

Palmer Project - Exploration Plan of Operations
RECLAMATION COST ESTIMATE WORKSHEETS
Total Disturbance Summary

Disturbance Component	Current Authorized NOI	under	Proposed under Plan	Total
	(Acres)		(Acres)	(Acres)
Helicopter-Supported Drilling with timber-frame drill pads	0.25		0.50	0.75
Linear Exploration Road	3.00		3.95	6.95
Equipment Laydown Area	0.60		1.47	2.07
Weather Station Area	0.10		-	0.10
Vehicular Modular Bridge	-		-	-
Switchback Exploration Road Greater Area	-		26.34	26.34
Road Pullouts	0.10		1.94	2.04
Borrow Pits	-		0.20	0.20
Rock Stockpiles (East and West)	None		2.67	2.67
Total	4.05		37.07	41.12

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RECLAMATION COST ESTIMATE WORKSHEETS
Financial Guarantee Total

FINANCIAL GUARANTEE AMOUNT	Total
Drill Pad Reclamation & Hole Plugging	\$65,938
Road/Borrow Pit/Rock Stockpile Reclamation	\$276,243
Laydown Area Equipment Removal	\$7,125
FINANCIAL GUARANTEE AMOUNT	\$349,306

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RECLAMATION COST ESTIMATE WORKSHEETS
Drill Pad and Hole Plugging

Activity	unit cost	units	cost
Task 1: Reclaim Timber-Frame Drill Pads (20)			
Disassemble and prepare sling loads*	\$250.00 /hour	40	\$10,000
Move crew & sling timbers to equipment laydown area via helicopter	\$1,900.00 /hour	10	\$19,000
Transport timbers off Project area	\$500.00 /truck	1	\$500
Tools including prybars, chain saws, etc.	\$10.00 /hour	40	\$400
Revegetation (if required)	\$993.60 /acre	0.50	\$497
TOTAL			\$30,397
Task 2: Plug Open Drill Holes (40)			
Plug hole and cut casing to ground level	\$250.00 /hour	40	\$10,000
Bentonite holeplug consumables	\$2.40 /foot	80	\$192
Tools for cutting casing and manually installing holeplug	\$10.00 /hour	40	\$400
Fly crew and supplies to and from drill sites	\$1,900.00 /hour	4	\$7,600
TOTAL			\$18,192
Mobilization/Demobilization			
Helicopter **	\$1,900.00 /hour	2	\$3,800
TOTAL			\$3,800
TOTAL RECLAMATION COST			\$52,389
TOTAL LABOR COST (30% OF RECLAMATION COST)			\$15,717
ADMINISTRATION COSTS			
Contractor profit (10% of reclamation cost)			\$5,239
Insurance (1.5% of labor cost)			\$236
Bond (3% of contract cost + insurance + profit)			\$1,736
Contract administration (10% of reclamation cost)			\$5,239
Indirect cost (21% of contract administration cost)			\$1,100
TOTAL			\$13,550
FINANCIAL GUARANTEE AMOUNT			\$65,938

* 5 person crew - two teams of 2 people per site averaging 4 hours to disassemble and reclaim each site; 1 person to receive sling loads

** A-star helicopter inclusive of fuel & slinging gear mobilized from Juneau with seating capacity for 5 people (rate based on 2015 actual cost)

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RECLAMATION COST ESTIMATE WORKSHEETS
Road and Stockpile Summary

