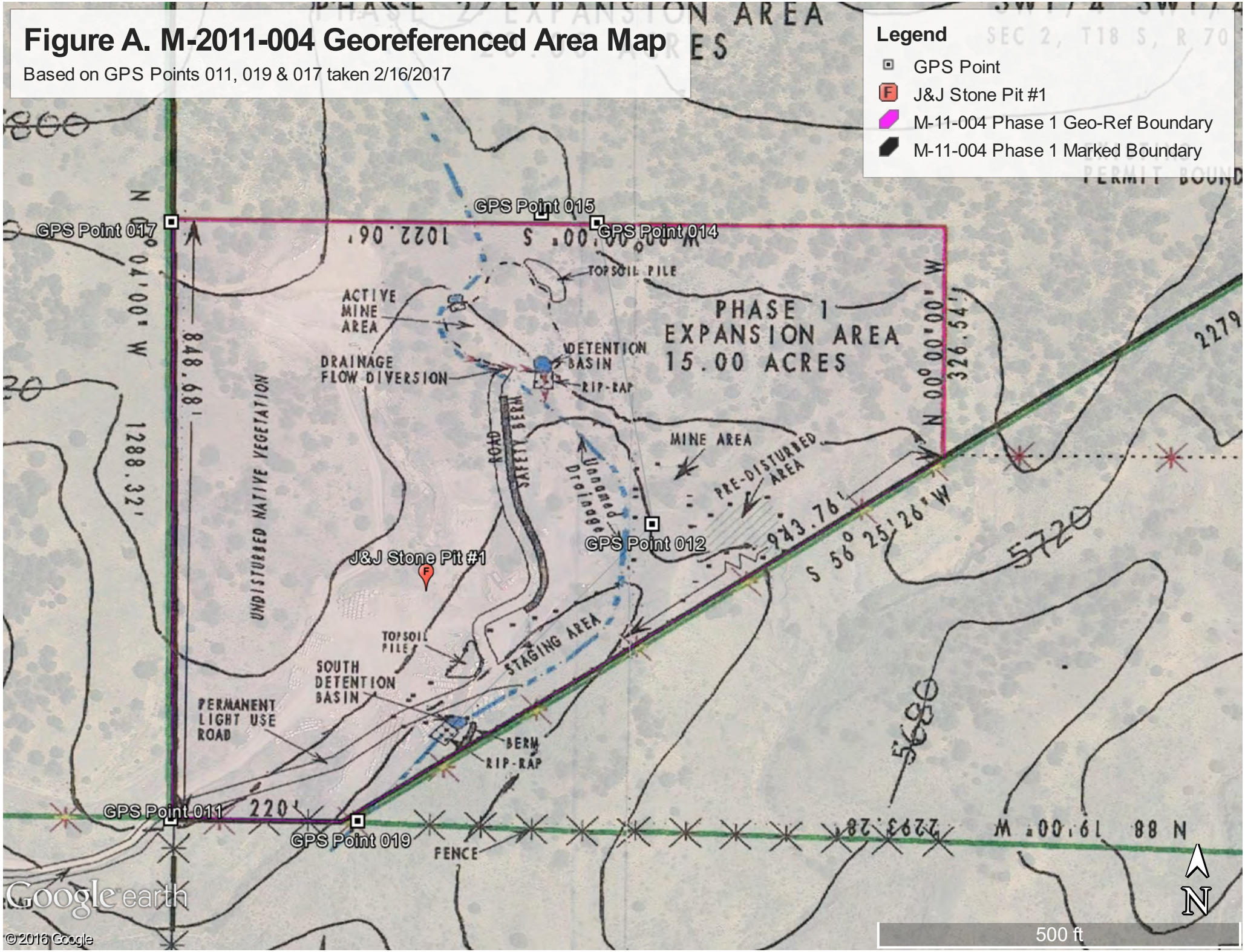
