APPENDIX 5. LOGS OF TRENCHES

Logs of each bench of the trenches were compiled using LogPlot[®]. The trench, bench, and page numbers are designated at the bottom of each page. Elevations and distances are in feet in order to correlate with drill-hole data; most other measurements are in metric units. Surveying was by Molycorp staff. Field observations and laboratory analyses in the trench logs are by New Mexico Tech field and laboratory personnel and are in the project database. Most units are steeply dipping, which is not shown in these logs; see longitudinal sections of trenches in Appendix 4.

NEW MEXICO TECH

WEATHERING STUDY

Goathill North Rock Pile Trench Log

Trench Log	0 10
Distance from NW corner in feet	
	2222222222
Trench LFG 0003	
Bench 1N Unit	traffic: Amalia, andesite
Bearing of bench wall N290	
Elevation 9747	ilt and
Date started 6/22/2004 Texture	with s
Date of log 10/4/05	Gravel with silt and clay
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	yellowish to brown dark olive
Alteration	moderate low to moderate, winor oxidation
Matric suction (kpa)	-6.89 -15
Sample Number	GHN-NHW-0001 GHN-LFG-0018 GHN-LFG-0018 GHN-LFG-0018 GHN-LFG-0020 GHN-NHW-0002
Moisture content %	
	7.3 7.7
Paste pH	
	4.2 4.5
Paste conductivity (uS)	1.19 0.51 1.75
Dry density (g/cm3)	1.79
Pyrite %	0.32
Comments	compacted material

1 of 1

Trench LFG-0003 Bench 1N

Goathill North Rock Pile Trench Log

0

Distance from NW corner in feet			1			
Trench LFG 0003						
Bench 2N Unit	Unit N: ndesite, Amalia		Unit K: andesite	Unit L: andesite	Unit W: andesite	site, alia
Bearing of bench wall N290	Unit N: andesite, Amalia		Un ande	Un ande	ande	andesite, Amalia
Elevation 9747			_		Ithe	
	Sandy clay with some gravel and cobbles	/ with	5		silty clay with cobbles and gravel sand silty clay with some gravel	
Date started 6/22/2004 Texture	Sandy clay with some gravel and cobbles	Sandy clay with	5	Sandy silt	silty clay with cobbles and g sand slity cla some gravel	
Date of log 10/4/05	San cobt	San		San	silty cobt sand som	2
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	dark brown	eddish brown		dark olive	greenish blue brown	
		rec	. 1979			
Alteration/weathering	moderately weathered		least weathered	least weathered	least weathered weathered	
Matric suction (kpa)						
Sample Number		GHN-NHW-0007 GHN-LFG-0025 GHN-NHW-0008 GHN-LFG-0026		GHN-NHW-0006 GHN-LFG-0024	GHN-NHW-0005 GHN-LFG-0023 GHN-NHW-0004 GHN-LFG-0022	GHN-NHW-0003 GHN-LFG-0021
Moisture content %				10.8		
		8.7		10	8.6	9.9
Paste pH						
	2	5.2		5.3	5.3 6.6	6.6
Paste conductivity (uS)		0.39		0.96	0.96	0.77
Dry density (g/cm3)		1.76				
Pyrite %				~	- IO	-
i yitte 70		0.55		0.47	0.73 0.65	1.24
Comments	intermediate zone		unoxidized zone			

