

# 9A Stockpile

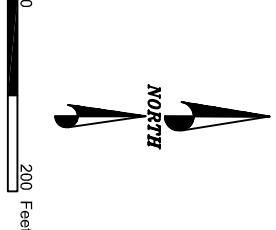
McCain Spring

**FREEMONT-MCMORAN**  
**COPPER & GOLD**

**Figure 4: Proposed Reclamation Regrade of 9AX Stockpile (3:1 Inter Bench)**

Scale:	As Noted	Date:	6-11-2014	Notes:	
Dept:	Reclamation	Drawn By:	WJL	Checked By:	WJL

- Legend**
- - - - Existing Surface (50' Intervals)
  - — — Existing Surface (10' Intervals)
  - — — Stockpile Major Contour (50' Intervals)
  - — — Stockpile Minor Contour (10' Intervals)
  - — — Stockpile Boundary
  - — ○ Cross Section Lines
  - — — Side Slope Channel



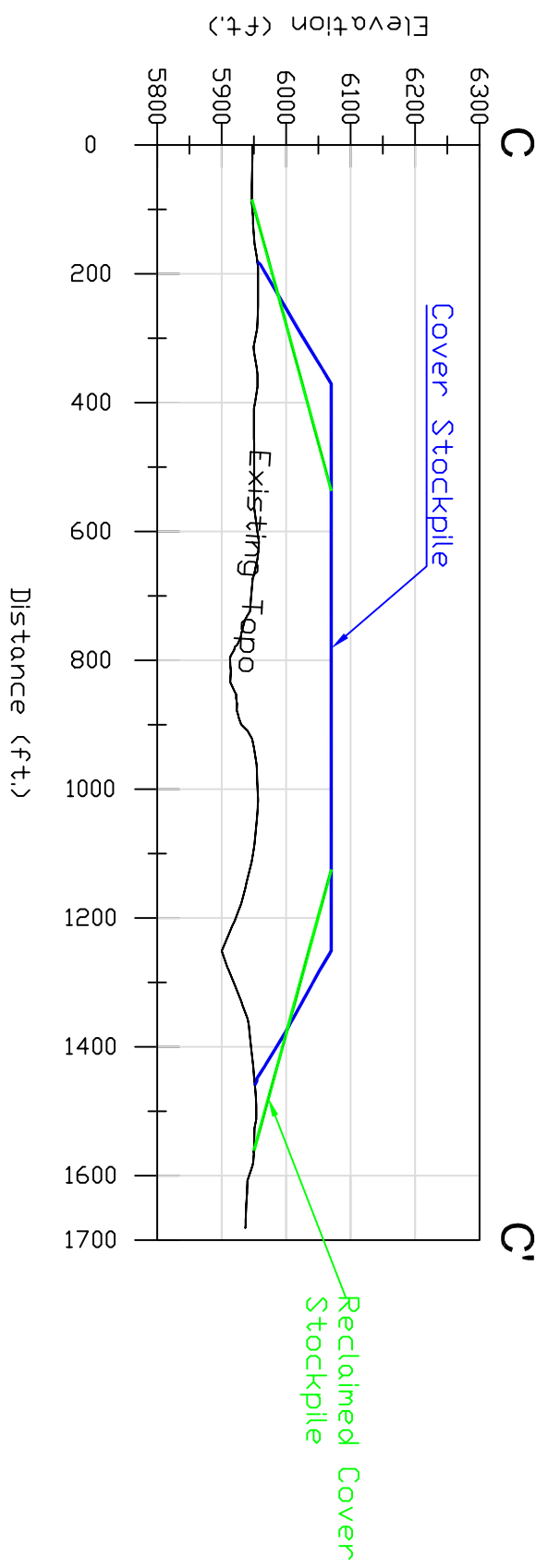
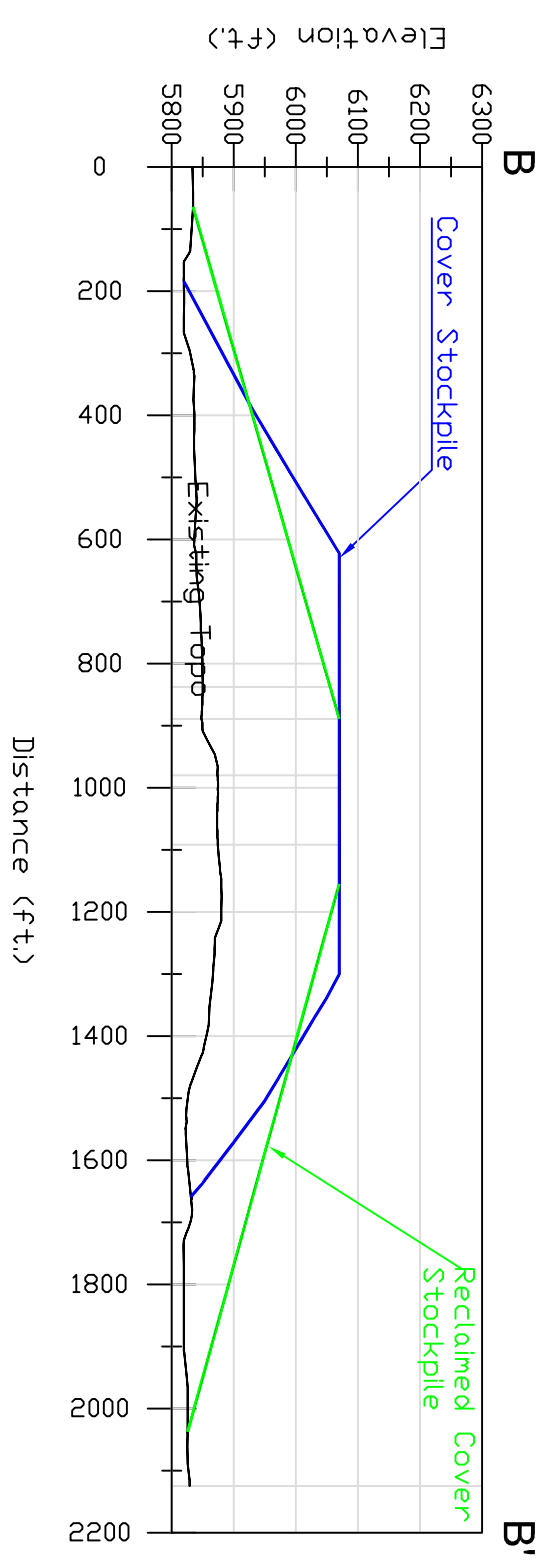
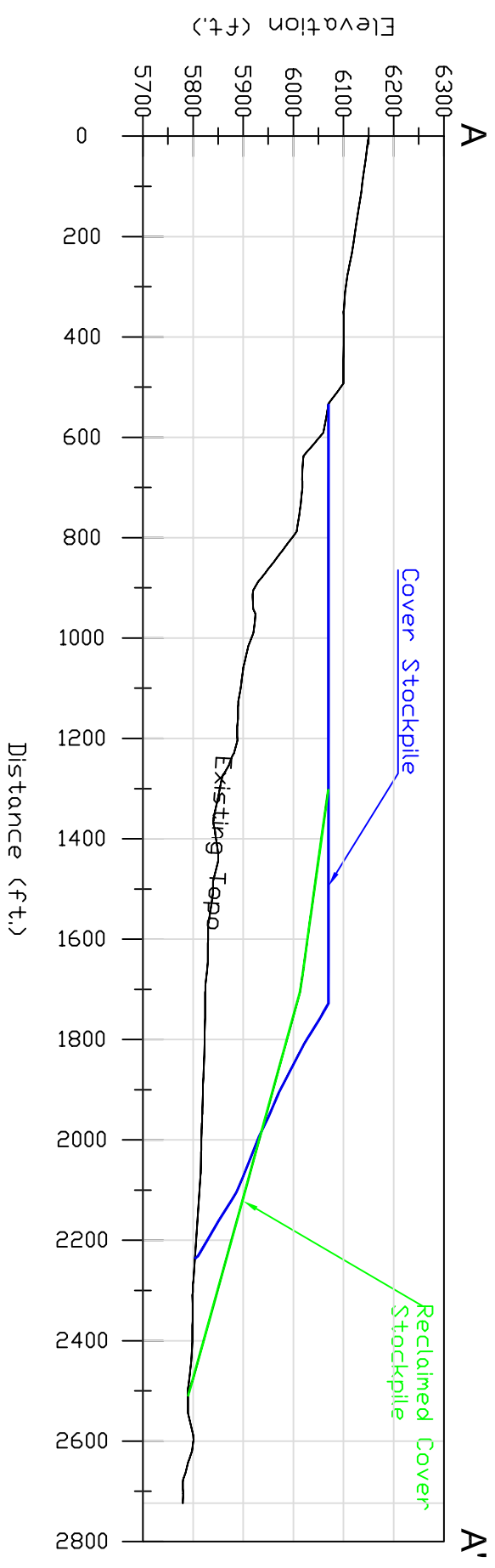
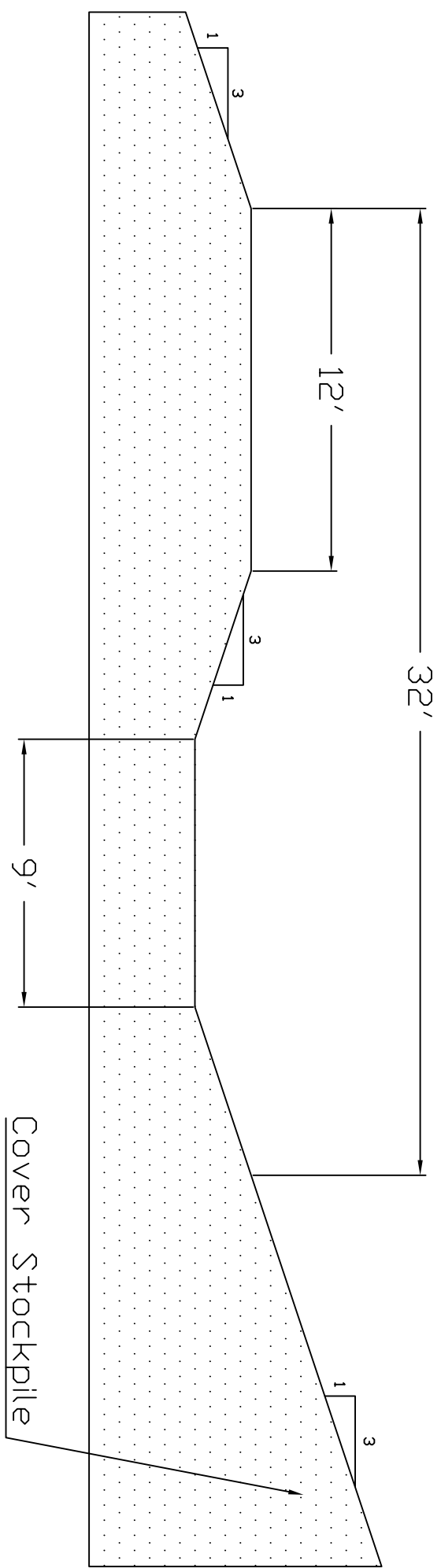
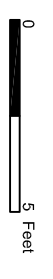


