



**Report
on
Heap Leach Amenability Study - Sleeper Waste Rock Composites (5)
and Facilities Oxide Core Composites (2)**

MLI Job No. 3486-01

August 16, 2012

for

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
Table 1. - Summary Column Percolation Leach Test Results, Sleeper Waste Dump and Facilities Oxide Core Composites, P ₈₀ 19mm Feeds	.. 2
PREPARATION AND HEAD GRADE DETERMINATION	2
COLUMN PERCOLATION LEACH TEST PROCEDURES AND RESULTS	3
Table 2. - Overall Metallurgical Results, Column Leach Tests, Sleeper Waste Dump Composites, P ₈₀ 19mm Feeds	4
Figure 1. - Gold Leach Rate Profiles, Column Leach Tests, Sleeper Waste Dump Composites, P ₈₀ 19mm Feeds	4
Table 3. - Overall Metallurgical Results, Column Leach Tests, Facilities Oxide Core Composites, P ₈₀ 19mm Feeds	6
Figure 2. - Gold Leach Rate Profiles, Column Leach Tests, Facilities Oxide Core Composites, P ₈₀ 19mm Feeds	6
Table 4. - Head Screen Analysis Results, Sleeper Waste Dump Composite WDS-11-1, ~ P ₈₅ 19.0mm Feed	8
Table 5. - Tail Screen Analysis Results, Column Leached Residue, Sleeper Waste Dump Composite WDS-11-1, ~ P ₈₅ 19.0mm Feed	8
Table 6. - Recovery By Size Fraction Data, Column Leach Test, Sleeper Waste Dump Composite WDS-11-1, P ₈₀ 19mm Feeds	8

Table 7. - Head Screen Analysis Results, Sleeper Waste Dump Composite WDS-11-2+3, ~ P ₈₅ 19.0mm Feed	10
Table 8. - Tail Screen Analysis Results, Column Leached Residue, Sleeper Waste Dump Composite WDS-11-2+3, ~ P ₈₅ 19.0mm Feed	10
Table 9. - Recovery By Size Fraction Data, Column Leach Test, Sleeper Waste Dump Composite WDS-11-2+3, P ₈₀ 19mm Feeds	10
Table 10. - Head Screen Analysis Results, Sleeper Waste Dump Composite WDW-11-4, ~ P ₈₅ 19.0mm Feed	12
Table 11. - Tail Screen Analysis Results, Column Leached Residue, Sleeper Waste Dump Composite WDS-11-4, ~ P ₈₅ 19.0mm Feed	12
Table 12. - Recovery By Size Fraction Data, Column Leach Test, Sleeper Waste Dump Composite WDS-11-4, P ₈₀ 19mm Feeds	12
Table 13. - Head Screen Analysis Results, Sleeper Waste Dump Composite WDW-1-5+6, ~ P ₈₅ 19.0mm Feed	14
Table 14. - Tail Screen Analysis Results, Column Leached Residue, Sleeper Waste Dump Composite WDW-11-5+6, ~ P ₈₅ 19.0mm Feed	14
Table 15. - Recovery By Size Fraction Data, Column Leach Test, Sleeper Waste Dump Composite WDW-11-5+6, P ₈₀ 19mm Feeds	14
Table 16. - Head Screen Analysis Results, Sleeper Waste Dump Composite WDN-11-9 HG, ~ P ₈₀ 3/4" (19mm) Feed	16
Table 17. - Tail Screen Analysis Results, Column Leached Residue, Sleeper Waste Dump Composite WDN-11-9 HG, ~ P ₈₅ 19.0mm Feed	16
Table 18. - Recovery By Size Fraction Data, Column Leach Test, Sleeper Waste Dump Composite WDN-11-9 HG, P ₈₀ 19mm Feeds	16
Table 19. - Head Screen Analysis Results, Facilities Oxide Core Composite FOX-001, ~ P ₈₅ 19.0mm Feed	18
Table 20. - Tail Screen Analysis Results, Column Leached Residue, Facilities Oxide Core Composite FOX-001, P ₈₀ 19mm Feed	18
Table 21. - Recovery By Size Fraction Data, Column Leach Test, Facilities Oxide Core Composite FOX-001, P ₈₀ 19mm Feed	18
Table 22. - Head Screen Analysis Results, Facilities Oxide Core Composite FOX-002, ~ P ₈₅ 19.0mm Feed	19
Table 23. - Tail Screen Analysis Results, Column Leached Residue, Facilities Oxide Core Composite FOX-002, P ₈₀ 19mm Feed	19
Table 24. - Recovery By Size Fraction Data, Column Leach Test, Facilities Oxide Core Composite FOX-002, P ₈₀ 19mm Feed	19
Table 25. - Gold Metallurgical Balances, Column Leach Test, Sleeper Waste Dump Composite WDS-11-1, P ₈₀ 19mm Feed	21
Table 26. - Gold Metallurgical Balances, Column Leach Test, Sleeper Waste Dump Composite WDS-11-2+3, P ₈₀ 19mm Feed	21
Table 27. - Gold Metallurgical Balances, Column Leach Test, Sleeper Waste Dump Composite WDW-11-4, P ₈₀ 19mm Feed	21
Table 28. - Gold Metallurgical Balances, Column Leach Test, Sleeper Waste Dump Composite WDW-11-5+6, P ₈₀ 19mm Feed	21
Table 29. - Gold Metallurgical Balances, Column Leach Test, Sleeper Waste Dump Composite WDW-11-9 HG, P ₈₀ 19mm Feed	22

Table 30. - Gold Metallurgical Balances, Column Leach Test, Facilities Oxide Core Composite FOX-001, P ₈₀ 19mm Feed	22
Table 31. - Gold Metallurgical Balances, Column Leach Test, Facilities Oxide Core Composite FOX-002, P ₈₀ 19mm Feed	22
Table 32. - Physical Ore/Waste Characteristics Data, Sleeper Waste Dump and Facilities Oxide Core Composites, P ₈₀ 19mm Feeds	23
CONCLUSIONS	23
APPENDIX	
Section 1 - Pertinent Daily Column Leach Test Data	
Section 2 - Column Leach Residue Photos	



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EXECUTIVE SUMMARY

Column percolation leach tests were conducted on five Sleeper Waste Dump composites (WDS-11-1, WDS-11-2+3, WDW-11-4, WDW-11-5+6 and WDN-11-9 HG) and on two Facilities Oxide core composites (FOX-001 and FOX-002) to determine precious metal recovery, recovery rate and reagent requirements. All column percolation leach tests (CT) were conducted on feeds stage crushed to a P₈₀19mm feed size, agglomerated with varied quantities of Portland Type II cement. Lime and cement binder was used to agglomerate the two Facilities Oxide core composites.

Composite make-up information for all composites (except WDS-11-2+3 and WDW-11-5+6) was provided in the MLI report dated January 27, 2012.

The WDS-11-2+3 waste dump composite was prepared on a weighted basis from original composites WDS-11-2 and WDS-11-3. The WDW-11-5+6 waste dump composite was prepared on a weighted basis from original composites WDW-11-5 and WDW-11-6.

Summary metallurgical results for the seven CT's are provided in Table 1.

**Table 1. - Summary Column Percolation Leach Test Results,
 Sleeper Waste Dump and Facilities Oxide Core Composites, P₈₀19mm Feeds**

Composite I.D.	gAu/mt ore			Au Recovery, %	Reagent Requirements, kg/mt ore	
	Extracted	Tail	Calculated Head		NaCN Cons.	Cement/Lime
WDS-11-1	0.173	0.055	0.228	75.9	1.44	10.0
WDS-11-2+3	0.164	0.094	0.258	63.6	1.74	10.0
WDW-11-4	0.108	0.024	0.132	81.8	0.94	3.5
WDW-11-5+6	0.204	0.048	0.252	81.0	0.83	3.5
WDN-11-9 HG	0.392	0.104	0.496	79.0	1.09	40.0
FOX-001	0.587	0.107	0.694	84.6	0.84	5.0/4.5
FOX-002	0.719	0.146	0.865	83.1	0.88	4.0/3.7

Metallurgical results show that the five Sleeper Waste Dump composites and the two Facilities Oxide core composites were amenable to agglomeration-heap leach cyanidation processing at a P₈₀19mm crush size. Gold recoveries were somewhat lower for the South Waste Dump (WDS) composites. Gold recovery rates were fairly rapid and extraction was substantially complete in 20 days of leaching. NaCN consumptions were high, but should be lower in commercial production. Cement and lime (FOX comps only) requirements for agglomeration and pH control during leaching were moderate (WDW) to high (WDS and FOX). Cement requirement was extremely high for WDN-11-9 HG, mostly for pH control.

Because of the low-grade nature of the Waste Dump composites, even though Au recoveries were fairly high, heap leach processing may not be economically feasible unless waste dumps have to be moved to facilitate new planned production activity.

PREPARATION AND HEAD GRADE DETERMINATION

Each composite (90 kg) was stage crushed to P₈₀19mm in size and thoroughly blended and split to obtain ~ 70 kg for a CT and 20 kg for a head screen analysis.

Head grades were determined from head screen analyses and by calculation from the respective CT's. Head grades and calculated heads are provided later in this report.

COLUMN PERCOLATION LEACH TEST PROCEDURES AND RESULTS

Column percolation leach tests were conducted on Sleeper Waste Dump Composites WDS-11-1 (P1), WDS-11-2+3 (P2), WDW-11-4 (P3), WDW-11-5+6 (P4) and WDW-11-9 HG (P5) and on Facilities Oxide core composites FOX-001 (P6) and FOX-002 (P7) at a P_{80} 19mm crush size to determine precious metal recovery, recovery rate, reagent requirements and amenability to heap leach cyanidation processing.

Each CT charge (~ 67 kg) was agglomerated by mixing an appropriate quantity of Portland Type II cement (cement and lime for FOX composites) with air dried charges, adding water to optimum agglomeration moisture (determined visually) while “tumbling” to affect agglomeration and curing in the leach columns (15 cm I.D. x 3.5 to 3.9 m bed heights) for five days before applying NaCN leach solution.

Column leach tests were conducted using the procedure summarized below.

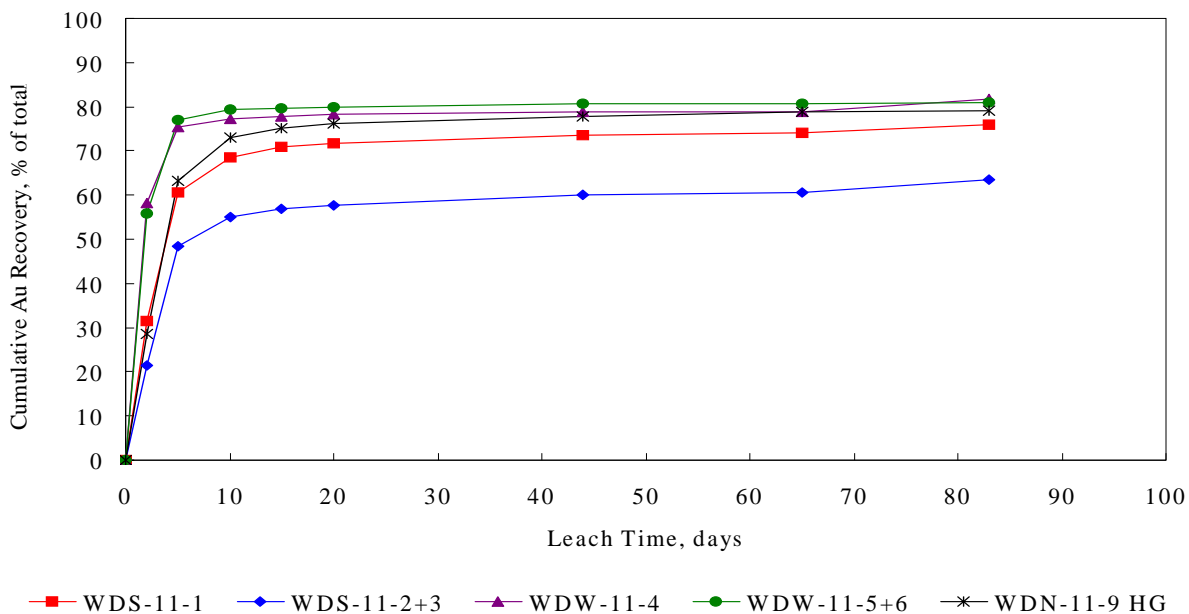
- Daily apply NaCN solution (1.0 g/L) over the ore charges at a rate of 0.2 Lpm/m² (0.005 gpm/ft²) of column cross-sectional area.
- Daily measure pregnant solution volumes by weighing, obtain a 30 mL sample and analyze for Au, Ag, pH and NaCN.
- Pump daily pregs through a 5-stage carbon circuit for adsorption of dissolved values.
- Daily measure barren solution volumes by weighing, obtain 30 mL sample and analyze for Au, Ag, pH and NaCN.
- Add make-up water and NaCN reagent and recycle barrens to column charges daily.
- Continue above daily procedure until preg solution concentrations approach AA detection limits. At which time, initiate a 2 week rest/1 week leach intermittent leach cycle.
- When value breakthrough to barrens occur, pull the lead carbon, dry, weigh and assay for Au and Ag, advance the other four carbon columns, and add fresh, attrited carbon to the trailing carbon column.
- Continue intermittent leach cycle through the end of leaching.
- After leaching, rinse the CT residues with water to meet Washoe County regulatory requirements (not detailed rinse/NaCN neutralization test).
- After rinsing, allow CT residues to drain down (not detailed drain down rate and volume test).
- After drain down, remove CT residues from leach columns and obtain residual moisture samples (top, middle and bottom of residue charges), then air dry residues.
- Blend and split air dried residues to obtain an appropriate quantity for tail screen analysis. Use weights and size fractions used for head screen analyses.

Overall metallurgical results for CT's conducted on Sleeper Waste Dump composites are provided in Table 2. Gold leach rate profiles are shown graphically in Figure 1. Overall metallurgical results for CT's conducted on Facilities Oxide core composites are provided in Table 3. Gold leach rate profiles are provided in Figure 2. Pertinent daily column leach test data spreadsheets are provided in Section 1 of the Appendix to this report. Photos of column leached residues are provided in Section 2 of the Appendix.

**Table 2. - Overall Metallurgical Results, Column Leach Tests,
 Sleeper Waste Dump Composites, P₈₀19mm Feeds**

Metallurgical Results	Waste Dump Composite				
	WDS-11-1	WDS-11-2+3	WDW-11-4	WDW-11-5+6	WDN-11-9 HG
Extraction: pct. total Au	<u>Au</u>	<u>Au</u>	<u>Au</u>	<u>Au</u>	<u>Au</u>
1st Preg (day 2)	31.6	21.4	58.2	55.9	28.6
in 5 days	60.7	48.3	75.5	76.9	63.2
in 10 days	68.6	54.9	77.2	79.3	73.1
in 15 days	70.9	56.9	77.8	79.5	75.1
in 20 days	71.6	57.8	78.3	79.9	76.2
in 44 days	73.6	60.0	78.9	80.6	77.8
End of Leach (day 65)	74.0	60.7	78.9	80.8	78.8
End of Rinse (~ day 83)	75.9	63.6	81.8	81.0	79.0
Extracted, gAu/mt ore	0.173	0.164	0.108	0.204	0.392
Tail Screen, gAu/mt	0.055	0.094	0.024	0.048	0.104
Calculated Head, gAu/mt ore	0.228	0.258	0.132	0.252	0.496
Head Screen, gAu/mt ore	0.226	0.260	0.102	0.273	0.491
NaCN Consumed, kg/mt ore	1.44	1.74	0.94	0.83	1.09
Cement Added, (Agglom), kg/mt ore	10.0	10.0	3.5	3.5	40.0
Final Leach pH	9.9	9.8	10.4	10.5	10.5
Final Rinse pH	9.4	9.4	10.4	10.7	9.6
Ag Extraction, % total Ag	38.8	48.9	32.4	76.8	40.5
Ag Extracted, gAg/mt ore	1.30	0.92	0.22	0.43	2.12
Tail Screen, gAg/mt ore	2.05	0.96	0.46	0.13	3.11
Calculated Head, gAg/mt ore	3.35	1.88	0.68	0.56	5.23

**Figure 1. - Gold Leach Rate Profiles, Column Leach Tests,
 Sleeper Waste Dump Composites, P₈₀19mm Feeds**



Overall metallurgical results show that all Sleeper Waste Dump composites were amenable to agglomeration-heap leaching at a crush size of P_{80} 19mm crush size. Gold recoveries from the South Waste Dump composites were 75.9 (WDS-11-1) and 63.6 (WDS-11-2+3) percent with 83 days of leaching and rinsing. Gold recoveries from both West Waste Dump composites were about 81 percent in 83 days. Gold recovery from the higher-grade North Waste Dump composite was 79 percent in 83 days. About 3 mt of leach/rinse solution applied per mt of feed was required to achieve ultimate Au recovery.

Gold recovery rates were fairly rapid and extraction was substantially complete in 20 days of continuous leaching (~ 1.7 mt leach sol'n/mt of feed). Additional Au was extracted after 20 days, but at a much slower rate. An average of 3.5 percent increase in gold recovery was achieved between 20 days and the end of leaching/rinsing.