10

1 of 1

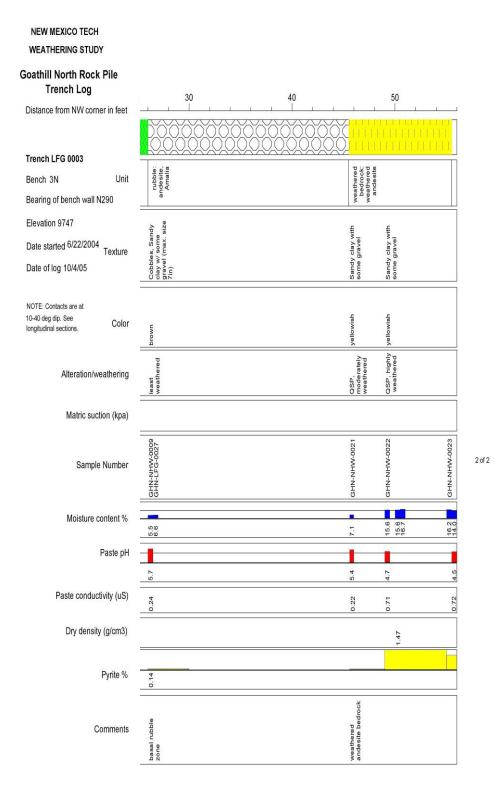
20

Trench LFG-0003 Bench 2N

Goathill North Rock Pile Trench Log

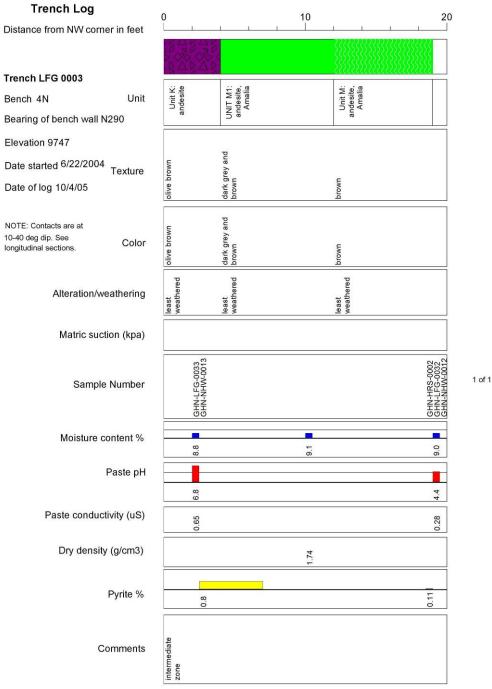
Trench Log	0		10	2	0
Distance from NW corner in feet					
Trench LFG 0003 Bench 3N Unit	Unit K: andesite		Unit W: andesite Unit M: Amalia	UNIT M1: andesite, Amalia	Unit M: andesite, Amalia
Bearing of bench wall N290					
Elevation 9747	Ť	ŧ	ax size	d with	d with
Date started 6/22/2004 Texture	gravel	clay w gravel	rs (ma	y sano	y san nd son s
Date of log 10/4/05	sandy clay with some gravel	sandy clay with some gravel	boulders (max size 25in)	gravelly sand with a lot of clay	gravelly sand with clay and some cobbles
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	olive brown	yellow brown	brown	grey and brown	yellow brown
Alteration/weathering	least weathered	least weathered	least weathered	least weathered	least weathered
Matric suction (kpa)					
Sample Number		GHN-NHW-0011 GHN-LFG-0029	GHN-NHW-0010 GHN-LFG-0031 GHN-LFG-0030		GHN-LFG-0028
Moisture content %					
		5.9	9.5 9.6		8.9
Paste pH					
		4.2	6.7		7.5
Paste conductivity (uS)		0.58	0.66		0.75
Dry density (g/cm3)	1.75				
Pyrite %		0.69	8.0		
Comments	intermediate zone				

Trench LFG-0003 Bench 3N, 1 of 2



Trench LFG-0003 Bench 3N, 2 of 2

Goathill North Rock Pile



Trench LFG-0003 Bench 4N

Goathill North Rock Pile Trench Log

10 0 Distance from NW corner in feet Trench LFG LFG-0004 UNIT H Unit Bench 1N Bearing of bench wall N100 Elevation 9742.69 Date started 6/23/2004 Texture gray orange Date of log 2/19/05 dark gray NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. dark gray Color orange gray moderately weathered weathered Alteration/weathering Matric suction (kpa) GHN-LPHW-0014 BHN-LPHG-0034 GHN-LFG-0037 GHN-NHW-0017 **GHN-LPHW-0031**6 GHN-NHW-0015 GHN-LFG-0035 Sample Number Moisture content % 12.0 7.9 12 7.7 5.1 Paste pH 4.5 4.5 3.2 4.5 Paste conductivity (uS) 2.28 0.31 0.26 1.9 Dry density (g/cm3) 69.1 1.72 1.78 Pyrite % 0.99 1.94 0.8 0.9 slightly oxidized Comments oxidized

Trench LFG-0004 Bench 1N

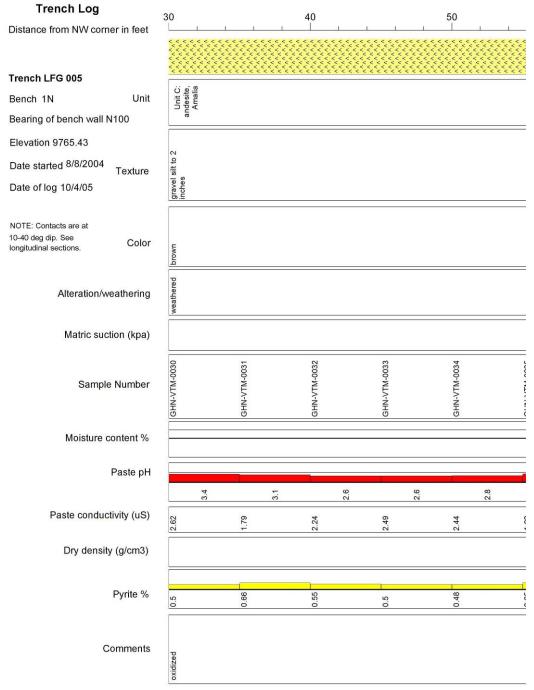
1 of 1

Goathill North Rock Pile Trench Log

10 20 0 Distance from NW corner in feet Trench LFG 0004 UNIT H Unit Bench 2N Bearing of bench wall N90 Elevation 9742.69 gravel sand with some fine with Date started 6/23/2004 Texture sand gravel s some fi Date of log 10/4/05 NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. dark gray Color orange moderately weathered weathered Alteration/weathering Matric suction (kpa) GHN-LFG-0040 GHN-NHW-0020 GHN-NHW-0018 GHN-LFG-0038 GHN-LFG-0039 GHN-NHW-0019 1 of 1 Sample Number Moisture content % 11.7 6.9 8.7 8.4 Paste pH 5.5 5.6 4.3 Paste conductivity (uS) 0.35 0.43 0.52 Dry density (g/cm3) 1.79 Pyrite % 1.17 1.36 0.66 slightly oxidized Comments oxidized

Trench LFG-0004 Bench 2N

Goathill North Rock Pile



Trench LFG-005 Bench 1N, 1 of 4

NEW MEXICO TECH

WEATHERING STUDY

Goathill North Rock Pile

Trench Log	60	70 80	90	
Distance from NW corner in feet				
				$\langle \zeta \langle$
Trench LFG 005				
Bench 1N Unit	Unit I : andesite , Amalia	Unit J: andesite	traffic	
Bearing of bench wall N100	<u> </u>	la la		
Elevation 9765.43			S O	
Date started 8/8/2004 Texture	silt to 2	sitt to 8	jravel,	
Date of log 10/4/05	gravel silt to 2 inches	gravel silt to 8 inches	sandy gravel, GM	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	gray	orange	dark brown	
Alteration/weathering	OSP. weathered	QSP. weathered	weathered	
Matric suction (kpa)		ŵ 4	ထုထု က	
Sample Number	GHN-VTM-0036 GHN-VTM-0036	GHN-LFG-0032 GHN-VTM-0038 GHN-VTM-0038 GHN-VTM-0039 GHN-VTM-0039 GHN-LFG-0046 GHN-LFG-0046 GHN-LFG-0046 GHN-LFG-0046 GHN-LFG-0056 GHN-LFG-0056 GHN-LFG-0056	GHNN-VTM-0040 GHNN-FG-0048 GHNN-FG-0048 GHNN-FG-0048 GHNN-FFG-0045 GHNN-FFG-0045 GHN-VTM-0041 GHN-VTM-0041 GHN-VTM-0041 GHN-VTM-0042	
Moisture content %				
		11.5 6.6 7,0 ⁹ 6.9	12:7 12:7 6.6 12:0	
Paste pH				
	3.3	3.7 2.7 5.8 2.6 4.0	400.40 4 0 000-7 7 7	3.4
Paste conductivity (uS)	1.62	0.36 3.21 6.68 6.68	1.53 2.69 3.80 2.22 1.49 1.49	
Dry density (g/cm3)			, 1 83	
Pyrite %	64-D	0.71 0.85 0.9	0.13 0.13	
Comments	o xidize d	pszibiso	compaciad dense material	