Activity	unit cost	units	cost
Task 1: Reclaim Road from 6.0km to 7.9km			
Load haul trucks (CAT 966 or similar)	\$1,200 /day	21	\$25,200
Haul rock (three CAT 730's or similar)	\$3,750 /day	21	\$78,750
Recontour backfilled road (CAT 330 or similar)	\$1,500 /day	21	\$31,500
Revegetation	\$994 /acre	29.75	\$29,558
TOTAL			\$165,008
Task 2: Reclaim Borrow Pits and Rock Stockpile Sites			
Recontour (CAT 966 or similar)	\$1,200 /day	1	\$1,200
Revegetation	\$994 /acre	2.86	\$2,842
TOTAL			\$4,042
Task 3: Reclaim Road from 4.0km to 6.0km			
Remove culverts (CAT 330 or similar)	\$1,500 /day	1	\$1,500
Remove bridges and abutments (CAT 330 and CAT 966 or similar)	\$2,700 /day	5	\$13,500
Haul bridges to Haines (truck and trailer)	\$1,000 /day	3	\$3,000
Recontour roads (CAT 330 and CAT 966 or similar)	\$2,700 /day	7	\$18,900
Revegetation	\$994 /acre	3.95	\$3,928
TOTAL			\$40,828
Mobilization/Demobilization			
Excavator	\$1,400 /each	1	\$1,400
Truck	\$1,000 /each	3	\$3,000
Loader	\$1,200 /each	1	\$1,200
Set-up fuel station	\$4,000 /each	1	\$4,000
TOTAL			\$9,600
TOTAL RECLAMATION COST			\$219,478
TOTAL LABOR COST (30% OF RECLAMATION COST)			\$65,843
ADMINISTRATION COSTS			
Contractor profit (10% of reclamation cost)			\$21,948
Insurance (1.5% of labor cost)			\$988
Bond (3% of contract cost + insurance + profit)			\$7,272
Contract administration (10% of reclamation cost)			\$21,948
Indirect cost (21% of contract administration cost)			\$4,609
TOTAL			\$56,765
FINANCIAL GUARANTEE AMOUNT			\$276,243

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Laydown Area and Equipment Summary

Activity	unit cost	units	cost
Task 1: Removal of Trailers/Equipment/Fuel from Laydown Area			
Removal of two office trailers	\$500 /truck	2	\$1,000
Removal of portable toilets	\$500 /truck	1	\$500
Removal of fuel & fuel tanks	\$500 /truck	1	\$500
Removal of drill rigs/equipment/supplies by drill contractor	No cost	0.00	-
General labor for site clean-up	\$25 /hour	40.00	\$1,000
Recontour site (CAT 330 and CAT 966 or similar)	\$1,200 /day	1	\$1,200
Revegetation	\$993.60 /acre	1.47	\$1,461
TOTAL			\$5,661
Mobilization/Demobilization			
Heavy equipment mobilization included in Road reclamation estimate	No cost		\$0
TOTAL			\$0
TOTAL RECLAMATION COST			\$5,661
TOTAL LABOR COST (30% OF RECLAMATION COST)			\$1,698
ADMINISTRATION COSTS			
Contractor profit (10% of reclamation cost)			\$566
Insurance (1.5% of labor cost)			\$25
Bond (3% of contract cost + insurance + profit)			\$188
Contract administration (10% of reclamation cost)			\$566
Indirect cost (21% of contract administration cost)			\$119
TOTAL			\$1,464
FINANCIAL GUARANTEE AMOUNT			\$7,125

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RECLAMATION COST ESTIMATE WORKSHEETS
Equipment Rates

Loader	CAT 966	\$1,200 /day
3 trucks @ \$1250/day each	CAT 730	\$3,750 /day
Excavator	CAT 330	\$1,500 /day
Truck and trailer		\$1,000 /day

Based on actual rates for equipment sourced and mobilized from Haines, Alaska

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 Road Backfill Estimate

Volume of rock fill	38000 m3
Capacity of CAT 730 truck	21.4 m3
Number of trips	1776 trips
Average trip length	2.7 km
Average speed	10 km/h
Round trip travel time	16.2 min
Load time	2.0 min
Dump time	1.0 min
Cycle time	19.2 min
Operating hours/day	9.0 hours
Cycles per day	28.1 trips/day
Days (assume 3 trucks)	21.0

Cost:

Loader	\$1,200 /day	21.04534 days	\$25,254
3 trucks @ \$1250/day each	\$3,750 /day	21.04534 days	\$78,920
Excavator	\$1,500 /day	21.04534 days	\$31,568
TOTAL			\$135,742

