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: Westhoff Pit	**MINE/PROSPECTING ID#:** M-1977-094	**MINERAL:** Sand and gravel	**COUNTY:** Morgan
INSPECTION TYPE: Monitoring	**INSPECTOR(S):** Jared L. Ebert	**INSP. DATE:** March 30, 2017	**INSP. TIME:** 09:30
OPERATOR: Morgan Sand & Gravel Inc	**OPERATOR REPRESENTATIVE:** Greg Westhoff	**TYPE OF OPERATION:** 112c - Construction Regular Operation	

REASON FOR INSPECTION: Pre-operation Inspection	**BOND CALCULATION TYPE:** Complete Bond	**BOND AMOUNT:** $13,000.00
DATE OF COMPLAINT: NA	**POST INSP. CONTACTS:** None	**JOINT INSP. AGENCY:** None
WEATHER: Clear	**INSPECTOR'S SIGNATURE:** Jared Ebert	**SIGNATURE DATE:** March 31, 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 mine identification sign was not posted at the entrance of the mine site. This is a problem for failure to post a mine identification sign as required by Section 3.1.12(1) of the rule.
CORRECTIVE ACTIONS: The operator shall, at the entrance of the mine site, post a sign which shall be clearly visible from the access road with the following: the name of the operator, a statement that a reclamation permit for the operation has been issued by the Colorado Mined Land Reclamation Board; and the permit number. The operator shall submit photo documentation that a proper sign has been posted by the corrective action date.
CORRECTIVE ACTION DUE DATE: 4/28/17

OBSERVATIONS

This was a monitoring and pre-operation inspection of the Westhoff Pit, DRMS Permit No. M-1977-094 operated by Morgan Sand and Gravel, Inc. (MSG). I, Jared Ebert of the Colorado Division of Reclamation, Mining and Safety (Division) conducted the inspection. Mr. Greg Westhoff with MSG accompanied me during the inspection.

This is a 112c mining operation with a current permit area of 40 acres. On April 14, 2016 the Division conducted an inspection of the site and found that MSG has affected land outside of the approved permit area. This matter was brought to the Mined Land Reclamation Board (Board) on June 22, 2016. At that time, the Board found MSG in violation of section 34.32.5-116(4)(i), C.R.S. for failing to protect areas outside of the affected land from slides or damages that may occur during the mining operation. MSG was issued a Cease and Desist order and required the Operator to submit an amendment to their current permit to increase the size of the current 112c reclamation permit to include, at a minimum the affected lands outside of the approved permit boundary. MSG has submitted an amendment application (AM01), and it is currently under review by the Division.

Based on the Division's evaluation of the site, it appears about 31 acres of land has been affected by the mining operation, of which only 28.3 acres is located within the current permit boundary. The remaining affected area will be encompasses by the proposed new AM01 permit boundary. MSG proposes to add an additional 36.4 acres of land to the approved permit area. This land is shown on the AM01 Mining and Reclamation Plan Maps. Essentially, MSG proposes to continue mining primarily to the north and east of the current highwall and a little to the south and east of the current excavation. The expansion area encompasses rolling grassy, rocky and gravelly hills that drain to the south. The excavation will essentially lower the top of these hills 20 to 30 feet and the excavation will daylight to the south. The AM01 site descriptions of the expansion area appear accurate. However, the AM01 application indicates as fence is located near the northwest corner of the site. This fence does not exist currently. A fence currently is in place along the current eastern and southern boundary line. According to Mr. Westhoff, MSG owns these fences. No other permanent and man-made structures were observed at the site.

Backfilling and Grading:

Two sections of highwall exist at the site. One is located in the northwest portion of the affected area and the other is located in the southwest portion of the affected area. The Division estimated the length of the current highwall to be 1,360 feet in length based on measurements made with ArcCollector a mobile GIS application. A map of the Division's findings is enclosed. The height of the highwall is on average 25 feet. The highwall is located partially outside of the current permit boundary or is directly adjacent to the boundary. Overburden has been stockpiled north of the current highwall in the Phase 1 area shown on the AM01 Mining Plan Map. There are many different piles of product located throughout the current permit area and the adjacent pre-law area.

