



## COLORADO

Division of Reclamation,  
Mining and Safety

Department of Natural Resources

1313 Sherman Street, Room 215  
Denver, CO 80203

April 12, 2016

Jim Helmericks  
Glacier Gravel Products  
995 Hwy 3  
Durango, CO 81301

**Re: J & J Pit, Permit No. M-1985-001, Response to Request for Increase in Financial Warranty and Reclamation Cost Estimate, Updated SI02 and Calculations**

Dear Mr. Helmericks,

On March 17, 2016 the Division received your response to the Reclamation Costs Update and Notice of Surety Increase (SI02) dated February 19, 2016. The response was addressed to the Colorado Division of Reclamation, Mining and Safety's Minerals Program Director Tony Waldron. The response identified concerns with the Financial Warranty Increase (SI02) and those concerns were addressed by myself and the Senior Environmental Protection Specialist and Grand Junction Field Office Supervisor Russ Means.

After reviewing the original permit file and the issued Financial Warranty Increase the seed mix included in SI02 was indeed incorrect. Please find the updated Task 005 in the enclosed documentation which has been updated to reflect the original NRCS seed mix in the approved permit. Another concern was the existence of the task to demolish the scale and scale house and dispose of these on site. This task has been removed as the original permit does reflect that both structures are to remain on site for future use.

The Division re-evaluated the regrading and establishment of slopes. Two different methods were calculated and the more economical of the two was chosen. However, it is the position of the Division not to revise the tasks that call for regrading the slopes to no steeper than 2H: 1V. On page 8 (item 13) and Page 12 (Exhibit E Reclamation Plan) of the original permit application, the Operator identifies that the side slopes of the affected area will be reclaimed to support wildlife habitat with a graveled area for future construction of a shop facility on the pit floor. The side slopes were identified to have a final grade of 1H: .5V or 1H: 1V as required. In an adequacy review of the application by the Division sent to the Operator on January 11, 1985 it was made clear that the Division would not recommend approval of slopes steeper than 2H: 1V. The response from the Operator, received on January 21, 1985, specifically item four, outlines that "This permit area is typically dry and is wildlife habitat. If I do not develop this as a commercial site, I will then reclaim it according to the reclamation plan... Slopes will be no steeper than 2:1." All supporting documents for this position are enclosed.



The original approved permit indicates that the original approved permit indicates the post mining land use is wildlife habitat. Therefore, according to Rule 3.1.5 (1) of the Construction Materials Rule, "*grading shall be carried on so as to create a final topography appropriate to the final land use selected in the reclamation plan,*" slopes steeper than 2H: 1V are not appropriate for a post mining land use of wildlife habitat. Furthermore, according to Rule 6.3.4 (1)(b) of the Construction Materials Rule, the reclamation plan must "*specify the maximum gradient of reclaimed slopes. If the application proposes slopes steeper than 3:1, the Operator/Applicant must include a justification that supports steeper slopes for the proposed post-mining land use, and demonstrates compliance with the applicable performance standards of Section 3.1.*" Such justification was not included in the original permit file. Therefore, given the permit file documentation, surrounding undisturbed topography and regional characteristics, it is the position of this office that slopes steeper than 2H: 1V for a post mining land use of wildlife habitat was not approved.

The Operator may choose to change the post mining land use from its currently approved wildlife habitat to commercial / industrial. If the Operator chooses to change the post mining land use it shall be addressed through the Amendment process. Please note that for consideration of approval of slopes to reflect a final grade and slopes of 1H: .5V or 1H: 1V, the Operator will be required to submit a Geotechnical Stability Exhibit in compliance with Rule 6.5 of the Construction Materials Rule, and demonstrate that such slopes are and will remain stable once reclaimed and released.

After careful consideration and permit file review, staff calculations (revised copy enclosed) estimate the cost to reclaim the above referenced site to be **\$27,670.00**. This is an increase of **\$19,212.42** increase over the **\$8,457.58** currently held by the Division. ***Pursuant to Section 34-32.5-117(4) of the Colorado Land Reclamation Act for the Extraction of Construction Materials, adequate Financial Warranty must be submitted to the Division within 60 days of the Mailing of this letter.*** To avoid a possible violation of the conditions of the permit and possible enforcement action, the additional amount needs to be accepted by the Division's Denver Office on or before **Friday June 10, 2016**.

Please make arrangements with Barbra Coria at the Division of Reclamation Mining and Safety's Denver Office, Phone No. 303-866-3567, ext. 8148 for submittal of the financial warranty.

If the Operator chooses to appeal this decision a petition for a hearing before the Mined Land Reclamation Board the Office must be received in writing within **30** days of the date of this letter, pursuant to Rule 1.4.11(1)(b). Written notification must be received by the Division's Denver office on or before **Thursday May 12, 2016**. The item will then be scheduled to appear before the June meeting of the Mined Land Reclamation Board.



Any questions regarding completion, execution and/ or submittal of the financial warranty should be directed to Barbra Coria. If you require additional information, have questions or concerns, please contact me or my immediate supervisor Russ Means at the DRMS Grand Junction Field Office.

Sincerely,



**Lucas West**  
Environmental Protection Specialist  
Division of Reclamation, Mining and Safety  
1313 Sherman Street, Room 215  
Denver, CO 80203  
**Phone:** (970)-243-6368

Enclosure: Revised Financial Warranty Cost Estimate  
Supporting Documents from Permit File

Cc w/encl.: Tony Waldron, DRMS Minerals Program Director  
Russ Means, Senior Environmental Protection Specialist, GJFO Supervisor  
Barbra Coria, DRMS Bonding Specialist



## COST SUMMARY WORK

Task description: Cost summary

Site: J & J Pit

Permit Action: 2015

Permit/Job#: M1985001

### PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 2/18/2016

County: La Plata

Filename: M001-000

11:46:31 AM

User: LJW

Agency or organization name: DRMS

### TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
001	Cut and Fill East and South Highwalls to 2H:1V	DOZER	1	11.16	\$2,782.00
002	Move stockpile from above the East wall to pit floor	TRUCK1	1	8.39	\$4,956.00
003	Move remaining material from Pit Floor to North Highwall	LOADER	1	10.91	\$1,754.00
004	Spread material along north wall at 2H:1V	DOZER	1	16.93	\$4,221.00
005	Revegetate slopes with weed control and mulch	REVEGE	1	16.00	\$2,992.00
006	Mob/Demob	MOBILIZE	1	4.26	\$4,533.00
<b><u>SUBTOTALS:</u></b>				<b>67.65</b>	<b>\$21,238</b>