Trench LFG-005 Bench 1N, 2 of 4

NEW MEXICO TECH																
WEATHERING STUDY																
Goathill North Rock Pile Trench Log		100				110				120				130		
Distance from NW corner in feet	II	1			1		1	I I	1	Ţ		1 1		1	_	
	$\langle \langle \langle c \rangle \rangle$				$\rangle\rangle$	$\rangle\rangle\rangle$										
Trench LFG 005		5				لم لم 1									h h	
Bench 1N Unit																
Bearing of bench wall N100																
Elevation 9765.43																
Date started 8/8/2004 Texture																
Date of log 10/4/05																
66A1																
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color																
Alteration/weathering																
Matric suction (kpa)								ထု			4					
		4		5		9				ø		ŋ		0		5
Sample Number	GHN-VTM-0043 GHN-VTM-0080	GHN-VTM-0044		GHN-VTM-0045		GHN-VTM-0046		GHN-VTM-0047 GHN-LFG-0053		GHN-VTM-0048	GHN-LFG-0054	GHN-VTM-0049		GHN-VTM-0050		GHN-VTM-0051
	L 	TV-NF		TV-NH		TV-NF		HN-VT HN-LF		TV-NH	HN-LF	TV-NH		TV-NF		TV-NH
	00	ō		Ū		Ū		00		Ū	Ū	ō		ō		Ū
Moisture content %									9.5			10.2				
Paste pH		_							0							
	3.1		3.7		4.0		5.6	3.0	5.6 5.8	5.2	6.1		5.7		4.1	
Paste conductivity (uS)		88	0	96	4	ი	u)		40 40				U)	94	4	Ø
	1.948	1.988		1.896		2.09		6.56 1.939		2.57	2.51	1.898		1.794		2.09
Dry density (g/cm3)																
	105.											2				
Pyrite %	0.45	0.56		0.63		0.48		0.64		0.58		0.66		0.74		0.78
						2								2		
Comments																
Considents																

Trench LFG-005 Bench 1N, 3 of 4

NEW MEXICO TECH WEATHERING STUDY							
Goathill North Rock Pile Trench Log		140		150		160	
Distance from NW corner in fee	t						
	קקק			קקק		קקקק	52
Trench LFG 005							
Bench 1N Un	it						
Bearing of bench wall N100							
Elevation 9765.43							
Date started 8/8/2004 Textur	Þ						
Date of log 10/4/05	0						
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	or						
Alteration/weatherin	g						
Matric suction (kpa	a)						
Sample Numbe	er	GHN-VTM-0052	GHN-VTM-0053	GHN-VTM-0054	GHN-VTM-0055	GHN-VTM-0056	
Moisture content %	6						
Paste p	н						
	4.5	5.3	8	0. 0	4.8	5.3	9.0 9
Paste conductivity (uS	6)	1.506	2.25	2.06	1.801	1.768	
Dry density (g/cm3	i)					~	
Pyrite 9			(C)		-		
Fyrite		0.68	0.66	0.64	0.69	0.48	
Commen	ts						

Trench LFG-005 Bench 1N, 4 of 4

4 of 4

Goathill North Rock Pile Trench Log

Trench Log	0		10		20	
Distance from NW corner in feet	Ĩ <u> </u>		<u> </u>	<u> </u>	<u> </u>	1
Trench LFG 005						
Bench 2N Unit	Unit I: andesite, Amalia					
Bearing of bench wall N100	a					
Elevation 9762.45	B					
Date started 8/8/2004 Texture	gravel					
Date of log 10/4/05	sandy gravel, GM					
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	orange gray					
Alteration/weathering	QSP, weathered					
Matric suction (kpa)						
Sample Number	GHN-VTM-0057	GHN-VTM-0058	GHN-VTM-0059	GHN-VTM-0060	GHN-VTM-0061	
Moisture content %						
Paste pH	_					_
	2.5	3.1	2.7	2.8	3.2	
Paste conductivity (uS)	2.37	2.46	2.87	3.79	3.54	L C
Dry density (g/cm3)						
Pyrite %	0.87	0.83	99. O	0.57	0.66	сс с
Comments	oxidized					