Figure 5: 9AX Reclamation 3:1 Inter Bench Stockpile Cross Sections

Scale:	As Noted	Date:	8-11-2014	Notes:
Dept.:	Reclamation	Checked By:	MJL	
Drawn By:	MJL			



**Typical Side Slope Channel Cross Section**



**Figure 8: Conceptual 9AX Reclamation Drainage Details**

Scale:	As Noted	Date:	6-13-2014	Notes:	
Dept.:	Reclamation	Drawn By:	ML	Checked By:	ML

Table 1: 9AX Stockpile - Reclamation Cost Estimate Summary

June 11, 2014

Reclamation Summary - 3:1 Inter Bench		9AX Stockpile	
<b>Direct Costs</b>		Current	
	Earthmoving		\$ 351,059
	Vegetation	100%	\$ 72,410
	Other		\$ 16,677
	<b>Subtotal, Direct Costs</b>		<b>\$ 440,146</b>
<b>Indirect Costs</b>			
	Mobilization and Demobilization	1.1%	\$ 4,842
	Contingencies	2.0%	\$ 8,803
	Engineering Redesign Fee	4.5%	\$ 19,807
	Contractor Profit and overhead	25.0%	\$ 110,036
	Project Management Fee	5.0%	\$ 22,007
	State Procurement Cost	2.0%	\$ 8,803
	Indirect Percentage Sum =	39.6%	
	<b>Subtotal, Indirect Costs</b>		<b>\$ 174,298</b>
<b>Earthwork Total</b>			<b>\$ 614,444</b>
<b>O&amp;M Costs</b>			<b>\$ 152,007</b>
<b>Total Costs</b>			<b>\$ 766,450</b>

Data Sources:

- MMD. 1996. Closeout Plan Guidelines for Existing Mines, Mining Act Reclamation Bureau Mining and Minerals Division New Mexico Energy, Minerals and Natural Resources Department. April 30, 1996.
- OSM. 2000. U.S. Department of the Interior, Office of Surface Mining Reclamation and Enforcement Handbook for Calculation of Reclamation Bond Amounts. April 5, 2000.

Notes:

- 1) Indirect costs are based on the guidance available from MMD (1996) and OSM (2000).
- 2) Direct and Indirect Costs reflect 2003 Approved Tyrone CCP Submittal for comparison purposes.

Table 2: 9AX Stockpile - Earthwork Quantities

June 11, 2014

Item	Description	Location 1	Location 2	Area (AC)	Cover Depth (in)	Bank Volume (bcy)	Swell Factor (%)	Loose Volume (lcy)
	Grade Surface	9AX - North		48	-	451,017	0%	451,017
	Grade Surface	9AX - South		16	-	150,339	0%	150,339

Table 3: 9AX Stockpile - Productivity and Hours Required for Dozer Use

June 11, 2014

Task Description	Location 1	Equipment	Volume (cy)	Productivity (cy/hr)	Task Time (hours)	Material	Grade Factor	Soil Weight (lb/cy)	Production Method/ Blade	Work Hour (min/hr)	Visibility	Elevation	Direct Drive Trans.	Grade (%)	Operator	Maximum Push Distance (feet)	Normal Production (cy/hr)
Grade Surface	9AX - North	D11T	451,017	979	461	1.2	1.58	3,600	1.2	50	1	1	1	-29	1	458	808
Grade Surface	9AX - South	D11T	150,339	1,741	86	1.2	1.58	3,600	1.2	50	1	1	1	-29	1	235	1,437

Table 4: 9AX Stockpile - Summary of Earthmoving Costs

June 11, 2014										
Equipment Type	Task	Location 1	Location 2	Owning and Operating Cost (\$/hr)	Fuel Consumption (gal/hr)	Fuel Consumption (gal)	Labor Cost (\$/hr)	Number of Units (Equipment)	Time Req'd (hrs)	Total Cost (\$)
Dozers-Earthmoving										
	D11T	Grade Surface	9AX							
	D11T	Grade Surface	9AX							
Loaders										
Water Truck and Grader*										
	Off-Hwy Water Tanker Truck		9AX							
	Motor Grader		9AX							
									9AX	\$ 351,059

\*Assume there is a water truck and motor grader running 1 hour twice a day when the dozers are running over an 8 hour work day.

Data Sources:

1. EquipmentWatch Version 6.9.3B. Penton Media, Inc (<http://www.equipmentwatch.com>). Revised Date: 2nd Half 2013
2. Western Refining Quote 10/29/13
3. Labor rates based on NM Department of Labor Type H (Heavy Engineering) labor rates.

