

COST SUMMARY WORK

Task description: AM2 Financial Warrantty Estimate

Site: Camilletti Pit

Permit Action: AM2

Permit/Job#: M1987164

PROJECT IDENTIFICATION

Task #: 000

State: Colorado

Abbreviation: None

Date: 1/29/2014

County: Routt

Filename: M164-000

User: DMC

Agency or organization name: DRMS

TASK LIST (DIRECT COSTS)

Task	Description	Form Used	Fleet Size	Task Hours	Cost
01a	Demolition of asphalt plant and support facilities	DEMOLISH	1	40.00	\$30,744.29
02a	Transport backfill material to highwalls in Phase 1 area	LOADER	2	58.64	\$16,151.00
03a	Establish 3H:1V slopes in Phase 1 area	DOZER	2	31.00	\$12,285.70
04a	Rip pit floor in Phase 1 area	RIPPER	1	5.12	\$1,082.00
05a	Transport topsoil from stockpiles	LOADER	2	103.31	\$48,573.00
06a	Distribute topsoil	DOZER	2	27.70	\$10,976.21
07a	Revegetate Camilletti Hay Meadows	REVEGE	1	20.00	\$50,918.63
07b	Revegetate Phase 1 Dryland Pasture	REVEGE	1	20.00	\$14,898.38
08a	Mobilize reclamation crew and equipment	MOBILIZE	1	4.22	\$5,572.61
<u>SUBTOTALS:</u>				309.99	\$191,201.82

INDIRECT COSTS

OVERHEAD AND PROFIT:

Liability insurance: 2.02%

Total = \$3,862.28

Performance bond: 1.05%

Total = \$2,007.62

Job superintendent: 154.99 hrs

Total = \$10,137.90

Profit: 10.00%

Total = \$19,120.18

TOTAL O & P = \$35,127.98

CONTRACT AMOUNT (direct + O & P) = \$226,329.80

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: 5.00%

\$11,316.49

CONTINGENCY: 0.00

Total = \$0.00

TOTAL INDIRECT COST = \$46,944.47

TOTAL BOND AMOUNT (direct + indirect) = \$238,146.29

DEMOLITION WORK

Task description: Demolition of asphalt plant and support facilities

Site: Camilletti Pit

Permit Action: AM2

Permit/Job#: M1987164

PROJECT IDENTIFICATION

Task #: 01A

State: Colorado

Abbreviation: None

Date: 1/29/2014

County: Routt

Filename: 8716401a

User: DMC

Agency or organization name: DRMS

UNIT COSTS

Location adjustment: 91.30 %

Structure or Item Description	Dimensions	Demolition Menu Selection	Quantity	Unit	Unit Cost	Total Cost
Asphalt plant structures	30,000 c.f.	Plant (3S) demo./off-site disposal in approved landfill - Max. 15 mile haul	30,000.00	CF	\$1.08	\$32,460.00
Scale/load out ramp	360	Demo. and on-site disposal in excavated pit, 12 in. thick - Max. 50 ft. push	360.00	SF	\$3.37	\$1,213.92

Job Hours: 40.00

Subtotal
(unadjusted): \$33,673.92

Total Cost
(adjusted for location): \$30,744.29

WHEEL LOADER – LOAD AND CARRY WORKTask description: Transport backfill material to highwalls in Phase 1 areaSite: Camilletti PitPermit Action: AM2Permit/Job#: M1987164**PROJECT IDENTIFICATION**Task #: 02AState: ColoradoAbbreviation: NoneDate: 7/29/2011County: RouttFilename: M164-02aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 980HAttachment 1: ROPS CabHorsepower: 315Shift Basis: 2 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$27.56	NA
Operating Cost/Hour:	\$74.19	100
Operator Cost/Hour:	\$35.97	NA
Total Unit Cost/Hour:	\$137.71	
Total Fleet Cost/Hour:	\$275.42	

MATERIAL QUANTITIESInitial volume: 28,333

CCY

Swell factor: 1.124Loose volume: 31,835

LCY

Source of estimated volume: Onsite observationsSource 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:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(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:		-0.060	minutes
Adjusted Basic Cycle Time:		0.490	minutes

Rolling Resistance – Road ConditionsHaul: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Return: Rutted dirt, little maintenance, no water, 1" tire penetration 4.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	500	0.00	5.00	5.00	0.4420	(Cat HB)
Return Route:	500	0.00	4.00	4.00	0.3773	(Cat HB)