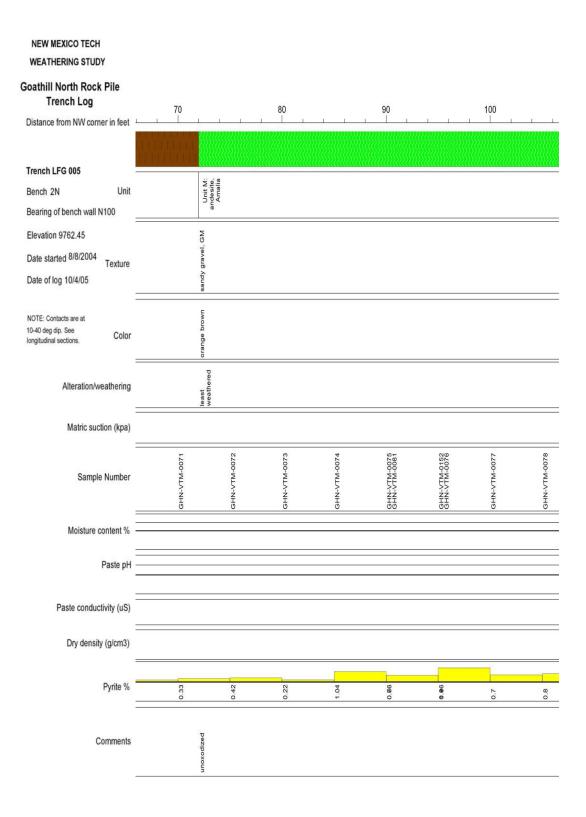
Trench LFG-005 Bench 2N, 1 of 4

NEW MEXICO TECH

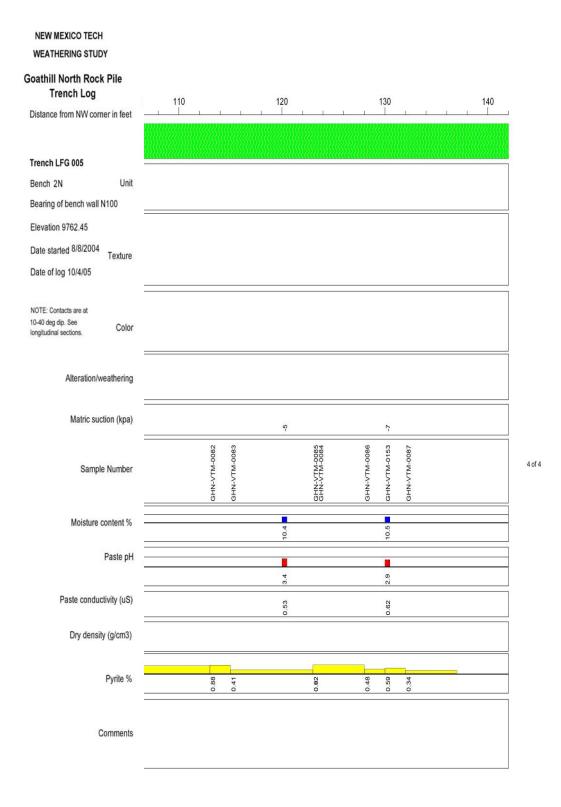
WEATHERING STUDY

Goathill North Rock Pile Trench Log Distance from NW corner in feet	30	I I I	40	1 1	1	50 	I	1		60 	<u> </u>	
				:		1000						nan in 1941 Anni An
Trench LFG 005		144444	4 4 4 4 4 4	444:		444			W. Und			MAL ()
Bench 2N Unit Bearing of bench wall N100	Unit J: andesite				Unit K: andesite		Unit L: andesite					
Elevation 9762.45	Q				£		ŧ					
Date started 8/8/2004 Texture Date of log 10/4/05	clayey gravel, GC				gravelly sand with cobbles, GC		gravelly sand with cobbles, GC					
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	dark orange				Purplish brown		dark gray c					
Alteration/weathering	weathered				least weathered		moderately weathered					
Matric suction (kpa)								-19			-۲	
Sample Number	GHN-VIM-UU62 GHN-VTM-0063	GHN-VTM-0064	GHN-VTM-0065	GHN-VTM-0066		GHN-VTM-0067	GHN-VTM-0068	GHN-LFG-0062	GHN-LFG-0059	GHN-VTM-0069	GHN-LFG-0061	GHN-VTM-0070
Moisture content %								8.6	11.8		9.2	_
Paste pH												
	3 2	3.2						2.3	2.4		2.9	
Paste conductivity (uS)	co.2	3.09						3.73	3.45		3.09	
Dry density (g/cm3)									2.0			
Pyrite %	29.0 0.22	0.53	1.03	0.78		0.11	0.3			0.17		0.19
Comments	oxidized				unoxodized		unoxodized					

Trench LFG-005 Bench 2N, 2 of 4



Trench LFG-005 Bench 2N, 3 of 4



Trench LFG-005 Bench 2N, 4 of 4

Goathill North Rock Pile Trench Log

Trench Log	0	10	20	
Distance from NW corner in feet	Ĩ <u> </u>			1 1
Trench LFG LFG-005				
Bench 3 Unit	Unit I: andesite, Amalia	Unit J: andesite	Unit N: andesite, Amalia	
Bearing of bench wall N100	ŭ	a	- ū	
Elevation 9752.69	No.	C	S	ć
Date started 8/8/2004 Texture	grave	grave	clay, (
Date of log 10/4/05	sandy gravel, GM	clayey gravel, GC	sandy clay, CS	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	orange gray	orange brown	brown orange gray	
Alteration/weathering	weathered	weathered	moderately weathered	
Matric suction (kpa)				
Sample Number	GHN-VTM-0088 GHN-VTM-0089	GHN-VTM-0090	GHN-VTM-0091 GHN-VTM-0092	GHN-VTM-0093
Moisture content %				
Paste pH				
	2.4	2.4	2.4	j.
Paste conductivity (uS)	3.01	3.67	2.36 2.75 2	2.54
Dry density (g/cm3)				
Pyrite %				
Comments	oxidized	oxidized	intermediate	1