### INDIRECT COSTS

#### OVERHEAD AND PROFIT:

Liability insurance: 2.02  
Performance bond: 1.05  
Job superintendent: 33.83  
Profit: 10.00

Total = \$429.01

Total = \$223.00

Total = \$2,519.29

Total = \$2,123.80

TOTAL O & P = \$5,295.10

CONTRACT AMOUNT (direct + O & P) = \$26,533.10

#### LEGAL - ENGINEERING - PROJECT MANAGEMENT:

Financial warranty processing (legal/related costs): 500.00

Total = 500.00

Engineering work and/or contract/bid preparation: 0.00

Total = \$0.00

Reclamation management and/or administration: 0.00

\$0.00

CONTINGENCY: 3.00

Total = \$637.14

TOTAL INDIRECT COST = \$6,432.24

**TOTAL BOND AMOUNT (direct + indirect) = \$27,670.24**

**BULLDOZER WORK**Task description: Cut and Fill East and South Highwalls to 2H:1VSite: J & J PitPermit Action: 2015Permit/Job#: M1985001**PROJECT IDENTIFICATION**Task #: 001State: ColoradoAbbreviation: NoneDate: 2/18/2016County: La PlataFilename: M001-001

9:58:33 AM

User: LJWAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$75.12	NA
Operating Cost/Hour:	\$135.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$249.37Total Fleet Cost/Hour: \$249.37**MATERIAL QUANTITIES**Initial Volume: 7,326Swell factor: 1.115Loose volume: 8,168 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 100 feetUnadjusted hourly production: 1,243.2 LCY/hrMaterials consistency description: Compacted fill or embankment 0.9Average push gradient: 0 %Average site altitude: 6,850 feetMaterial weight: 2,100 lbs/LCYWeight description: Earth - Loam**Job Condition Correction Factor**Operator Skill: 0.750**Source**

(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	(SSD-AC)
Push gradient:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	1.095	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.5889

Adjusted unit  
production: 732.12 LCY/hr

Adjusted fleet  
production: **732.12** LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.341/LCY

Total job time: **11.16** Hours

Total job cost: **\$2,782**

TRUCK/LOADER TEAM WORKTask description: Move stockpile from above the East wall to pit floorSite: J & J PitPermit Action: 2015Permit/Job#: M1985001PROJECT IDENTIFICATIONTask #: 002State: ColoradoAbbreviation: NoneDate: 2/18/2016County: La PlataFilename: M001-002User: LJWAgency or organization name: DRMSHOURLY EQUIPMENT COSTShift basis: 1 per day

Equipment Description	
Truck Loader Team -Truck:	Generic 15-18 cy, 6x4
-Loader:	Cat 365C L 13'-7" Stick
Support Equipment -Load Area:	NA
-Dump Area:	NA
Road Maintenance -Motor Grader:	NA
-Water Truck:	NA

<u>Cost Breakdown:</u>	Truck/Loader Team		Support Equipment		Maintenance Equipment	
	Truck	Excavator	Load Area	Dump Area	Motor Grader	Water Truck
%Utilization-machine:	100	100	NA	NA	NA	NA
Ownership cost/hour:	\$19.20	\$94.13	NA	NA	NA	NA
Operating cost/hour:	\$65.35	\$141.12	NA	NA	NA	NA
Ripper op. cost/hour:	NA	\$0.00	NA	NA	NA	NA
Operator cost/hour:	\$22.10	\$35.36	NA	NA	NA	NA
Unit Subtotals:	\$106.65	\$270.61	NA	NA	NA	NA
Number of Units:	3	1	0	0	0	0
Group Subtotals:	Work: \$590.56		Support: \$0.00		Maint: \$0.00	

Total work team cost/hour: \$590.56MATERIAL QUANTITIESInitial volume: 6,000

CCY

Swell factor: 1.000Loose volume: 6,000

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat HandbookMaterial Purchase Cost: \$0.00Total Cost: \$0.00HOURLY PRODUCTIONTruck Capacity:Truck Payload (weight) Basis:Material weight: 2,100

Pounds/LCY

Description: Earth - LoamRated Payload: 63,980

Pounds

Payload Capacity: 30.47

LCY

**Truck Bed (volume) Basis:**

Struck Volume:	15.00	LCY
Heaped Volume:	18.00	LCY
Average Volume:	16.50	LCY
Adjusted Volume:	18.00	LCY

Final Truck Volume Based on Number of Loader Passes: 15.18 LCY

**Loading Tool Capacity**

Bucket Size Class: Large

Rated Capacity:	6.900	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	7.590	LCY

**Job Condition Corrections:**

Site Altitude (ft.): 6850 feet

	Truck	Loader	Source
Altitude Adj:	1.000	1.000	(CAT HB)
Job Efficiency:	0.830	0.830	(CAT HB)

Net Correction: 0.830 0.830

**Loading Tool Cycle Time:**

Number of Loading Tool Passes Required to Fill 2 passes  
Truck:

**Excavators and Front Shovels:**

Machine Cycle Time vs. Job Condition Rating: AVERAGE

Selected Value within this Basic Rating: AVERAGE

Track Loaders – Material Description: \_\_\_\_\_

**Cycle Time Elements (min.):**

Load: NA Maneuver: NA Dump: 0.100

Wheel and Track Loaders - Unadjusted Basic Loader Cycle Time (load, dump, maneuver): NA minutes

Cycle Time Factors		Factor (min.)	Source
Material:	NA	NA	(Cat HB)
Stockpile:	NA	NA	(Cat HB)
Truck Ownership:	NA	NA	(Cat HB)
Operation:	NA	NA	(Cat HB)
Dump Target:	NA	NA	(Cat HB)
Net Cycle Time Adjustment:		NA	minutes
Adjusted Loader Cycle Time:		0.380	minutes
Net Load Time per Truck:		0.480	minutes