Financial Warranty:

During the April 14, 2016 inspection a problem was cited that the financial warranty currently held for the site is not adequate to reclaim the site in accordance with the approved reclamation plan. The corrective action cited in the report required the operator to submit adequate financial warranty, as determined by the Division. The Division was to send a separate surety increase notice to the operator regarding the increase of

the financial warranty and that MSG would have 60 days from the date of the surety increase notice to post the additional financial warranty. Based on my review of the file for this permit, it does not appear a surety increase notice was ever sent.

In accordance with Rule 4.2.1(2), the Division has reviewed the estimated cost to reclaim the site and found that the current bond of $13,000.00 is an inadequate amount. The Division calculated the cost to reclaim the affected area to be $108,387.32. Attached for the Operator review, is a copy of the reclamation cost estimate. **By April 7, 2017, the Division may issue a Surety Increase (SI) revision; please contact the Division prior to April 7, 2017 to discuss any questions regarding the cost estimate. When the SI is issued, the Operator will then have 60 days to submit the additional financial warranty.**

Hydrologic Balance:
There is a main drainage channel that flows south from the affected area within the approved permit boundary. On September 28, 2010 the Division approved a Technical Revision (TR02) submitted by MSG to construct a silt dam at the south end of the property in addition the placing straw bales within this drainage to address off-site sedimentation issues. This dam has not been constructed. This issue was discussed with Mr. Westhoff. He indicated that he will construct the silt dam in the near future. Enclosed with this report are the relevant documents and plans for the silt dam that were submitted and approved by MSG.

Off-site Damage:
The Division is in the processes of reviewing the AM01 application which will encompass all of the off-site damage with the exception of the pre-law areas that are shown on the AM01 mining plan map.

Roads:
The access road into the site was graded and maintained.

Reclamation Success:
It does not appear reclamation has occurred on any portion of the affected area within the currently approved permit boundary.

Sediment Control:
See the hydrologic balance section of this report.

Topsoil:
It appears two stockpiles of topsoil exist at the site, the location of these piles appear to correspond to the locations shown on the annual report maps submitted by the operator. These piles are stable and vegetated.

PHOTOGRAPHS

Figure 1. From NW corner of the AM01 permit marker looking south.

Figure 2. From NW corner of the AM01 permit looking east.

Figure 3. From NE corner of the AM01 permit area looking west.

Figure 4. From the NE corner of the AM01 permit area looking south.

Figure 5. From the SW corner of the AM01 permit area looking north.

Figure 6. Bottom of the drainage exiting the pre-AM01 permit area. Approximate location of the future silt dam.

Figure 7. Drainage from the pre AM01 permit area.

Figure 8. From the south end of the current affected area looking northeast.

Figure 9. From the SE corner of the AM01 permit boundary looking northeast.

Figure 10. From the SW corner of the AM01 permit area looking east.