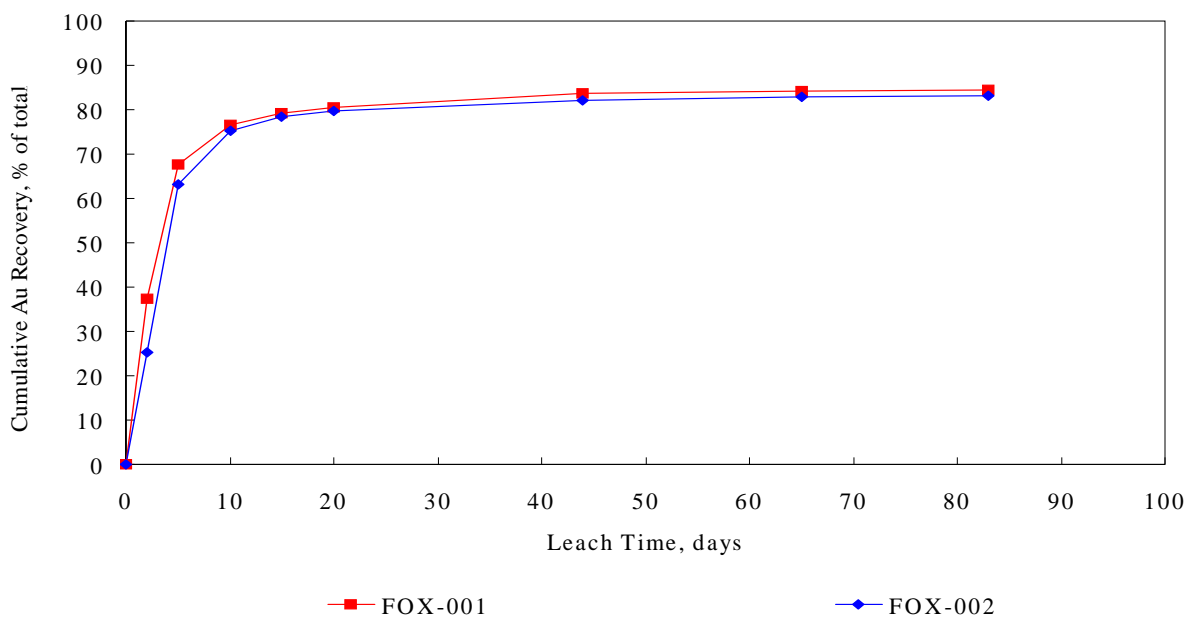
NaCN consumptions were high for the Sleeper Waste Dump composites, and ranged from 0.83 (WDW-11-5+6) to 1.74 (WDS-11-2+3) kg/mt of feed. Commercial heap leach consumptions should be substantially lower than CT consumptions unless cyanicides are contained in the waste dump materials.

Cement requirements were high for all waste dump composites, especially for the WDN-11-9 HG composite. Most of the cement was needed for pH control during leaching. Cement requirements were moderate for West dump composites. The cement added during agglomeration was sufficient to maintain leach pH at above 10. Agglomerates in leached residues were strong and stable (see photos in Section 2 of Appendix), except for the WDS-11-1 composite. Hydraulic conductivity (load/permeability) tests were not conducted on these leached residues, but the appearance of the leached agglomerated feeds indicate that multi-lift stack heights may be acceptable for commercial heap production.

**Table 3. - Overall Metallurgical Results, Column Leach Tests,
 Facilities Oxide Core Composites, P₈₀ 19mm Feeds**

Metallurgical Results	Oxide Composite	
	FOX-001	FOX-002
Extraction: pct. total Au	<u>Au</u>	<u>Au</u>
1st Preg (day 2)	37.4	25.2
in 5 days	67.7	63.2
in 10 days	76.5	75.2
in 15 days	79.3	78.4
in 20 days	80.6	79.8
in 44 days	83.6	82.2
End of Leach (day 65)	84.2	82.9
End of Rinse (day 83)	84.6	83.1
Extracted, gAu/mt ore	0.587	0.719
Tail Screen, gAu/mt	0.107	0.146
Calculated Head, gAu/mt ore	0.694	0.865
Head Screen, gAu/mt ore	0.627	0.878
NaCN Consumed, kg/mt ore	0.84	0.88
Base Added During Agglomeration		
Lime, kg/mt ore	4.5	3.7
Cement, kg/mt ore	5.0	4.0
Final Leach pH	10.7	10.8
Final Rinse pH	10.7	10.7
Ag Extraction, % of total Ag	9.4	6.8
Ag Extracted, gAg/mt ore	0.29	0.27
Tail Screen, gAg/mt	2.81	3.69
Calculated Head, gAg/mt ore	3.10	3.96

**Figure 2. - Gold Leach Rate Profiles, Column Leach Tests,
 Facilities Oxide Core Composites, P₈₀ 19mm Feeds**



Facilities Oxide Core composites were amenable to agglomeration-heap leaching treatment with respect to gold recovery. Silver recoveries were poor. Gold recoveries of 84.6 and 83.1 percent were achieved from the FOX-001 and FOX-002 core composites, respectively, in 83 days of leaching and rinsing. Again, about 3 mt of leach solution per metric ton of ore was required to achieve ultimate Au recovery.

Gold recovery rates were rapid and extraction was substantially complete in 20 days of continuous leaching. Additional gold was extracted after 20 days, but at a very slow rate.

NaCN consumptions were fairly high at about 0.9 kg/mt ore, but should be lower in commercial production. A combination of cement and lime was used to agglomerate the ore charges. Lime was added for pH control during leaching and cement was added as binder. The cement and lime added was sufficient to produce strong and stable agglomerates and for pH control during leaching. Agglomeration pretreatment was required for the Facilities Oxide composites because FOX-001 and FOX-002 contained 12.3 and 25.0 weight percent minus 150 μ m fines, respectively.

Head and tail screen analysis results and recovery by size fraction data for all seven CT feeds and residues are provided in Tables 4 through 24. Comments about screen results for the various composites will be a bit redundant, but there was sufficient variability to discuss data for each composite.

**Table 4. - Head Screen Analysis Results,
 Sleeper Waste Dump Composite WDS-11-1, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	15.3	15.3	0.166	2	11.3	12.5	11.3	12.5
-19+12.5mm	7.2	22.5	0.183	2	5.8	5.9	17.1	18.4
-12.5+6.3mm	9.1	31.6	0.288	6	11.6	22.3	28.7	40.7
-6.3+1.7mm	17.6	49.2	0.242	2	18.9	14.4	47.6	55.1
-1.7mm+850µm	5.9	55.1	0.190	2	5.0	4.8	52.6	59.9
-850+420µm	5.2	60.3	0.217	3	5.0	6.4	57.6	66.3
-420+212µm	5.8	66.1	0.156	2	4.0	4.7	61.6	71.0
-212+150µm	3.1	69.2	0.133	3	1.8	3.8	63.4	74.8
-150µm	30.8	100.0	0.268	2	36.6	25.2	100.0	100.0
Composite	100.0		0.226	2.45	100.0	100.0		

**Table 5. - Tail Screen Analysis Results, Column Leached Residue,
 Sleeper Waste Dump Composite WDS-11-1, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	10.6	10.6	0.085	3	16.3	15.5	16.3	15.5
-19+12.5mm	6.5	17.1	0.145	2	17.1	6.3	33.4	21.8
-12.5+6.3mm	8.6	25.7	0.147	4	22.9	16.8	56.3	38.6
-6.3+1.7mm	17.8	43.5	0.044	1	14.2	8.7	70.5	47.3
-1.7mm+850µm	6.8	50.3	0.052	2	6.4	6.6	76.9	53.9
-850+420µm	5.3	55.6	0.040	2	3.8	5.2	80.7	59.1
-420+212µm	4.5	60.1	0.031	2	2.5	4.4	83.2	63.5
-212+150µm	5.1	65.2	0.033	1	3.0	2.5	86.2	66.0
-150µm	34.8	100.0	0.022	2	13.8	34.0	100.0	100.0
Composite	100.0		0.055	2.05	100.0	100.0		

**Table 6. - Recovery By Size Fraction Data, Column Leach Test,
 Sleeper Waste Dump Composite WDS-11-1, P₃₀19mm Feeds**

Size Fraction	Weight, percent		Assays, g/mt				Recovery, percent	
			Head		Tail			
			Au	Ag	Au	Ag		
+19mm	15.3	10.6	0.166	2	0.085	3	48.8	-50.0
-19+12.5mm	7.2	6.5	0.183	2	0.145	2	20.8	0.0
-12.5+6.3mm	9.1	8.6	0.288	6	0.147	4	49.0	33.3
-6.3+1.7mm	17.6	17.8	0.242	2	0.044	1	81.8	50.0
-1.7mm+850µm	5.9	6.8	0.190	2	0.052	2	72.6	0.0
-850+420µm	5.2	5.3	0.217	3	0.040	2	81.6	33.3
-420+212µm	5.8	4.5	0.156	2	0.031	2	80.1	0.0
-212+150µm	3.1	5.1	0.133	3	0.033	1	75.2	66.7
-150µm	30.8	34.8	0.268	2	0.022	2	91.8	0.0
Composite	100.0	100.0	0.226	2.45	0.055	2.05	75.7	16.3
Column Test Recovery							75.9	38.8

Head screen results show that the WDS-11-1 composite contained 0.226 gAu and 2.45 gAg/mt. Gold values were fairly evenly distributed with slight enrichment in plus 6.3mm and minus 150µm fractions. Silver values were somewhat enriched in plus 6.3mm fractions. Tail screen data show that residual values were enriched in plus 6.3mm fractions. Gold values were more readily extracted from minus 850µm fractions, especially from the minus 150µm fraction. Recovery by size fraction data indicate that crushing to minus 6.3mm in size would be required to increase Au recovery. Crushing finer than 19mm, however, would not be economically feasible.

**Table 7. - Head Screen Analysis Results,
 Sleeper Waste Dump Composite WDS-11-2+3, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	11.9	11.9	0.314	4	14.4	19.8	14.4	19.8
-19+12.5mm	7.5	19.4	0.339	3	9.8	9.4	24.2	29.2
-12.5+6.3mm	11.4	30.8	0.285	3	12.5	14.3	36.7	43.5
-6.3+1.7mm	20.8	51.6	0.201	2	16.1	17.3	52.8	60.8
-1.7mm+850µm	8.0	59.6	0.191	2	5.9	6.7	58.7	67.5
-850+420µm	5.3	64.9	0.194	2	3.9	4.4	62.6	71.9
-420+212µm	5.0	69.9	0.226	2	4.3	4.2	66.9	76.1
-212+150µm	2.9	72.8	0.159	1	1.8	1.2	68.7	77.3
-150µm	27.2	100.0	0.299	2	31.3	22.7	100.0	100.0
Composite	100.0		0.260	2.40	100.0	100.0		

**Table 8. - Tail Screen Analysis Results, Column Leached Residue,
 Sleeper Waste Dump Composite WDS-11-2+3, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	14.7	14.7	0.189	1.61	29.5	24.7	29.5	24.7
-19+12.5mm	9.9	24.6	0.171	4.01	18.0	41.4	47.5	66.1
-12.5+6.3mm	10.6	35.2	0.116	1.20	13.0	13.2	60.5	79.3
-6.3+1.7mm	18.8	54.0	0.072	0.41	14.4	8.0	74.9	87.3
-1.7mm+850µm	7.0	61.0	0.072	0.41	5.3	3.0	80.2	90.3
-850+420µm	4.9	65.9	0.082	0.62	4.3	3.2	84.5	93.5
-420+212µm	4.4	70.3	0.048	0.41	2.2	1.9	86.7	95.4
-212+150µm	2.5	72.8	0.024	0.15	0.6	0.4	87.3	95.8
-150µm	27.2	100.0	0.044	0.15	12.7	4.2	100.0	100.0
Composite	100.0		0.094	0.96	100.0	100.0		

**Table 9. - Recovery By Size Fraction Data, Column Leach Test,
 Sleeper Waste Dump Composite WDS-11-2+3, P₈₀19mm Feeds**

Size Fraction	Weight, percent		Assays, g/mt				Recovery, percent	
			Head		Tail			
			Au	Ag	Au	Ag		
+19mm	11.9	14.7	0.314	4	0.189	1.61	39.8	59.8
-19+12.5mm	7.5	9.9	0.339	3	0.171	4.01	49.6	-33.7
-12.5+6.3mm	11.4	10.6	0.285	3	0.116	1.20	59.3	60.0
-6.3+1.7mm	20.8	18.8	0.201	2	0.072	0.41	64.2	79.5
-1.7mm+850µm	8.0	7.0	0.191	2	0.072	0.41	62.3	79.5
-850+420µm	5.3	4.9	0.194	2	0.082	0.62	57.7	69.0
-420+212µm	5.0	4.4	0.226	2	0.048	0.41	78.8	79.5
-212+150µm	2.9	2.5	0.159	1	0.024	0.15	84.9	85.0
-150µm	27.2	27.2	0.299	2	0.044	0.15	85.3	92.5
Composite	100.0	100.0	0.260	2.40	0.094	0.96	63.8	60.0
Column Test Recovery							63.6	48.9

Head screen results show that the WDS-11-2+3 composite contained 0.260 gAu and 2.40 gAg/mt and Au values were fairly evenly distributed. Tail screen data show that unleached Au values were enriched in +6.3mm fractions and were more readily extracted from -212 μ m fractions. Grinding to about 212 μ m would be required to markedly increase Au recovery.

**Table 10. - Head Screen Analysis Results,
 Sleeper Waste Dump Composite WDW-11-4, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
			Au	Ag	percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	6.5	6.5	0.057	4	3.6	17.4	3.6	17.4
-19+12.5mm	5.8	12.3	0.219	4	12.5	15.6	16.1	33.0
-12.5+6.3mm	12.1	24.4	0.071	2	8.4	16.2	24.5	49.2
-6.3+1.7mm	27.4	51.8	0.032	1	8.6	18.4	33.1	67.6
-1.7mm+850µm	8.2	60.0	0.049	1	3.9	5.5	37.0	73.1
-850+420µm	5.0	65.0	0.043	1	2.1	3.4	39.1	76.5
-420+212µm	5.8	70.8	0.043	1	2.5	3.9	41.6	80.4
-212+150µm	3.4	74.2	0.067	1	2.2	2.3	43.8	82.7
-150µm	25.8	100.0	0.222	1	56.2	17.3	100.0	100.0
Composite	100.0		0.102	1.49	100.0	100.0		

**Table 11. - Tail Screen Analysis Results, Column Leached Residue,
 Sleeper Waste Dump Composite WDS-11-4, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
			Au	Ag	percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	7.7	7.7	0.041	2.54	12.9	42.2	12.9	42.2
-19+12.5mm	3.8	11.5	0.044	1.82	6.8	14.9	19.7	57.1
-12.5+6.3mm	9.0	20.5	0.034	0.68	12.5	13.2	32.2	70.3
-6.3+1.7mm	24.8	45.3	0.024	0.20	24.3	10.7	56.5	81.0
-1.7mm+850µm	8.0	53.3	0.021	0.51	6.9	8.8	63.4	89.8
-850+420µm	5.9	59.2	0.024	0.10	5.8	1.3	69.2	91.1
-420+212µm	6.3	65.5	0.024	0.10	6.2	1.4	75.4	92.5
-212+150µm	4.1	69.6	0.021	0.10	3.5	0.9	78.9	93.4
-150µm	30.4	100.0	0.017	0.10	21.1	6.6	100.0	100.0
Composite	100.0		0.024	0.46	100.0	100.0		

**Table 12. - Recovery By Size Fraction Data, Column Leach Test,
 Sleeper Waste Dump Composite WDS-11-4, P₃₀19mm Feeds**

Size Fraction	Weight, percent		Assays, g/mt				Recovery, percent	
			Head		Tail			
	Head	Tail	Au	Ag	Au	Ag	Au	Ag
+19mm	6.5	7.7	0.057	4	0.041	2.54	28.1	36.5
-19+12.5mm	5.8	3.8	0.219	4	0.044	1.82	79.9	54.5
-12.5+6.3mm	12.1	9.0	0.071	2	0.034	0.68	52.1	66.0
-6.3+1.7mm	27.4	24.8	0.032	1	0.024	0.20	25.0	80.0
-1.7mm+850µm	8.2	8.0	0.049	1	0.021	0.51	57.1	49.0
-850+420µm	5.0	5.9	0.043	1	0.024	0.10	44.2	90.0
-420+212µm	5.8	6.3	0.043	1	0.024	0.10	44.2	90.0
-212+150µm	3.4	4.1	0.067	1	0.021	0.10	68.7	90.0
-150µm	25.8	30.4	0.222	1	0.017	0.10	92.3	90.0
Composite	100.0	100.0	0.102	1.49	0.024	0.46	76.5	69.1
					Column Test Recovery		81.8	32.4

Gold values in the WDW-11-4 composite were substantially enriched in the -150 μ m fraction. Silver values were enriched in +6.3mm fractions. Residual Au values were somewhat enriched in +6.3mm fractions and values were more readily extracted from the minus 150 μ m fraction. Recovery by size fraction data indicate that crushing finer than 19mm in size would not markedly improve heap leach Au recovery.