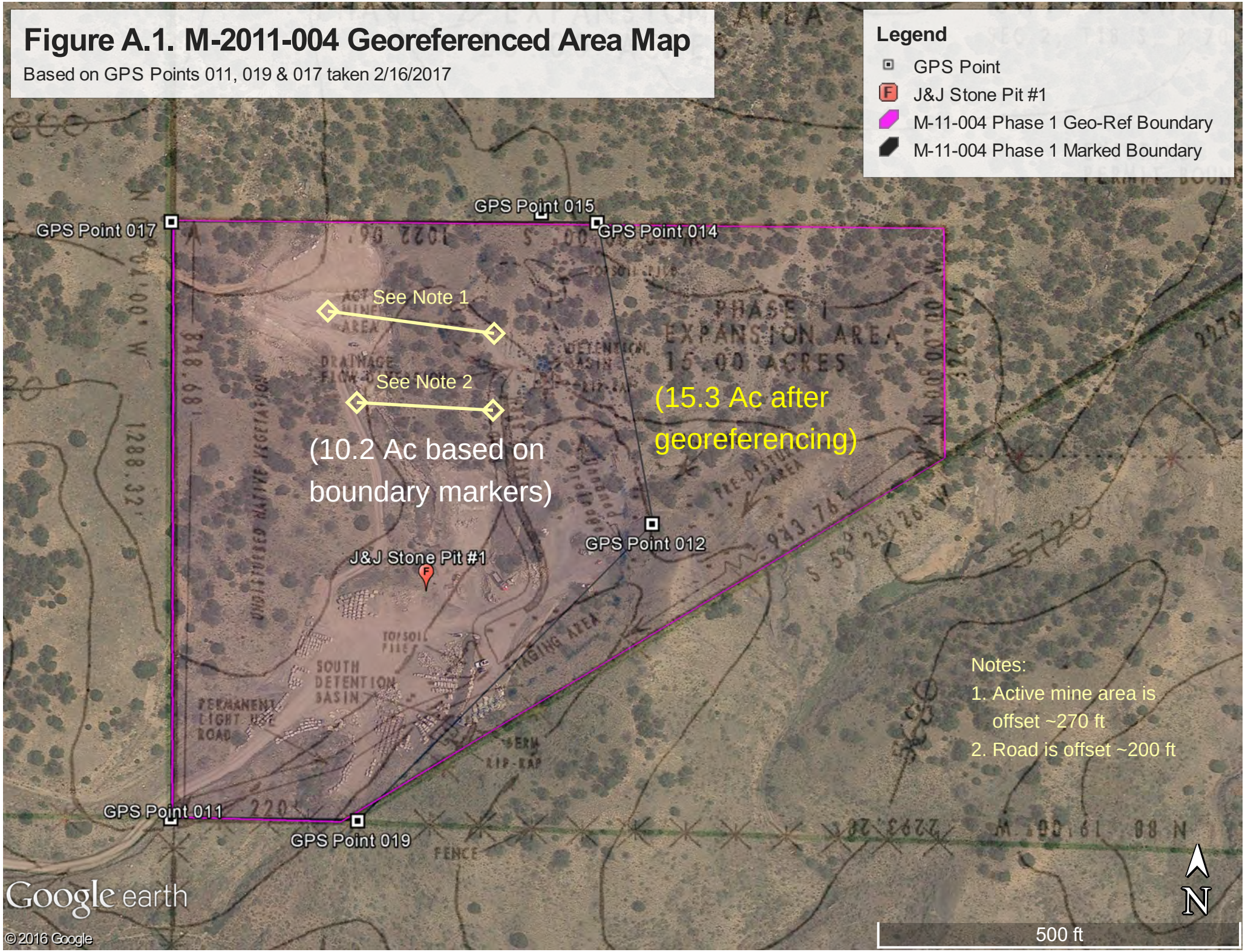


