

BOREHOLE No: 305-BH-024

SHEET: 1 of 2










DATE STARTED 07/11/07 COMPLETED 07/11/07 R.L. SURFACE TBA DATUM _____

DRILLING CONTRACTOR Bowler Geotechnical SLOPE 90° BEARING ---

EQUIPMENT Geoprobe 540UD HOLE LOCATION _____

HOLE SIZE 45mm LOGGED BY PM CHECKED BY MC

NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
			0.0		CI	SANDY SILTY CLAY, medium plasticity, dark brown, poorly graded sand, moist, organics present, TOPSOIL		
			0.5		CI	SANDY SILTY CLAY, medium plasticity, dark brown, poorly graded sand, moist		
			1.0		CI	SANDY SILTY CLAY, medium plasticity, dark brown, poorly graded sand, with poorly graded gravel, moist		
			1.5		GP	GRAVEL, poorly graded, grey, dry		
			2.0		CI	SANDY SILTY CLAY, medium plasticity, dark brown, poorly graded sand, trace poorly graded gravel, moist		
			2.5					
			3.0					
			3.5					
			4.0					
			4.5					
			5.0					

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NOTES

Method	Water	RL (m)	Depth (m)	Graphic Log	Classification Symbol	Material Description	Samples Tests Remarks	Additional Observations
			5.5		CI	SANDY SILTY CLAY, medium plasticity, dark brown, poorly graded sand, trace poorly graded gravel, moist (<i>continued</i>)		
					CI	SANDY SILTY CLAY, medium plasticity, dark brown, poorly graded sand, with poorly graded gravel, moist		
			6.0		GPS	GRAVELLY SANDY CLAY, medium plasticity, dark brown mottled pale brown, moist to wet		
			6.5		GP	GRAVEL, poorly graded gravel, grey/brown, dry		
			7.0			Borehole 305-BH-024 terminated at 6.8m		Borehole terminated at 6.8m due to tip refusal
			7.5					
			8.0					
			8.5					
			9.0					
			9.5					
			10.0					

SPOCAS TEST REPORT

Report Number: 59869SPS	Date Sampled: 7/11/2007
Client: SRWP	Date Received: 7/11/2007
Project: Northern Pipeline Interconnector	Date Tested: 15/11/2007
Job no. 3300	
Sampled by: PM	Date Reported: 15/11/2007

Laboratory Number	Location	Description	pH _{KCl}	TAA (H ⁺ mol/t)	TAA (EQV% S)	pH _{ox}	TPA (H ⁺ mol/t)	TPA (EQV% S)	S _{KCl} (% S)	S _p (% S)	S _{POS} (% S)	S _{RAS} (% S)	TSA (% S)	ANC _E (EQV %S)	Nett Acidity (EQV %S)	Recommended Liming Rate (kg of lime per cubic metre)
		units	LOR 0.1	0.1	0.001	0.1	0.1	0.001	0.007	0.007	0.001	0.001	0.001	0.001	0.001	0.1
59869	302-BH024 0.0-0.3	see borehole logs	5.3	16.3	0.026	5.4	5.2	0.008	<0.007	<0.007	<0.007	nr	-0.018	0.000*	0.026	No Liming Required
59871	302-BH024 0.6-0.9	see borehole logs	5.3	14.7	0.024	6.5	15.4	0.025	<0.007	<0.007	<0.007	nr	0.001	0.000*	0.024	No Liming Required
59874	302-BH024 1.5-1.65	see borehole logs	5.4	7.2	0.011	6.9	0.0	0.000	<0.007	<0.007	<0.007	nr	0.080	0.000*	0.011	No Liming Required
59876	302-BH024 2.0-2.3	see borehole logs	5.3	12.9	0.021	6.8	0.0	0.000	<0.007	<0.007	<0.007	nr	0.032	0.000*	0.021	No Liming Required
59889	302-BH024 5.7-6.0	see borehole logs	5.6	6.4	0.010	7.6	0.0	0.000	<0.007	<0.007	<0.007	nr	0.061	0.000*	0.010	No Liming Required
Blank			6.2	2.0	0.003	6.1	2.5	0.004								

Notes:

nr: not required

LOR: Limit of Reporting

*: if pH_{KCl}<6.5 it must be assumed that the effective ANC is zero.

Where liming is specified, lime should be fine grained agricultural lime of at least 90% purity.

Any liming rate provided is a recommended rate only, and is based on the total of TAA Equivalent % Oxidisable Sulphur plus Potential Acidity (S_{POS}) plus Retained Acidity (S_{RAS}) minus effective ANC; with a factor of safety of 1.5.

Any recommended liming rate is based on the 0.03%S action criteria.

A placed dry density of 1.7 tonnes/cubic metre has been used in calculating recommended liming rate/s.

The recommended liming rate is derived from a mathematical equation and will need to be field validated.

Bowler Geotechnical (SC) Pty. Ltd. accepts no responsibility for any loss associated with use of recommended liming rate/s.