**Table 13. - Head Screen Analysis Results,
 Sleeper Waste Dump Composite WDW-1-5+6, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	11.1	11.1	0.203	1	8.3	9.1	8.3	9.1
-19+12.5mm	6.2	17.3	0.067	1	1.5	5.1	9.8	14.2
-12.5+6.3mm	11.6	28.9	0.166	1	7.1	9.6	16.9	23.8
-6.3+1.7mm	26.8	55.7	0.040	1	3.9	22.1	20.8	45.9
-1.7mm+850µm	7.8	63.5	0.040	1	1.1	6.4	21.9	52.3
-850+420µm	5.0	68.5	0.060	1	1.1	4.1	23.0	56.4
-420+212µm	6.1	74.6	0.105	1	2.3	5.0	25.3	61.4
-212+150µm	4.0	78.6	0.581	1	8.5	3.3	33.8	64.7
-150µm	21.4	100.0	0.844	2	66.2	35.3	100.0	100.0
Composite	100.0		0.273	1.21	100.0	100.0		

**Table 14. - Tail Screen Analysis Results, Column Leached Residue,
 Sleeper Waste Dump Composite WDW-11-5+6, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	11.9	11.9	0.154	0.10	38.2	9.4	38.2	9.4
-19+12.5mm	6.1	18.0	0.045	0.10	5.7	4.8	43.9	14.2
-12.5+6.3mm	10.5	28.5	0.069	0.10	15.1	8.3	59.0	22.5
-6.3+1.7mm	24.0	52.5	0.034	0.21	17.0	39.9	76.0	62.4
-1.7mm+850µm	7.5	60.0	0.031	0.10	4.8	5.9	80.8	68.3
-850+420µm	5.5	65.5	0.031	0.10	3.5	4.4	84.3	72.7
-420+212µm	5.9	71.4	0.027	0.10	3.3	4.7	87.6	77.4
-212+150µm	3.6	75.0	0.020	0.10	1.5	2.8	89.1	80.2
-150µm	25.0	100.0	0.021	0.10	10.9	19.8	100.0	100.0
Composite	100.0		0.048	0.13	100.0	100.0		

**Table 15. - Recovery By Size Fraction Data, Column Leach Test,
 Sleeper Waste Dump Composite WDW-11-5+6, P₈₀19mm Feeds**

Size Fraction	Weight, percent		Assays, g/mt				Recovery, percent	
	Head	Tail	Head		Tail		Au	Ag
			Au	Ag	Au	Ag		
+19mm	11.1	11.9	0.203	1	0.154	0.10	24.1	90.0
-19+12.5mm	6.2	6.1	0.067	1	0.045	0.10	32.8	90.0
-12.5+6.3mm	11.6	10.5	0.166	1	0.069	0.10	58.4	90.0
-6.3+1.7mm	26.8	24.0	0.040	1	0.034	0.21	15.0	79.0
-1.7mm+850µm	7.8	7.5	0.040	1	0.031	0.10	22.5	90.0
-850+420µm	5.0	5.5	0.060	1	0.031	0.10	48.3	90.0
-420+212µm	6.1	5.9	0.105	1	0.027	0.10	74.3	90.0
-212+150µm	4.0	3.6	0.581	1	0.020	0.10	96.6	90.0
-150µm	21.4	25.0	0.844	2	0.021	0.10	97.5	95.0
Composite	100.0	100.0	0.273	1.21	0.048	0.13	82.4	89.2
Column Test Recovery							81.0	76.8

Head screen results show that Au (and Ag) values were substantially enriched in the -150 μ m fraction for the WDW-11-5+6 composite. Unleached Au values were enriched in +6.3mm fractions. Recovery by size fraction indicate that grinding to about 212 μ m would be required to increase Au recovery.

**Table 16. - Head Screen Analysis Results,
 Sleeper Waste Dump Composite WDN-11-9 HG, ~ P₈₀ 3/4" (19mm) Feed**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
			Au	Ag	percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	20.2	20.2	0.316	4	13.0	19.9	13.0	19.9
-19+12.5mm	7.8	28.0	0.716	2	11.4	3.8	24.4	23.7
-12.5+6.3mm	8.2	36.2	0.312	3	5.2	6.0	29.6	29.7
-6.3+1.7mm	13.1	49.3	0.288	3	7.7	9.7	37.3	39.4
-1.7mm+850µm	5.7	55.0	0.273	2	3.2	2.8	40.5	42.2
-850+420µm	4.7	59.7	0.219	2	2.1	2.3	42.6	44.5
-420+212µm	4.4	64.1	0.337	4	3.0	4.3	45.6	48.8
-212+150µm	2.4	66.5	0.565	3	2.7	1.8	48.3	50.6
-150µm	33.5	100.0	0.757	6	51.7	49.4	100.0	100.0
Composite	100.0		0.491	4.07	100.0	100.0		

**Table 17. - Tail Screen Analysis Results, Column Leached Residue,
 Sleeper Waste Dump Composite WDN-11-9 HG, ~ P₈₅ 19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
			Au	Ag	percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	12.5	12.5	0.233	4.44	28.0	17.9	28.0	17.9
-19+12.5mm	6.4	18.9	0.233	5.31	14.4	10.9	42.4	28.8
-12.5+6.3mm	13.1	32.0	0.209	3.08	26.4	13.0	68.8	41.8
-6.3+1.7mm	21.7	53.7	0.048	1.99	10.0	13.9	78.8	55.7
-1.7mm+850µm	7.0	60.7	0.086	2.09	5.8	4.7	84.6	60.4
-850+420µm	5.2	65.9	0.044	2.19	2.2	3.7	86.8	64.1
-420+212µm	4.0	69.9	0.051	1.88	2.0	2.4	88.8	66.5
-212+150µm	2.0	71.9	0.048	3.02	0.9	1.9	89.7	68.4
-150µm	28.1	100.0	0.038	3.50	10.3	31.6	100.0	100.0
Composite	100.0		0.104	3.11	100.0	100.0		

**Table 18. - Recovery By Size Fraction Data, Column Leach Test,
 Sleeper Waste Dump Composite WDN-11-9 HG, P₈₀ 19mm Feeds**

Size Fraction	Weight, percent		Assays, g/mt				Recovery, percent	
			Head		Tail			
	Head	Tail	Au	Ag	Au	Ag	Au	Ag
+19mm	20.2	12.5	0.316	4	0.233	4.44	26.3	-11.0
-19+12.5mm	7.8	6.4	0.716	2	0.233	5.31	67.5	-165.5
-12.5+6.3mm	8.2	13.1	0.312	3	0.209	3.08	33.0	-2.7
-6.3+1.7mm	13.1	21.7	0.288	3	0.048	1.99	83.3	33.7
-1.7mm+850µm	5.7	7.0	0.273	2	0.086	2.09	68.5	-4.5
-850+420µm	4.7	5.2	0.219	2	0.044	2.19	79.9	-9.5
-420+212µm	4.4	4.0	0.337	4	0.051	1.88	84.9	53.0
-212+150µm	2.4	2.0	0.565	3	0.048	3.02	91.5	-0.7
-150µm	33.5	28.1	0.757	6	0.038	3.50	95.0	41.7
Composite	100.0	100.0	0.491	4.07	0.104	3.11	78.8	23.6
					Column Test Recovery		79.0	40.5

Again, Au and Ag values for the WDN-11-9 HG composite were enriched in the -150 μ m fraction. Unleached values were primarily contained in +6.3mm fractions. Crushing finer than 6.3mm in size would be required to increase Au recovery.

**Table 19. - Head Screen Analysis Results,
 Facilities Oxide Core Composite FOX-001, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	9.4	9.4	0.463	5	6.9	14.0	6.9	14.0
-19+12.5mm	28.0	37.4	0.690	4	30.8	33.5	37.7	47.5
-12.5+6.3mm	19.9	57.3	0.570	3	18.1	17.8	55.8	65.3
-6.3+1.7mm	18.8	76.1	0.463	3	13.9	16.9	69.7	82.2
-1.7mm+850µm	4.7	80.8	0.447	3	3.3	4.2	73.0	86.4
-850+420µm	3.3	84.1	0.457	3	2.4	3.0	75.4	89.4
-420+212µm	1.1	85.2	0.471	3	0.8	1.0	76.2	90.4
-212+150µm	2.5	87.7	0.471	3	1.9	2.2	78.1	92.6
-150µm	12.3	100.0	1.115	2	21.9	7.4	100.0	100.0
Composite	100.0		0.627	3.34	100.0	100.0		

**Table 20. - Tail Screen Analysis Results, Column Leached Residue,
 Facilities Oxide Core Composite FOX-001, P₈₀19mm Feed**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	16.5	16.5	0.127	3.31	19.5	19.5	19.5	19.5
-19+12.5mm	26.2	42.7	0.110	3.19	26.8	29.8	46.3	49.3
-12.5+6.3mm	17.7	60.4	0.110	4.01	18.1	25.3	64.4	74.6
-6.3+1.7mm	15.6	76.0	0.123	3.39	17.9	18.8	82.3	93.4
-1.7mm+850µm	1.5	77.5	0.134	3.02	1.9	1.6	84.2	95.0
-850+420µm	2.4	79.9	0.133	1.81	3.0	1.5	87.2	96.5
-420+212µm	2.3	82.2	0.123	1.99	2.6	1.6	89.8	98.1
-212+150µm	1.3	83.5	0.110	1.40	1.3	0.7	91.1	98.8
-150µm	16.5	100.0	0.058	0.20	8.9	1.2	100.0	100.0
Composite	100.0		0.107	2.81	100.0	100.0		

**Table 21. - Recovery By Size Fraction Data, Column Leach Test,
 Facilities Oxide Core Composite FOX-001, P₈₀19mm Feed**

Size Fraction	Weight, percent		Assays, g/mt				Recovery, percent	
	Head	Tail	Head		Tail		Au	Ag
			Au	Ag	Au	Ag		
+19mm	9.4	16.5	0.463	5	0.127	3.31	72.6	33.8
-19+12.5mm	28.0	26.2	0.690	4	0.110	3.19	84.1	20.2
-12.5+6.3mm	19.9	17.7	0.570	3	0.110	4.01	80.7	-33.7
-6.3+1.7mm	18.8	15.6	0.463	3	0.123	3.39	73.4	-13.0
-1.7mm+850µm	4.7	1.5	0.447	3	0.134	3.02	70.0	-0.7
-850+420µm	3.3	2.4	0.457	3	0.133	1.81	70.9	39.7
-420+212µm	1.1	2.3	0.471	3	0.123	1.99	73.9	33.7
-212+150µm	2.5	1.3	0.471	3	0.110	1.40	76.6	53.3
-150µm	12.3	16.5	1.115	2	0.058	0.20	94.8	90.0
Composite	100.0	100.0	0.627	3.34	0.107	2.81	82.9	15.9
					Column Test Recovery		84.6	9.4

**Table 22. - Head Screen Analysis Results,
 Facilities Oxide Core Composite FOX-002, ~ P₈₅19.0mm Feeds**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	9.3	9.3	0.761	4	8.0	11.3	8.0	11.3
-19+12.5mm	15.8	25.1	1.185	4	21.3	19.2	29.3	30.5
-12.5+6.3mm	19.7	44.8	0.767	4	17.2	23.9	46.5	54.4
-6.3+1.7mm	16.3	61.1	0.705	3	13.1	14.8	59.6	69.2
-1.7mm+850µm	5.2	66.3	0.585	3	3.5	4.7	63.1	73.9
-850+420µm	4.1	70.4	0.624	4	2.9	5.0	66.0	78.9
-420+212µm	3.3	73.7	0.622	4	2.3	4.0	68.3	82.9
-212+150µm	1.3	75.0	0.508	5	0.8	2.0	69.1	84.9
-150µm	25.0	100.0	1.085	2	30.9	15.1	100.0	100.0
Composite	100.0		0.878	3.30	100.0	100.0		

**Table 23. - Tail Screen Analysis Results, Column Leached Residue,
 Facilities Oxide Core Composite FOX-002, P₈₀19mm Feed**

Size Fraction	Weight, percent	Cum. Wt., percent	Assays, g/mt		Distribution			
					percent		Cum. percent	
			Au	Ag	Au	Ag	Au	Ag
+19mm	11.1	11.1	0.202	2.81	15.3	8.4	15.3	8.4
-19+12.5mm	20.4	31.5	0.185	3.60	25.8	19.9	41.1	28.3
-12.5+6.3mm	14.7	46.2	0.188	1.99	18.9	7.9	60.0	36.2
-6.3+1.7mm	14.5	60.7	0.147	3.81	14.6	15.0	74.6	51.2
-1.7mm+850µm	5.6	66.3	0.127	3.81	4.9	5.8	79.5	57.0
-850+420µm	3.9	70.2	0.130	3.60	3.5	3.8	83.0	60.8
-420+212µm	3.2	73.4	0.130	4.01	2.8	3.5	85.8	64.3
-212+150µm	1.2	74.6	0.147	4.01	1.2	1.3	87.0	65.6
-150µm	25.4	100.0	0.075	5.00	13.0	34.4	100.0	100.0
Composite	100.0		0.146	3.69	100.0	100.0		

**Table 24. - Recovery By Size Fraction Data, Column Leach Test,
 Facilities Oxide Core Composite FOX-002, P₈₀19mm Feed**

Size Fraction	Weight, percent		Assays, g/mt				Recovery, percent	
	Head	Tail	Head		Tail		Au	Ag
			Au	Ag	Au	Ag		
+19mm	9.3	11.1	0.761	4	0.202	2.81	73.5	29.8
-19+12.5mm	15.8	20.4	1.185	4	0.185	3.60	84.4	10.0
-12.5+6.3mm	19.7	14.7	0.767	4	0.188	1.99	75.5	50.2
-6.3+1.7mm	16.3	14.5	0.705	3	0.147	3.81	79.1	-27.0
-1.7mm+850µm	5.2	5.6	0.585	3	0.127	3.81	78.3	-27.0
-850+420µm	4.1	3.9	0.624	4	0.130	3.60	79.2	10.0
-420+212µm	3.3	3.2	0.622	4	0.130	4.01	79.1	-0.2
-212+150µm	1.3	1.2	0.508	5	0.147	4.01	71.1	19.8
-150µm	25.0	25.4	1.085	2	0.075	5.00	93.1	-150.0
Composite	100.0	100.0	0.878	3.30	0.146	3.69	83.4	-11.8
Column Test Recovery							83.1	6.8

Head screen results show that Au values were fairly evenly distributed for the Facilities Oxide core composites with some enrichment in the -150 μ m fraction. Tail screen results show fairly even Au distribution, but values were more readily extracted from the -150 μ m fraction. Recovery by size fraction data show that crushing finer than 19mm in size would likely not increase Au recovery. These oxide composites may be amenable to agglomeration-heap leach processing at a crush size coarser than 19mm.

Gold metallurgical balances for the seven CT's are provided in Tables 25 through 31.

**Table 25. - Gold Metallurgical Balances, Column Leach Test,
 Sleeper Waste Dump Composite WDS-11-1, P₈₀19mm Feed**

	Metallurgical Balance		
	Sol. vs. Tail	Carbon vs. Tail	Head vs. Tail ²⁾
Extracted, gAu/mt ore	0.173	0.169	0.171
Tail Screen, gAu/mt	0.055	0.055	0.055
Calc'd Head, gAu/mt ore	0.228	0.224	0.226
Au Recovery, percent	75.9	75.4	75.7
Deviation, gAu/mt ore ¹⁾	N/A	0.004	0.002
Precision, percent	100.0	98.2	99.1

1) Deviation from solution versus tail screen calculated head.

2) Calculated, based on head and tail screen results.

**Table 26. - Gold Metallurgical Balances, Column Leach Test,
 Sleeper Waste Dump Composite WDS-11-2+3, P₈₀19mm Feed**

	Metallurgical Balance		
	Sol. vs. Tail	Carbon vs. Tail	Head vs. Tail ²⁾
Extracted, gAu/mt ore	0.164	0.163	0.166
Tail Screen, gAu/mt	0.094	0.094	0.094
Calc'd Head, gAu/mt ore	0.258	0.257	0.260
Au Recovery, percent	63.6	63.4	63.8
Deviation, gAu/mt ore ¹⁾	N/A	0.001	0.002
Precision, percent	100.0	99.6	99.2

1) Deviation from solution versus tail screen calculated head.

2) Calculated, based on head and tail screen results.

**Table 27. - Gold Metallurgical Balances, Column Leach Test,
 Sleeper Waste Dump Composite WDW-11-4, P₈₀19mm Feed**

	Metallurgical Balance		
	Sol. vs. Tail	Carbon vs. Tail	Head vs. Tail ²⁾
Extracted, gAu/mt ore	0.108	0.096	0.078
Tail Screen, gAu/mt	0.024	0.024	0.024
Calc'd Head, gAu/mt ore	0.132	0.120	0.102
Au Recovery, percent	81.8	80.0	76.5
Deviation, gAu/mt ore ¹⁾	N/A	0.012	0.030
Precision, percent	100.0	90.9	77.3

1) Deviation from solution versus tail screen calculated head.