Table 5: 9AX Stockpile - Vegetation Cost

June 11, 2014

**Description:**

Includes scarifying, discing, rangeland drill seeding, mulching, crimping, and daily per diem

**Stockpile Areas**

Unit or Disturbance	(acres)	Unit Cost (\$/acre)	Subtotal Cost (\$)	Area Reference
9AX	64	\$ 1,137	\$ 72,410	Rocky Mountain Reclamation, Laramie WY (10/31/13)



Table 6: 9AX Stockpile - Other Reclamation Activity Costs

6/11/2014

Item	Activity	Quantity	Unit	Unit Cost (\$/unit)	Direct Item Cost (\$)	Reference	Means Line Item	Means Page	Description
Bench Grading 9AX	Bench Grading	7,650	ft	\$	2.18 \$ 16,677				See Note 1 for full description
				9AX	\$ 16,677				
				Direct Cost Total	\$ 16,677				

Data Sources: RS Means Heavy Construction Cost Data (27th Annual Edition 2013)  
 Location adjustment: New Mexico 880 Las Cruces  
 0.844

Description Notes:

- 1) Excavate benches D11T CD, 87-foot push, 300-foot interbench length, 9.26 cy/lf, and 31.6-foot-wide benches. Finish grade channel benches using D9T. Three passes per bench, 1 MPH operating speed.

Table 7: 9AX Stockpile - Operations and Maintenance Costs

June 11, 2014

Erosion Control and Monitoring[1]

Indirect Cost Percentage 17.5%

	Years 1	Years 2-12	
Base:	\$3,870	\$3,870	\$/day
Time:	12.0	2.0	day/yr
Annual:	\$46,443	\$7,740	\$/yr

	Year	Annual Current Cost (\$)
1	1	\$46,443
2	2	\$7,740
3	3	\$7,740
4	4	\$7,740
5	5	\$7,740
6	6	\$7,740
7	7	\$7,740
8	8	\$7,740
9	9	\$7,740
10	10	\$7,740
11	11	\$7,740
12	12	\$7,740
13	13	\$0
14	14	\$0
15	15	\$0
16	16	\$0
17	17	\$0
18	18	\$0
19	19	\$0
20	20	\$0
21	21	\$0
22	22	\$0
23	23	\$0
24	24	\$0
25	25	\$0
26	26	\$0
27	27	\$0
28	28	\$0
29	29	\$0
30	30	\$0
		<b>\$131,587</b>

Table 7: 9AX Stockpile - Operations and Maintenance Costs

June 11, 2014

[1] Erosion Control

Modified Crew B-13A (1 Labor Foreman, 2 laborers, 1 equip. operators (med.), 1 truck drivers (heavy), 1 crawler loader (4 cy), 1 dump trucks (8 cy, 220 HP) )

RS Means Heavy Construction Cost Data (27th Annual Edition, 2013)

	#	Bare Costs	
		Hr	Daily Tot.
Labor Foreman (outside)	1	37.45	299.60
Laborers	2	35.45	567.20
Equipment Operators (med.)	1	47.50	380.00
Truck Drivers (heavy)	1	36.60	292.80
		<b>Daily</b>	
Crawler Loader, 4 C.Y.	1	1530.00	1530.00
Dump Trucks, 8 C.Y., 220 H.P.	1	833.00	833.00

**TOTAL** 3902.60 \$/day  
 84.40% Location Adjustment  
 3293.79 \$/day (Adjusted)

VEGETATION MAINTENANCE COSTS								
Activity	Total Area (acres)	# yrs veg Maint.	% loss per year	Quantity	Unit	Unit Cost (\$/unit)	Direct Cost (\$)	With Indirects
9AX	64	12	0.02	1.274	acres	\$ 1,137	\$17,378	\$20,420

References: Equipment - Equipment Watch Version 6.9.3B (<http://www.equipmentwatch.com>). Copyright 2003-2013 Penton Media, Inc. \*  
 Labor -NM Department of Labor Type H (Heavy Engineering) labor rates. \*