**Truck Cycle Time:**

Truck Exchange Time:	0.50	Minutes	Adjusted for site altitude:	0.500	Minutes
Truck Load Time:	0.480	Minutes	Adjusted for site altitude:	0.480	Minutes
Truck Maneuver and Dump Time:	0.90	Minutes	Adjusted for site altitude:	0.900	Minutes

**Truck Travel (Haul & Return) Time:**  
maintained 2.0

Road Condition: Hard, smooth, stabilized, surfaced, watered,



## Haul Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	1.50	2.00	3.50	2394	0.754

Haul Time: 0.754 minutes

## Return Route:

Seg #	Haul Distance (Ft)	Grade (%)	Roll. Res (%)	Total Res (%)	Velocity (fpm)	Travel Time (min)
1	1500.00	-1.50	2.00	0.50	2972	0.538

Return Time: 0.538 minutesTotal Truck Cycle Time: 3.172 minutes

Loading Tool unit Production 929.39 LCY/Hour  
 Truck Unit Production 287.14 LCY/Hour  
 Optimal No. of Trucks: 3 Truck(s)

Adjusted for job efficiency: 771.39 LCY/Hour  
 Adjusted for job efficiency: 238.32 LCY/Hour  
 Selected Number of Trucks: 3 Truck(s)

Adjusted hourly truck team production: 714.97 LCY/Hour  
 Adjusted single truck/loader team production: 714.97 LCY/Hour  
 Adjusted multiple truck/loader team production: 714.97 LCY/Hour

**JOB TIME AND COST**Fleet size: 1 Team(s) Total job time: 8.39 HoursUnit cost: \$0.826 /LCY Total job cost: \$4,956

**WHEEL LOADER – LOAD AND CARRY WORK**Task description: Move remaining material from Pit Floor to North HighwallSite: J & J Pit Permit Action: 2015 Permit/Job#: M1985001**PROJECT IDENTIFICATION**

Task #: 003 State: Colorado Abbreviation: None  
 Date: 2/18/2016 County: La Plata Filename: M001-003  
 User: LJW

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

Basic Machine: CAT 980H Horsepower: 315  
 Attachment 1: ROPS Cab Shift Basis: 1 per day  
 Data Source: (CRG)

**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$51.27	NA
Operating Cost/Hour:	\$70.82	100
Operator Cost/Hour:	\$38.60	NA
Total Unit Cost/Hour:	\$160.68	
Total Fleet Cost/Hour:	\$160.68	

**MATERIAL QUANTITIES**

Initial volume: 6,100 CCY Swell factor: 1.000  
 Loose volume: 6,100 LCY

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

**HOURLY PRODUCTION**

Loader Cycle Time: Unadjusted Basic Cycle Time (load, dump, maneuver): 0.550 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Mixed material 0.02	0.020	(Cat HB)
Stockpile:	Dumped by truck 0.02	0.020	(Cat HB)
Truck Ownership:	Common ownership of trucks and loaders - 0.04	-0.040	(Cat HB)
Operation:	Constant operation -0.04	-0.040	(Cat HB)
Dump Target:	Nominal target 0.00	0.000	(Cat HB)
Net Cycle Time Adjustment:		-0.040	minutes
Adjusted Basic Cycle Time:		0.510	minutes

**Rolling Resistance – Road Conditions**

Haul: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0  
 Return: Firm, smooth, rolling, dirt/lt. surfaced, watered, maintained 3.0

**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source

Haul Route:	150	0.00	3.00	3.00	0.1160	(Cat HB)
Return Route:	150	0.00	3.00	3.00	0.1094	(Cat HB)

Total Travel Time: 0.2254 minutesTotal Cycle Time: 0.7354 minutesLoad Bucket Capacity

Rated Capacity:	7.50	LCY (heaped)
Bucket Fill Factor:	1.100	Other - rock/dirt mixtures (100-120%) 1.100
Adjusted Capacity:	8.25	LCY

Job Condition Correction FactorsSite Altitude: 6850 feet

Altitude Adj:	1.00	Source (CAT HB)
Job Efficiency:	0.83	(1 shift/day)
Net Correction:	0.83	multiplier

Unadjusted Hourly Unit Production: 673.14 LCY/HourAdjusted Hourly Unit Production: 558.71 LCY/HourAdjusted Hourly Fleet Production: 558.71 LCY/HourJOB TIME AND COSTFleet size: 1 Loader(s) Total job time: 10.92 HoursUnit cost: \$0.288 /LCY Total job cost: \$1,754

**BULLDOZER WORK**Task description: Spread material along north wall at 2H:1VSite: J & J PitPermit Action: 2015Permit/Job#: M1985001**PROJECT IDENTIFICATION**Task #: 004State: ColoradoAbbreviation: NoneDate: 2/18/2016County: La PlataFilename: M001-00411:20:07 AMUser: LJWAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D9T - 9SUHorsepower: 405Blade Type: Semi-UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$75.12	NA
Operating Cost/Hour:	\$135.36	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$38.89	NA

Total unit Cost/Hour: \$249.37Total Fleet Cost/Hour: \$249.37**MATERIAL QUANTITIES**Initial Volume: 12,148Swell factor: 1.000Loose volume: 12,148 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 75 feetUnadjusted hourly production: 1,514.3 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 6,850 feetMaterial weight: 2,900 lbs/LCYWeight description: Decomposed rock - 50% Rock, 50% Earth**Job Condition Correction Factor**Operator Skill: 0.750Source  
(AVG.)