GENERAL INSPECTION TOPICS

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

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

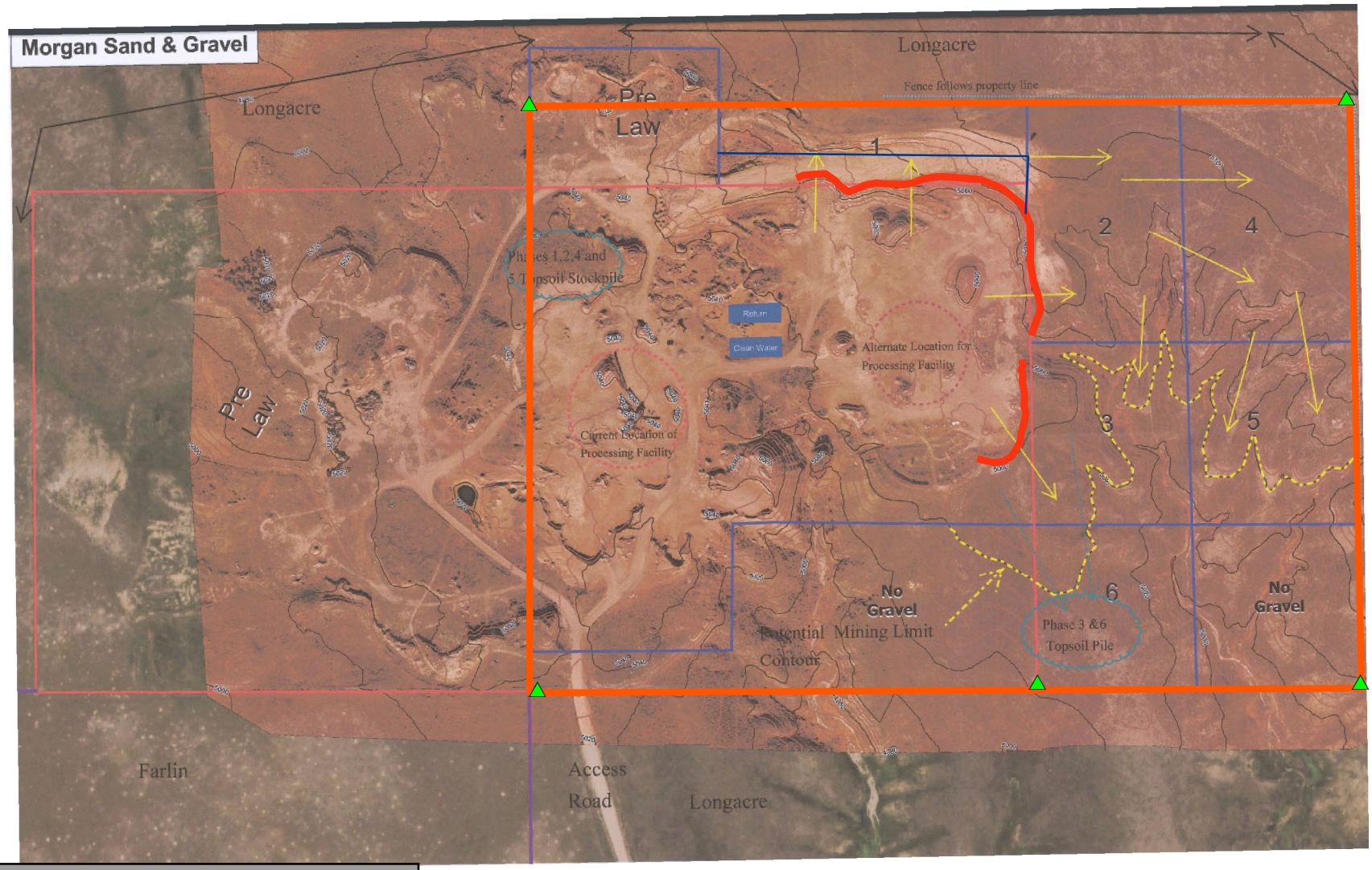
Inspection Contact Address
Greg Westhoff
Morgan Sand & Gravel Inc
21215 Hwy No 52
Fort Morgan, CO 80701

Enclosure: *1.) 30 March 2017 Map*
2.) 31 March 2017, CIRCES Cost Estimate
3.)TR02 Documents

CC: None

Westhoff Pit; M-1977-094

30 March 2017 Inspection



N

Legend

- PermitBoundaryCorners
- Highwalls_1
- M1977094_Westhoff AM01 Boundary

0 250 500 1,000 Feet

Map Created: 31 March 2017
Jared Ebert, DRMS
Background Image: AM01 proposed Mining Plan Map

"Submittal"

TR02

MORGAN SAND AND GRAVEL, INC.

