0064

Outgoing
C/015/0015

From: Wayne Western
To: Gefferth, John
CC: Christensen, Steve; OGMCOAL
Date: 11/10/2008 2:08 PM
Subject: Escalation
Place: OGMCOAL
Attachments: Memo2008.pdf; Total3021.xls; DEMO3021.xls; Earth3021.xls; REVEG3021.xls

John,

attached is the escalation memo and backup fills for the bond increase.

Please call me if you have any questions.

Wayne

April 4, 2008

TO: General File
Anthony Gallegos, Environmental Scientist
Paul Baker, Environmental Scientist
Lynn Kunzler, Environmental Scientist
Beth Ericksen, Environmental Scientist
Wayne Western, Environmental Scientist

FROM: Daron R. Haddock, Permit Supervisor
James D. Smith, Permit Supervisor

RE: Escalation Factor for 2008 – 3.8%

Following are the index numbers and escalation factor from the Means Historical Cost Index for Site Construction, National Average:

Year	Index	Escalation (3 Year Averages)
2003	119.2	
2004	120.2	1.005
2005	125.0	1.016
2006	131.8	1.032
2007*	134.6	1.038

The escalation factor for bonds estimated from this date forward in 2008 will use the 3.8% escalation factor. The escalation factor was calculated from the Historic Cost Index for Site Construction.

*The Division modified the method for calculating escalation. The base is 2004 and the escalation factor will be over the period from 2005 to 2007. Before then the Division used a weighted average of the three years.

cc: Daron Haddock
Susan White
O:\Cost\Memo2008.doc

Bonding Calculations

Direct Costs		
Subtotal Demolition and Removal	$206,015.00	
Subtotal Backfilling and Grading	$1,495,322.00	
Subtotal Revegetation	$596,753.00	
Direct Costs	$2,298,090.00	
Indirect Costs		
Mob/Demob	$229,809.00	10.0%
Contingency	$114,905.00	5.0%
Engineering Redesign	$57,452.00	2.5%
Main Office Expense	$156,270.00	6.8%
Project Mainagement Fee	$57,452.00	2.5%
Subtotal Indirect Costs	$615,888.00	26.8%
Total Cost	$2,913,978.00	
Escalation factor		0.038
Number of years		5
Escalation	$597,363.00	
Reclamation Cost Escalated	$3,511,341.00	
Bond Amount (rounded to nearest $1,000) 2013 Dollars	$3,511,000.00	
Bond Posted 2004 dollars	$2,648,000.00	
Difference Between Cost Estimate and Bond	-$863,000.00	
Percent Difference	-24.58%	

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Rescue Training Pad 47																			
	Structure's Demolition Cost																			
	Structure's Vol. Demolished																			
	Rubble's Weight (exclude steel)																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Non Steel Truck																			
	Transportation Cost Non Steel Drive																			
	Disposal Cost Non Steel																			
	Steel's Weight																			
	Truck's Capacity																			
	Haulage																			
	Transportation Cost Steel Truck																			
	Transportation Cost Steel Truck Drive																			
	Disposal Cost Steel																			
	Subtotal																			
	Equipment 's Disposal Cost																			
	Dismantling Cost																			
	Equipment 's Vol. Demolished																			
	Loading Costs																			
	Transport Costs																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost	Concrete demolition	ConcreteDemo1	9.92	/CY	37	47	0.33								ft		21	CY	208
	Concrete's Vol. Demolished																1.3	27	CY	
	Loading Cost	Front end loader 3 CY	31 23 16 42 1300	1.59	/CY													27	CY	43
	Transportation Cost	12 CY (16 Ton) Dump Truck 1/2 mi. rnd. tri	31 23 23 18 0320	3.73	/CY													27	CY	101
	Disposal Costs	Disposal on site	02 41 16 17 4200	8.8	/CF													27	CY	238
	Subtotal																			590
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Concrete Demolition																			
	Demolition Cost																			
	Concrete's Vol. Demolished																			
	Loading Cost																			
	Transportation Cost																			
	Disposal Costs																			
	Subtotal																			
	Total																			590