Material consistency:	1.200	(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:	1.000	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.4739

Adjusted unit  
production: 717.63 LCY/hr

Adjusted fleet  
production: 717.63 LCY/hr

### **JOB TIME AND COST**

Fleet size: 1 Dozer(s)

Unit cost: \$0.347/LCY

Total job time: 16.93 Hours

Total job cost: \$4,221

REVEGETATION WORKTask description: Revegetate slopes with weed control and mulchSite: J & J PitPermit Action: 2015Permit/Job#: M1985001PROJECT IDENTIFICATIONTask #: 005State: ColoradoAbbreviation: NoneDate: 8/31/2015County: La PlataFilename: M001-005User: LJWAgency or organization name: DRMSFERTILIZING**Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost /Acre
			\$	\$
			<b>Total Fertilizer Materials Cost/Acre</b>	<b>\$0.00</b>

**Application**

Description	Cost /Acre
	\$
<b>Total Fertilizer Application Cost/Acre</b>	<b>\$0.00</b>

TILLING

Description	Cost /Acre
Disc harrowing, 6" deep (MEANS 32 91 13.23 6100)	\$107.59
<b>Total Tilling Cost/Acre</b>	<b>\$107.59</b>

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Indian Ricegrass - Native	1.80	5.83	\$12.15
Intermediate Wheatgrass - Oahe	2.00	4.27	\$4.38
Mahogany, Mountain	0.50	0.68	\$23.62
Western Wheatgrass - Barton	2.40	6.06	\$8.86
Needle and Thread	1.50	3.96	\$70.62
<b>Totals Seed Mix</b>	<b>8.20</b>	<b>20.79</b>	<b>\$119.63</b>

**Application**

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Description	Cost / Acre
Drill seeding (MEANS 32 92 19.13 0020)	\$434.00
<b>Total Seed Application Cost/Acre</b>	<b>\$434.00</b>

**MULCHING and MISCELLANEOUS****Materials**

Description	Units / Acre	Unit	Cost / Unit	Cost / Acre
			\$	\$
<b>Total Mulch Materials Cost/Acre</b>				<b>\$0.00</b>

**Application**

Description	Cost / Acre
	\$
<b>Total Mulch Application Cost/Acre</b>	<b>\$0.00</b>

**NURSERY STOCK PLANTING**

Common Name	No / Acre	Type and Size	Planting Cost	Fertilizer Pellet Cost	Cost / Acre
					\$
<b>Totals Nursery Stock Cost / Acre</b>					<b>\$0.00</b>

**JOB TIME AND COST**

No. of Acres:	3.5	Cost / Acre:	\$661.22
Estimated Failure Rate:	35%	Cost / Acre*:	\$553.63
*Selected Replanting Work Items:	SEEDING		

Initial Job Cost:	\$2,314.27
Reseeding Job Cost:	\$678.20
Total Job Cost:	\$2,992
Job Hours:	16.00

**EQUIPMENT MOBILIZATION/DEMOBILIZATION**Task description: **Mob/Demob**Site: **J & J Pit**Permit Action: **2015**Permit/Job#: **M1985001****PROJECT IDENTIFICATION**Task #: **006**State: **Colorado**Abbreviation: **None**Date: **4/12/2016**County: **La Plata**Filename: **M001-006**User: **LJW**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:**

<b>Available Rig Capacities</b>	<b>0-25 Tons</b>	<b>26-50 Tons</b>	<b>51+ Tons</b>
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 365C L 13'-7" Stick	77.56	\$94.13	\$125.45	1	\$219.58	\$125.45	\$500.00
CAT 980H	33.12	\$51.27	\$117.55	1	\$168.82	\$117.55	\$250.00
Cat D9T - 9SU	60.01	\$75.12	\$125.45	1	\$200.57	\$125.45	\$250.00

Subtotals: **\$588.97** **\$368.45** **\$1,000.00****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	\$52.78	1	\$52.78	\$52.78
Generic 15-18 cy, 6x4	\$106.65	3	\$319.95	\$319.95

Subtotals: **\$372.73** **\$372.73**



**EQUIPMENT HAUL DISTANCE and Time**

Nearest Major City or Town within project area region:	<u>DURANGO</u>	
Total one-way travel distance:	<u>2.00</u>	miles
Average Travel Speed:	<u>30.00</u>	mph

Total Non-Roadable Mob/Demob Cost *	<u>\$4,483.54</u>
** two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	<u>\$49.70</u>
** one round trip, no haul rig:	

**Transportation Cycle Time:**

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.07	0.07
Return Time (Hours):	0.07	0.07
Loading Time (Hours):	1.00	NA
Unloading Time (Hours):	1.00	NA
Subtotals:	2.13	0.13

**JOB TIME AND COST**

Total job time:	<u>4.27</u>	Hours
Total job cost:	<u>\$4,533</u>	



Richard D. Lamm  
Governor

DEPARTMENT OF NATURAL RESOURCES  
David H. Getches, Executive Director

**MINED LAND RECLAMATION DIVISION**  
DAVID C. SHELTON, Director



January 8, 1985

Mr. Jim Helmericks  
Glacier Gravel Products  
400 East 32nd Street  
Durango, Colorado 81301

Re: J & J Pit - File No. M-85-001

Dear Mr. Helmericks:

This is to inform you that our Division has received your permit application for the above captioned operation and the accompanying cover letter. I am assigning the review of this application to our reclamation specialist, Philip Saletta. You should be receiving a letter from him in the next few days informing you of the filing status of the application. Since I will be handling the possible violation concerning this site, I will respond to your cover letter that answers my letter of December 26, 1984.

Your first point concerns the need for a permit for this operation. I do not recall the details of our conversation of last March. However, typically, I do not make such decisions concerning the need for a permit. The usual procedure is to request that potential mining operator submit a letter describing his proposed activities, and our Division Director will either make a decision in the matter or schedule the question for a discussion item before the Board for their determination. The facts that the operation is on your property and that you do not directly charge for gravel (although, I note that you do charge for hauling the gravel) do not necessarily exempt the operation from being permitted. In fact, many such gravel removal operations have been required to be permitted.

The height of the highwall may indeed be less than the estimate made by our specialist. However, any such gravel highwall must be reduced in slope for final reclamation and cannot be considered to be stable over any period of time. The final status of this highwall will be resolved during the permitting process.