2) Calculated, based on head and tail screen results.

**Table 28. - Gold Metallurgical Balances, Column Leach Test,
 Sleeper Waste Dump Composite WDW-11-5+6, P₈₀19mm Feed**

	Metallurgical Balance		
	Sol. vs. Tail	Carbon vs. Tail	Head vs. Tail ²⁾
Extracted, gAu/mt ore	0.204	0.220	0.225
Tail Screen, gAu/mt	0.048	0.048	0.048
Calc'd Head, gAu/mt ore	0.252	0.268	0.273
Au Recovery, percent	81.0	82.1	82.4
Deviation, gAu/mt ore ¹⁾	N/A	0.016	0.021
Precision, percent	100.0	94.0	92.3

1) Deviation from solution versus tail screen calculated head.

2) Calculated, based on head and tail screen results.

**Table 29. - Gold Metallurgical Balances, Column Leach Test,
 Sleeper Waste Dump Composite WDW-11-9 HG, P₈₀19mm Feed**

	Metallurgical Balance		
	Sol. vs. Tail	Carbon vs. Tail	Head vs. Tail ²⁾
Extracted, gAu/mt ore	0.392	0.424	0.387
Tail Screen, gAu/mt	0.104	0.104	0.104
Calc'd Head, gAu/mt ore	0.496	0.528	0.491
Au Recovery, percent	79.0	80.3	78.8
Deviation, gAu/mt ore ¹⁾	N/A	0.032	0.005
Precision, percent	100.0	93.9	99.0

1) Deviation from solution versus tail screen calculated head.

2) Calculated, based on head and tail screen results.

**Table 30. - Gold Metallurgical Balances, Column Leach Test,
 Facilities Oxide Core Composite FOX-001, P₈₀19mm Feed**

	Metallurgical Balance		
	Sol. vs. Tail	Carbon vs. Tail	Head vs. Tail ²⁾
Extracted, gAu/mt ore	0.587	0.526	0.520
Tail Screen, gAu/mt	0.107	0.107	0.107
Calc'd Head, gAu/mt ore	0.694	0.633	0.627
Au Recovery, percent	84.6	83.1	82.9
Deviation, gAu/mt ore ¹⁾	N/A	0.061	0.067
Precision, percent	100.0	91.2	90.3

1) Deviation from solution versus tail screen calculated head.

2) Calculated, based on head and tail screen results.

**Table 31. - Gold Metallurgical Balances, Column Leach Test,
 Facilities Oxide Core Composite FOX-002, P₈₀19mm Feed**

	Metallurgical Balance		
	Sol. vs. Tail	Carbon vs. Tail	Head vs. Tail ²⁾
Extracted, gAu/mt ore	0.719	0.797	0.732
Tail Screen, gAu/mt	0.146	0.146	0.146
Calc'd Head, gAu/mt ore	0.865	0.943	0.878
Au Recovery, percent	83.1	84.5	83.4
Deviation, gAu/mt ore ¹⁾	N/A	0.078	0.013
Precision, percent	100.0	91.7	98.5

1) Deviation from solution versus tail screen calculated head.

2) Calculated, based on head and tail screen results.

Metallurgical balances generally agreed very well and carbon vs. tail balances were all over 90 percent precision. Head vs. tail balances generally agreed well with the solution vs. tail and carbon vs. tail balances, except for the WDW-11-4 composite.

Physical ore/waste characteristics data for the seven CT's is provided in Table 32.

**Table 32. - Physical Ore/Waste Characteristics Data,
 Sleeper Waste Dump and Facilities Oxide Core Composites, P₈₀ 19mm Feeds**

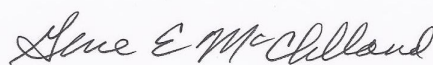
Composite I.D.	Test #	Charge wt., kg	Moisture, weight percent				Apparent Bulk Density, lb/ft ³		Slump, %
			Air Dried	For Saturation ¹⁾	For Agglomeration	Retained	Start	End	
WDS-11-1	P1	66.68	0.15	26.7	13.8	15.0	62.45	69.76	11.7
WDS-11-2+3	P2	66.46	0.06	23.0	11.4	15.0	61.39	72.56	18.2
WDW-11-4	P3	67.27	0.05	22.0	11.3	14.0	68.52	75.85	10.7
WDW-11-5+6	P4	67.44	0.12	21.3	11.5	15.4	67.95	77.64	14.3
WDN-11-9 HG	P5	68.01	0.20	28.8	15.4	15.9	61.65	61.86	0.3
FOX-001	P6	66.99	0.17	18.4	13.3	13.5	66.12	66.38	0.4
FOX-002	P7	65.99	0.32	30.6	13.4	16.5	67.81	68.14	0.5

1) Saturation moistures is leach solution applied to achieve steady state influent and effluent flow and was calculated on a dry ore weight basis. Includes moisture for agglomeration.

Physical ore/waste characteristics data show that saturation moistures were fairly high and indicate the quantity of site water/leach solution required to wet dry heap feed to establish steady state influent and effluent flow. Retained moistures were also high and indicate that heaps constructed of these materials would hold moisture should a 24 hour power interruption or major storm occur. Waste dump composite charges “slumped” markedly, except for the WDN-11-9 HG composite. “Slumping” was minimal for the FOX-001 and FOX-002 core composites. “Slumping” will be greater in commercial heaps.

CONCLUSIONS

- Sleeper Waste Dump composites were amenable to agglomeration-heap leaching treatment at a P₈₀ 19mm crush size. The feeds were, however, low-grade and crushing, agglomerating and heap leaching may not be economic unless waste dumps must be moved to facilitate new commercial production plans at site.
- Facilities Oxide ore represented by these core composites are amenable to heap leaching treatment at a P₈₀ 19mm crush size, and may be amenable at a coarser crush size.
- Agglomeration pretreatment was required for all CT feeds because of high fines/clay content.
- Cement/lime requirements are fairly high.
- NaCN consumptions were also high, but should be less in commercial production.



Gene E. McClelland
 Metallurgist / President

GEM:mh

APPENDIX

Section 1 - Pertinent Daily Column Leach Test Data

Section 2 - Column Leach Residue Photos

APPENDIX

Section 1 - Pertinent Daily Column Leach Test Data

Table S1. - Summary Metallurgical Results, Column Percolation Leach Tests, Sleeper Dump - Sonic Composites, P₈₀ 19mm Feed Size

Sample I.D.	Leach/Rinse Test No.	Time, days	Solution Applied		Au Rec. %	gAu/mt ore					gAg/mt ore					kg/mt ore			
			Leaching	Rinsing		Extracted	Tail Screen	Calc'd. Head	Assay Head	Head Screen	Ag Rec. %	Extracted	Tail Screen	Calc'd. Head	Assay Head	Head Screen	NaCN Consumed,	Lime Added	Cement Added
WDS-11-1	P-1	83	2.7	0.3	75.9	0.173	0.055	0.228	0.214	0.226	38.8	1.30	2.05	3.35	2.45	1.44	0.0	10.0	
WDS-11-2 Plus 3	P-2	82	2.8	0.2	63.6	0.164	0.094	0.258	0.230	0.260	48.9	0.92	0.96	1.88	2.40	1.74	0.0	10.0	
WDW-11-4	P-3	81	2.7	0.2	81.8	0.108	0.024	0.132	0.124	0.102	32.4	0.22	0.46	0.68	1.49	0.94	0.0	3.5	
WDW-11-5 Plus 6	P-4	82	2.7	0.2	81.0	0.204	0.048	0.252	0.263	0.273	76.8	0.43	0.13	0.56	1.21	0.83	0.0	3.5	
WDN-11-9 HG	P-5	84	2.7	0.4	79.0	0.392	0.104	0.496	0.495	0.491	40.5	2.12	3.11	5.23	4.07	1.09	0.0	40.0	
Fox-001	P-6	83	2.7	0.3	84.6	0.587	0.107	0.694	0.642	0.627	9.4	0.29	2.81	3.10	3.34	0.84	4.5	5.0	
Fox-002	P-7	83	2.8	0.3	83.1	0.719	0.146	0.865	0.960	0.878	6.8	0.27	3.69	3.96	3.30	0.88	3.7	4.0	

3486-01 P-1

		NaCN added	182.44 g	NaCN	1.00 g/L solution		g/mt ore	
Kilograms	66.68	NaCN Consumption	1.44 kg/mt ore				Au	Ag
Metric Tons	0.067	Lime:	0.0 kg/mt ore			Head Grade	0.214	
		Cement:	10.0 kg/mt ore			Head Screen	0.226	2.45
						Tail Screen	0.055	2.05

Daily Column Leach Test Data,
Sample I.D. WDS-11-1

Feed Size P80 19mm

Date	Days Leached	Pregnant Solution Analyses					Barren Solution Analyses		Au Extraction		Ag Extraction		NaCN Consumed kg/mt ore	Au		Ag	
		NaCN		pH	Au ppm	Ag ppm	Au ppm	Ag ppm	Cum. g/mt ore	Cum. %	Cum. g/mt ore	Cum. %		mg	cum. mg	mg	cum. mg
		Vol. l.	Conc. g/l														
11/1	1													0.00	0.00	0.00	0.00
11/2	2	7.07	0.15	9.8	0.68	3.37	0.00	0.00	0.072	31.6	0.357	10.7	0.06	4.81	4.81	23.83	23.83
11/3	3	5.17	0.50	9.9	0.44	3.00	0.00	0.00	0.106	46.6	0.590	17.6	0.10	2.27	7.08	15.51	39.34
11/4	4	4.88	0.35	10.1	0.28	2.18	0.00	0.00	0.127	55.6	0.749	22.4	0.15	1.37	8.45	10.64	49.97
11/5	5	4.86	0.40	10.2	0.16	1.27	0.00	0.02	0.138	60.7	0.842	25.1	0.20	0.78	9.23	6.17	56.15
11/6	6	4.85	0.40	9.9	0.09	0.81	0.00	0.01	0.145	63.6	0.899	26.8	0.24	0.44	9.66	3.83	59.97
11/7	7	5.32	0.45	10.2	0.05	0.57	0.00	0.00	0.149	65.3	0.944	28.2	0.28	0.27	9.93	2.98	62.95
11/8	8	4.91	0.50	10.4	0.04	0.43	0.00	0.00	0.152	66.6	0.976	29.1	0.32	0.20	10.13	2.11	65.07
11/9	9	4.90	0.50	10.1	0.04	0.37	0.00	0.00	0.155	67.9	1.003	29.9	0.36	0.20	10.32	1.81	66.88
11/10	10	5.10	0.55	10.3	0.02	0.27	0.00	0.00	0.156	68.6	1.024	30.6	0.40	0.10	10.42	1.38	68.26
11/11	11	5.07	0.45	10.3	0.02	0.23	0.00	0.01	0.158	69.2	1.041	31.1	0.44	0.10	10.52	1.17	69.42
11/12	12	5.01	0.45	10.3	0.01	0.21	0.00	0.00	0.159	69.6	1.056	31.5	0.48	0.05	10.57	1.00	70.42
11/13	13	4.97	0.50	10.3	0.02	0.20	0.00	0.00	0.160	70.2	1.071	32.0	0.52	0.10	10.67	0.99	71.42
11/14	14	4.93	0.55	10.4	0.01	0.16	0.00	0.00	0.161	70.5	1.083	32.3	0.56	0.05	10.72	0.79	72.21
11/15	15	4.98	0.55	10.1	0.01	0.14	0.00	0.00	0.162	70.9	1.093	32.6	0.59	0.05	10.77	0.70	72.90
11/16	16	4.93	0.50	10.1	0.01	0.15	0.00	0.00	0.162	71.2	1.104	33.0	0.63	0.05	10.82	0.74	73.64
11/17	17	4.35	0.50	10.0	0.01	0.14	0.00	0.00	0.163	71.5	1.114	33.2	0.68	0.04	10.87	0.61	74.25
11/18	18	5.54	0.55	10.0	0.00	0.11	0.00	0.00	0.163	71.5	1.123	33.5	0.71	0.00	10.87	0.61	74.86
11/19	19	1.79	0.45	10.3	0.01	0.13	0.00	0.00	0.163	71.6	1.126	33.6	0.75	0.02	10.88	0.23	75.09
11/20	20	6.99	0.50	10.1	0.00	0.11	0.00	0.00	0.163	71.6	1.138	34.0	0.78	0.00	10.88	0.77	75.86
11/21	21	4.79	0.50	10.1	0.01	0.09	0.00	0.00	0.164	71.9	1.144	34.2	0.82	0.05	10.93	0.43	76.29
11/22	22	5.08	0.60	10.0	0.00	0.08	0.00	0.00	0.164	71.9	1.150	34.3	0.85	0.00	10.93	0.41	76.70
11/23	23	4.96	0.55	10.1	0.00	0.09	0.00	0.00	0.164	71.9	1.157	34.5	0.89	0.00	10.93	0.45	77.15
11/24	24			Rest Cycle										0.00	10.93	0.00	77.15
12/7	37												0.89	0.00	10.93	0.00	77.15
12/8	38	4.00	0.35	9.9	0.04	0.42	0.00	0.05	0.166	73.0	1.182	35.3	0.94	0.16	11.09	1.68	78.83
12/9	39	4.89	0.40	9.9	0.02	0.29	0.00	0.00	0.168	73.6	1.200	35.8	0.99	0.10	11.19	1.16	79.99
12/10	40	4.97	0.45	9.7	0.00	0.15	0.00	0.00	0.168	73.6	1.211	36.1	1.03	0.00	11.19	0.75	80.73
12/11	41	4.85	0.50	10.6	0.00	0.10	0.00	0.00	0.168	73.6	1.218	36.4	1.07	0.00	11.19	0.49	81.22
12/12	42	4.97	0.50	10.8	0.00	0.07	0.00	0.00	0.168	73.6	1.223	36.5	1.11	0.00	11.19	0.35	81.57
12/13	43	4.98	0.55	9.9	0.00	0.05	0.00	0.00	0.168	73.6	1.227	36.6	1.15	0.00	11.19	0.25	81.82
12/14	44	4.91	0.50	10.0	0.00	0.06	0.00	0.00	0.168	73.6	1.231	36.8	1.19	0.00	11.19	0.29	82.11
12/15	45			Rest Cycle									1.19	0.00	11.19	0.00	82.11
12/28	58												1.24	0.07	11.26	0.90	83.02
12/29	59	3.35	0.40	10.0	0.02	0.27	0.00	0.00	0.169	74.0	1.245	37.2	1.24	0.07	11.26	0.90	83.02
12/30	60	4.98	0.45	9.9	0.00	0.18	0.00	0.00	0.169	74.0	1.258	37.6	1.29	0.00	11.26	0.90	83.91
12/31	61	4.76	0.40	9.9	0.00	0.11	0.00	0.05	0.169	74.0	1.266	37.8	1.33	0.00	11.26	0.52	84.44
1/1	62	4.75	0.40	9.9	0.00	0.07	0.00	0.00	0.169	74.0	1.267	37.8	1.38	0.00	11.26	0.08	84.51
1/2	63	5.09	0.45	9.8	0.00	0.05	0.00	0.00	0.169	74.0	1.271	37.9	1.42	0.00	11.26	0.25	84.77
1/3	64	4.95	0.45	9.9	0.00	0.03	0.00	0.00	0.169	74.0	1.273	38.0	1.47	0.00	11.26	0.15	84.92
1/4	65	4.88	0.60	9.9	0.00	0.04	0.00	0.00	0.169	74.0	1.276	38.1	1.50	0.00	11.26	0.20	85.11
1/5	66			Rinse Cycle										0.00	11.26	0.00	85.11
1/18	79	4.04	0.40	10.0	0.06	0.14	0.14	0.00	0.172	75.4	1.285	38.4	1.47	0.24	11.50	0.57	85.68
1/19	80	4.91	0.35	9.7	0.01	0.14	0.00	0.01	0.173	75.9	1.295	38.7	1.45	0.05	11.55	0.69	86.36
1/20	81	4.79	0.15	9.6	0.00	0.07	0.00	0.00	0.173	75.9	1.300	38.8	1.44	0.00	11.55	0.34	86.70
1/21	82	4.99	0.00	9.7	0.00	0.03	0.00	0.00	0.173	75.9	1.30	38.8	1.44	0.00	11.55	0.15	86.85
1/22	83	5.15	0.00	9.4	0.00	0.02	0.00	0.00	0.173	75.9	1.30	38.8	1.44	0.00	11.55	0.10	86.95
1/23	84			Drain Down													

Extracted, g/mt ore	0.173	75.9	1.30	38.8
Tail, g/mt ore	0.055		2.05	
Calculated Head, g/mt ore	0.228		3.35	

		NaCN added	183.60 g	NaCN	1.00 g/L solution	g/mt ore	
Kilograms	66.46	NaCN Consumption	1.74 kg/mt ore			Au	Ag
Metric Tons	0.066	Lime:	0.0 kg/mt ore			Head Grade	0.230
		Cement:	10.0 kg/mt ore			Head Screen	0.260
						Tail Screen	0.094
							0.96