Trench LFG-005 Bench 3N, 1 of 4

Goathill North Rock Pile Trench Log Distance from NW corner in feet		1	30 	ſ	I	<u>. </u>	40 		1		50 	1 1	1	1	60 	I	
	A Sal	Dege C	and and a	2000	0000			03.03		080							
Trench LFG LFG-005	a Kras	101	er y e	- KA	A CONTRACT	ang cang c		NY N									
Bench 3 Unit	Unit K: andesite						Unit N:	malia			Unit O: andesite						Unit P: andesite
Bearing of bench wall N100	an							٩			an						an
Elevation 9752.69	2						S				S						Ø
Date started 8/8/2004 Texture	gravel,						lay, C				lay, C						Iravel,
Date of log 10/4/05	ciayey gravei, uu						sandy clay, CS				sandy clay, CS						sandy gravel, GM
NOTE: Contacts are at	y to sh						ebu				dark brown gray						-
10-40 deg dip. See Color	orange gray to dark purplish gray/black						brown orange gray				browr						dark brown
tongituumut soodons.	dark gray.						brow gray				dark						dark
Alteration/weathering	ieast weathered						least weathered				least weathered						least weathered
Matric suction (kpa)										φ	-10						
Sample Number		GHN-VTM-0094		GHN-VTM-0095		GHN-VTM-0096		GHN-VTM-0098	GHN-VTM-0099	GHN-LFG-0088	GHN-VTM-0100 GHN-LFG-0064		GHN-VTM-0101	GHN-LFG-0084		GHN-VTM-0102	
Moisture content %														- 17			
woisture content /o										11.2	6			6.2			
Paste pH				-													
	3.0		2.7		3.2		3.2		3.1	4.1	3.4	4.2	e u	0.0	6.9		4.5
Paste conductivity (uS)		1.831		1.933		1.947			2.25	4.91	2.47 2.08		2.19	1.34		2.55	
		4		<u>~</u>		÷			N	4	N N		N	-		N	
Dry density (g/cm3)														1.85			
5																	
Pyrite %																	
Comments	Dez						ized				ized						zed
	unoxiaizea						unoxidized				unoxidized						unoxidized

Trench LFG-005 Bench 3N, 2 of 4

Goathill North Rock Pile

Goathill North Rock Pile	70	80	90		100
Distance from NW corner in feet					
	\`````````````````````````````````````		00000000000000000000000000000000000000	000000	
Trench LFG LFG-005	*****		allallallallallallallallallallallallall	olonolo ////////////////////////////////	
Bench 3 Unit		Unit Q: Unit R: Unit R: Unit S:	ndesite	Unit M: andesite, Amalia	Unit M: andesite. Amalia
Bearing of bench wall N100		a a	ā	- C a	- C
Elevation 9752.69		with with silt		S O	S O
Date started 8/8/2004 Texture		sandy gravel with cobbles, GM sandy gravel with graded sandy sitt		sandy gravel. GM	sandy gravel, GM
Date of log 10/4/05		sandy cobble sandy sandy cobble gradec		sandy	sandy
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color		dark brown gray gray dark gray		brown with orange patches	brown
Alteration/weathering		least weathered least least reast hered weathered		least weathered	least weathered
Matric suction (kpa)					
Sample Number	GHN-VTM-0103	GHN-VTM-0104 GHN-LFG-0090 GHN-VTM-0105 GHN-LFG-0087 GHN-LFG-0087	GHN-VTM-0106 GHN-VTM-0108	GHN-VTM-0109	GHN-VTM-0110 GHN-VTM-0111
Moisture content %					
Paste pH					
	o. G	4 0. 0.	0 0	4.7	4.4
Paste conductivity (uS)	2.83	2.39	1.389	1.253	1.504
Dry density (g/cm3)					
Pyrite %					
Comments		unoxidized unoxidized unoxidized		unoxidized	unoxidized

Trench LFG-005 Bench 3N, 3 of 4

NEW MEXICO TECH WEATHERING STUDY					
Goathill North Rock Pile Trench Log	110		120	1	130
Distance from NW corner in feet					
Trench LFG LFG-005					
Bench 3 Unit					
Bearing of bench wall N100					
Elevation 9752.69]
Date started 8/8/2004 Texture					
Date of log 10/4/05					
]
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color					
					i
Alteration/weathering					
Matric suction (kpa)					
	12	13	14	15	1
Sample Number	TM-01	TM-01	1M-01	TM-01	4 of 4
	GHN-VTM-0112	GHN-VTM-0113	GHN-VTM-0114	GHN-VTM-0115	
		U	Ŭ	0	-
Moisture content %					1
Paste pH					1
		9°.0	3,8	3.7	
Paste conductivity (uS)	1.594		17 N.	1.529	7
	1.5	2.22		1.6	
Dry density (g/cm3)					
				5	Ī
Pyrite %					
					1
Comments					
Contributo					

Trench LFG-005 Bench 3N, 4 of 4

Goathill North Rock Pile Trench Log

Trench Log	0		10		20	
Distance from NW corner in feet						
		 - = = = = = - = = = = = =			03.03	
Trench LFG LFG-005	արդորդորդորդոր հերուներին					
Bench 4N Unit	Unit I: andesite, Amalia	Unit J: andesite		Unit N: andesite, Amalia		Unit O: andesite
Bearing of bench wall N100	0	a		0		œ
Elevation 9755.54	ec.	e, GC		SO		S
Date started 8/8/2004 Texture	clayey gravel, GC	clayey gravel, GC		sandy clay, CS		sandy clay, CS
Date of log 10/4/05	clayey	clayey		sandy		sandy
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	Orange grey	Orange brown		gray gray		dark brown gray
Alteration/weathering	moderately weathered	moderately weathered		weathered		least weathered
Matric suction (kpa)						
Sample Number	GHN-VTM-0116	GHN-VTM-0117	GHN-VTM-0118	GHN-VTM-0119	GHN-VTM-0120	7070 FLAT 11110
Moisture content %						
Paste pH						
Paste conductivity (uS)						
Dry density (g/cm3)						
Pyrite %	1.04	1.34	0.45	0.65	0.19	5
Comments	oxidized	oxidized		intermediate		unoxidized