21215 HWY. 52
FORT MORGAN, CO 80701
970-867-8074
PLANT 3 MILES NORTH OF FORT MORGAN ON HIGHWAY 52

"Submittal"

Michael Cunningham
Department of Natural Resources
Division of Reclamation, Mining and Safety

RE: Westhoff Pit M-1977-094

Dear Michael,

When Morgan Sand & Gravel is done mining, the pit will be grading in the 30 acres that will be mined instead of 40 acres, since no gravel can be found on at least 10 acres. The grading has been in place since the permit was filled in 1979. There was a map of the contour lines in the permit. There is one enclosed in this letter.

Morgan Sand & Gravel will place an earth dam on the south property line. The dam will be 16 feet in height we will install a Water Control Structure in the dam to control the rate of water run off. The water control structure can be set to let more or less water to pass thru the dam in a pipe. Slates can be set to keep siltation on the waterside of dam. This will keep all silt in the dam. MS&G will place riprap on waterside of dam to help on erosion from heavy rains. Rip rap will also be placed on the backside of dam. It will be seeded with native grass to help on wind and rain erosion; I have enclosed a copy of the Structure so you can see what I am talking about.

In addition, the second discharge opening has been closed so no run off will be discharged from this point.
~~If any of the changes are not what the Mining Division think will work call me and we~~ can make changes if need be. My Office # 970-867-8074 Cell # 970-768-0781.

Sincerely,

Greg Westhoff

Greg Westhoff
President
Morgan Sand and Gravel Inc.

Division of Reclamation, Mining, and Safety

Fee Receipt for M1977094

Morgan Sand and Gravel

000000000

Receipt #: 8414
Date: 06/18/2010
Permit: M1977094

Payment Method	Revenue Code	Fee Description/Notes	Amount
8984	4300-11	Minerals Technical Revision M-1977-094	$216.00
		Receipt Total:	**$216.00**

fr M-1977-094 TR02

MORGAN SAND AND GRAVEL, INC.

21215 HWY. 52
FORT MORGAN, CO 80701
970-867-8074
PLANT 3 MILES NORTH OF FORT MORGAN ON HIGHWAY 52

"Response"

September 10, 2010

RECEIVED
SEP 16 2010
Division of Reclamation, Mining and Safety

Michael Cunningham
Division of Reclamation, Mining & Safety
1313 Sherman St. Room 215
Denver, CO. 80203

RE: Technical Revision Westhoff Pit

Dear Michael,

This letter is to answer all of the questions that you or the board has regarding the earth dam.

(a) The inline Water level control structure will be used that way water will flow out of the dam as the level reaches a level of (3 feet).This would also control the rate at witch the water would be discharged out of the dam.

(b)The height of the dam has been lowered to (ten feet). The length will be (75 feet) from The East side to West side. The width at the top of dam will be (12 feet). The base of the dam will be (25 feet). The total volume of material to build the dam should be around 685 yards. Morgan Sand & Gravel will remove the dam when it needs to be taken out.

(c) The maintenance on the dam will be done more in the rainy months. So from April Thru September, there will be more maintenance then thru the Winter months. Inspections will be done weekly in the rainy months if we have heavy rain fall the Dam will be inspected after every storm.
If repair is needed, it will take place after the storm or when it is safe to do so.

(d) Map is attached where the dam will be built.

(e) To help with wind erosion the top of the dam will be seeded. Also the backside of The dam will be seeded to help with erosion from wind and rainfall.

Seeding will done a mixture of native grasses Western Wheat grass Buffalo grass Blue gramma and Oats. The mixture of grass will be seeded at a rate at 91/2 Lbs Per acre.

MORGAN SAND AND GRAVEL, INC.