The other issue you mentioned concerning lack of runoff control, as well as other potential problems within the extraction area (such as lack of topsoil salvage and the need to perhaps include the haul road within the permit area), can also be resolved with an approved permit application for this site. Without an approved plan for this site, it is difficult to evaluate the severity of any potential problems due to your excavation. Thus, the identification of potential problems must be done by our field personnel. The approved permit can then resolve these problems.

Mr. Jim Helmericks

-2-

January 8, 1985

The decision as to whether or not this excavation is an illegal mining operation or not will be made by the Mined Land Reclamation Board during the upcoming January 23-24, 1985 meeting. You have already been notified of this meeting and informed of your right to attend the meeting and give testimony to the Board. The permit application will be considered as a separate agenda item at this same, or a later, Board meeting.

Please feel free to call me or Mr. Saletta if you have any further questions.

Sincerely,

*Mark S. Loye*

Mark S. Loye  
Senior Reclamation Specialist

MSL/pjh

Doc. No. 6618

JIM HELMERICKS  
DRAINAGE CO.  
(1)

RECEIVED

JAN -3 1985

MINED LAND RECLAMATION DIVISION  
Colo. Dept. of Natural Resources



Richard D. Lamm  
Governor

DEPARTMENT OF NATURAL RESOURCES  
David H. Getches, Executive Director

MINED LAND RECLAMATION DIVISION  
DAVID C. SHELTON, Director



LIMITED IMPACT (110) AND  
SPECIAL TEN-DAY (111) PERMIT  
APPLICATION FORM

Money Order  
038 474 934  
\$ 115.00

Application for Mining and Reclamation Permit, pursuant to C.R.S. 1973, 34-32-101,  
et seq, as amended.

M-85-001

The following explanations cover Limited Impact applications (110's) and Special (Ten-Day Processing - 111's) applications. In the interest of efficient processing, please check the appropriate box to indicate which type of application you are applying for. 111 permits may be issued only under special circumstances. Be sure you are eligible.

- ☒ LIMITED IMPACT OPERATIONS must disturb less than ten acres (including all roads, stockpile areas and any other surface facilities) over the life of the mine, and must extract LESS THAN 70,000 tons of mineral, overburden or combination thereof per calendar year. If the affected area is some fraction greater than nine acres, be sure NOT to round this figure up to ten acres in the narratives or elsewhere.
- ☐ SPECIAL (ten-day processing) operations are any sand, gravel, or quarry aggregates operations which are to be operated for the sole purpose of obtaining materials for highway, road, utility, or similar-type construction under a Federal, State, county, city, town, or special district contract where the contract calls for work to be commenced within a specifically short time and which will affect ten acres or less (including all roads, stockpile areas, and any other surface facilities).

INSTRUCTION: This application and all accompanying materials as outlined below must be submitted in duplicate. For further guidance, and information for Limited Impact Operations, see Rule 3 and for Special Permits, see Rule 4.

(Type or Print Clearly)

1. Name of operation  
(Pit, mine or site name)

J & J PIT

2. Name of Applicant/Operator  
(Name to be used on permit)

JIM HELMERICKS  
DBA. GLACIER GRAVEL PRODUCTS

3. Address and Phone Number of Local Offices 400 E. 32ND  
DURANGO, COLO. 247-3204
4. Address and Phone Number of General Offices SAME
5. Name and Phone Number of Person Staff Members Should Contact JIM HELMERICKS  
247-3204
6. Owner(s) of Record of Affected Land (surface area) (If more than 2, list below) JIM & SHARON HELMERICKS
7. Owner(s) of Substance to be Mined (If more than 2, list below) JIM & SHARON HELMERICKS  
→ SURFACE & SUBSURFACE TOTAL
8. Source of Legal Right-To-Enter (Indicate what type of proof is included in EXHIBIT G - lease, deed, notarized letter, etc.) DEED
9. Type of Mine and Substance to be Mined (Specify underground, open pit, quarry, etc. & substance(s) to be mined) SURFACE GRAVEL PIT
10. General Location and Elevation (Miles & direction from nearest town & approximate site elevation) E 1/2, W 1/2, SW 1/4, SEC. 33T 34 1/2 R.  
SW N.M.P.M. [ELEV. PIT 6780]  
2 MILES SOUTH OF DURANGO
11. County LA PLATA
12. Acreage of Affected Lands (Total surface acreage to be included in permit) 9 ACRES
13. Application Fee (See applicable Rule to determine amount) \$115.00

- 
14. Present Land Use (i.e., agricultural, industrial, etc.)

WASTE LAND

- 
15. Proposed Future Land Use  
(Goal of reclamation)

SHOP AND STORAGE SITE

---

EXHIBIT A - Legal Description

The legal description must identify the affected land and be wholly adequate for field location of the property. It can be in the form of metes & bounds survey or a description by reference to township, range, and section, to at least the nearest quarter-quarter section. Where applicable, the street address or lot number(s) may be used.

EXHIBIT B - Mining Plan

This can be a general discussion of the methods, equipment, phases or stages of the operation and those areas of land affected by each. The plan should be correlated with the map and should show where extraction will begin, and which direction, if any, it will proceed.

EXHIBIT C - Map

This map should clearly define the permit boundaries and contain sufficient information to determine the location of the affected land on the ground and existing and proposed roads or access routes to be used in connection with the mining operation. All immediately adjacent landowners of record must be shown. The quarter section corner, section line, or any other locatable points should also be shown on this map.

EXHIBIT D - Wildlife, Water Resources, Vegetation and Soils Information

Each of the above-mentioned subjects must be addressed as outlined in the applicable rule.

EXHIBIT E - Reclamation Plan

As with the mining plan, this should be a general discussion of the methods, equipment, phases or stages of the reclamation process and those portions of land affected by each. If possible, the plan should be closely correlated with the map. If not, the narrative must be comprehensive enough to draw an accurate verbal picture of the expected appearance of the area after completion of reclamation.

EXHIBIT F - Proof of Compliance with Local Government Zoning

In accordance with 34-32-115(4)(e), the Board must make a finding that the operation will be in compliance with local zoning or subdivision regulations. You are not required to submit this information, but a submission would assist the Division's processing of the application. When the Division notifies the local government of the existence of this application, it will request information regarding compliance with applicable local law. It is intended that operators may concurrently come into compliance with local requirements at the same time the Division is processing this application. Information regarding the status with local government will be helpful.