Trench LFG-005 Bench 4N, 1 of 5

NEW MEXICO TECH WEATHERING STUDY Goathill North Rock Pile Trench Log										
Distance from NW corner in feet	30	E T		40	50	1		60	1 1	
							00000000000000000000000000000000000000	10000000000000000000000000000000000000		
Trench LFG LFG-005						di c a				
Bench 4N Unit						Unit R: andesite, Amalia	Unit S: andesite, Amalia	Unit N	andesite, Amalia	
Bearing of bench wall N100						ar	ar		Б	
Elevation 9755.54						with	' silt	N S		
Date started 8/8/2004 Texture						gravel s, GM	sandy	gravel,		
Date of log 10/4/05						sandy gravel with cobbles, GM	graded sandy silt	sandy gravel, GM		
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color						gray	dark gray	brown with	orange patches	
Alteration/weathering						least weathered	least weathered	least		
Matric suction (kpa)			ų	۲.						
Sample Number	GHN-VIM-0121 GHN-VTM-0122	GHN-VTM-0123	GHN-LFG-0065 GHN-VTM-0124	GHN-LFG-0066 GHN-VTM-0125 GHN-LFG-0088	GHN-VTM-0126	GHN-VTM-0127		GHN-VTM-0128	GHN-VTM-0129 GHN-VTM-0135	GHN-VTM-0154
Moisture content %										
			10.4	0.0						8.3
Paste pH										
			5.8	4.5						
Paste conductivity (uS)			3.94	4.04						
Dry density (g/cm3)										2
Pyrite %	0.51	0.55	0.68	1.12		0.92		0.67	60.0	
Comments						unoxidized	unoxidized	unoxidized		

Trench LFG-005 Bench 4N, 2 of 5

Goathill North Rock Pile Trench Log Distance from NW corner in feet	70 		· ·	80	1 1 1	<u> </u>	90 	1 1	1		100	<u> </u>
Trench LFG LFG-005												
Bench 4N Unit				Unit T: andesite	rubble zone: andesite, Amalia						rock:	andesitic soil
Bearing of bench wall N100				and	rbe						bec	and
Elevation 9755.54				GM	oble						00	
Date started 8/8/2004 Texture				ravel,	yith ruk						ubble,	
Date of log 10/4/05				sandy gravel, GM	clayey gravel matrix with rubble zone, GC						clay to rubble, OC	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.				dark gray	orange brown						yellow tan	
Alteration/weathering				least weathered	weathered						highly weathered	
Matric suction (kpa)							ရ		ę		որ	
Sample Number	GHN-VTM-0130	GHN-VTM-0131	GHN-VTM-0132	GHN-HRS-0026	GHN-VTM-0133	GHN-VTM-0134 GHN-VTM-0136	GHN-LFG-0060 GHN-LFG-0089 GHN-VTM-0155	GHN-VTM-0137	GHN-LFG-0068	GHN-VTM-0138	GHN-LFG-0067	GHN-VTM-0139
Moisture content %					α					N.		N
2					10.8					7.11		12.2
Paste pH				_	2.7			3.0		4.3		4.3
Paste conductivity (uS)				2.06	N		1.412	Ю	1.06	4.	0.48 3.43	4
Dry density (g/cm3)				N			-		-		00	
												-7
Pyrite %	0.73	0.46	1.03		0.35	0.65		0.48		0.31		0.35
Comments				unoxidized	oxidized						oxidized	

Trench LFG-005 Bench 4N, 3 of 5

NEW MEXICO TECH WEATHERING STUDY									
Goathill North Rock Pile Trench Log Distance from NW corner in feet	110	I	1	120	, , , , ,	130		140	
Distance non nyy comer in reet			n. n.		-9				2. (k.
Trench LFG LFG-005							S e c c c		
Bench 4N Unit							bedrock: orange andesitic soil		
Bearing of bench wall N100							2		
Elevation 9755.54									
Date started 8/8/2004 Texture						44	2		
Date of log 10/4/05						4	Ĩ		
NOTE: Contacts are at									
10-40 deg dip. See Color Iongitudinal sections.							202		
						č			
Alteration/weathering							highly weathered		
1004-1004-0004-11-12-01-14-01-14-0-0-0-1- -							highl weat		
Matric suction (kpa)	ņ								
	0140	0141	0142			091	0150	1151	0456
Sample Number	D-MT/	JTM-0	-MT/			-FG-0	D-MT/	D-MT/	VTM-0
	GHN-VTM-0140	GHN-VTM-0141	GHN-VTM-0142			GHN-LFG-0091 GHN-HRS-0027	GHN-VTM-0150	GHN-VTM-0151	GHN-VTM-0456
						-			<u> </u>
Moisture content %		12.6				18.3			
Paste pH									
1000000000 A20		2.5				2.3			
Paste conductivity (uS)		~							
	1.44					3.37			
Dry density (g/cm3)									
D	=	_							
Pyrite %	0.45	0.26	0.56						
Comments							_		
3.28000-0000- 000 0							oxidized		
							xo		

Trench LFG-005 Bench 4N, 4 of 5

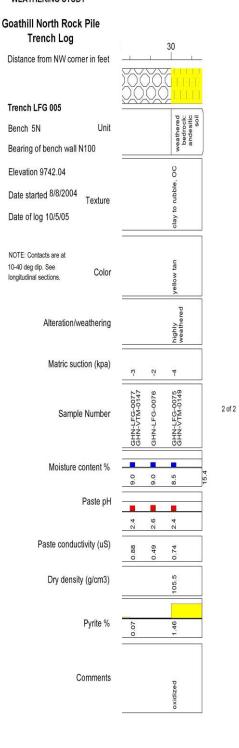
NEW MEXICO TECH WEATHERING STUDY	
Goathill North Rock Pile Trench Log	150
Distance from NW corner in feet	
Trench LFG LFG-005	
Bench 4N Unit	
Bearing of bench wall N100	r
Elevation 9755.54	
Date started 8/8/2004 Texture	
Date of log 10/4/05	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	
Alteration/weathering	
Matric suction (kpa)	
Sample Number	5 of 5
Moisture content %	
Paste pH	
Paste conductivity (uS)	
Dry density (g/cm3)	
Pyrite %	
Comments	