21215 HWY. 52
FORT MORGAN, CO 80701
970-867-8074
PLANT 3 MILES NORTH OF FORT MORGAN ON HIGHWAY 52

(f) Aprons (Spillways) will be placed on both sides of the dam. That way when we Have a heavy rain, if the Water Control Structure cannot keep up water can discharge out the Spillways. Each Spillway will be (8 feet) wide (12) feet Long. Riprap will be placed in each Spillway. Riprap will be concrete that will come from Morgan Sand & Gravels Recycle yard.

(g) Material will come on site from the pit. The dam will be made with a Dozer & A sheep's foot compactor.

3. The Second discharge point has been closed using material that was removed from the area when it was opened. Material was replaced using a wheel Loader in addition, compactor.

4. Most of the straw bales will stay. The last 2 sets of bales will be removed. That is where the dam will be placed. All others will remain in place to slow runoff down.

5. Now there is only (1) runoff point. The Northeast part of the pit has a ditch that carry's water to the south.

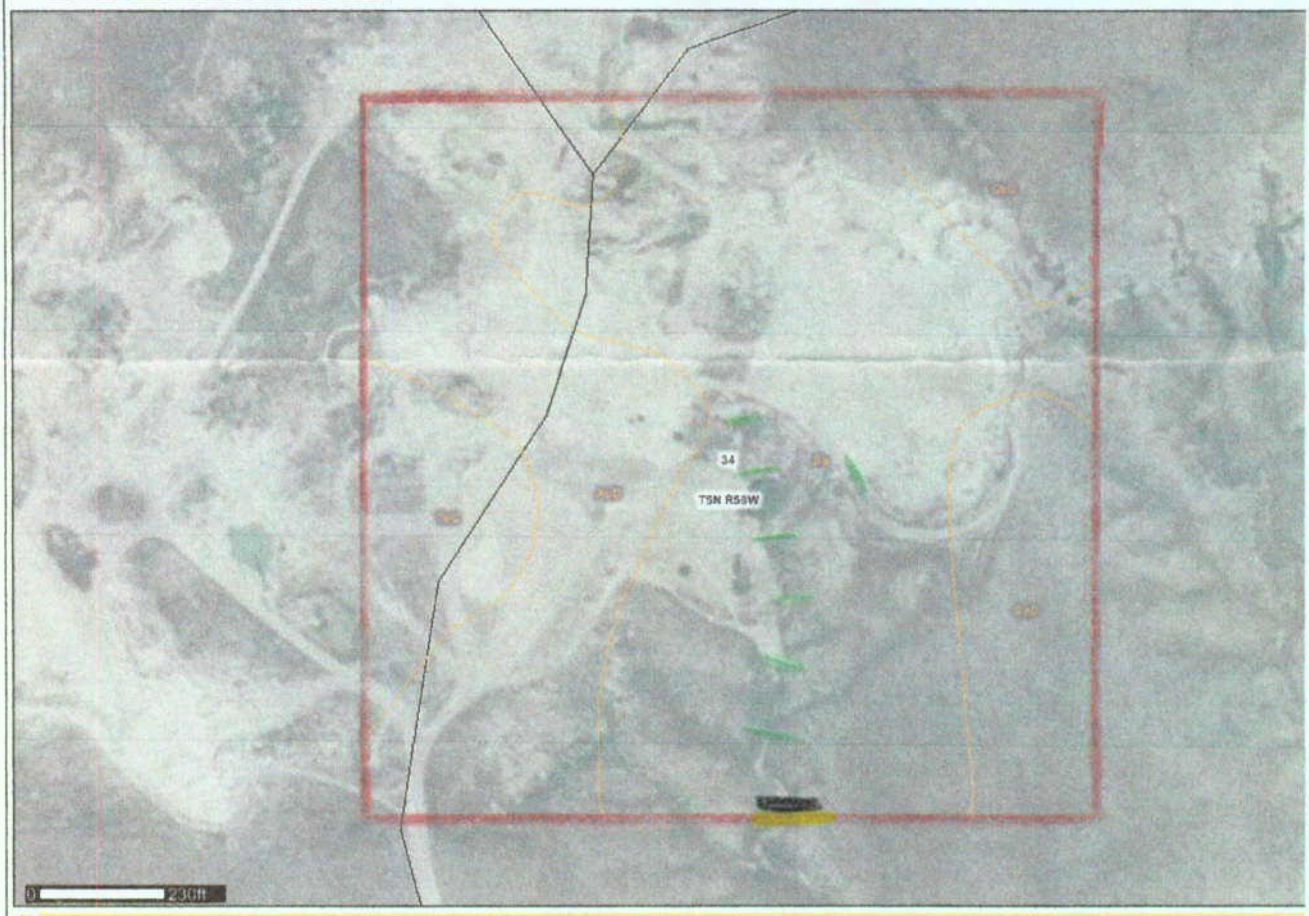
If you have, any more questions that I need to answer call me at
Office: 970-867-8074
Cell: 970-768-0781