Total Travel Time: 0.8193 minutes
 Total Cycle Time: 1.3093 minutes

Load Bucket Capacity

Rated Capacity: 7.50 LCY (heaped)
 Bucket Fill Factor: 0.975 Loose material - uniform aggregates to 1/8" (95-100%) 0.975
 Adjusted Capacity: 7.31 LCY

Job Condition Correction Factors

Site Altitude: 6500 feet

Altitude Adj:	<u>1.00</u>	Source
Job Efficiency:	<u>0.81</u>	(CAT HB)
Net Correction:	<u>0.81</u>	(2 shifts/day)
		multiplier

Unadjusted Hourly Unit Production: 335.10 LCY/Hour
 Adjusted Hourly Unit Production: 271.43 LCY/Hour
 Adjusted Hourly Fleet Production: 542.87 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Loader(s) Total job time: 58.64 Hours
 Unit cost: \$0.507 /LCY Total job cost: \$16,151.00

BULLDOZER WORKTask description: Establish 3H:1V slopes in Phase 1 areaSite: Camilletti PitPermit Action: AM2Permit/Job#: M1987164**PROJECT IDENTIFICATION**Task #: 03AState: ColoradoAbbreviation: NoneDate: 7/29/2011County: RouttFilename: M164-03aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8UHorsepower: 310Blade Type: UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$56.69	NA
Operating Cost/Hour:	\$104.06	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: \$198.16Total Fleet Cost/Hour: \$396.32**MATERIAL QUANTITIES**Initial Volume: 28,333Swell factor: 1.124Loose volume: 31,835 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,627.0 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 15 %Average site altitude: 6,500 feetMaterial weight: 2,900 lbs/LCYWeight description: Sand and gravel - Dry**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(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:	0.666	(CAT HB)
Altitude:	1.000	(CAT HB)
Material Weight:	0.793	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.3156

Adjusted unit production: 513.48 LCY/hr

Adjusted fleet production: **1026.96** LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.386/LCY

Total job time: **31.00** Hours

Total job cost: **\$12,285.70**

BULLDOZER RIPPING WORK

Task description: Rip pit floor in Phase 1 area

Site: Camilletti Pit

Permit Action: AM2

Permit/Job#: M1987164

PROJECT IDENTIFICATION

Task #: 04A

State: Colorado

Abbreviation: None

Date: 7/29/2011

County: Routt

Filename: M164-04a

User: DMC

Agency or organization name: DRMS

HOURLY EQUIPMENT COST

Basic Machine: Cat D8T - 8U

Horsepower: 310

Ripper Attachment: 3-Shank Ripper

Shift Basis: 1 per day

Data Source: (CRG)

Cost Breakdown:

		Utilization %
Ownership Cost/Hour:	\$63.00	NA
Operating Cost/Hour:	\$104.06	100
Ripper Operating Cost/Hour:	\$6.53	100
Operator Cost/Hour:	\$37.41	NA
Total Unit Cost/Hour:	\$211.01	
Total Fleet Cost/Hour:	\$211.01	

MATERIAL QUANTITIES

Selected estimating method: Area

Alternate Methods:

Seismic: NA

Bank Volume: NA

BCY NA

Area: 3.50 acres

Rip Depth (ft): 2.00

Volume: 11,293 BCY or CCY

Source of estimated quantity: Site maps

HOURLY PRODUCTION

Seismic:

Seismic Velocity: NA feet/second

Area:

Average Ripping Depth:	<u>2.56</u>	mph
Average Ripping Width:	<u>7.08</u>	degrees
Average Ripping Length:	<u>500.00</u>	feet
Average Dozer Speed:	<u>88.00</u>	feet
Average Maneuver Time:	<u>0.25</u>	feet
Production per unit area:	<u>0.822</u>	acres/hour

Job Condition Correction Factors

Unadjusted Hourly Unit Production: 0.822 Acres/hr

Site Altitude: 6,500 feet

Altitude Adj: 1.00 (CAT HB)

Job Efficiency: 0.83 (1 shift/day)

Net Correction: 0.83 multiplier

Adjusted Hourly Unit Production: 0.68 Acres/hr

Adjusted Hourly Fleet Production: 0.68 Acres/hr

JOB TIME AND COST

Fleet size: 1 Grader(s) Total job time: 5.13 Hours

Unit cost: \$309.276 Per acre Total job cost: \$1,082.00

WHEEL LOADER – LOAD AND CARRY WORKTask description: Transport topsoil from stockpilesSite: Camilletti PitPermit Action: AM2Permit/Job#: M1987164**PROJECT IDENTIFICATION**Task #: 05AState: ColoradoAbbreviation: NoneDate: 7/29/2011County: RouttFilename: M164-05aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: CAT 988HAttachment 1: ROPS CabHorsepower: 475Shift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		Utilization %
Ownership Cost/Hour:	\$82.23	NA
Operating Cost/Hour:	\$117.03	100
Operator Cost/Hour:	\$35.82	NA
Total Unit Cost/Hour:	\$235.07	
Total Fleet Cost/Hour:	\$470.14	