Client: Northern Network Alliance
Project: Northern Pipeline Interconnector
Location: Petrie Creek, Nambour
Position:
Date Started: 14/2/08

Job No.: 3300
Surface RL:
Rig Type: Geoprobe 540UD
Contractor: Bowler Geotechnical (SC)
Date Completed: 14/2/08
Angle: 90.0°
Driller: PM
Logged by: PM

STRATA		DRILLING & TESTING				MATERIAL	ADDITIONAL DATA COMMENTS
Depth (m)	R.L (m)	USC/Weathering	Graphic Log	SAMPLE AND TEST DATA	DCP Blows per 100mm	DESCRIPTION	
0.00		SP				SAND, poorly graded sand, brown, moist, FILL	
0.10		CI				SANDY CLAY, medium plasticity, grey/brown, poorly graded sand, moist	
0.30		CI				SILTY CLAY, medium plasticity, pale grey, with poorly graded gravel, moist	
0.50		CI				SANDY CLAY, medium plasticity, red/brown, poorly graded sand, moist	
0.60		CI				SANDY CLAY, medium plasticity, grey/brown, poorly graded sand, moist	
1.00		CI				SANDY CLAY, medium plasticity, brown, poorly graded sand, moist	
1.10							
2.00		CI					
3.00							
4.00							

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Contractor: Bowler Geotechnical (SC)
Date Completed: 14/2/08
Angle: 90.0°
Driller: PM
Logged by: PM

STRATA			DRILLING & TESTING				MATERIAL			
Depth (m)	R.L (m)	USC/Weathering Graphic Log	AUGER WASHBORE CORING CASING	SAMPLE AND TEST DATA	DCP Blows per 100mm				DESCRIPTION	ADDITIONAL DATA COMMENTS
					0	10	20	30		
4.00										SANDY CLAY, medium plasticity, brown, poorly graded sand, moist
5.00		CI								
6.00										
6.90										
7.00		SC								CLAYEY SAND, poorly graded sand, brown, moist to wet
7.70		CI								SANDY CLAY, medium plasticity, brown, poorly graded sand, moist
7.95		CI								
8.00		CI								

Client: Northern Network Alliance
Project: Northern Pipeline Interconnector
Location: Petrie Creek, Nambour
Position:
Date Started: 14/2/08

Job No.: 3300
Surface RL:
Rig Type: Geoprobe 540UD
Contractor: Bowler Geotechnical (SC)
Date Completed: 14/2/08
Angle: 90.0°
Driller: PM
Logged by: PM

STRATA		DRILLING & TESTING				MATERIAL	ADDITIONAL DATA COMMENTS
Depth (m)	R.L (m)	USC/Weathering	Graphic Log	SAMPLE AND TEST DATA	DCP Blows per 100mm	DESCRIPTION	
8.00					0 10 20 30 40	SANDY CLAY, medium plasticity, grey/brown, poorly graded sand, moist to wet	
		CI					
8.80						CLAYEY SAND, poorly graded sand, grey, medium plasticity, moist	
9.00		SC					
9.10						CLAYEY SAND, poorly graded sand, grey, medium plasticity, trace poorly graded gravel, wet	
		SC					
9.60						GRAVELLY SANDY CLAY, medium plasticity, grey, poorly graded gravel, poorly graded sand, wet	
		CI					
10.00						SAND, poorly graded sand, grey, with poorly graded gravel, moist to wet	
		SP					
10.25						SANDY CLAY, medium plasticity, grey, trace poorly graded gravel, wet	
		CI					
11.00						CLAYEY SAND, poorly graded sand, pale grey, wet	
		SC					
11.20						GRAVEL, poorly graded gravel, wet	
		GP					
11.40							Borehole terminated at 11.4m due to tip refusal
12.00							

SPOCAS TEST REPORT

Report Number: 61495SPS	Date Sampled: 14/02/2008
Client: Northern Network Alliance	Date Received: 14/02/2008
Project: Northern Pipeline Interconnector	Date Tested: 18/02/2008
Job no. 3300	
Sampled by: PM/SS	Date Reported: 18/02/2008

Laboratory Number	Location	Description	pH _{KCl} units LOR	TAA (H ⁺ mol/t)	TAA (EQV% S)	pH _{ox}	TPA (H ⁺ mol/t)	TPA (EQV% S)	S _{KCl} (% S)	S _P (% S)	S _{POS} (% S)	S _{RAS} (% S)	TSA (% S)	ANC _E (EQV %S)	Nett Acidity (EQV %S)	Recommended Liming Rate (kg of lime per cubic metre)
61495	302-BHC-092 0.0-0.1	See borehole logs	6.4	<1	<0.002	6.4	1.5	0.002	<0.007	<0.007	<0.007	nr	0.002	0.000*	0.000	No Liming Required
61496	302-BHC-092 0.1-0.3	See borehole logs	6.3	<1	<0.002	7.5	0.0	0.000	<0.007	<0.007	<0.007	nr	0.005	0.000*	0.000	No Liming Required
61503	302-BHC-092 1.9-2.2	See borehole logs	5.5	8.1	0.013	6.8	0.0	0.000	<0.007	<0.007	<0.007	nr	0.073	0.000*	0.013	No Liming Required
61520	302-BHC-092 7.0-7.3	See borehole logs	5.8	4.1	0.007	7.2	0.0	0.000	<0.007	<0.007	<0.007	nr	0.057	0.000*	0.007	No Liming Required
61526	302-BHC-092 8.7-9.0	See borehole logs	6.1	4.0	0.006	6.2	3.0	0.005	<0.007	<0.007	<0.007	nr	-0.002	0.000*	0.006	No Liming Required
61527	302-BHC-092 9.0-9.3	See borehole logs	6.4	<1	<0.002	4.1	53.1	0.085	<0.007	0.122	0.122	nr	0.085	0.000*	0.122	10.8
61530	302-BHC-092 10.0-10.3	See borehole logs	5.3	5.8	0.009	2.6	387.4	0.621	<0.007	0.490	0.490	nr	0.612	0.000*	0.500	44.2
61534	302-BHC-092 11.3-11.4	See borehole logs	5.5	5.1	0.008	2.8	217.9	0.349	<0.007	0.276	0.276	nr	0.341	0.000*	0.285	25.2
Blank			6.3	2.0	0.003	6.5	6.1	0.010								

Notes:

nr: not required

LOR: Limit of Reporting

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