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Backfill and Grade Portal Area 01															173692
Coal Fines Removal 02															127774
Coal Mine Waste 03															188765
Coal Mine Waste 03a															320947
Roadside Berms 04															7654
Dike Improvements 05															14842
Pond No One 06															87889
Pond No Two 07															14842
Pond No Three 08															1624
Pond No Four 09															17160
Pond No Five 10															7190
Pond No Six 11															42900
Pond No 1 Road 12															696
Pump No 1 Road 13															929
Tank Road 14															929
MineYardRoads15															8813
The 4th East Portal 16															478676
Total															1495322

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Backfill and Grade Portal Area 01															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	52600	CY	702	CY/HR	74.9	HR	110530
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					74.9	HR	15479
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					74.9	HR	19260
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					74.9	HR	9476
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					74.9	HR	8908
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					74.9	HR	1691
CLAB					47.05	1	47.05	$/HR					74.9	HR	3524
Foreman Average, Outside					64.4	1	64.4	$/HR					74.9	HR	4824
Subtotal															173692

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Coal Fines Removal 02															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	38700	CY	702	CY/HR	55.1	HR	81311
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					55.1	HR	11387
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					55.1	HR	14168
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					55.1	HR	6971
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					55.1	HR	6553
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					55.1	HR	1244
CLAB					47.05	1	47.05	$/HR					55.1	HR	2592
Foreman Average, Outside					64.4	1	64.4	$/HR					55.1	HR	3548
Subtotal															127774

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Backfilling and Regrading															
Coal Mine Waste 03															
Task 2929															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	57110	CY	702	CY/HR	81.4	HR	120122
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					81.4	HR	16822
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					81.4	HR	20931
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					81.4	HR	10299
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					81.4	HR	9681
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					81.4	HR	1838
CLAB					47.05	1	47.05	$/HR					81.4	HR	3830
Foreman Average, Outside					64.4	1	64.4	$/HR					81.4	HR	5242
Subtotal															188765

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Excavate Coal Mine Waste Site															
Coal Mine Waste 03a															
Task 2929															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	97130	CY	702	CY/HR	138.4	HR	204237
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					138.4	HR	28602
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					138.4	HR	35588
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					138.4	HR	17510
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					138.4	HR	16460
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					138.4	HR	3125
CLAB					47.05	1	47.05	$/HR					138.4	HR	6512
Foreman Average, Outside					64.4	1	64.4	$/HR					138.4	HR	8913
Subtotal															320947

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Roadside Berms 04															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	2300	CY	702	CY/HR	3.3	HR	4870
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					3.3	HR	682
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					3.3	HR	849
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					3.3	HR	418
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					3.3	HR	392
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					3.3	HR	75
CLAB					47.05	1	47.05	$/HR					3.3	HR	155
Foreman Average, Outside					64.4	1	64.4	$/HR					3.3	HR	213
Subtotal															7654

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Dike Improvements 05															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	4500	CY	702	CY/HR	6.4	HR	9444
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					6.4	HR	1323
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					6.4	HR	1646
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					6.4	HR	810
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					6.4	HR	761
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					6.4	HR	145
CLAB					47.05	1	47.05	$/HR					6.4	HR	301
Foreman Average, Outside					64.4	1	64.4	$/HR					6.4	HR	412
Subtotal															14842

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pond No One 06															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	26600	CY	702	CY/HR	37.9	HR	55929
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					37.9	HR	7832
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					37.9	HR	9746
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					37.9	HR	4795
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					37.9	HR	4507
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					37.9	HR	856
CLAB					47.05	1	47.05	$/HR					37.9	HR	1783
Foreman Average, Outside					64.4	1	64.4	$/HR					37.9	HR	2441
Subtotal															87889

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pond No Two 07															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	4500	CY	702	CY/HR	6.4	HR	9444
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					6.4	HR	1323
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					6.4	HR	1646
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					6.4	HR	810
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					6.4	HR	761
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					6.4	HR	145
CLAB					47.05	1	47.05	$/HR					6.4	HR	301
Foreman Average, Outside					64.4	1	64.4	$/HR					6.4	HR	412
Subtotal															14842