MATERIAL QUANTITIESInitial volume: 77,440

CCY

Swell factor: 1.000Loose volume: 77,440

LCY

Source of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION****Loader Cycle Time:** Unadjusted Basic Cycle Time (load, dump, maneuver): 0.575 minutes

Cycle Time Factors		Factor (min.)	Source
Material:	Material up to 1/8" diameter 0.02	0.020	(Cat HB)
Stockpile:	Conveyor or dozer piled 10 ft. high and up 0.00	0.000	(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:		-0.060	minutes
Adjusted Basic Cycle Time:		0.515	minutes

Rolling Resistance – Road ConditionsHaul: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0Return: Rutted dirt, little maintenance, no water, 2" tire penetration 5.0**Haul and Return Time**

	Length (feet)	Grade Res. (%)	Rolling Res. (%)	Total Res. (%)	Travel Time (minutes)	Source
Haul Route:	500	0.00	5.00	5.00	0.3662	(Cat HB)
Return Route:	500	0.00	5.00	5.00	0.3107	(Cat HB)

Total Travel Time: 0.6769 minutes
 Total Cycle Time: 1.1919 minutes

Load Bucket Capacity

Rated Capacity: 9.20 LCY (heaped)
 Bucket Fill Factor: 0.975 Loose material - uniform aggregates to 1/8" (95-100%) 0.975
 Adjusted Capacity: 8.97 LCY

Job Condition Correction Factors

Site Altitude: 6500 feet

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

Unadjusted Hourly Unit Production: 451.54 LCY/Hour
 Adjusted Hourly Unit Production: 374.77 LCY/Hour
 Adjusted Hourly Fleet Production: 749.55 LCY/Hour

JOB TIME AND COST

Fleet size: 2 Loader(s) Total job time: 103.32 Hours
 Unit cost: \$0.627 /LCY Total job cost: \$48,573.00

BULLDOZER WORKTask description: Distribute topsoilSite: Camilletti PitPermit Action: AM2Permit/Job#: M1987164**PROJECT IDENTIFICATION**Task #: 06AState: ColoradoAbbreviation: NoneDate: 7/29/2011County: RouttFilename: M164-06aUser: DMCAgency or organization name: DRMS**HOURLY EQUIPMENT COST**Basic Machine: Cat D8T - 8UHorsepower: 310Blade Type: UniversalAttachment: NAShift Basis: 1 per dayData Source: (CRG)**Cost Breakdown:**

		<u>Utilization %</u>
Ownership Cost/Hour:	\$56.69	NA
Operating Cost/Hour:	\$104.06	100
Ripper op. Cost/Hour:	\$0.00	0
Operator Cost/Hour:	\$37.41	NA

Total unit Cost/Hour: \$198.16Total Fleet Cost/Hour: \$396.32**MATERIAL QUANTITIES**Initial Volume: 77,440Swell factor: 1.000Loose volume: 77,440 LCYSource of estimated volume: Division of Reclamation, Mining & SafetySource of estimated swell factor: Cat Handbook**HOURLY PRODUCTION**Average push distance: 50 feetUnadjusted hourly production: 1,627.0 LCY/hrMaterials consistency description: Loose stockpile 1.2Average push gradient: 0 %Average site altitude: 6,500 feetMaterial weight: 1,600 lbs/LCYWeight description: Top Soil**Job Condition Correction Factor**

		<u>Source</u>
Operator Skill:	0.750	(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:	1.438	(CAT HB)
Blade type:	1.000	(PAT)

Net correction: 0.8593

Adjusted unit production: 1,398.08 LCY/hr

Adjusted fleet production: 2796.16 LCY/hr

JOB TIME AND COST

Fleet size: 2 Dozer(s)

Unit cost: \$0.142/LCY

Total job time: 27.70 Hours

Total job cost: \$10,976.21

REVEGETATION WORKTask description: Revegetate Camilletti Hay MeadowsSite: Camilletti PitPermit Action: AM2Permit/Job#: M1987164PROJECT IDENTIFICATIONTask #: 07AState: ColoradoAbbreviation: NoneDate: 7/29/2011County: RouttFilename: M164-07aUser: DMCAgency or organization name: DRMSFERTILIZINGMaterials