Daily Column Leach Test Data,
Sample I.D. WDS-11-2 Plus 3

Feed Size P80 19mm

Date	Days Leached	Pregnant Solution Analyses					Barren Solution Analyses		Au Extraction		Ag Extraction		NaCN	Au		Ag	
		Vol. l.	Conc. g/l	pH	Au ppm	Ag ppm	Au ppm	Ag ppm	Cum. g/mt ore	Cum. %	Cum. g/mt ore	Cum. %	Consumed kg/mt ore	mg	cum. mg	mg	cum. mg
11/1	1											0.00	0.00	0.00	0.00	0.00	
11/2	2	6.32	0.05	9.0	0.58	1.64	0.00	0.01	0.055	21.4	0.156	8.3	0.07	3.67	3.67	10.36	10.36
11/3	3	5.20	0.25	9.7	0.54	2.66	0.00	0.00	0.097	37.8	0.363	19.3	0.13	2.81	6.47	13.78	24.15
11/4	4	4.91	0.25	10.0	0.24	1.49	0.00	0.00	0.115	44.6	0.473	25.2	0.19	1.18	7.65	7.32	31.46
11/5	5	4.79	0.30	10.0	0.13	0.95	0.00	0.00	0.125	48.3	0.542	28.8	0.24	0.62	8.27	4.55	36.01
11/6	6	4.96	0.35	9.8	0.07	0.62	0.00	0.00	0.130	50.3	0.588	31.3	0.29	0.35	8.62	3.08	39.09
11/7	7	5.08	0.35	10.0	0.05	0.46	0.00	0.00	0.134	51.8	0.623	33.2	0.34	0.25	8.88	2.34	41.42
11/8	8	4.84	0.35	10.1	0.04	0.34	0.00	0.00	0.136	52.9	0.648	34.5	0.39	0.19	9.07	1.65	43.07
11/9	9	4.84	0.35	9.7	0.04	0.29	0.00	0.00	0.139	54.0	0.669	35.6	0.45	0.19	9.26	1.40	44.47
11/10	10	5.03	0.40	9.8	0.03	0.25	0.00	0.00	0.142	54.9	0.688	36.6	0.49	0.15	9.41	1.26	45.73
11/11	11	4.97	0.40	10.0	0.01	0.20	0.00	0.00	0.142	55.2	0.703	37.4	0.54	0.05	9.46	0.99	46.72
11/12	12	4.90	0.40	10.0	0.01	0.18	0.00	0.01	0.143	55.5	0.716	38.1	0.59	0.05	9.51	0.88	47.61
11/13	13	4.91	0.40	10.0	0.02	0.16	0.00	0.00	0.145	56.1	0.727	38.7	0.63	0.10	9.61	0.73	48.34
11/14	14	4.85	0.45	10.0	0.02	0.15	0.00	0.00	0.146	56.6	0.738	39.3	0.68	0.10	9.71	0.73	49.07
11/15	15	4.89	0.45	9.8	0.01	0.13	0.00	0.02	0.147	56.9	0.748	39.8	0.72	0.05	9.76	0.64	49.70
11/16	16	4.66	0.35	9.8	0.01	0.13	0.00	0.00	0.148	57.2	0.755	40.2	0.77	0.05	9.80	0.50	50.21
11/17	17	4.04	0.40	9.6	0.01	0.11	0.00	0.01	0.148	57.4	0.762	40.5	0.83	0.04	9.84	0.44	50.65
11/18	18	5.96	0.40	9.8	0.01	0.09	0.00	0.00	0.149	57.8	0.769	40.9	0.87	0.06	9.90	0.49	51.14
11/19	19	4.96	0.40	9.6	0.00	0.09	0.00	0.00	0.149	57.8	0.776	41.3	0.91	0.00	9.90	0.45	51.58
11/20	20	5.03	0.40	9.9	0.00	0.08	0.00	0.00	0.149	57.8	0.782	41.6	0.96	0.00	9.90	0.40	51.99
11/21	21	4.81	0.50	9.8	0.01	0.07	0.00	0.00	0.150	58.0	0.787	41.9	1.00	0.05	9.95	0.34	52.32
11/22	22	5.03	0.45	9.6	0.00	0.07	0.00	0.00	0.150	58.0	0.793	42.2	1.04	0.00	9.95	0.35	52.68
11/23	23	4.95	0.45	9.8	0.01	0.08	0.00	0.00	0.150	58.3	0.799	42.5	1.09	0.05	10.00	0.40	53.07
11/24	24	Rest Cycle												0.00	10.00	0.00	53.07
12/7	37												1.09	0.00	10.00	0.00	53.07
12/8	38	3.87	0.30	9.6	0.05	0.40	0.00	0.01	0.153	59.5	0.822	43.7	1.15	0.19	10.19	1.55	54.62
12/9	39	4.97	0.25	9.6	0.02	0.24	0.00	0.00	0.155	60.0	0.839	44.6	1.20	0.10	10.29	1.14	55.76
12/10	40	4.97	0.35	9.5	0.00	0.09	0.00	0.00	0.155	60.0	0.846	45.0	1.25	0.00	10.29	0.45	56.21
12/11	41	4.75	0.35	10.3	0.00	0.05	0.00	0.00	0.155	60.0	0.849	45.2	1.31	0.00	10.29	0.24	56.45
12/12	42	4.88	0.40	10.5	0.00	0.04	0.00	0.00	0.155	60.0	0.852	45.3	1.35	0.00	10.29	0.20	56.64
12/13	43	4.90	0.45	9.6	0.00	0.03	0.00	0.00	0.155	60.0	0.854	45.5	1.40	0.00	10.29	0.15	56.79
12/14	44	4.83	0.45	9.8	0.00	0.04	0.00	0.00	0.155	60.0	0.857	45.6	1.44	0.00	10.29	0.19	56.98
12/15	45	Rest Cycle												0.00	10.29	0.00	56.98
12/28	58												1.44	0.00	10.29	0.00	56.98
12/29	59	3.47	0.25	9.5	0.02	0.23	0.00	0.00	0.156	60.4	0.869	46.2	1.50	0.07	10.36	0.80	57.78
12/30	60	4.89	0.35	9.7	0.00	0.16	0.00	0.00	0.156	60.4	0.881	46.9	1.56	0.00	10.36	0.78	58.56
12/31	61	4.62	0.30	10.0	0.01	0.08	0.00	0.00	0.157	60.7	0.887	47.2	1.61	0.05	10.41	0.37	58.93
1/1	62	4.72	0.35	9.7	0.00	0.05	0.00	0.00	0.157	60.7	0.890	47.4	1.66	0.00	10.41	0.24	59.17
1/2	63	5.17	0.40	9.4	0.00	0.04	0.00	0.00	0.157	60.7	0.893	47.5	1.71	0.00	10.41	0.21	59.37
1/3	64	4.93	0.50	9.5	0.00	0.04	0.00	0.00	0.157	60.7	0.896	47.7	1.75	0.00	10.41	0.20	59.57
1/4	65	4.86	0.55	9.8	0.00	0.03	0.00	0.00	0.157	60.7	0.899	47.8	1.78	0.00	10.41	0.15	59.72
1/5	66	Rinse Cycle												0.00	10.41	0.00	59.72
1/18	79	3.92	0.35	9.8	0.11	0.14	0.10	0.01	0.163	63.2	0.907	48.2	1.76	0.43	10.84	0.55	60.27
1/19	80	5.01	0.30	9.3	0.01	0.12	0.00	0.01	0.164	63.5	0.916	48.7	1.74	0.05	10.89	0.60	60.87
1/20	81	4.87	0.00	9.3	0.00	0.04	0.00	0.00	0.164	63.5	0.919	48.9	1.74	0.00	10.89	0.19	61.06
1/21	82	4.90	0.00	9.4	0.00	0.02	0.00	0.00	0.164	63.6	0.92	48.9	1.74	0.00	10.89	0.10	61.16
1/22	83	Drain Down															

Extracted, g/mt ore	0.164	63.6	0.92	48.9
Tail, g/mt ore	0.094		0.96	
Calculated Head, g/mt ore	0.258		1.88	

		NaCN added	183.60 g	NaCN	1.00 g/L solution		g/mt ore	
Kilograms	67.27	NaCN Consumption	0.94 kg/mt ore				-----	
Metric Tons	0.067	Lime:	0.0 kg/mt ore				Head Grade	0.124
		Cement:	3.5 kg/mt ore				Head Screen	0.102
							Tail Screen	0.024
								0.46

Daily Column Leach Test Data,
Sample I.D. WDW-11-4

Feed Size P80 19mm

Date	Days Leached	Pregnant Solution Analyses					Barren Solution Analyses		Au Extraction		Ag Extraction		NaCN Consumed kg/mt ore	Au		Ag	
		NaCN		pH	Au ppm	Ag ppm	Au ppm	Ag ppm	Cum. g/mt ore	Cum. %	Cum. g/mt ore	Cum. %		mg	cum. mg	mg	cum. mg
		Vol. l.	Conc. g/l														
11/1	1											0.00	0.00	0.00	0.00	0.00	
11/2	2	7.18	0.35	10.1	0.72	1.48	0.01	0.03	0.077	58.2	0.158	23.2	0.04	5.17	5.17	10.63	10.63
11/3	3	4.84	1.00	10.6	0.20	0.36	0.00	0.00	0.090	68.5	0.182	26.7	0.04	0.92	6.09	1.59	12.22
11/4	4	4.77	0.55	10.6	0.10	0.15	0.00	0.00	0.098	73.9	0.192	28.3	0.08	0.48	6.56	0.72	12.93
11/5	5	4.83	0.40	10.6	0.03	0.06	0.00	0.00	0.100	75.5	0.197	28.9	0.13	0.14	6.71	0.29	13.22
11/6	6	4.81	0.55	10.6	0.01	0.02	0.00	0.00	0.100	76.1	0.198	29.1	0.16	0.05	6.76	0.10	13.32
11/7	7	5.06	0.80	10.7	0.02	0.02	0.00	0.00	0.102	77.2	0.199	29.3	0.18	0.10	6.86	0.10	13.42
11/8	8	4.81	0.55	10.8	0.00	0.02	0.00	0.00	0.102	77.2	0.201	29.5	0.21	0.00	6.86	0.10	13.51
11/9	9	4.87	0.60	10.4	0.00	0.02	0.00	0.00	0.102	77.2	0.202	29.8	0.25	0.00	6.86	0.10	13.61
11/10	10	5.04	0.65	10.6	0.00	0.02	0.00	0.00	0.102	77.2	0.204	30.0	0.27	0.00	6.86	0.10	13.71
11/11	11	5.02	0.70	10.8	0.01	0.00	0.00	0.00	0.103	77.8	0.204	30.0	0.30	0.05	6.91	0.00	13.71
11/12	12	4.96	0.75	10.8	0.00	0.03	0.00	0.00	0.103	77.8	0.206	30.3	0.32	0.00	6.91	0.15	13.86
11/13	13	3.48	0.70	10.8	0.00	0.01	0.00	0.00	0.103	77.8	0.207	30.4	0.36	0.00	6.91	0.03	13.90
11/14	14	6.30	0.75	10.9	0.00	0.01	0.00	0.00	0.103	77.8	0.208	30.5	0.36	0.00	6.91	0.06	13.96
11/15	15	4.95	0.70	10.6	0.00	0.01	0.00	0.00	0.103	77.8	0.208	30.6	0.39	0.00	6.91	0.05	14.01
11/16	16	4.88	0.75	10.7	0.00	0.01	0.00	0.00	0.103	77.8	0.209	30.7	0.41	0.00	6.91	0.05	14.06
11/17	17	4.48	0.75	10.4	0.01	0.01	0.00	0.00	0.103	78.3	0.210	30.8	0.44	0.04	6.95	0.04	14.10
11/18	18	5.41	0.85	10.6	0.00	0.00	0.00	0.00	0.103	78.3	0.210	30.8	0.44	0.00	6.95	0.00	14.10
11/19	19	4.91	0.75	10.7	0.00	0.00	0.00	0.00	0.103	78.3	0.210	30.8	0.46	0.00	6.95	0.00	14.10
11/20	20	5.04	0.75	10.7	0.00	0.01	0.00	0.00	0.103	78.3	0.210	30.9	0.48	0.00	6.95	0.05	14.15
11/21	21	4.86	0.70	10.7	0.00	0.01	0.00	0.00	0.103	78.3	0.211	31.0	0.51	0.00	6.95	0.05	14.20
11/22	22	5.04	0.75	10.4	0.00	0.00	0.00	0.00	0.103	78.3	0.211	31.0	0.53	0.00	6.95	0.00	14.20
11/23	23	4.95	0.70	10.7	0.00	0.01	0.00	0.00	0.103	78.3	0.212	31.2	0.55	0.00	6.95	0.05	14.25
11/24	24			Rest Cycle										0.00	6.95	0.00	14.25
12/7	37												0.55	0.00	6.95	0.00	14.25
12/8	38	3.78	0.65	10.4	0.00	0.06	0.00	0.05	0.103	78.3	0.215	31.7	0.59	0.00	6.95	0.23	14.48
12/9	39	4.99	0.70	10.5	0.00	0.02	0.00	0.02	0.103	78.3	0.213	31.3	0.62	0.00	6.95	-0.16	14.32
12/10	40	4.96	0.80	10.4	0.00	0.01	0.00	0.00	0.103	78.3	0.212	31.2	0.63	0.00	6.95	-0.05	14.27
12/11	41	4.80	0.70	11.3	0.00	0.00	0.00	0.00	0.103	78.3	0.212	31.2	0.66	0.00	6.95	0.00	14.27
12/12	42	4.93	0.75	11.6	0.01	0.00	0.00	0.00	0.104	78.9	0.212	31.2	0.68	0.05	7.00	0.00	14.27
12/13	43	4.97	0.70	10.5	0.00	0.00	0.00	0.00	0.104	78.9	0.212	31.2	0.70	0.00	7.00	0.00	14.27
12/14	44	3.93	0.75	10.7	0.00	0.01	0.00	0.00	0.104	78.9	0.213	31.3	0.74	0.00	7.00	0.04	14.31
12/15	45			Rest Cycle										0.00	7.00	0.00	14.31
12/28	58												0.74	0.00	7.00	0.00	14.31
12/29	59	4.44	0.50	10.1	0.00	0.01	0.00	0.00	0.104	78.9	0.213	31.4	0.78	0.00	7.00	0.04	14.35
12/30	60	4.96	0.75	10.6	0.00	0.01	0.00	0.00	0.104	78.9	0.214	31.5	0.80	0.00	7.00	0.05	14.40
12/31	61	4.76	0.60	10.4	0.00	0.01	0.00	0.00	0.104	78.9	0.215	31.6	0.83	0.00	7.00	0.05	14.45
1/1	62	4.73	0.50	10.4	0.00	0.00	0.00	0.00	0.104	78.9	0.215	31.6	0.87	0.00	7.00	0.00	14.45
1/2	63	5.20	0.65	10.3	0.00	0.00	0.00	0.00	0.104	78.9	0.215	31.6	0.90	0.00	7.00	0.00	14.45
1/3	64	4.91	0.70	10.3	0.00	0.00	0.00	0.00	0.104	78.9	0.215	31.6	0.92	0.00	7.00	0.00	14.45
1/4	65	4.87	0.65	10.4	0.00	0.00	0.00	0.00	0.104	78.9	0.215	31.6	0.95	0.00	7.00	0.00	14.45
1/5	66			Rinse Cycle										0.00	7.00	0.00	14.45
1/18	79	3.91	0.25	10.4	0.07	0.03	0.02	0.01	0.108	81.8	0.22	32.4	0.94	0.27	7.28	0.12	14.57
1/19	80	4.87	0.00	10.1	0.00	0.00	0.00	0.00	0.108	81.8	0.22	32.4	0.94	0.00	7.28	0.00	14.57
1/20	81	4.82	0.00	10.4	0.00	0.00	0.00	0.00	0.108	81.8	0.22	32.4	0.94	0.00	7.28	0.00	14.57
1/21	82			Drain Down													

Extracted, g/mt ore	0.108	81.8	0.22	32.4
Tail, g/mt ore	0.024		0.46	
Calculated Head, g/mt ore	0.132		0.68	

3486-01 P-5

		NaCN added	183.60 g	NaCN	1.00 g/L solution		g/mt ore	
Kilograms	68.01	NaCN Consumption	1.09 kg/mt ore				Au	Ag
Metric Tons	0.068	Lime:	0.0 kg/mt ore			Head Grade	0.495	
		Cement:	40.0 kg/mt ore			Head Screen	0.491	4.07
						Tail Screen	0.104	3.11
						Tail Grade		