EXHIBIT G - Source of Legal Right-to-Enter

This could be a copy of the lease, deed, abstract of title, or current tax receipt. An acceptable alternative would be a statement acknowledged by a Notary Public that the operator has the legal right to enter the mine.

EXHIBIT H - Reclamation Costs

For a 110 permit, if the operator requests financial warranty to be less than \$5,000.00, the operator must submit facts to support such a request. Otherwise, a financial warranty of \$5,000.00 will automatically be set. For all 111 permits, the financial warranty shall be \$2,500.00 per acre.

EXHIBIT I - Terms of Governmental Contracts (111 Applications only)

For Special 10-Day (111) permits, the operator must submit a copy of the contract or other proof that proves the necessity of a Special 10-day permit. The operator must also submit evidence of the financial warranty provided under the governmental contract, if it was required.

NOTICE PROCEDURES

After the application is considered "filed" (pursuant to Rule 1.1(10) with the Mined Land Reclamation Division, notice procedures outlined in rule 3.2 and/or 4.2 must be followed. (Format for such notices will be included in the letter you receive from the MLR staff informing you of the completeness ("filing") of your application.)

FINANCIAL WARRANTY

Prior to permit issuance, proper performance and financial warranty must be received in accordance with Rule 7. Please obtain the appropriate form for your chosen method of financial warranty.

COLORADO WATER LAWS

The permittee is encouraged to contact the State Engineer, with regard to the administration of water rights, and the Colorado Department of Health, with regard to the discharge of pollutants into the waters of the State. Violation of Colorado water laws could result in enforcement actions taken by the State Engineer and/or the Colorado Department of Health.

ADDITIONAL INFORMATION

This space can be referenced for further information of any of the items on this form.


To the best of my knowledge, all the information presented in this application is true and correct.

Date: 12-29-84

By: C. SIM HELMERICKS

OWNER  
Title GLACIER GRAVEL  
PRODUCTS

(Rev. 9/83)

Doc. No. 5545



# MINED LAND WILDLIFE QUESTIONNAIRE

for limited impact and select regular mine applications

1. Name of Company/Mine: GLACIER GRAVEL PRODUCTS (J&J PIT)
2. Name/Address/Phone of Contact Person: JIM HELMERICKS  
400 E. 32ND. ST. DURANGO, COLO. 247-3204
3. Location of Mine: E 1/2, W 1/2, SW 1/4, SEC. 35T 34 1/2N, E. 9W. N.M.P.A.  
(County, Township, Range, Section to nearest quarter quarter, Exhibit A-MLR appl.)
4. Nearest Town/General Location: Durango Colorado
5. Land Ownership (Circle) 1. (Private) 2. BLM 3. USFS 4. Other \_\_\_\_\_
6. Present Land Use: waste land
7. Proposed Final Land Use: Possible commercial site SHOP AREA
8. Type of Operation: (1. Surface) 2. Underground
9. Minerals being mined: Gravel
10. Number and Description of Surface Acres Disturbed by Mining/not including roads (Exhibit D-MLR): 9 ACRES
11. Miles of roads to be constructed: road existing
12. Life of Mine (years): until gravel exhausted
13. Description of Operation and Reclamation -- Additional sheets may be attached (Exhibits B & E-MLR)  
MINE GRAVEL IN A WASTE LAND AREA, UNTIL ROOM IS ACQUIRED FOR A SHOP AND EQUIPMENT STORAGE AREA. FLATTENED AREA WILL THEN BE GRAVELED AND LAND SCAPED. SIDE SLOPES WILL BE BLADED AND PREPARED AND SEEDED WITH RANGE GRASSES AND NATIVE BRUSH AND TREES, IN ORDER TO RECLAIM IT TO THE NATURAL STATE FOR WILDLIFE HABITAT.
14. Please enclose Maps of Project Operation, Disturbance Areas and Reclamation (Exhibit C.) This will expedite processing. Your cooperation is appreciated.
5. Prepared by: JIM HELMERICKS Date: 12-29-84  
JIM HELMERICKS

MINED LAND RECLAMATION DIVISION  
1313 Sherman Street Room 4.  
Denver, CO 80203  
(303) 866-3567

NO 2888

DATE 1-3 1985

RECEIVED FROM

Jim Helmericks

THE SUM OF

One hundred fifteen

DOLLARS \$

115<sup>00</sup>

FOR

app fee

m-85-001

038 6474 924

☐ CASH  
☐ CHECK  
☒ M.D.

AMOUNT OF ACCOUNT.....\$

AMOUNT PAID.....\$

BALANCE DUE.....\$

Thank You

D. A. Talley

5-33-34 1/2-9

JIM HELMERICKS  
DURANGO, COLO

(1.)

EXHIBIT A  
LEGAL DESCRIPTION

E $\frac{1}{2}$ , W $\frac{1}{2}$ , SW $\frac{1}{4}$ , SEC. 33, T 34 $\frac{1}{2}$   
R. 9 W, N.M.P.M.

---

EXHIBIT B  
MINING PLAN

- 1.) VEGETATION WILL BE CUT AND USED AS FIREWOOD AND FENCE POSTS.
- 2.) OVERBURDEN WILL BE STRIPPED AND USED IN RECLAMATION AFTER MINING IS COMPLETE,
- 3.) MINING WILL BEGIN AT PRESENT SITE (POINT A ON MAP), AND PROCEED SOUTH AND EAST.
- 4.) A CRUSHER AND SCREEN WILL BE USED, WITH A CRAWLER TRACTOR OR LOADER FEEDING CRUSHER.
- 5.) RECLAMATION WILL BE DONE ON SIDE SLOPES WITH RANGE GRASSES AND NATIVE TREES. FLATTENED AREA WILL BE GRAVELED AND USED AS A COMMERCIAL SITE.
- 6.) EXISTING ROAD WILL BE USED