Trench LFG-005 Bench 4N, 5 of 5

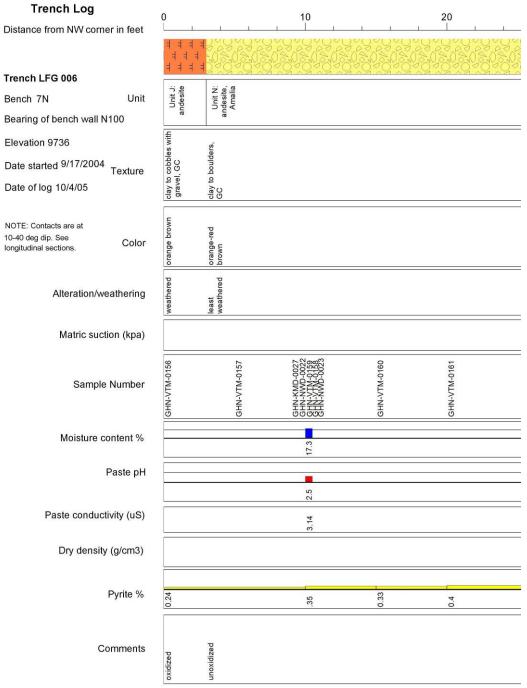
Goathill North Rock Pile Trench Log

Trench Log	0		10		20
Distance from NW corner in feet		1 1	<u> </u>	<u> </u>	
Trench LFG 005	i e				
Bench 5N Unit	Unit M: andesite	Unit T: andesite rubble: Amalia, andesite			
Bearing of bench wall N100		a a			
Elevation 9742.04	GM	e, GC			
Date started 8/8/2004 Texture	gravel	pebbl			
Date of log 10/5/05	sandy gravel, GM	clay to pebble, GC clay to pebble, GC			
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	brown with orange patches	orange brown to tan orange brown			
Alteration/weathering	weathered	least weathered weathered			
Matric suction (kpa)					
Sample Number		GHN-VTM-0143	GHN-VTM-0144	GHN-VTM-0145	GHN-VTM-0146
Moisture content %					
Paste pH					
Paste conductivity (uS)					
Dry density (g/cm3)					
Pyrite %		0.2	0.17	0.14	0.12
Comments	unoxidized	unoxidized oxidized			

Trench LFG-005 Bench 5N, 1 of 2



Goathill North Rock Pile



Trench LFG-006 Bench 7N, 1 of 3

NEW MEXICO TECH WEATHERING STUDY										
Goathill North Rock Pile Trench Log		30		40		50			60	
Distance from NW corner in feet		*, *, *, *, *, *, *, *, *, *,	·····				ANY A	A REALING		
Trench LFG 006 Bench 7N Unit Bearing of bench wall N100	Unit O: andesite						Unit K: andesite	Unit O: andesite		
Elevation 9736 Date started 9/17/2004 Date of log 10/4/05	clay to boulders, GC						clay to boulders, GC	clay to boulders, GC		
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	medium dark brown						dark brown	medium dark brown		
Alteration/weathering	least weathered						least weathered	least weathered		
Matric suction (kpa)			-216		Ņ	-4.3				
Sample Number	GHN-VTM-0162	GHN-VTM-0163	GHN-VTM-0164 GHN-KMD-0002 GHN-KMD-0001	GHN-VTM-0165	GHN-VTM-0166 GHN-KMD-0004	GHN-KMD-0011	GHN-VTM-0167	GHN-VTM-0168	GHN-VTM-0169	GHN-VTM-0170
Moisture content %			13.2		13.3	12.4				
Paste pH			►e de		3.7	2.7				
Paste conductivity (uS)			1.77 32		1.11	3.56 2.				
Dry density (g/cm3)						1.87				
Pyrite %	0.34	0.42	0.25	0.54	0.87		0.56	0.37	0.76	0.4
Comments	unoxidized						unoxidized	unoxidized		

Trench LFG-006 Bench 7N, 2 of 3

NEW MEXICO TECH							
WEATHERING STUDY							
Goathill North Rock Pile Trench Log	70		80		90		100
Distance from NW corner in feet							
Trench LFG 006							
Bench 7N Unit						Unit R: andesite	
Bearing of bench wall N100						- re	
Elevation 9736							
Date started 9/17/2004 Texture						GC	
Date of log 10/4/05						clay to small cobble, GC	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.						dark brown	
							-
Alteration/weathering						least weathered	
Matric suction (kpa)							
Sample Number	GHN-VTM-0171	GHN-VTM-0172	GHN-VTM-0173	GHN-VTM-0174	GHN-VTM-0175	GHN-VTM-0176	3 of 3
Moisture content %							-
Paste pH							_
Paste conductivity (uS)]
Dry density (g/cm3)							
200500.00020							
Pyrite %	0.57	0.39	0.67	0.81	0.83	0.73	
Comments						unoxidized	

Trench LFG-006 Bench 7N, 3 of 3

Goathill North Rock Pile Trench Log

Trench Log	0	10	20	
Distance from NW corner in feet				<u> </u>
Trench LFG 006				
Bench 8N Unit	Unit N: andesite, Amalia	Unit O: andesite		
Bearing of bench wall N100	ä	ō		
Elevation 9733.15	<u>2</u>	ers,		
Date started 9/17/2004 Texture	pinoq	pluod		
Date of log 10/5/05	ciay to boulders, GC	clay to boulders, GC		
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	orange orange	dark brown to slightly orange		
Alteration/weathering	least weathered	least weathered		
Matric suction (kpa)				
Sample Number	GHN-VTM-0201	GHN-VTM-0178	GHN-VTM-0179	GHN-VTM-0180 GHN-VTM-0181
Moisture content %	-			
Paste pH				
		3.3	4.6	4.8
Paste conductivity (uS)	2.77	2.07	2.09	2.86
Dry density (g/cm3)				
Pyrite %	1.04	0.4	0.43	0.43
Comments	intermediate	unoxidized		

