



Friday, 5th December 2008

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From Peter Kunst – Manager, Project 344
Subject Update on Barnes Hill Column Leach Tests

Summary of Progress

hrltesting are currently conducting a test work programme on behalf of Proto Resources and Investments Limited to broadly evaluate the application of heap leaching to nickel recovery from laterite ores from the Barnes Hill project area in Tasmania. Five ore samples were supplied for the test program in the form of drill core intervals, to address the issue of ore variability in general terms.

Work currently in progress consists of four column leach tests and the status of each is summarised as follows:

Test	344.31	344.32	344.39	344.65
Days under irrigation	229	229	229	229
Acid consumption, kg/t	430	380	543	449
Ni extraction, %w/w	65.14	72.77	58.69	61.28
Co extraction, %w/w	52.20	78.70	30.41	51.24

1.0 Column Leach Tests

Progress results of column leach tests are summarised in Figure 1.1. Figures 1.2 – 1.5 show the leach cycle kinetics based on PLS analysis at hrltesting. Figure 1.6 shows the nickel recovery versus acid consumption for the leach tests.

Samples of the Barnes Hill drill hole composites 31, 32, 39 and 65 were agglomerated with 60kg/t acid addition and loaded into four 80mm diameter columns, each to a height of 1.7m. Each column is being irrigated at an average of 12.4L/m².h using a leachate of around 25g/L in an open circuit manner.

It has been 229 days since leachate was first applied to the tests and the cumulative solution flux to date has been around 42.82kL/t. Acid consumption for column 344.31, 344.32, 344.39 and 344.65 has been 430kg/t, 380kg/t, 543kg/t and 449kg/t, respectively, and nickel recovery (based on PLS assay) has been 65.1%/w/w, 72.8%/w/w, 58.7%/w/w and 61.3%/w/w, respectively.

Column Leach No.	344.31	344.32	344.39	344.65	
Cumulative Days Operating	229	229	229	229	days
Acid Consumption	429.53	379.70	542.51	449.34	kg/t
Extraction Data					
Nickel	65.14	72.77	58.69	61.28	%w/w
Cobalt	52.20	78.70	30.41	51.24	%w/w
Iron	33.79	43.55	38.31	30.34	%w/w
Magnesium	55.84	62.73	60.87	62.92	%w/w
Chromium	15.31	34.05	37.72	27.60	%w/w
Physical Performance					
Ore column Height	1525	1605	1665	1660	mm
Ore slump	12.61	9.32	6.46	6.21	%
Leachate Data					
Current Leachate irrigation rate	15.05	14.48	14.67	14.11	L/m ² .h
Current Leachate acid level	23.04	24.52	23.54	27.46	g/L
Current acid application	5.58	5.73	5.32	5.25	kg/t/day
Average Leachate irrigation rate	12.31	12.80	12.22	12.25	L/m ² .h
Average Leachate acid level	24.05	24.45	24.06	26.58	g/L
Average acid application	4.76	5.05	4.53	4.41	kg/t/day
PLS Data					
Cumulative PLS flux	44.55	46.65	42.58	37.50	kL/t
Current PLS acid level	21.58	22.09	19.29	21.09	g/L
Current PLS nickel tenor	19.5	14.5	34.6	34.1	mg/L
Current PLS cobalt tenor	7.2	0.8	3.0	10.8	mg/L
Current PLS iron tenor	1023.5	1143.3	1425.4	2415.1	mg/L
Current PLS magnesium tenor	71.0	52.5	148.9	42.6	mg/L
Current PLS chromium tenor	12.7	15.3	10.6	45.1	mg/L
Average PLS acid level	16.16	17.90	13.02	16.54	g/L
Average PLS nickel tenor	0.09	0.11	0.13	0.08	g/L
Average PLS cobalt tenor	0.01	0.00	0.00	0.02	g/L
Average PLS iron tenor	1.49	1.72	1.70	2.46	g/L
Average PLS magnesium tenor	0.96	0.54	1.49	0.58	g/L
Average PLS chromium tenor	0.03	0.03	0.02	0.05	g/L

Figure 1.1 Barnes Hill Column Leaches – Progress Summary

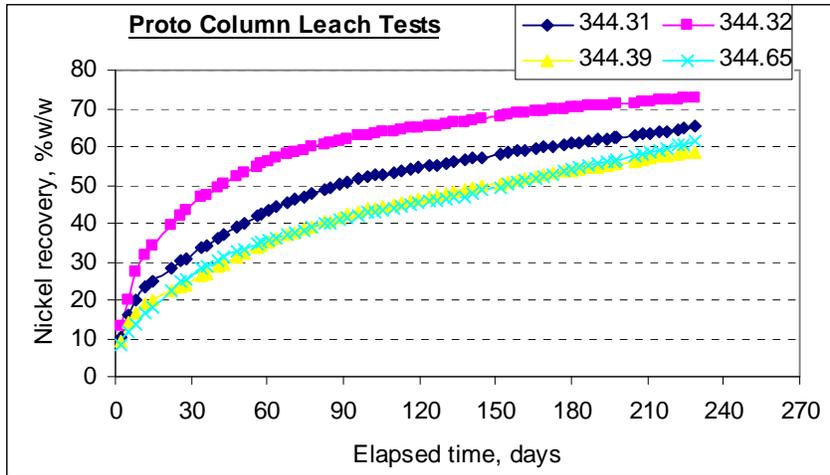


Figure 1.2 Barnes Hill Column Leaches – Nickel Recovery vs Time
PLS based recovery