## EXHIBIT D

- 1.) WILDLIFE QUESTIONNAIRE INCLUDED
- 2.) WATER RESOURCES. GEORGE DAVIS OF DURANGO OFFICE CONTACTED IN MARCH 84 AND MADE A SITE INSPECTION.
- 3.) SOIL & VEGETATION. SOIL CONSERVATION OFFICE IN DURANGO WAS CONTACTED, BILL DUNN & GENE HARPER, & TONY INGERSOLL

## EXHIBIT E RECLAMATION PLAN

- 1.) AFTER MINING, THE FLATTENED AREA WILL BE GRAVELLED AND USE AS A COMMERCIAL SITE FOR MY SHOP AND EQUIPMENT STORAGE.
- 2.) THE SIDE SLOPES WILL BE GRADED AND SEEDED WITH RANGE GRASSES AND NATIVE TREES, TO ACHIEVE A NATURAL APPEARANCE AND PROVIDE WILDLIFE HABITAT

## EXHIBIT F

- PROOF OF COMPLIANCE WITH LOCAL GOV,
- 1.) ALL APPLICATION REQUIREMENTS ARE IN, AND IS BEING PROCESSED NOW

(A)

EXHIBIT H  
RECLAMATION COSTS &  
PERFORMANCE & FINANCIAL WARRANTY  
COST TO PREPARE SLOPES ( $1/2:1$  or  $1:1$ ) IS  
SMALL, AS THE WORK WILL BE  
INCIDENTAL TO THE PIT AND COMMERCIAL  
DEVELOPMENT WORK. HAND SEEDING  
WILL BE DONE BY ME AND MY  
BOYS, SO COSTS ARE SMALL.  
SEED WILL BE ABOUT \$100.00  
FOR A RANGE GRASS BLEND.

SINCE THIS IS MY PROPERTY,  
I HEREBY REQUEST THAT THE  
FINANCIAL AND PERFORMANCE WARRANTY  
BE \$1000.00 ONE THOUSAND, OR THE  
MINIMUM, AND DO BY MY  
SIGNATURE, HEREBY PROMISE TO  
BE RESPONSIBLE TO THE BOARD  
FOR RECLAMATION COSTS, AND TO  
COMPLY WITH ALL ACT REQUIREMENTS.

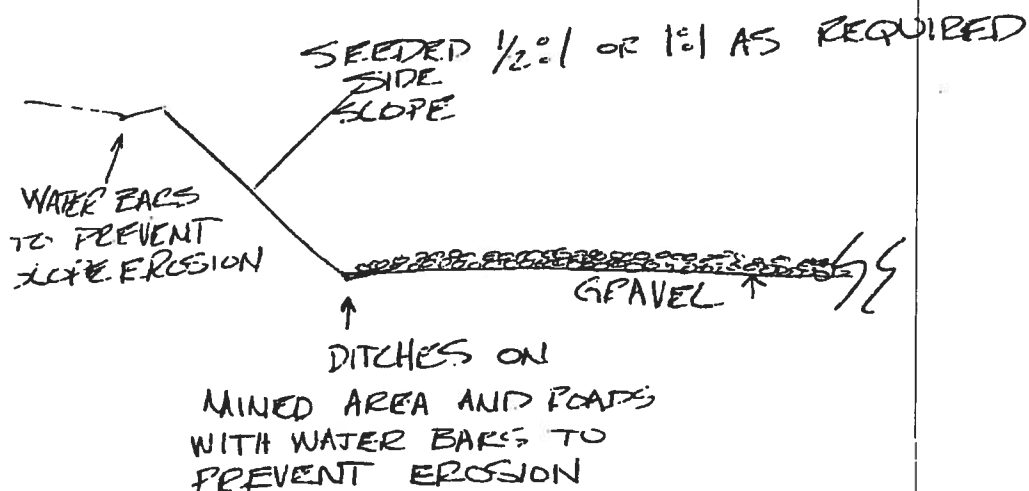
C. SIM HELMREICKS  
DBA. GLACIER GRAVEL PROD.  
@ J&J PIT  
DURANGO, COLO.  
400 E. 32ND ST.

B)

## ADDENDUM TO EXHIBIT H

SINCE MINED AREA IS FOR A COMMERCIAL SITE, THE TOTAL AREA, EXCEPT BUILDING, WILL BE GRAVELED. WATER SHED FROM SITE WILL BE CARRIED TO THE ORIGINAL DRAINAGES, AND DISPERSED TO NATURAL CHANNELS TO AVOID EROSION.

IN THAT THIS SITE WILL BE MY HOME, ALL STEPS WILL BE TAKEN TO INSURE THAT DESIGN INTEGRITY WILL BE ADHERED TO FOR ENVIRONMENT AND WILDLIFE HABITAT.





Richard D. Lamm  
Governor

DEPARTMENT OF NATURAL RESOURCES

David H. Getches, Executive Director



**MINED LAND RECLAMATION DIVISION**

DAVID C. SHELTON, Director



INCOMPLETE  
LETTER

January 11, 1985

Mr. Jim Helmericks  
400 E. 32nd  
Durango, CO 81301

Re: 110 Application, J&J Pit  
File No. M-85-001

Dear Mr. Helmericks:

Upon reviewing your application for a Mining and Reclamation Permit, dated January 3, 1985, the staff has determined that it is incomplete under the Colorado Mined Land Reclamation Act, Article 32 of Title 34, C.R.S. 1973, as amended (1976 Session Laws, House Bill 1065).

The following items must be submitted in order for the application to be considered as filed (pursuant to the MLRB definition of "filed", as found in Rule 1.1(10) of the Rules and Regulations of the Mined Land Reclamation Board, as amended, effective July, 1978):

Exhibit C

The map you have submitted does not define or indicate the permit boundaries. Please submit a more detailed map, locating the permit boundary, topsoil stockpiles, pit boundaries, onsite stationary equipment, etc.

Exhibit D

The Division appreciates you contacting the Division of Water Resources, the Division of Wildlife, and the Soil Conservation Service. The Division also feels that any information from these agencies should be supplied in your permit application. Please submit the appropriate information concerning vegetation and soils, wildlife, and water resources.