Sincerely,

Greg Westhoff
President
Morgan Sand & Gravel

Soil Map

Scale



Warning: Soil Map may not be valid at this scale.

You have zoomed in beyond the scale at which the soil map for this area is intended to be used. Mapping of soils is done at a particular scale. The soil survey comprise your AOI were mapped at 1:24,000. The design of map units and the level of detail shown in the resulting soil map are dependent on that map scal

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do no small areas of contrasting soils that could have been shown at a more detailed scale.

Search

Suitabilities and Limitations Ratings

Open All | Close All

- Building Site Development
- Construction Materials
- Disaster Recovery Planning
- Land Classifications
- Military Operations
- Recreational Development
- Vegetative Productivity
- Waste Management
- Water Management

BOUNDARIES

STRAW BALES

SILT FENCE

DAM

http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx 5 of 9

10/13/2009

COST SUMMARY WORK

Task description: **Cost Estimate For Current Affected Area**

Site: **Westhoff Pit** Permit Action: SI01 Permit/Job#: M1977094

PROJECT IDENTIFICATION

Task #: 000 State: Colorado Abbreviation: None
Date: 3/31/2017 County: Morgan Filename: M094-000
User: JLE

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Backfill and Grade Highwall	DOZER	2	25.20	$12,298.00
002	Replace Topsoil over current affected area.	SCRAPER1	1	39.03	$31,321.00
003	Revegetation of Phase 1 area - AM01	REVEGE	1	14.15	$37,332.00
004	Mobilization and Demobilization Equipment	MOBILIZE	1	3.56	$7,696.00
	SUBTOTALS:			**81.94**	**$88,647**

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance:	2.02	Total =	$1,790.67
Performance bond:	1.05	Total =	$930.79
Job superintendent:	40.97	Total =	$2,992.86
Profit:	10.00	Total =	$8,864.70
		TOTAL O & P =	$14,579.02
		CONTRACT AMOUNT (direct + O & P) =	$103,226.02

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		$5,161.30
CONTINGENCY:	0.00	Total =	$0.00
		TOTAL INDIRECT COST =	$19,740.32
		TOTAL BOND AMOUNT (direct + indirect) =	**$108,387.32**

BULLDOZER WORK

Task description: **Backfill and Grade Highwall**

Site: **Westhoff Pit** Permit Action: SI01 Permit/Job#: M1977094

PROJECT IDENTIFICATION

Task #: 001 State: Colorado Abbreviation: None
Date: 3/31/2017 County: Morgan Filename: M1977094
User: JLE

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D9T - 9SU
Horsepower: 405
Blade Type: Semi-Universal
Attachment: 3-shank ripper
Shift Basis: 1 per day
Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	$100.59	NA
Operating Cost/Hour:	$87.23	100
Ripper own. Cost/Hour:	$10.94	NA
Ripper op. Cost/Hour:	$3.41	50
Operator Cost/Hour:	$41.85	NA