Figure A.1. M-2011-004 Georeferenced Area Map

Based on GPS Points 011, 019 & 017 taken 2/16/2017



COST SUMMARY WORK

Task description: **Cost Summary**

Site: **J&J Stone Pit #1** Permit Action: AM-01 Permit/Job#: M2011004

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/2/2017 County: Fremont Filename: M004-000
User: TC1

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Grade staging area	GRADER	1	0.77	$69.00
002	Spread 7 inches of topsoil	DOZER	1	7.41	$1,531.00
003	Final grading on 2 acres	GRADER	1	1.54	$131.00
004	REVEGE 2 ACARES	REVEGE	1	3.50	$3,206.00
005	Mob/Demob	MOBILIZE	1	1.80	$1,568.00
		SUBTOTALS:		**15.02**	**$6,505**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$131.40
Performance bond:	1.05	Total =	$68.30
Job superintendent:	10.00	Total =	$730.50
Profit:	10.00	Total =	$650.50
		TOTAL O & P =	$1,580.70
		CONTRACT AMOUNT (direct + O & P) =	$8,085.70

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		$404.29
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$1,984.99
		TOTAL BOND AMOUNT (direct + indirect) =	**$8,489.99**
		ROUND TOTAL BOND AMOUNT (direct + indirect) TO:	**$8,490.00**

MOTOR GRADER WORK

Task description: **Grade staging area**

Site: **J&J Stone Pit #1** Permit Action: AM-01 Permit/Job#: M2011004

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 3/2/2017 County: Fremont Filename: M004-001
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M Horsepower: 158
Ripper Attachment: Multi-Shank Ripper Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$28.02	NA
Operating Cost/Hour:	$28.28	100
Ripper Ownership Cost/Hour:	$1.99	NA
Ripper Operating Cost/Hour:	$2.16	100
Operator Cost/Hour:	$28.90	NA
Total Unit Cost/Hour:	$89.35	
Total Fleet Cost/Hour:	**$89.35**	

MATERIAL QUANTITIES

Total Area to be graded or ripped: 1.00 acres

Source of estimated acreage: Revised Exhibit L (verified w/ Google Earth 6/15/16 image)

HOURLY PRODUCTION

Average Grader Speed: 1.50 mph
Selected Application: Finish grading (0-2.5 mph) - 1.5
Selected Blade Angle: 30 degrees
Effective Blade Length: 10.40 feet
Width of blade overlap per pass: 2.00 feet
Net grading or ripping width per pass: 8.40 feet
Unadjusted Hourly Unit Production: 1.5273 acres/hour

Job Condition Correction Factors Site Altitude: 5630 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 1.2982 acres/Hour
Adjusted Hourly Fleet Production: **1.2982** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **0.77** Hours

Unit cost: $68.83 per acre Total job cost: **$69**

BULLDOZER WORK

Task description: **Spread 7 inches of topsoil**

Site: **J&J Stone Pit #1** Permit Action: AM-01 Permit/Job#: M2011004

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 3/2/2017 County: Fremont Filename: M004-002
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8SU
Horsepower: 310
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$83.81	NA
Operating Cost/Hour:	$66.17	100
Ripper own. Cost/Hour:	$7.55	NA
Ripper op. Cost/Hour:	$7.21	100
Operator Cost/Hour:	$41.85	NA

Total unit Cost/Hour: $206.59
Total Fleet Cost/Hour: **$206.59**

MATERIAL QUANTITIES

Initial Volume: 1,882
Swell factor: 1.230
Loose volume: **2,315** LCY

Source of estimated volume: 7 inches over 2 acres
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 170 feet
Unadjusted hourly production: 576.6 LCY/hr

Materials consistency description: Partly consolidated stockpile 1.1

Average push gradient: 5 %
Average site altitude: 5,630 feet

Material weight: 2,100 lbs/LCY

Weight description: Earth - Loam

Job Condition Correction Factor Source

Operator Skill:	0.750	(AVG.)
Material consistency:	1.100	(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:	0.903	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5417

Adjusted unit production: 312.34 LCY/hr

Adjusted fleet production: **312.34** LCY/hr

JOB TIME AND COST

Fleet size: 1 Dozer(s)
Unit cost: $0.661/LCY

Total job time: **7.41** Hours
Total job cost: **$1,531**

MOTOR GRADER WORK

Task description: **Final grading on 2 acres**

Site: **J&J Stone Pit #1** Permit Action: AM-01 Permit/Job#: M2011004

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 3/2/2017 County: Fremont Filename: M004-003
User: TC1