Exhibit E

The information you have submitted does not describe topsoil salvage, handling, stockpiling and reseedling. Be aware that the Division will not recommend approval of slopes steeper than 2 horizontal to 1 vertical (2h:1v). State specifically the seed mix to be planted. If you are planning to build on the site, and that is to be part of your reclamation plan, the Board usually requires a copy of the building permit for verification.



January 11, 1985

Exhibit F

Once your application is deemed complete, the Division will send a letter to La Plata County to determine if you are in compliance with local zoning. However, you may request the county to write a letter on your behalf indicating the status of your application with them. This could then be submitted as part of your application. Please state the date you expect local approval and whom you have contacted at La Plata County.

Exhibit H

Please calculate and itemize your anticipated reclamation costs in detail, or the Division will recommend a \$5000.00 Financial Warranty. After Board approval of your application, performance and financial warranty must be submitted and in order prior to the Division issuing a mining and reclamation permit. Performance Warranty and Financial Warranty forms will be sent to you upon request. Please refer to Rule 7 of CMLRB Rules and Regulations.

Another item of concern is that the land you have been mining is most likely wildlife habitat, not wasteland. Your photograph also indicates that it is wooded. If it is a zoned land use, the Division should be made aware of this. Please specify the land use.

Also, please be aware that the CMLRB Regulations can be purchased from our office for \$2.00. In reviewing the regulations, you will note that public notice is required, once you have resubmitted your application and it is deemed complete.

If you have any questions concerning this matter, please feel free to call this office.

Sincerely,



Philip C. Saletta  
Hydrologist/Geological Engineer

PCS/md

cc: La Plata County Planning Department

Doc. No. 6693

**HELMERICKS CONSTRUCTION**

OLD TIME VALUE THE MODERN WAY

RE. J &amp; J PIT PERMIT

PHILLIP SALETTA  
M.L.E.D.

RECEIVED

JAN 21 1965

THINED LAND RECLAMATION DIVISION  
Colo. Dept. of Natural Resources

DEAR PHIL,

PLEASE FIND ENCLOSED YOUR REQUESTED INFO.

- 1.) WILDLIFE EVALUATION STATEMENT
- 2.) MAPS WITH PERMIT BOUNDRIES AND STOCK PILE AREAS DRAWN IN
- 3.) PERMIT AREA SITE RECLAMATION PLAN FROM THE SOIL CONSERVATION SERVICE.
- 4.) STATEMENT FROM LA PLATA COUNTY PLANNING COMMISSION LAND USE ADMINISTRATOR.

THIS PERMIT AREA IS TYPICALLY DRY AND IS WILDLIFE HABITAT. IF I DO NOT DEVELOP THIS AS A COMMERCIAL SITE, I WILL THEN RECLAIM IT ACCORDING TO THE SITE RECLAMATION PLAN PROVIDE BY DAN LYNN OF THE SOIL CONSERVATION SERVICE. SLOPES WILL BE NO STEEPER THAN 2:1 ESTIMATED COST TO RECLAIM IS 2,500.00, WHICH IS BASED ON SEED COST @ 2.00/LB. TREATMENT = 20 LBS/ACRE, AN COST/ACRE = 40.00 SEED

CO-ECS-5  
6/82  
(180-12-11)

U.S. Department of Agriculture  
Soil Conservation Service

PART I - GRASS SEEDING PLANNED

Planner: Dan Lynn Date: 1-18-85  
Producer: J&J Pitt

Contract or Agreement # \_\_\_\_\_

1. Field No. \_\_\_\_\_ Ac. \_\_\_\_\_ Contract Item No. \_\_\_\_\_ Practice No. and Name 550, Range seeding  
Land Resource Area 48A Irrigated \_\_\_\_\_ Dryland X Range Site PJ Woodland, Loamy Foothills

2. Planned:

Seedbed Prep: (a) Method Disc, smooth Seeding Operation: (a) Method: drill  
(b) Approximate dates November, December interseed \_\_\_\_\_  
(c) Clean tilled \_\_\_\_\_ broadcast \_\_\_\_\_  
Firm seedbed \_\_\_\_\_  
Stubble cover \_\_\_\_\_  
Interseed \_\_\_\_\_  
Other \_\_\_\_\_  
(b) Drill spacing 6-8" (c) Date Nov, Dec.  
Type \_\_\_\_\_ (d) planting depth 1"

Fertilizer: 200# actual N, 40# actual  $P_2O_5$

Pounds actual per acre N \_\_\_\_\_  
(available)  $P_2O_5$  \_\_\_\_\_  
K \_\_\_\_\_

Weed Control: Mowed

Mowing: \_\_\_\_\_  
Chemical: \_\_\_\_\_ Type & Amount: \_\_\_\_\_  
Dates: \_\_\_\_\_

Mulch:

Kind: N/A  
Amount: \_\_\_\_\_ pounds/Ac  
How-applied: \_\_\_\_\_  
How-anchored: \_\_\_\_\_  
Anchorage depth: \_\_\_\_\_

Seed:

Variety	Species	(1) Required PLS rates per acre (100%)	(2) % of species in mixture
<u>Barton</u>	<u>Western Wheat</u>	<u>8</u>	<u>30</u>
<u>Commercial</u>	<u>Indian rice</u>	<u>6</u>	<u>30</u>
<u>Osage</u>	<u>Int. wheat</u>	<u>10</u>	<u>20</u>
<u>Commercial</u>	<u>Needle &amp; Inread</u>	<u>7 1/2</u>	<u>20</u>
	<u>Mt. Mahogany</u>	<u>add 1/2 pound</u>	<u>*</u>

(3) PLS seeding rate per species/Ac. (1)x(2)	(4) Planned Acres	(5) Total PLS lbs/ species planned (3)x(4)
<u>2.4</u>	<u>10</u>	<u>24</u>
<u>1.8</u>	<u>10</u>	<u>18</u>
<u>2.0</u>	<u>10</u>	<u>20</u>
<u>1.5</u>	<u>10</u>	<u>15</u>
<u>.5</u>	<u>10</u>	<u>5</u>

Remarks: \_\_\_\_\_