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

Application

Description	Cost /Acre
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Alfalfa - Common	3.00	14.46	\$7.65
Smooth Brome - Manchar	1.63	5.43	\$3.21
Totals Seed Mix	4.63	19.89	\$10.86

Application

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

Total Seed Application Cost/Acre	\$88.20
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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
Total Mulch Application Cost/Acre	\$65.89

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: 43.42
 Estimated Failure Rate: 25%
 *Selected Replanting Work Items: TILLING, SEEDING, MULCHING
 Initial Job Cost: **\$40,734.91**
 Reseeding Job Cost: **\$10,183.73**
 Total Job Cost: **\$50,918.63**
 Job Hours: 20.00

Cost /Acre: \$938.16
 Cost /Acre*: \$938.16

REVEGETATION WORKTask description: Revegetate Phase 1 Dryland PastureSite: Camilletti PitPermit Action: AM2Permit/Job#: M1987164PROJECT IDENTIFICATIONTask #: 07BState: ColoradoAbbreviation: NoneDate: 1/29/2014County: RouttFilename: M164-07bUser: DMCAgency or organization name: DRMSFERTILIZINGMaterials

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

Application

Description	Cost /Acre
	\$
Total Fertilizer Application Cost/Acre	\$0.00

TILLING

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

SEEDING

Seed Mix	Rate – PLS LBS / Acre	Seeds per SQ. FT	Cost /Acre
Smooth Brome - Manchar	6.50	21.64	\$12.81
Pubescent Wheatgrass - Luna	7.00	14.46	\$15.68
Totals Seed Mix	13.50	36.10	\$28.49

Application

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

Total Seed Application Cost/Acre	\$88.20
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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
Total Mulch Application Cost/Acre	\$65.89

NURSERY STOCK PLANTING

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

JOB TIME AND COST

No. of Acres:	12.47	Cost /Acre:	\$955.79
Estimated Failure Rate:	25%	Cost /Acre*:	\$955.79
*Selected Replanting Work Items:	TILLING, SEEDING, MULCHING		
Initial Job Cost:	\$11,918.70		
Reseeding Job Cost:	\$2,979.68		
Total Job Cost:	\$14,898.38		
Job Hours:	20.00		

EQUIPMENT MOBILIZATION/DEMOBILIZATIONTask description: Mobilize reclamation crew and equipmentSite: Camilletti PitPermit Action: AM2Permit/Job#: M1987164**PROJECT IDENTIFICATION**Task #: 08AState: ColoradoAbbreviation: NoneDate: 7/29/2011County: RouttFilename: M164-08aUser: DMCAgency or organization name: DRMS**EQUIPMENT TRANSPORT RIG COST**Shift basis: 1 per dayCost Data Source: CRG DataTruck 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 D8R Series II - 8U (2005)	53.17	\$45.97	\$125.45	2	\$342.83	\$250.90	\$500.00
CAT 980G (2001)	32.70	\$34.37	\$117.55	2	\$303.83	\$235.10	\$500.00
Drill/Broadcast Seeder with Tractor	25.00	\$39.59	\$88.67	1	\$128.26	\$88.67	\$250.00

Subtotals: **\$774.92** **\$574.67** **\$1,250.00****ROADABLE EQUIPMENT:**

Machine Description	Total Cost/hr/ unit	Fleet Size	Haul Trip Cost/hr/ fleet	Return Trip Cost/hr/ fleet
Light Duty Pickup, 4x4, 1 T. Crew	\$20.91	1	\$20.91	\$20.91

Subtotals: **\$20.91** **\$20.91**

EQUIPMENT HAUL DISTANCE and Time

Nearest Major City or Town within project area region:	STEAMBOAT SPRINGS	
Total one-way travel distance:	25.00	miles
Average Travel Speed:	45.00	mph

Total Non-Roadable Mob/Demob Cost *	\$5,549.38
* two round trips with haul rig:	
Total Roadable Mob/Demob Cost **	\$23.23
** one round trip, no haul rig:	

Transportation Cycle Time:

	Non-Roadable Equipment	Roadable Equipment
Haul Time (Hours):	0.56	0.56
Return Time (Hours):	0.56	0.56
Loading Time (Hours):	0.50	NA
Unloading Time (Hours):	0.50	NA
Subtotals:	2.11	1.11

JOB TIME AND COST

Total job time:	4.22	Hours
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Total job cost:	\$5,572.61
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