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: CAT 12M Horsepower: 158
Ripper Attachment: Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$28.02	NA
Operating Cost/Hour:	$28.28	100
Ripper Ownership Cost/Hour:	$0.00	NA
Ripper Operating Cost/Hour:	$0.00	
Operator Cost/Hour:	$28.90	NA
Total Unit Cost/Hour:	$85.20	

Total Fleet Cost/Hour: **$85.20**

MATERIAL QUANTITIES

Total Area to be graded or ripped: 2.00 acres

Source of estimated acreage: Revised Exhibit L

HOURLY PRODUCTION

Average Grader Speed:	1.50	mph
Selected Application:	Finish grading (0-2.5 mph) - 1.5	
Selected Blade Angle:	30	degrees
Effective Blade Length:	10.40	feet
Width of blade overlap per pass:	2.00	feet
Net grading or ripping width per pass:	8.40	feet
Unadjusted Hourly Unit Production:	1.5273	acres/hour

Job Condition Correction Factors Site Altitude: 5630 feet

		Source
Altitude Adj:	1.00	(CAT HB)
Job Efficiency:	0.85	(1sh/d, mod.)
Net Correction:	0.8500	multiplier

Adjusted Hourly Unit Production: 1.2982 acres/Hour
Adjusted Hourly Fleet Production: **1.2982** acres/Hour

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: **1.54** Hours

Unit cost: $65.63 per acre Total job cost: **$131**

REVEGETATION WORK

Task description: **REVEGE 2 ACARES**

Site: **J&J Stone Pit #1** Permit Action: AM-01 Permit/Job#: M2011004

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 3/2/2017 County: Fremont Filename: M004-004
User: TC1

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
Chisel plowing {DMG}	$90.60
Weed control spraying (MEANS 31 31 16.13 3100)	$242.00
Total Tilling Cost/Acre	**$332.60**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Native	2.40	39.17	$34.80
Indian Ricegrass - Native	2.50	8.09	$17.50
Sideoats Grama - El Reno	4.50	14.77	$43.52
Western Wheatgrass - Arriba	8.00	20.20	$64.64
Totals Seed Mix	17.40	82.24	**$160.46**

Application

Description	Cost /Acre
Drill Seeding (DRMS Survey Cost)	$232.00
Total Seed Application Cost/Acre	**$232.00**

MULCHING and MISCELLANEOUS

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Straw, delivered {MEANS 31 25 14.16 1200}	2.00	TON	$261.00	$522.00
Total Mulch Materials Cost/Acre				**$522.00**

Application

Description	Cost /Acre
Crimping, with tractor {DMG survey data}	$66.02
Total Mulch Application Cost/Acre	**$66.02**

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: 2 Cost /Acre: $1,313.08
Estimated Failure Rate: 40% Cost /Acre*: $725.06
*Selected Replanting Work Items: FERTILIZING,TILLING,SEEDING

Initial Job Cost: **$2,626.16**
Reseeding Job Cost: **$580.05**
Total Job Cost: **$3,206**
Job Hours: **3.50**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mob/Demob**

Site: **J&J Stone Pit #1** Permit Action: AM-01 Permit/Job#: M2011004

PROJECT IDENTIFICATION

Task #: 005 State: Colorado Abbreviation: None
Date: 3/2/2017 County: Fremont Filename: M004-005
User: TC1

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 D8T - 8SU	53.08	$91.36	$125.45	1	$216.81	$125.45	$250.00
CAT 12M	16.01	$30.01	$88.67	1	$118.68	$88.67	$250.00
Subtotals:					**$335.49**	**$214.12**	**$500.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Drill/Broadcast Seeder with Tractor	$30.89	1	$30.89	$30.89
Subtotals:			**$30.89**	**$30.89**

EQUIPMENT HAUL DISTANCE and Time

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

Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$1,555.33
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$12.36

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):	0.25	NA
Unloading Time (Hours):	0.25	NA
Subtotals:	0.90	0.40

JOB TIME AND COST

Total job time: **1.80** Hours

Total job cost: **$1,568**