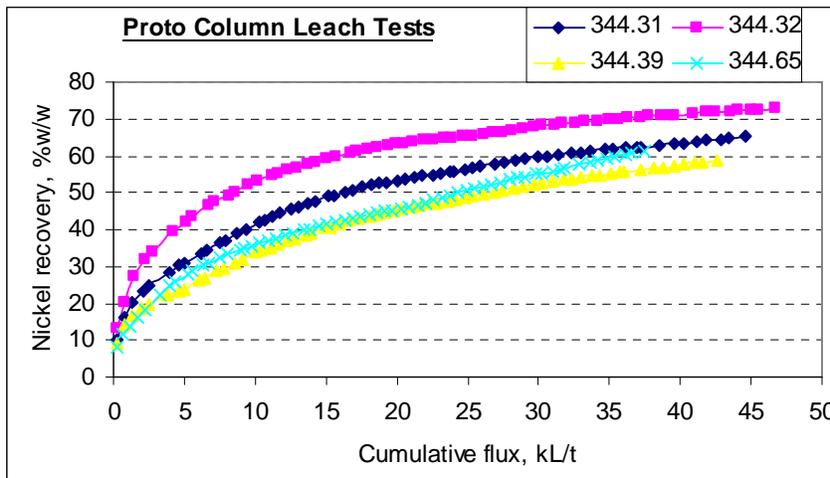


Figure 1.3 Barnes Hill Column Leaches – Nickel Recovery vs Flux
PLS based recovery

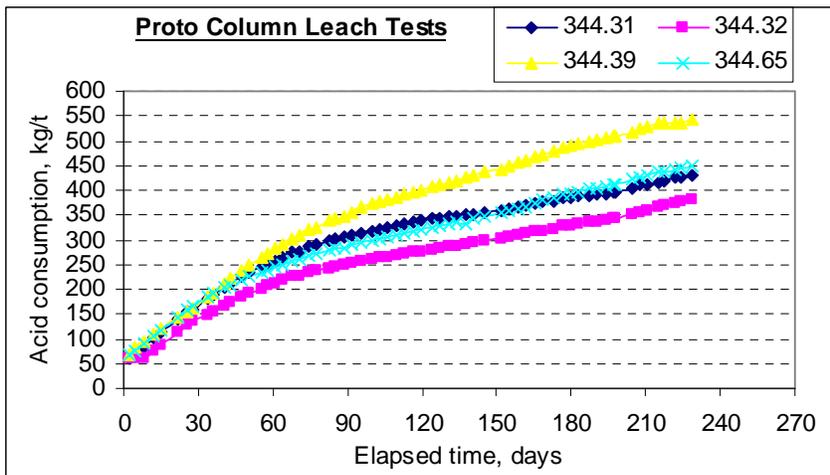


Figure 1.4 Barnes Hill Column Leaches – Acid Consumption vs Time

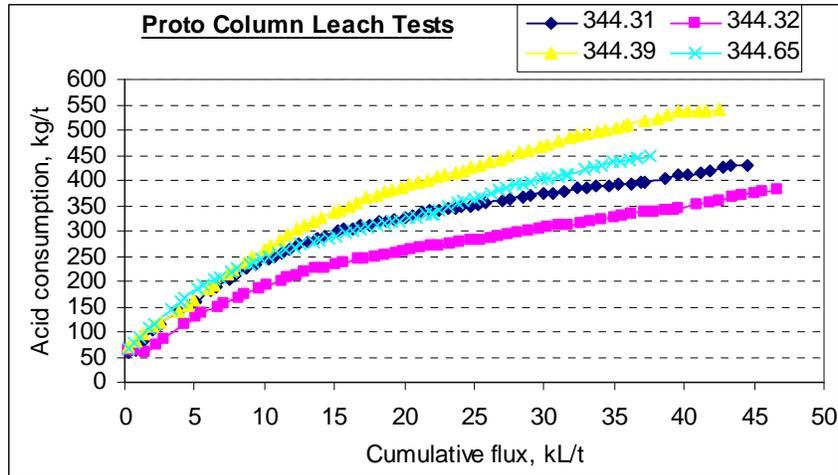


Figure 1.5 Barnes Hill Column Leaches – Acid Consumption vs Flux

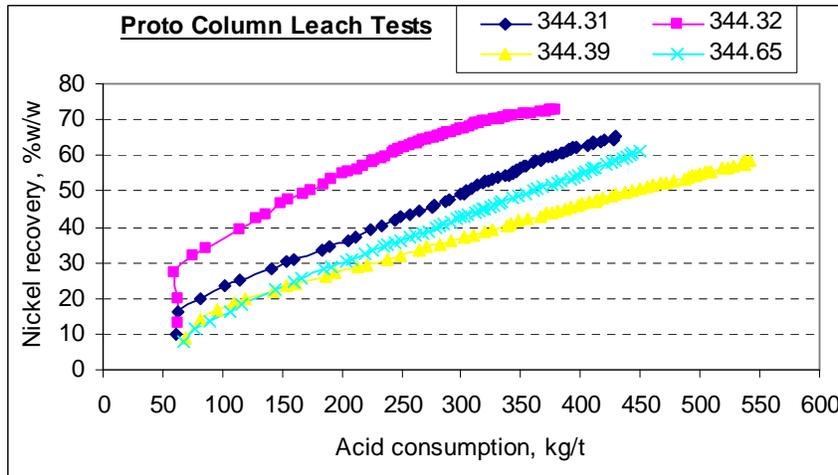


Figure 1.6 Barnes Hill Column Leaches – Ni Recovery vs Acid Consumption
PLS based recovery

During the course of test programme the first 200L of PLS from the columns was collected and a sub-sample was taken for assay. The results are summarised in Figure 1.7.

Ni	Co	Fe	Mg	Al	Mn	Ca	Cr	Cu	Mo	Pb	As
mg/L											
376	23	2955	3456	907	120	61	51	1.0	0.6	0.4	<0.2

Figure 1.7 Barnes Hill (Combined) PLS Assay