Daily Column Leach Test Data,
Sample I.D. WDN-11-9 HG

Feed Size P80 19mm

Date	Days Leached	Pregnant Solution Analyses					Barren Solution Analyses		Au Extraction		Ag Extraction		NaCN Consumed kg/mt ore	Au		Ag		
		NaCN		pH	Au ppm	Ag ppm	Au ppm	Ag ppm	Cum. g/mt ore	Cum. %	Cum. g/mt ore	Cum. %		mg	cum. mg	mg	cum. mg	
		Vol. l.	Conc. g/l															
11/1	1											0.00	0.00	0.00	0.00	0.00		
11/2	2	6.43	0.00	11.1	1.50	2.03	0.00	0.00	0.142	28.6	0.192	3.7	0.07	9.65	9.65	13.05	13.05	
11/3	3	5.04	0.30	11.1	1.19	4.38	0.00	0.00	0.230	46.4	0.517	9.9	0.13	6.00	15.64	22.08	35.13	
11/4	4	4.82	0.45	11.2	0.73	3.50	0.00	0.00	0.282	56.8	0.765	14.6	0.17	3.52	19.16	16.87	52.00	
11/5	5	4.76	0.45	11.2	0.45	2.68	0.00	0.00	0.313	63.2	0.952	18.2	0.21	2.14	21.30	12.76	64.75	
11/6	6	4.88	0.45	11.3	0.25	2.03	0.00	0.00	0.331	66.8	1.098	21.0	0.26	1.22	22.52	9.91	74.66	
11/7	7	5.10	0.55	11.2	0.16	1.43	0.00	0.00	0.343	69.2	1.205	23.0	0.29	0.82	23.34	7.29	81.95	
11/8	8	4.89	0.55	11.3	0.11	1.13	0.00	0.00	0.351	70.8	1.286	24.6	0.33	0.54	23.88	5.53	87.48	
11/9	9	4.77	0.55	11.0	0.09	0.95	0.00	0.00	0.357	72.1	1.353	25.9	0.36	0.43	24.31	4.53	92.01	
11/10	10	5.07	0.70	11.3	0.07	0.88	0.00	0.00	0.363	73.1	1.419	27.1	0.39	0.35	24.66	4.46	96.47	
11/11	11	4.93	0.70	11.3	0.04	0.65	0.00	0.00	0.366	73.7	1.466	28.0	0.41	0.20	24.86	3.20	99.68	
11/12	12	4.93	0.70	11.3	0.02	0.59	0.00	0.00	0.367	74.0	1.508	28.8	0.43	0.10	24.96	2.91	102.59	
11/13	13	4.92	0.65	11.2	0.03	0.53	0.00	0.00	0.369	74.4	1.547	29.6	0.46	0.15	25.10	2.61	105.19	
11/14	14	4.85	0.70	11.5	0.03	0.45	0.00	0.00	0.371	74.9	1.579	30.2	0.49	0.15	25.25	2.18	107.38	
11/15	15	4.91	0.60	11.1	0.02	0.42	0.00	0.00	0.373	75.1	1.609	30.8	0.52	0.10	25.35	2.06	109.44	
11/16	16	4.87	0.65	11.0	0.02	0.37	0.00	0.00	0.374	75.4	1.636	31.3	0.55	0.10	25.45	1.80	111.24	
11/17	17	3.95	0.65	11.0	0.01	0.38	0.00	0.00	0.375	75.6	1.658	31.7	0.58	0.04	25.49	1.50	112.74	
11/18	18	5.74	0.65	11.0	0.02	0.34	0.00	0.00	0.376	75.9	1.686	32.2	0.60	0.11	25.60	1.95	114.69	
11/19	19	4.89	0.70	11.1	0.01	0.29	0.00	0.00	0.377	76.0	1.707	32.6	0.63	0.05	25.65	1.42	116.11	
11/20	20	4.97	0.65	11.0	0.01	0.23	0.00	0.00	0.378	76.2	1.724	33.0	0.66	0.05	25.70	1.14	117.25	
11/21	21	4.73	0.65	11.1	0.02	0.25	0.00	0.00	0.379	76.5	1.741	33.3	0.69	0.09	25.79	1.18	118.44	
11/22	22	4.94	0.65	10.9	0.01	0.22	0.00	0.00	0.380	76.6	1.757	33.6	0.71	0.05	25.84	1.09	119.52	
11/23	23	4.83	0.60	11.0	0.02	0.21	0.00	0.02	0.381	76.9	1.772	33.9	0.75	0.10	25.94	1.01	120.54	
11/24	24	Rest Cycle													0.00	25.94	0.00	120.54
12/7	37												0.75	0.00	25.94	0.00	120.54	
12/8	38	3.82	0.30	10.5	0.05	0.80	0.00	0.03	0.384	77.5	1.816	34.7	0.80	0.19	26.13	2.95	123.49	
12/9	39	5.04	0.40	10.7	0.02	0.54	0.00	0.00	0.386	77.8	1.854	35.4	0.85	0.10	26.23	2.57	126.06	
12/10	40	5.02	0.55	10.6	0.00	0.30	0.00	0.00	0.386	77.8	1.876	35.9	0.88	0.00	26.23	1.51	127.57	
12/11	41	4.77	0.60	11.6	0.01	0.21	0.00	0.00	0.386	77.9	1.890	36.1	0.92	0.05	26.28	1.00	128.57	
12/12	42	4.96	0.70	11.9	0.00	0.17	0.01	0.00	0.386	77.9	1.903	36.4	0.94	0.00	26.28	0.84	129.41	
12/13	43	5.03	0.70	10.7	0.00	0.15	0.00	0.00	0.386	77.8	1.914	36.6	0.96	-0.05	26.23	0.75	130.17	
12/14	44	4.90	0.70	10.9	0.00	0.14	0.00	0.00	0.386	77.8	1.924	36.8	0.99	0.00	26.23	0.69	130.85	
12/15	45	Rest Cycle													0.00	26.23	0.00	130.85
12/28	58												0.99	0.00	26.23	0.00	130.85	
12/29	59	3.86	0.45	10.5	0.03	0.67	0.00	0.00	0.387	78.1	1.962	37.5	1.04	0.12	26.34	2.59	133.44	
12/30	60	5.01	0.60	10.7	0.01	0.43	0.00	0.00	0.388	78.2	1.994	38.1	1.07	0.05	26.39	2.15	135.59	
12/31	61	4.75	0.65	10.7	0.02	0.28	0.00	0.00	0.389	78.5	2.013	38.5	1.10	0.10	26.49	1.33	136.92	
1/1	62	4.68	0.75	10.5	0.00	0.19	0.00	0.00	0.389	78.5	2.026	38.7	1.12	0.00	26.49	0.89	137.81	
1/2	63	5.35	0.75	10.5	0.01	0.14	0.00	0.00	0.390	78.7	2.037	39.0	1.14	0.05	26.54	0.75	138.56	
1/3	64	4.93	0.70	10.6	0.00	0.11	0.00	0.00	0.390	78.7	2.045	39.1	1.16	0.00	26.54	0.54	139.10	
1/4	65	4.94	0.80	10.5	0.01	0.10	0.01	0.00	0.391	78.8	2.053	39.2	1.18	0.05	26.59	0.49	139.60	
1/5	66	Rinse Cycle													0.00	26.59	0.00	139.60
1/18	79	3.98	0.50	10.7	0.00	0.38	0.00	0.00	0.391	78.8	2.075	39.7	1.15	0.00	26.59	1.51	141.11	
1/19	80	5.00	0.40	10.6	0.01	0.33	0.01	0.00	0.392	79.0	2.099	40.1	1.12	0.05	26.64	1.65	142.76	
1/20	81	4.75	0.25	10.5	0.01	0.16	0.00	0.00	0.392	79.0	2.110	40.3	1.10	0.05	26.69	0.76	143.52	
1/21	82	4.83	0.10	10.6	0.00	0.10	0.00	0.00	0.392	79.0	2.117	40.5	1.10	0.00	26.69	0.48	144.00	
1/22	83	5.30	0.10	10.3	0.00	0.05	0.00	0.00	0.392	79.0	2.12	40.5	1.09	0.00	26.69	0.27	144.27	
1/23	84	4.82	0.00	9.6	0.00	0.03	0.00	0.00	0.392	79.0	2.12	40.5	1.09	0.00	26.69	0.14	144.41	
1/24	85	Drain Down																

Extracted, g/mt ore	0.392	79.0	2.12	40.5
Tail, g/mt ore	0.104		3.11	
Calculated Head, g/mt ore	0.496		5.23	

3486-01 P-6

		NaCN added	183.60 g	NaCN	1.00 g/L solution		g/mt ore	
Kilograms	66.99	NaCN Consumption	0.84 kg/mt ore				Au	Ag
Metric Tons	0.067	Lime:	4.5 kg/mt ore			Head Grade	0.642	
		Cement:	5.0 kg/mt ore			Head Screen	0.627	3.34
						Tail Screen	0.107	2.81
						Tail Grade		

Daily Column Leach Test Data,
Sample I.D. Fox-001

Feed Size P80 19mm

Date	Days Leached	Pregnant Solution Analyses					Barren Solution Analyses		Au Extraction		Ag Extraction		NaCN Consumed kg/mt ore	Au		Ag	
		NaCN		pH	Au ppm	Ag ppm	Au ppm	Ag ppm	Cum. g/mt ore	Cum. %	Cum. g/mt ore	Cum. %		mg	cum. mg	mg	cum. mg
		Vol. l.	Conc. g/l														
11/1	1											0.00	0.00	0.00	0.00	0.00	0.00
11/2	2	7.93	0.20	11.8	2.19	0.63	0.00	0.00	0.259	37.4	0.075	2.4	0.05	17.37	17.37	5.00	5.00
11/3	3	5.44	0.75	11.6	1.43	0.56	0.00	0.00	0.375	54.1	0.120	3.9	0.07	7.78	25.15	3.05	8.04
11/4	4	5.12	0.75	11.6	0.78	0.35	0.00	0.00	0.435	62.7	0.147	4.7	0.09	3.99	29.14	1.79	9.83
11/5	5	4.89	0.70	11.6	0.48	0.25	0.00	0.00	0.470	67.7	0.165	5.3	0.11	2.35	31.49	1.22	11.06
11/6	6	5.05	0.70	11.5	0.28	0.16	0.00	0.00	0.491	70.8	0.177	5.7	0.13	1.41	32.90	0.81	11.86
11/7	7	5.25	0.75	11.4	0.18	0.12	0.00	0.00	0.505	72.8	0.187	6.0	0.15	0.95	33.85	0.63	12.49
11/8	8	5.07	0.70	11.5	0.14	0.05	0.00	0.00	0.516	74.3	0.190	6.1	0.18	0.71	34.56	0.25	12.75
11/9	9	4.98	0.80	11.2	0.11	0.09	0.00	0.00	0.524	75.5	0.197	6.4	0.19	0.55	35.10	0.45	13.20
11/10	10	5.20	0.80	11.5	0.09	0.08	0.00	0.00	0.531	76.5	0.203	6.6	0.21	0.47	35.57	0.42	13.61
11/11	11	5.19	0.80	11.4	0.07	0.06	0.00	0.00	0.536	77.3	0.208	6.7	0.22	0.36	35.93	0.31	13.92
11/12	12	5.16	0.75	11.3	0.05	0.05	0.00	0.00	0.540	77.8	0.212	6.8	0.24	0.26	36.19	0.26	14.18
11/13	13	5.12	0.80	11.3	0.04	0.05	0.00	0.00	0.543	78.3	0.216	7.0	0.25	0.20	36.40	0.26	14.44
11/14	14	5.07	0.80	11.4	0.05	0.05	0.00	0.00	0.547	78.8	0.219	7.1	0.27	0.25	36.65	0.25	14.69
11/15	15	5.09	0.70	11.0	0.04	0.05	0.00	0.01	0.550	79.3	0.223	7.2	0.29	0.20	36.85	0.25	14.95
11/16	16	5.06	0.75	11.0	0.03	0.04	0.00	0.00	0.552	79.6	0.225	7.3	0.31	0.15	37.01	0.15	15.10
11/17	17	4.26	0.75	11.0	0.03	0.05	0.00	0.00	0.554	79.9	0.229	7.4	0.34	0.13	37.13	0.21	15.31
11/18	18	5.88	0.75	11.0	0.02	0.04	0.00	0.00	0.556	80.1	0.232	7.5	0.35	0.12	37.25	0.24	15.55
11/19	19	5.08	0.65	11.1	0.02	0.03	0.00	0.00	0.558	80.3	0.234	7.6	0.38	0.10	37.35	0.15	15.70
11/20	20	5.22	0.70	11.0	0.02	0.03	0.00	0.00	0.559	80.6	0.237	7.6	0.40	0.10	37.46	0.16	15.85
11/21	21	5.00	0.70	11.0	0.02	0.03	0.00	0.00	0.561	80.8	0.239	7.7	0.42	0.10	37.56	0.15	16.00
11/22	22	5.17	0.70	11.0	0.02	0.02	0.00	0.00	0.562	81.0	0.240	7.8	0.44	0.10	37.66	0.10	16.11
11/23	23	5.13	0.70	11.0	0.03	0.05	0.00	0.00	0.564	81.3	0.244	7.9	0.47	0.15	37.82	0.26	16.36
11/24	24			Rest Cycle										0.00	37.82	0.00	16.36
12/7	37												0.47	0.00	37.82	0.00	16.36
12/8	38	3.91	0.20	10.4	0.11	0.16	0.00	0.03	0.571	82.3	0.254	8.2	0.53	0.43	38.25	0.63	16.99
12/9	39	5.13	0.40	10.7	0.06	0.10	0.00	0.00	0.576	82.9	0.259	8.4	0.58	0.31	38.55	0.36	17.35
12/10	40	5.08	0.55	10.7	0.02	0.07	0.00	0.02	0.577	83.1	0.264	8.5	0.61	0.10	38.65	0.36	17.71
12/11	41	4.91	0.65	11.6	0.02	0.03	0.00	0.00	0.578	83.4	0.265	8.5	0.64	0.10	38.75	0.05	17.75
12/12	42	5.04	0.70	11.9	0.00	0.02	0.00	0.00	0.578	83.4	0.266	8.6	0.66	0.00	38.75	0.10	17.85
12/13	43	5.07	0.65	10.7	0.01	0.01	0.00	0.03	0.579	83.5	0.267	8.6	0.69	0.05	38.80	0.05	17.90
12/14	44	4.91	0.75	10.9	0.01	0.01	0.00	0.00	0.580	83.6	0.266	8.6	0.71	0.05	38.85	-0.10	17.80
12/15	45			Rest Cycle										0.00	38.85	0.00	17.80
12/28	58												0.71	0.00	38.85	0.00	17.80
12/29	59	3.78	0.60	10.5	0.04	0.10	0.00	0.00	0.582	83.9	0.271	8.8	0.75	0.15	39.00	0.38	18.18
12/30	60	5.08	0.70	10.8	0.02	0.07	0.00	0.00	0.584	84.1	0.277	8.9	0.78	0.10	39.11	0.36	18.53
12/31	61	4.85	0.60	10.7	0.01	0.04	0.00	0.00	0.584	84.2	0.28	9.0	0.81	0.05	39.15	0.19	18.73
1/1	62	4.68	0.60	10.7	0.00	0.02	0.00	0.00	0.584	84.2	0.28	9.0	0.84	0.00	39.15	0.09	18.82
1/2	63	5.22	0.70	10.7	0.00	0.02	0.00	0.00	0.584	84.2	0.28	9.0	0.87	0.00	39.15	0.10	18.92
1/3	64	4.93	0.70	10.7	0.00	0.01	0.00	0.00	0.584	84.2	0.28	9.0	0.89	0.00	39.15	0.05	18.97
1/4	65	4.94	0.80	10.7	0.00	0.01	0.00	0.00	0.584	84.2	0.28	9.0	0.91	0.00	39.15	0.05	19.02
1/5	66			Rinse Cycle										0.00	39.15	0.00	19.02
1/18	79	4.10	0.60	10.7	0.02	0.06	0.00	0.00	0.586	84.4	0.29	9.4	0.87	0.08	39.24	0.25	19.27
1/19	80	1.79	0.45	10.4	0.02	0.07	0.00	0.00	0.586	84.5	0.29	9.4	0.86	0.04	39.27	0.13	19.39
1/20	81	6.69	0.15	10.7	0.01	0.02	0.00	0.00	0.587	84.6	0.29	9.4	0.84	0.07	39.34	0.13	19.53
1/21	82	4.98	0.00	10.9	0.00	0.01	0.00	0.00	0.587	84.6	0.29	9.4	0.84	0.00	39.34	0.05	19.58
1/22	83	5.21	0.00	10.7	0.00	0.01	0.00	0.00	0.587	84.6	0.29	9.4	0.84	0.00	39.34	0.05	19.63
1/23	84			Drain Down													

Extracted, g/mt ore	0.587	84.6	0.29	9.4
Tail, g/mt ore	0.107		2.81	
Calculated Head, g/mt ore	0.694		3.10	

3486-01 P-7

		NaCN added	183.60 g	NaCN	1.00 g/L solution		g/mt ore	
Kilograms	65.99	NaCN Consumption	0.88 kg/mt ore				Au	Ag
Metric Tons	0.066	Lime:	3.7 kg/mt ore			Head Grade	0.960	
		Cement:	4.0 kg/mt ore			Head Screen	0.878	3.30
						Tail Screen	0.146	3.69
						Tail Grade		