Total unit Cost/Hour: $244.02
Total Fleet Cost/Hour: **$488.03**

MATERIAL QUANTITIES

Initial Volume: 47,222
Swell factor: 1.330
Loose volume: **62,805** LCY

Source of estimated volume: 1360 Feet of Highwall at 25 feet in height
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Average push distance: 80 feet
Unadjusted hourly production: 1,460.1 LCY/hr

Materials consistency description: Compacted fill or embankment 0.9

Average push gradient: -30 %
Average site altitude: 5,060 feet

Material weight: 2,900 lbs/LCY

Weight description: Decomposed rock - 50% Rock, 50% Earth

Job Condition Correction Factor		Source
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:	1.000	(DOZ-OC)
Push gradient:	1.601	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8535

Adjusted unit production: 1,246.20 LCY/hr

Adjusted fleet production: **2492.4** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: $0.196/LCY

Total job time: **25.20** Hours

Total job cost: **$12,298**

SCRAPER TEAM WORK

Task description: **Replace Topsoil over current affected area.**

Site: **Westhoff Pit** Permit Action: SI01 Permit/Job#: M1977094

PROJECT IDENTIFICATION

Task #: 002 State: Colorado Abbreviation: None
Date: 3/31/2017 County: Morgan Filename: M1977094
User: JLE

Agency or organization name: DRMS

HOURLY EQUIPMENT

COSTShift basis: 1 per day

	Equipment Description
-Scraper:	Cat 627G w/push-pull
-Dozer:	NA
Support Equipment -Load Area:	NA
-Dump Area:	Cat D9T - 9SU
Road Maintenance –Motor Grader:	CAT 12M
-Water Truck:	Water Tanker, 5,000 Gal.

Cost Breakdown:

	Scraper Work Team		Support Equipment		Maintenance Equipment	
	Scraper	Dozer	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	NA	NA	50	25	25
Ownership cost/hour:	$99.75	NA	NA	$100.59	$28.02	$24.01
Operating cost/hour:	$118.23	NA	NA	$43.62	$7.07	$8.53
%Utilization-ripper:	NA	NA	NA	NA	NA	NA
Ripper own. cost/hour:	NA	NA	NA	$0.00	$0.00	$0.00
Ripper op. cost/hour:	NA	NA	NA	$0.00	$0.00	$0.00
Operator cost/hour:	$31.26	NA	NA	$41.85	$28.90	$21.39
Unit Subtotals:	$249.24	NA	NA	$186.05	$63.99	$53.94
Number of Units:	2	0	0	1	1	1
Group Subtotals:	Work:	$498.48	Support:	$186.05	Maint:	$117.93

Total work team cost/hour: **$802.46**

MATERIAL QUANTITIES

Initial volume: 34,243 CCY Swell factor: 1.000
Loose volume: **34,243** LCY

Source of estimated volume: Average 9 inches over 28.3 acres
Source of estimated swell factor: Cat Handbook

HOURLY PRODUCTION

Scraper Bowl (volume) Basis:

Material weight: 1,600 lbs/LCY
Material description: Top Soil
Rated Payload: 52,800 pounds
Payload Capacity: 33.00 LCY

Struck Volume: 15.70 LCY
Heaped Volume: 22.00 LCY
Average Volume: 18.85 LCY
Adjusted Capacity: **18.85** LCY

Cycle Time:

Scraper Loading Time: 0.90 Minutes
Maneuver and Spread Time: 0.60 Minutes

Job Condition Correction: Site Altitude: 5060 feet

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

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	500.00	0.00	3.00	3.00	2824	0.35

Haul Time: **0.35** minutes

Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	500.00	0.00	3.00	3.00	2874	0.29