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 Disturbance Area

	Area (m²)	Area (acres)	
Exploration Drill Sites (40 sites over 5 year period)			
Exploration Access Road			
East Rock Stockpile	4,068	1.01	
4.0km to 6.0km area	16,000	3.95	
6.0km to 7.9km area	120,386	29.75	26.34
West Rock Stockpile	6,699	1.66	
Borrow Pits		0.20	
TOTAL		36.56	

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RECLAMATION COST ESTIMATE WORKSHEETS
BLM Format

Linear Feet of Road at a Side Slope of:	Meters	Cost/Linear Meter	Road Reclamation	Notes	
<30%	1120	Recontouring Cost <30%	\$8.15	\$9,127	2002 cost escalated by 44% to 2015 & by 15% for Alaska work
>30%	880	Recontouring Cost >30%	\$13.04	\$11,475	2002 cost escalated by 44% to 2015 & by 15% for Alaska work
	2000	Revegetation Cost	\$1.09	\$2,173	2002 cost escalated by 44% to 2015 & by 15% for Alaska work
Bridge and Culvert Removal	Units	Cost/Unit	Bridge and Culvert Removal		
	1	6m Bridge Removal Cost	\$3,000	\$3,000	Assumes modular bridges will be removed and hauled to Haines
	1	12.2m Bridge Removal Cost	\$6,100	\$6,100	Assumes modular bridges will be removed and hauled to Haines
	1	18.3m Bridge Removal Cost	\$9,150	\$9,150	Assumes modular bridges will be removed and hauled to Haines
	2	Culvert Removal Cost	\$200	\$400	Assumes culverts will be crushed and buried on site
Acres of Non-Road Disturbance*	Acres	Cost/Acre	Turnout & Laydown Area Reclamation		
	32.61	Recontouring Cost	\$4,306	\$140,399	2002 cost escalated by 44% to 2015 & by 15% for Alaska work
	32.61	Revegetation Cost	\$994	\$32,400	2002 cost escalated by 44% to 2015 & by 15% for Alaska work
Mobilization Cost	Units	Cost/Unit	Mobilization Cost		
	1	Mobilization Cost	\$1,242	\$1,242	2002 cost escalated by 44% to 2015 & by 15% for Alaska work
<u>Total Reclamation Cost</u>					
				\$215,466	
<u>Total Labor Cost</u>					
				\$65,562	Surface Management Handbook, page 6-18
		Insurance	1.5% of Labor Cost	\$983	
		Bond	3% of Contract Cost	\$7,140	
		Contractor Profit	10% of Rec. Cost	\$21,547	
		Contract Admin.	10% of Rec. Cost	\$21,547	
		Indirect Cost Rate	21% of Cont. Admin.	\$4,525	
<u>Total Administration Cost</u>					
				\$55,741	
<u>Financial Guarantee Amount</u>					
				\$271,207	Total Reclamation Cost + Total Administration Cost

*Note: Acreage includes road and bench cuts in disturbance area after 6.0km.

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 Slope Angle

ROAD SIDE SLOPES		
Station (km)	Slope <30% (km)	Slope >30% (km)
4.00 - 4.08	0.08	
4.08 - 4.32		0.24
4.32 - 4.62	0.30	
4.62 - 4.85		0.23
4.85 - 5.09	0.24	
5.09 - 5.20		0.11
5.20 - 5.70	0.50	
5.70 - 6.00		0.30
TOTAL	1.12	0.88

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 Cost Index

Year	Cost Index*		% Increase from 2002 Cost	
	Construction Labor	Machinery & Equipment	Construction Labor	Machinery & Equipment
2002	18.52	151.1	0.0%	0.0%
2003	18.95	153.2	2.3%	1.4%
2004	19.23	158.5	3.8%	4.9%
2005	19.46	168.3	5.1%	11.4%
2006	20.02	175.4	8.1%	16.1%
2007	20.95	179.6	13.1%	18.9%
2008	21.87	185.3	18.1%	22.6%
2009	22.66	191.0	22.4%	26.4%
2010	23.22	191.4	25.4%	26.7%
2011	23.64	197.4	27.6%	30.6%

* Source: Mining Cost Service, InfoMine USA, Inc., July 2012