Daily Column Leach Test Data,
Sample I.D. Fox-002

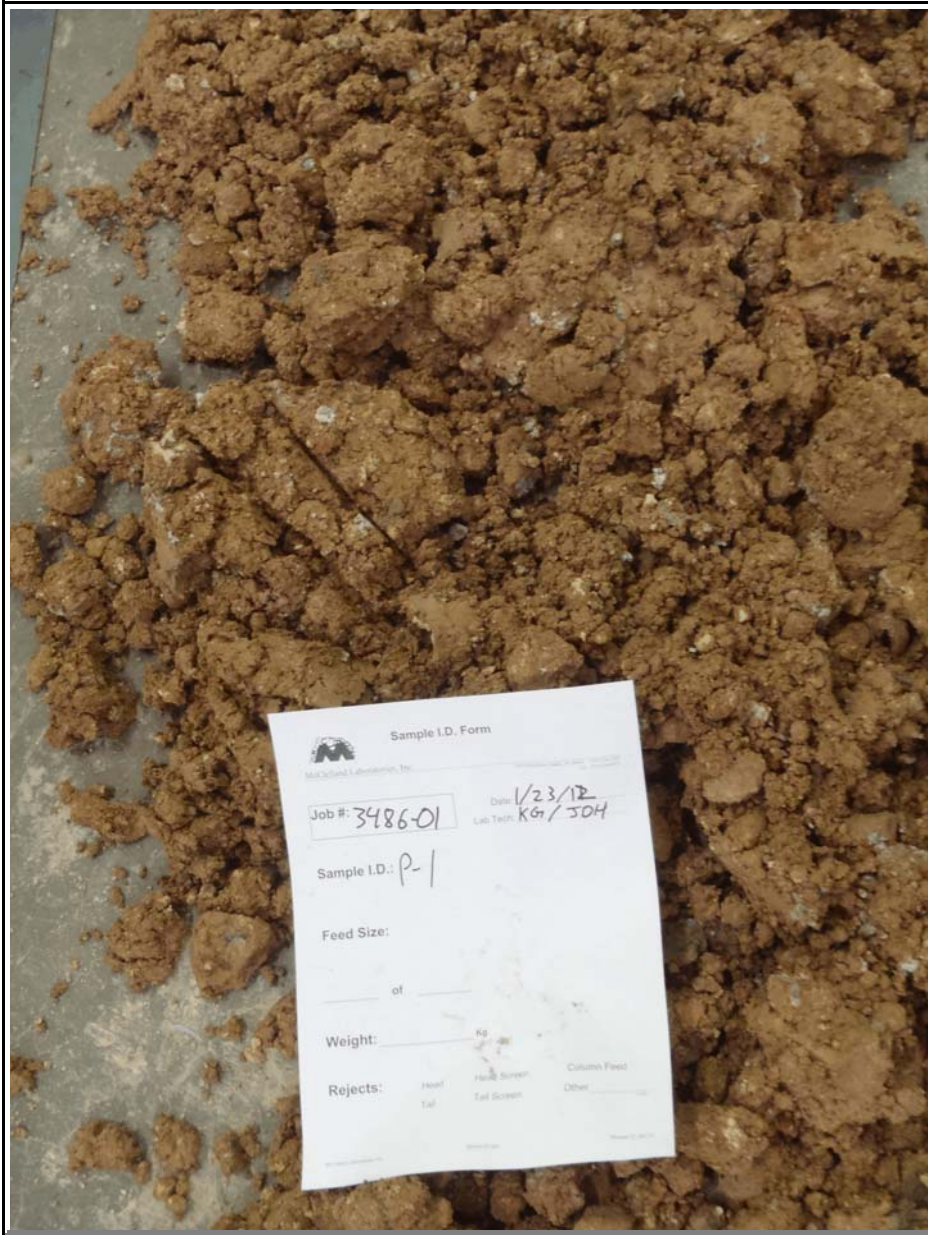
Feed Size P80 19mm

Date	Days Leached	Pregnant Solution Analyses					Barren Solution Analyses		Au Extraction		Ag Extraction		NaCN Consumed kg/mt ore	Au		Ag	
		NaCN		pH	Au ppm	Ag ppm	Au ppm	Ag ppm	Cum. g/mt ore	Cum. %	Cum. g/mt ore	Cum. %		mg	cum. mg	mg	cum. mg
		Vol. l.	Conc. g/l														
11/1	1											0.00	0.00	0.00	0.00	0.00	0.00
11/2	2	5.78	0.20	11.8	2.49	0.57	0.69	0.20	0.218	25.2	0.050	1.3	0.06	14.39	14.39	3.29	3.29
11/3	3	5.04	0.70	11.5	2.58	0.99	0.00	0.00	0.362	41.8	0.110	2.8	0.08	9.48	23.88	3.97	7.26
11/4	4	4.83	0.70	11.6	1.51	0.55	0.00	0.00	0.472	54.6	0.150	3.8	0.11	7.29	31.17	2.66	9.92
11/5	5	4.59	0.70	11.5	1.07	0.42	0.00	0.00	0.547	63.2	0.180	4.5	0.14	4.91	36.08	1.93	11.85
11/6	6	5.30	0.65	11.5	0.52	0.23	0.00	0.00	0.589	68.0	0.198	5.0	0.16	2.76	38.84	1.22	13.07
11/7	7	4.74	0.80	11.5	0.32	0.14	0.00	0.00	0.612	70.7	0.208	5.3	0.18	1.52	40.35	0.66	13.73
11/8	8	4.67	0.70	11.6	0.23	0.11	0.00	0.00	0.628	72.6	0.216	5.5	0.21	1.07	41.43	0.51	14.24
11/9	9	4.98	0.75	11.3	0.17	0.08	0.00	0.00	0.641	74.1	0.222	5.6	0.23	0.85	42.27	0.40	14.64
11/10	10	4.42	0.75	11.5	0.15	0.08	0.00	0.00	0.651	75.2	0.227	5.7	0.26	0.66	42.94	0.35	15.00
11/11	11	5.03	0.85	11.5	0.11	0.05	0.00	0.00	0.659	76.2	0.231	5.8	0.27	0.55	43.49	0.25	15.25
11/12	12	4.73	0.85	11.4	0.09	0.04	0.00	0.00	0.666	76.9	0.234	5.9	0.29	0.43	43.92	0.19	15.44
11/13	13	5.74	0.80	11.4	0.05	0.03	0.00	0.00	0.670	77.4	0.237	6.0	0.30	0.29	44.20	0.17	15.61
11/14	14	4.50	0.80	11.6	0.06	0.04	0.00	0.00	0.674	77.9	0.239	6.0	0.32	0.27	44.47	0.18	15.79
11/15	15	5.34	0.75	11.2	0.05	0.03	0.00	0.00	0.678	78.4	0.242	6.1	0.33	0.27	44.74	0.16	15.95
11/16	16	5.02	0.75	11.2	0.04	0.02	0.00	0.00	0.681	78.7	0.243	6.1	0.35	0.20	44.94	0.10	16.05
11/17	17	4.59	0.75	11.2	0.03	0.02	0.00	0.00	0.683	79.0	0.245	6.2	0.38	0.14	45.08	0.09	16.14
11/18	18	4.67	0.80	11.2	0.04	0.02	0.00	0.00	0.686	79.3	0.246	6.2	0.40	0.19	45.27	0.09	16.24
11/19	19	3.96	0.75	11.2	0.03	0.02	0.00	0.00	0.688	79.5	0.247	6.2	0.43	0.12	45.38	0.08	16.31
11/20	20	6.03	0.70	11.2	0.03	0.02	0.00	0.00	0.690	79.8	0.249	6.3	0.45	0.18	45.57	0.12	16.44
11/21	21	4.49	0.65	11.2	0.03	0.02	0.00	0.00	0.693	80.1	0.250	6.3	0.48	0.13	45.70	0.09	16.53
11/22	22	5.54	0.70	11.2	0.02	0.01	0.00	0.00	0.694	80.3	0.251	6.3	0.50	0.11	45.81	0.06	16.58
11/23	23	4.52	0.65	11.2	0.03	0.01	0.00	0.00	0.696	80.5	0.252	6.4	0.53	0.14	45.95	0.05	16.63
11/24	24			Rest Cycle										0.00	45.95	0.00	16.63
12/7	37												0.53	0.00	45.95	0.00	16.63
12/8	38	4.08	0.30	10.7	0.10	0.07	0.00	0.03	0.702	81.2	0.256	6.5	0.59	0.41	46.35	0.29	16.91
12/9	39	4.69	0.40	10.8	0.07	0.05	0.00	0.00	0.707	81.8	0.258	6.5	0.64	0.33	46.68	0.08	16.99
12/10	40	5.26	0.55	10.8	0.02	0.02	0.00	0.00	0.709	82.0	0.259	6.5	0.67	0.11	46.79	0.11	17.10
12/11	41	5.57	0.70	11.8	0.01	0.01	0.00	0.00	0.710	82.1	0.260	6.6	0.69	0.06	46.84	0.06	17.15
12/12	42	4.19	0.70	12.1	0.01	0.01	0.00	0.00	0.710	82.1	0.261	6.6	0.72	0.04	46.89	0.04	17.20
12/13	43	5.32	0.70	10.9	0.01	0.04	0.00	0.00	0.711	82.2	0.264	6.7	0.74	0.05	46.94	0.21	17.41
12/14	44	4.82	0.70	11.0	0.00	0.00	0.00	0.00	0.711	82.2	0.264	6.7	0.77	0.00	46.94	0.00	17.41
12/15	45			Rest Cycle										0.00	46.94	0.00	17.41
12/28	58												0.77	0.00	46.94	0.00	17.41
12/29	59	3.73	0.60	10.6	0.04	0.04	0.00	0.00	0.714	82.5	0.266	6.7	0.81	0.15	47.09	0.15	17.56
12/30	60	4.52	0.70	10.9	0.03	0.03	0.00	0.00	0.716	82.7	0.268	6.8	0.84	0.14	47.22	0.14	17.69
12/31	61	4.26	0.75	10.8	0.02	0.02	0.00	0.00	0.717	82.9	0.269	6.8	0.87	0.09	47.31	0.09	17.78
1/1	62	5.43	0.65	10.8	0.00	0.00	0.00	0.00	0.717	82.9	0.27	6.8	0.89	0.00	47.31	0.11	17.89
1/2	63	4.22	0.65	10.8	0.00	0.01	0.00	0.00	0.717	82.9	0.27	6.8	0.93	0.00	47.31	0.04	17.93
1/3	64	5.22	0.75	10.8	0.00	0.00	0.00	0.01	0.717	82.9	0.27	6.8	0.95	0.00	47.31	0.00	17.93
1/4	65	4.96	0.85	10.8	0.00	0.00	0.00	0.00	0.717	82.9	0.27	6.8	0.96	0.00	47.31	-0.05	17.88
1/5	66			Rinse Cycle										0.00	47.31	0.00	17.88
1/18	79	3.98	0.60	10.9	0.01	0.03	0.01	0.00	0.718	82.9	0.27	6.8	0.93	0.04	47.35	0.12	18.00
1/19	80	3.55	0.45	10.7	0.01	0.02	0.00	0.00	0.718	83.0	0.27	6.8	0.90	0.04	47.38	0.07	18.07
1/20	81	4.72	0.20	10.8	0.01	0.01	0.00	0.00	0.719	83.1	0.27	6.8	0.89	0.05	47.43	0.05	18.12
1/21	82	5.14	0.05	11.0	0.00	0.00	0.00	0.00	0.719	83.1	0.27	6.8	0.88	0.00	47.43	0.00	18.12
1/22	83	4.44	0.00	10.7	0.01	0.00	0.00	0.00	0.719	83.1	0.27	6.8	0.88	0.04	47.48	0.00	18.12
1/23	84			Drain Down													

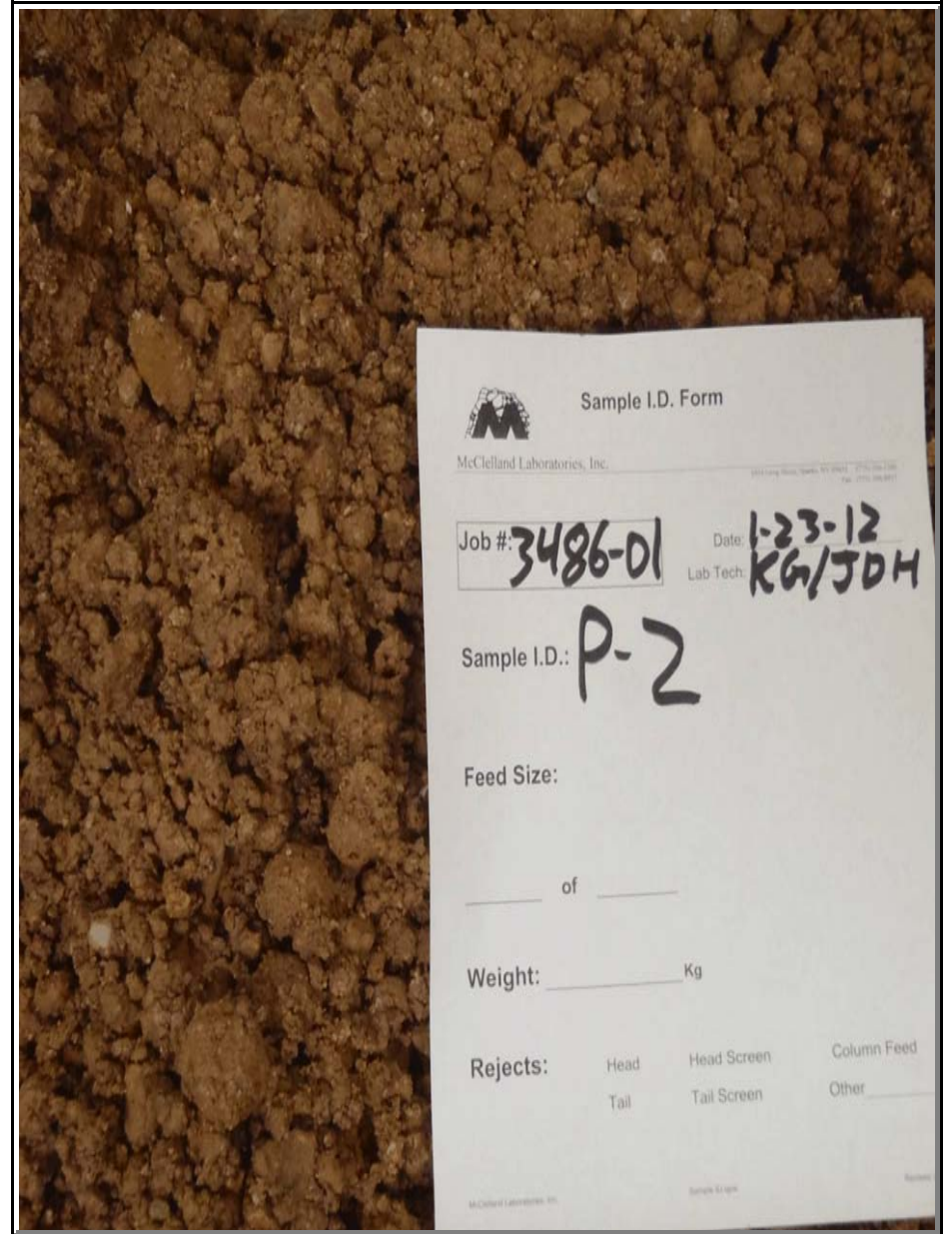
Extracted, g/mt ore	0.719	83.1	0.27	6.8
Tail , g/mt ore	0.146		3.69	
Calculated Head, g/mt ore	0.865		3.96	