Return Time: **0.29** minutes

Total Scraper team cycle time: **2.14** minutes
Adjusted for job conditions: 877.32 LCY/Hour
Selected Number of Scrapers: 2 Scraper(s)
Adjusted single scraper team (unit) hourly production: 877.32 LCY/Hour
Adjusted multiple scraper team (fleet) hourly production: **877.32** LCY/Hour

Unadjusted unit production/hour: 1,057.01 LCY/Hour
Optimal Number of Scrapers per push dozer:

JOB TIME AND COST

Fleet size: 1 Team(s) Total job time: **39.03** Hours

Unit cost: $0.915 /LCY Total job cost: **$31,321**

REVEGETATION WORK

Task description: **Revegetation of Current Affected Area**

Site: **Westhoff Pit** Permit Action: SI01 Permit/Job#: M1977094

PROJECT IDENTIFICATION

Task #: 003 State: Colorado Abbreviation: None
Date: 3/31/2017 County: Morgan Filename: M1977094
User: JLE

Agency or organization name: DRMS

FERTILIZING

Materials

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
Potassium nitrate, 13-46-0	40.00	pound	$1.23	$49.20
			Total Fertilizer Materials Cost/Acre	**$49.20**

Application

Description	Cost /Acre
Tractor towed spreader (MEANS 32 01 90.13 0120)	$144.62
Total Fertilizer Application Cost/Acre	**$144.62**

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	$106.29
Total Tilling Cost/Acre	**$106.29**

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Blue Grama - Lovington	0.50	8.16	$8.13
Sand Dropseed	0.50	59.69	$5.42
Prairie Clover, Purple - Kaneb	0.50	3.42	$28.27
Sideoats Grama - Vaughn	5.00	16.41	$50.00
Western Wheatgrass - Native	3.00	7.58	$21.00
Totals Seed Mix	9.50	95.25	**$112.81**

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:	28.3	Cost /Acre:	$1,232.94
Estimated Failure Rate:	25%	Cost /Acre*:	$344.81
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	**$34,892.20**
Reseeding Job Cost:	**$2,439.53**
Total Job Cost:	**$37,332**
Job Hours:	**14.15**

EQUIPMENT MOBILIZATION/DEMOBILIZATION

Task description: **Mobilization and Demobilization Equipment**

Site: **Westhoff Pit** Permit Action: SI01 Permit/Job#: M1977094

PROJECT IDENTIFICATION

Task #: 004 State: Colorado Abbreviation: None
Date: 3/31/2017 County: Morgan Filename: M094-004
User: JLE

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 D9T - 9SU	66.13	$111.53	$125.45	2	$473.96	$250.90	$500.00
Cat 627G w/push-pull	43.48	$99.75	$117.55	2	$434.60	$235.10	$500.00
CAT 12M	16.01	$28.02	$88.67	1	$116.69	$88.67	$250.00
Drill/Broadcast Seeder with Tractor	25.00	$12.22	$88.67	1	$100.89	$88.67	$250.00
Power Mulcher (Bowie LD-90)	6.00	$7.03	$88.67	1	$95.70	$88.67	$250.00
Subtotals:					**$1,221.84**	**$752.01**	**$1,750.00**

ROADABLE EQUIPMENT:

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Water Tanker, 5,000 Gal.	$79.53	1	$79.53	$79.53
Fuel Tanker and Lube Truck	$56.88	2	$113.76	$113.76
Subtotals:			**$193.29**	**$193.29**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	FORT MORGAN	
Total one-way travel distance:	10.20	miles
Average Travel Speed:	35.00	mph
Total Non-Roadable Mob/Demob Cost * '* two round trips with haul rig:	$7,582.89	
Total Roadable Mob/Demob Cost ** ** one round trip, no haul rig:	$112.66	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.29	0.29
Return Time (Hours):	0.29	0.29
Loading Time (Hours):	0.60	NA
Unloading Time (Hours):	0.60	NA
Subtotals:	1.78	0.58

JOB TIME AND COST

Total job time:	**3.57**	Hours
Total job cost:	**$7,696**	