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pond No Three 08															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	500	CY	702	CY/HR	0.7	HR	1033
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					0.7	HR	145
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					0.7	HR	180
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					0.7	HR	89
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					0.7	HR	83
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					0.7	HR	16
CLAB					47.05	1	47.05	$/HR					0.7	HR	33
Foreman Average, Outside					64.4	1	64.4	$/HR					0.7	HR	45
Subtotal															1624

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pond No Four 09															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	5200	CY	702	CY/HR	7.4	HR	10920
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					7.4	HR	1529
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					7.4	HR	1903
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					7.4	HR	936
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					7.4	HR	880
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					7.4	HR	167
CLAB					47.05	1	47.05	$/HR					7.4	HR	348
Foreman Average, Outside					64.4	1	64.4	$/HR					7.4	HR	477
Subtotal															17160

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pond No Five 10															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	2200	CY	702	CY/HR	3.1	HR	4575
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					3.1	HR	641
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					3.1	HR	797
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					3.1	HR	392
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					3.1	HR	369
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					3.1	HR	70
CLAB					47.05	1	47.05	$/HR					3.1	HR	146
Foreman Average, Outside					64.4	1	64.4	$/HR					3.1	HR	200
Subtotal															7190

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pond No Six 11															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	13000	CY	702	CY/HR	18.5	HR	27300
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					18.5	HR	3823
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					18.5	HR	4757
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					18.5	HR	2341
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					18.5	HR	2200
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					18.5	HR	418
CLAB					47.05	1	47.05	$/HR					18.5	HR	870
Foreman Average, Outside					64.4	1	64.4	$/HR					18.5	HR	1191
Subtotal															42900

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pond No 1 Road 12															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	200	CY	702	CY/HR	0.3	HR	443
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					0.3	HR	62
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					0.3	HR	77
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					0.3	HR	38
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					0.3	HR	36
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					0.3	HR	7
CLAB					47.05	1	47.05	$/HR					0.3	HR	14
Foreman Average, Outside					64.4	1	64.4	$/HR					0.3	HR	19
Subtotal															696

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Pump No 1 Road 13															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	300	CY	702	CY/HR	0.4	HR	590
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					0.4	HR	83
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					0.4	HR	103
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					0.4	HR	51
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					0.4	HR	48
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					0.4	HR	9
CLAB					47.05	1	47.05	$/HR					0.4	HR	19
Foreman Average, Outside					64.4	1	64.4	$/HR					0.4	HR	26
Subtotal															929

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading Tank Road 14															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	300	CY	702	CY/HR	0.4	HR	590
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					0.4	HR	83
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					0.4	HR	103
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					0.4	HR	51
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					0.4	HR	48
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					0.4	HR	9
CLAB					47.05	1	47.05	$/HR					0.4	HR	19
Foreman Average, Outside					64.4	1	64.4	$/HR					0.4	HR	26
Subtotal															929

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
Emery Deep Mine Backfilling and Grading MineYardRoads15															
627G EROPS (9-49) (2nd2007)	14970	83.9	0.1	60.1	245.95	6	1475.7	$/HR	2700	CY	702	CY/HR	3.8	HR	5608
D7N DS XR Series II (9-51) (2nd 2007)	13145	58.55	0.1	60.1	206.66	1	206.66	$/HR					3.8	HR	785
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR					3.8	HR	977
12H EROPS (9-11)(2H2007)	5585	28.65	0.1	60.1	126.52	1	126.52	$/HR					3.8	HR	481
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					3.8	HR	452
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					3.8	HR	86
CLAB					47.05	1	47.05	$/HR					3.8	HR	179
Foreman Average, Outside					64.4	1	64.4	$/HR					3.8	HR	245
Subtotal															8813