APPENDIX

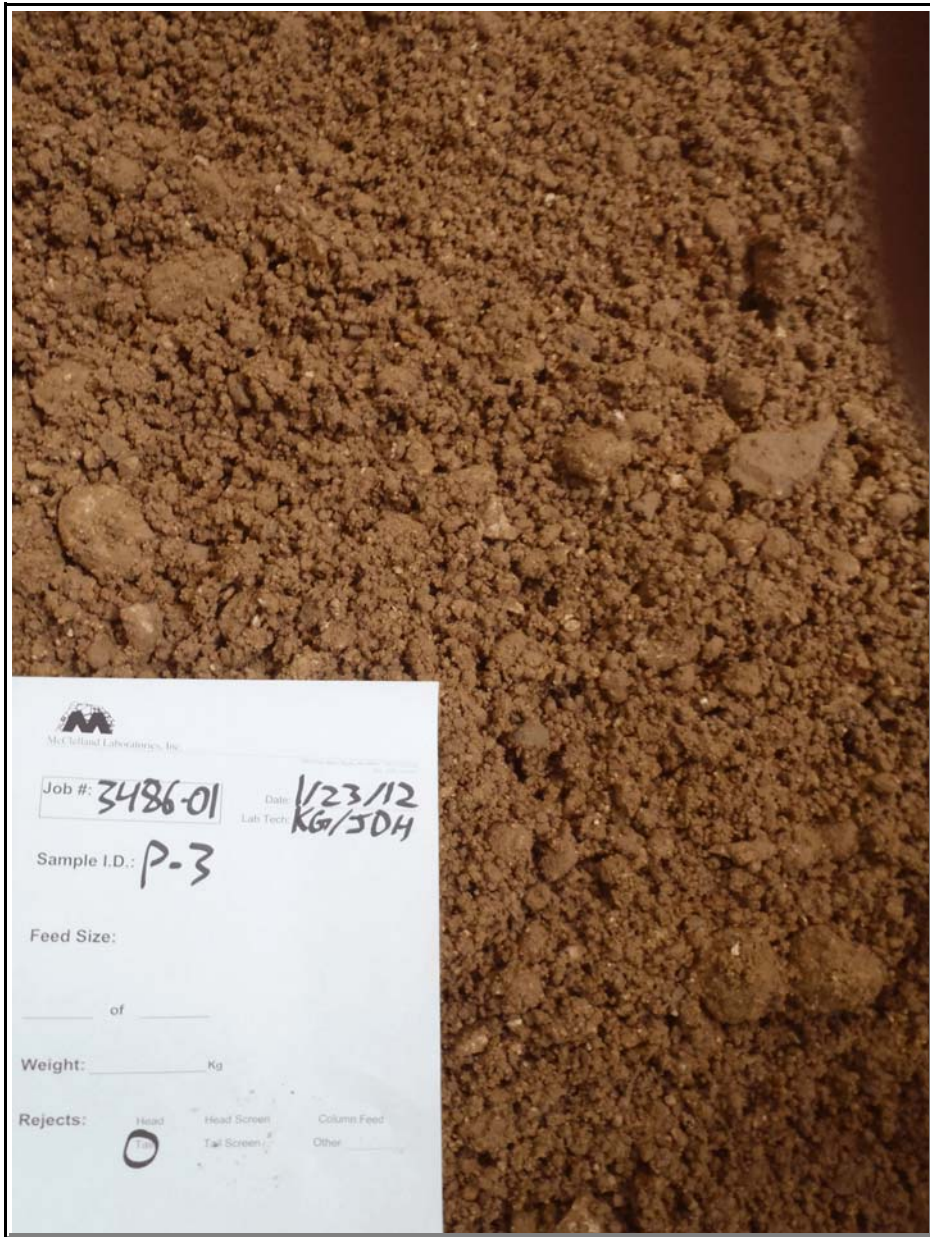
Section 2 - Column Leach Residue Photos



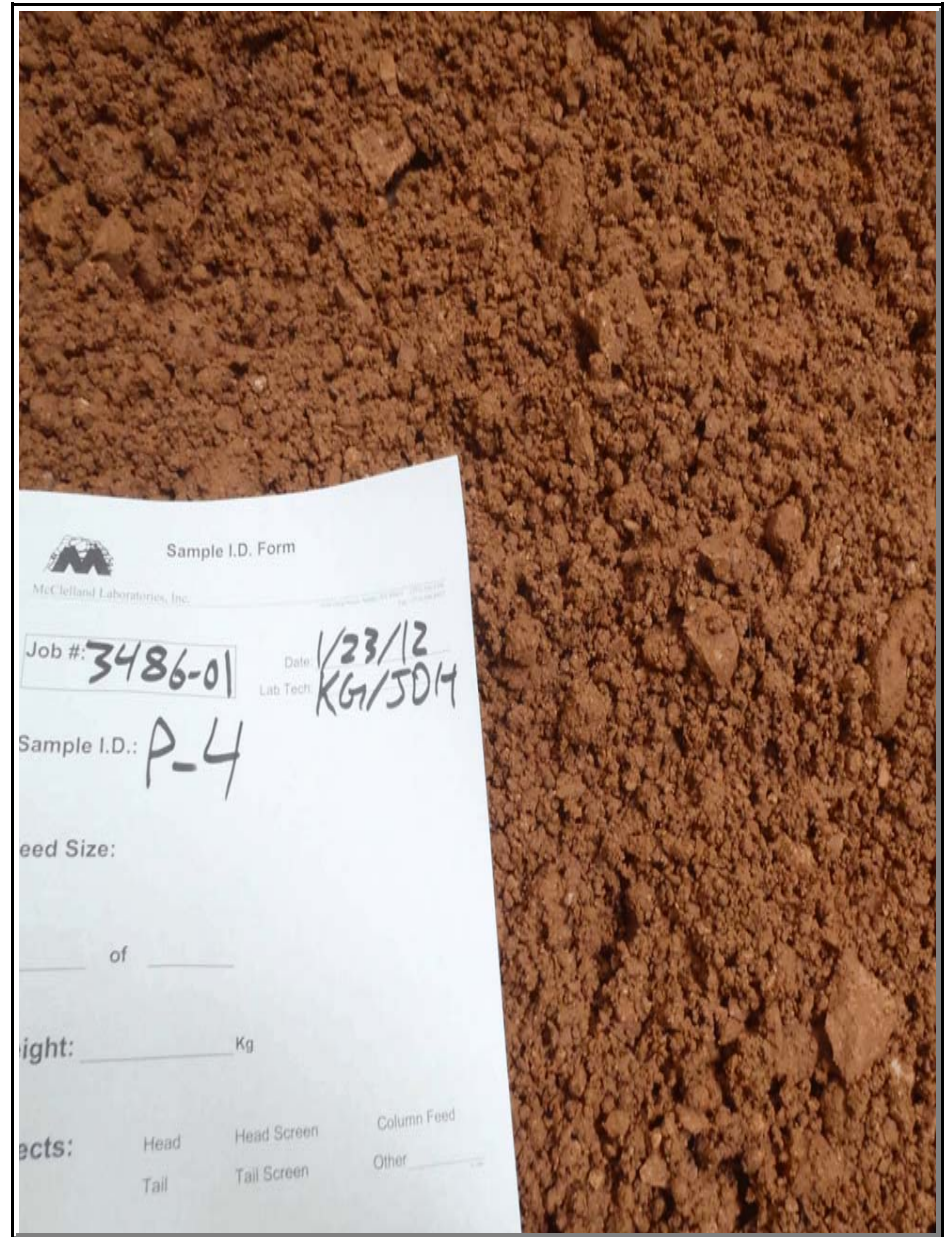
WDS-11-1



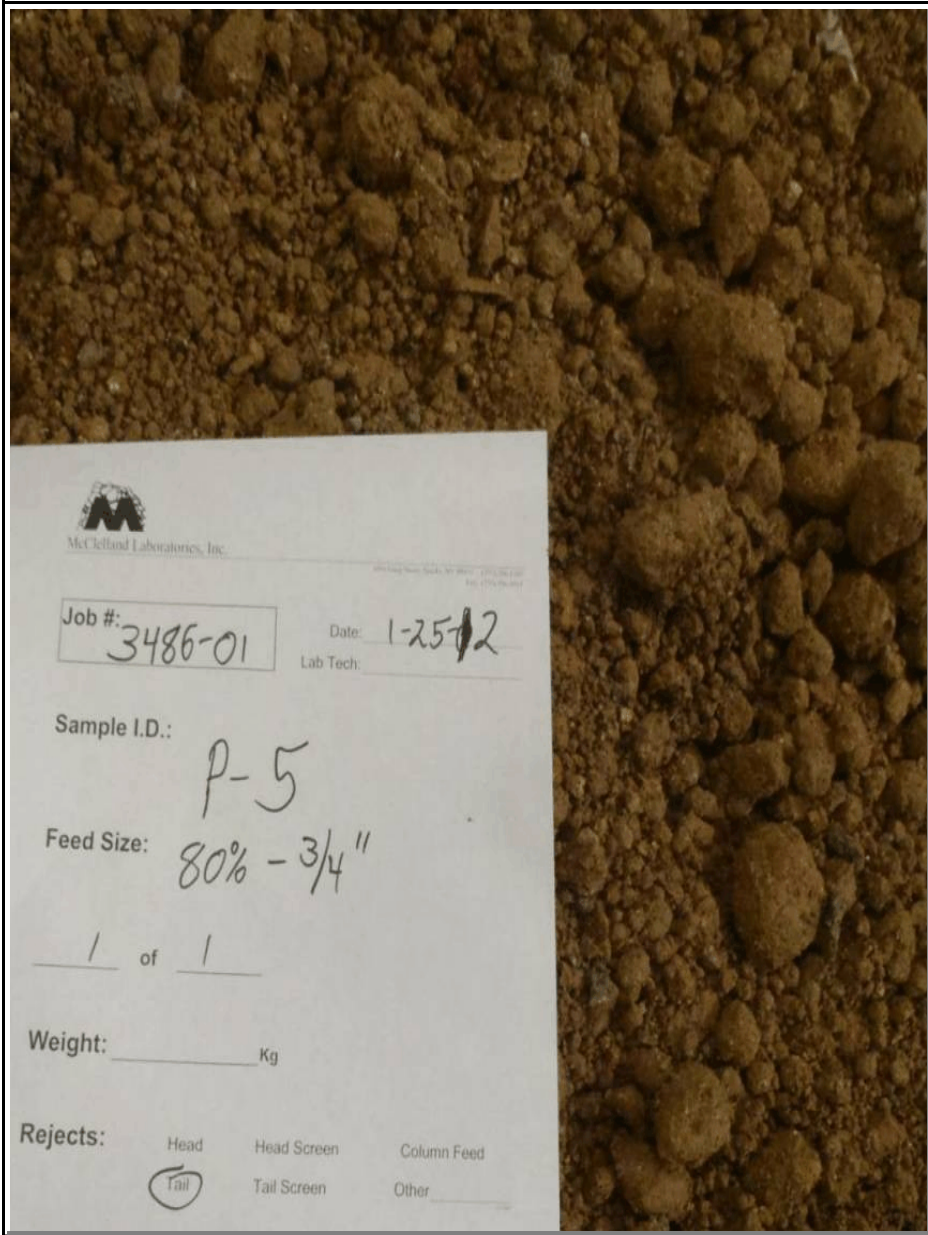
WDS-11-2+3



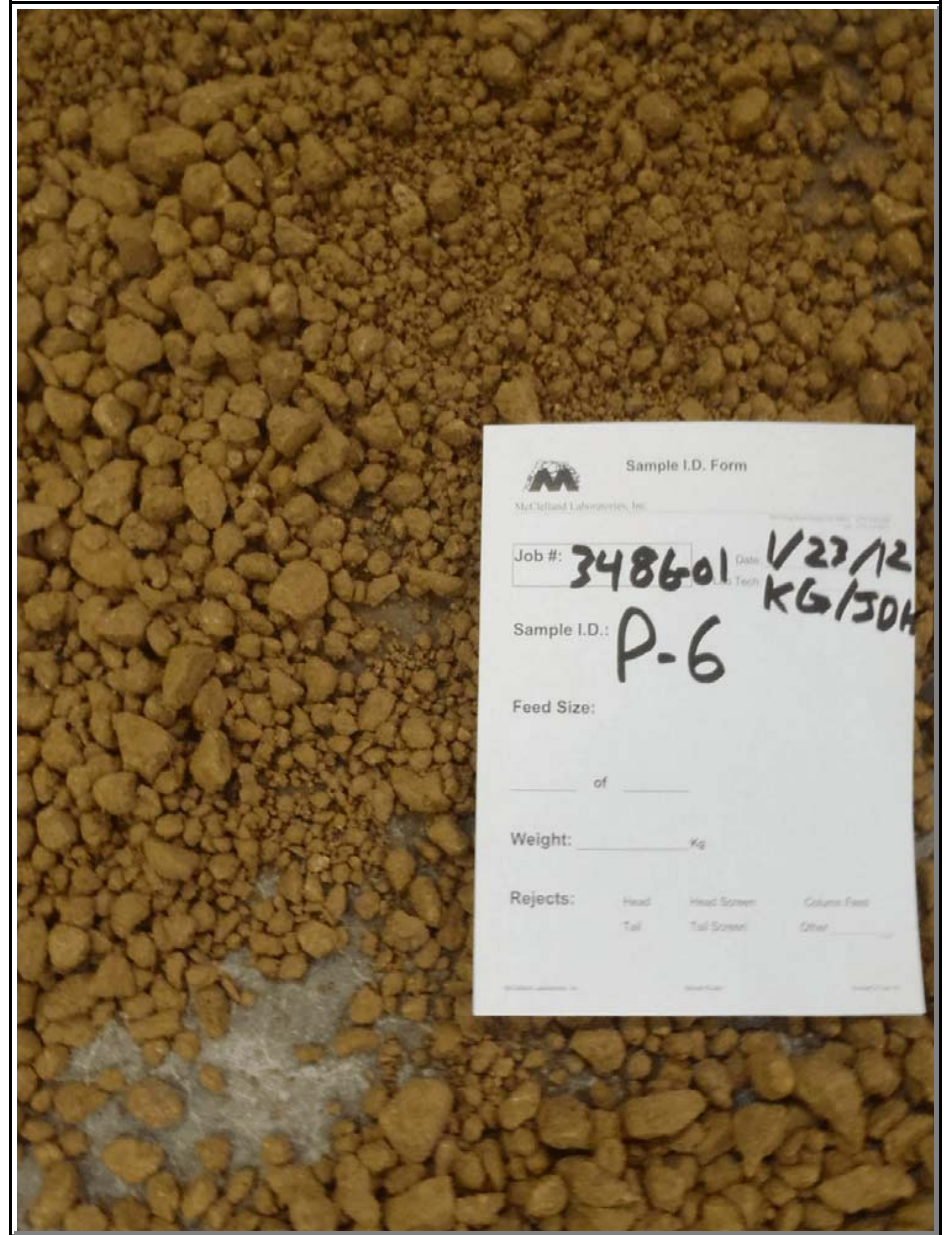
WDW-11-4



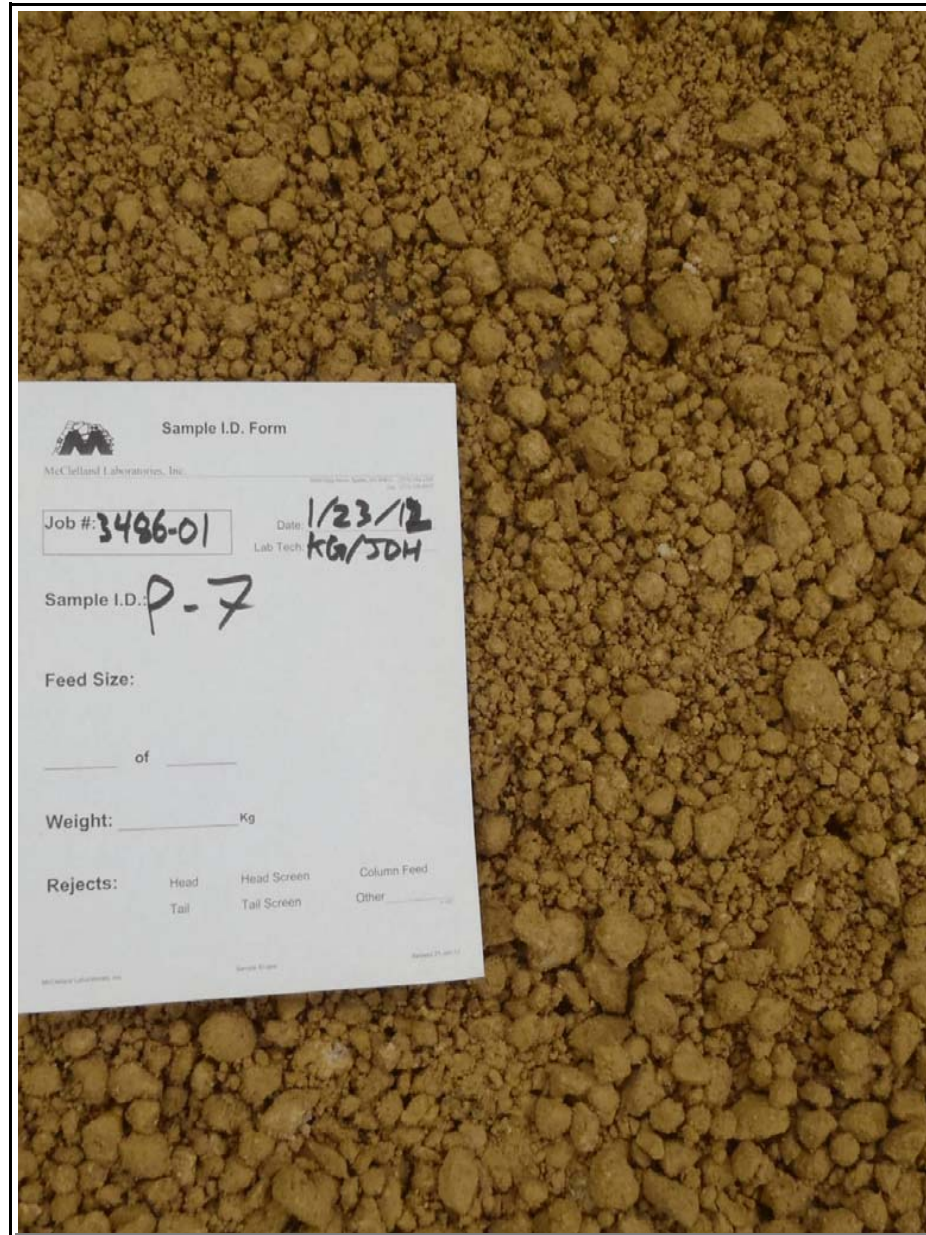
WDW-11-5+6



WDN-11-9 HG



FOX-001



FOX-002