	Equipment Cost	Hourly Operating Costs	Equipment Overhead	Operator's Hourly Wage Rate	Hourly Cost	Number of Men or Eq.	Total Eq. & Lab. Costs	Units	Quantity	Units	Production Rate	Units	Equip. + Labor Time/Dis.	Units	Cost
The 4th East Portal 16															
Grade berm into surrounding area															
D6R XL Series III (9-51) (2nd 2007)	10295	48.9	0.1	60.1	178.23	1	178.23	$/HR	3721	CY	189	CY/HR	19.7	HR	3511
Partial Backfilling of Portal Boxcut															
D8T (9-52)(2nd2007)	18000	76.85	0.1	60.1	257.14	1	257.14	$/HR	34277	CY	287	CY/HR	119.4	HR	30703
Reclamation of In Place Topsoil															
D6R XL Series III (9-51) (2nd 2007)	10295	48.9	0.1	60.1	178.23	1	178.23	$/HR	12100	CY	1455	CY/HR	8.3	HR	1479
Multi-Shank Ripper 190-259 P (9-58) (2nd2007)	1510	5.05	0.1		14.99	1	14.99	$/HR					8.3	HR	124
Materail Stock Pile															
988H EROPS (9-35) (2nd2007)	19460	90.7	0.1	60.1	281.5	1	281.5	$/HR	113711	CY	349	CY/HR	325.8	HR	91713
769D (20-11) (2nd2007)	11580	52.25	0.1	47.35	177.2	2	354.4	$/HR					325.8	HR	115464
Topsoil															
988H EROPS (9-35) (2nd2007)	19460	90.7	0.1	60.1	281.5	1	281.5	$/HR	100911	CY	465	CY/HR	217	HR	61086
6X4 40,000lbs 8-10 CY (20-11) (2nd2007)	2650	34.8	0.1	47.35	102.19	3	306.57	$/HR					217	HR	66526
Pocking															
446D 4WD (9-27) (2nd 2007)	5560	25.5	0.1	60.1	122.9	1	122.9	$/HR	8873	CY	192	CY/HR	46.2	HR	5678
Support Personel and Equipment															
Foreman Average, Outside					64.4	1	64.4	$/HR					353	HR	22733
CLAB					47.05	2	94.1	$/HR					353	HR	33217
Pickup Crew 4x4 1 ton 340 hp (20-17) (2nd2007)	1060	14.5	0.1	0	22.58	1	22.58	$/HR					353	HR	7971
5,000 gal H2O truck Diesel (20-17) (2nd2006)	5170	35.7	0.1	47.35	118.93	1	118.93	$/HR					353	HR	41982
Subtotal															478676

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Vegetation																			
	Main Facilities 01																			454428
	The 4th East Portals 02																			142325
	Total																			596753

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	Main Facilities 01																			
	Vegeation																			
	Spread Topsoil	Backfill structural 200 HP 300' Dirt	31 23 23 13 5420	1.63	/CY						43300					CY		43300	CY	70579
	Till Soil	75 HP Dozerw/scarifiers	32 91 13 23 3100	4.53	MSF						53.7					AC		2339	MSF	10596
	Seeding	Wildflower Seed Mix	32 92 19 14 5800	49.5	MSF						53.7					AC		2339	MSF	115781
	Mulch	Hay 1 inch small power mulcher	32 91 13 16 0250	62	/MSF						53.7					AC		2339	MSF	145018
	Fertilizer	Fetilizer Hydro Spread	32 01 90 13 0180	4.25	/MSF						53.7					AC		2339	MSF	9941
	Erosion Control	Hay bale	Reveg007	166.1	/ton							70				Ton		70	TON	11627
	Subtotal																			363542
	Reseeding																			
	25% of Vegetation Cost																			90886
	Subtotal																			90886
	Total																			454428

Ref.	Description	Materials	Means Reference Number	Unit Cost	Unit	Length	Width	Height	Diameter	Area	Volume	Weight	Density	Time	Number	Unit	Swell Factor	Quantity	Unit	Cost
	The 4th East Portals 02																			
	Vegeation																			
	Seeding	Wildflower Seed Mix	32 92 19 14 5800	49.5	MSF						16					AC		697	MSF	34502
	Mulch	Hay 1 inch small power mulcher	32 91 13 16 0250	62	/MSF						16					AC		697	MSF	43214
	Fertilizer	Fetilizer Hydro Spread	32 01 90 13 0180	4.25	/MSF						16					AC		697	MSF	2962
	Erosion Control	Hay bale	Reveg007	166.1	/ton							30				Ton		30	TON	4983
		Revegetation mat, webbed	31 25 13 10 0120	7.05	SY	300	14									FT		467	SY	3292
	Subtotal																			88953
	Reseeding																			
	25% of Vegetation Cost																			53372
	Subtotal																			53372
	Total																			142325