Trench LFG-006 Bench 8N, 1 of 3

NEW MEXICO TECH

WEATHERING STUDY

Goathill North Rock Pile

Trench Log Distance from NW corner in feet	30			40	1	1 1	50		60		
		00000									
Trench LFG 006								* * * * * *			~
Bench 8N Unit		Unit K: andesite	Unit O: andesite								Unit R:
Bearing of bench wall N100			287/0								
Elevation 9733.15		clay to gravel; few cobbles, CA	-0								el, GC
Date started 9/17/2004 Texture		ograve ss, CA	clay to small boulders, GC								o grave
Date of log 10/5/05		clay to cobble	clay to boulde								clay to gravel, GC
NOTE: Contacts are at			Ę								in to
10-40 deg dip. See Color longitudinal sections.		brown	dark brown								light brown to
		551n									
Alteration/weathering		least weathered	least weathered								least
		ě š	ve								le
Matric suction (kpa)		L	ņ	-2.5							စု
	0182	0183 0006 0014	0184	0009		0186	GHN-KMD-0021 GHN-NWD-0018 GHN-KMD-0018 GHN-KMD-0020 GHN-NWD-0019 GHN-VTM-0187		0189	0190 0016 0017	0010
Sample Number	GHN-VTM-0182	GHN-VTM-0183 GHN-NWD-0006 GHN-KMD-0014	GHN-VTM-0184	GHN-KMD-0009 GHN-VTM-0185		GHN-VTM-0186	GHN-KMD-0021 GHN-NWD-0021 GHN-KMD-0020 GHN-NWD-0019 GHN-VTM-0187		GHN-VTM-0189 GHN-VTM-0188	GHN-VTM-0190 GHN-NWD-0016 GHN-NWD-0017	GHN-KMD-0010
	2 UHO	NHO DO C	ŻHO 0	NHS NHS		OHN	XXXX X HUH 0000 0		XH HO O	CHN CHN CHN CHN CHN CHN C	GHN
Moisture content %			ň								
		8.3	2	8.4			13.6 13.6 11.9		_		9.5
Paste pH											
	5.2	90 70	3.3 6.6	4.4	7.8	7.6	5.8	7.6	6.4	7.0	(
Paste conductivity (uS)	1.42	3.47	1.16	1.67		0.84	5.63 2.25		986.0	1.629	2.35
Dry density (g/cm3)			1 99								
		2.1									
Pyrite %	0.93	0.0	0.31	0.52		0.75	2.89		0.93	0.82	
Comments		dized	unoxidized								dized
		unoxidized	ixoun								unoxidized

Trench LFG-006 Bench 8N, 2 of 3

NEW MEXICO TECH

WEATHERING STUDY

Goathill North Rock Pile

Trench Log	70	80
Distance from NW corner in feet		
	171777777770 00000000000000000000000000	1000000000000000000000000000000000000
Trench LFG 006	NUMBER NUMBER OF COLUMN	
Bench 8N Unit	andesite Unit S: andesite	
Bearing of bench wall N100	0 0	
Elevation 9733.15	°,	
Date started 9/17/2004 Texture	grave	
Date of log 10/5/05	clay to gravel, GC	
NOTE: Contacts are at	gray	
10-40 deg dip. See Color longitudinal sections.	uray brownish gray	
Alteration/weathering	weathered weathered	
Matric suction (kpa)		
Sample Number	GHN-VTM-0191 GHN-NWD-0009 GHN-NWD-0003 GHN-NWD-0008 GHN-VTM-0192	GHN-VTM-0193 GHN-NWD-0011 GHN-NWD-0011
Moisture content %		
Paste pH		
	7.1	7.6
Paste conductivity (uS)	1.758	2.03
Dry density (g/cm3)		
Pyrite %	0.65	0 0
Comments	unoxidiZed	

Trench LFG-006 Bench 8N, 3 of 3

3 of 3

Goathill North Rock Pile Trench Log

Trench Log	0		10		20	
Distance from NW corner in feet	<u> </u>	1 1		<u> </u>		-
	4 4 4 4 1 4 4 4 4 4 4 4 4			202020	202020202020 0000000000000000000000000	
Trench LFG 006		AAAAA	<u>a na na na n</u>	N NN NN N	Y VY VY VY VY VY VY	2
Bench 9N Unit	Unit I: andesite, Amalia Unit J: andesite	Unit N: andesite, Amalia				
Bearing of bench wall N100	aran	a				_
Elevation 9729.86	e, GC I, GC	e, GC				-
Date started 9/17/2004 Texture	grave	cobbl				
Date of log 10/5/05	clay to cobble, GC clay to gravel, GC	clay to cobble, GC				_
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	orange brown orange gray	light brown to orange				_
Alteration/weathering	weathered weathered	least weathered				_
Matric suction (kpa)		<u>\</u>	7		5	_
Sample Number	GHN-VTM-0194	GHN-VTM-0195 GHN-NWD-0012 GHN-NWD-0013 GHN-KMD-0036 GHN-KMD-0036	GHN-VTM-0196 GHN-NWD-0014 GHN-NWD-0015 GHN-KMD-0015 GHN-KMD-0018 GHN-KMD-0037	GHN-VTM-0197	GHN-VTM-0198 GHN-KMD-0038	OTHER VERY AND
Moisture content %	00 0				ω	-
	14.0 14.0 15.0	53.	7.3 17.1		12.6	_
Paste pH						Ī
	5.23	2.6	3.5 3.6 2.8		3.6	•
Paste conductivity (uS)	2 3.42 3.63	6.91 6.54	7.98 12.35 6.09	9.97	3.43 3	101 1
Dry density (g/cm3)						
						=
Pyrite %	2.51	0.51	0.59	0.42	0.33	L
						-
Comments	oxidized oxidized	intermediate				_

Trench LFG-006 Bench 9N, 1 of 4

Goathill North Rock Pile Trench Log 40 50 60 30 Distance from NW corner in feet Trench LFG 006 Unit K: andesite Unit O: andesite Unit O: andesite Bench 9N Unit Bearing of bench wall N100 GO CO Elevation 9729.86 to cobble, Date started 9/17/2004 Texture clay to small cobbles, GC to cobble Date of log 10/5/05 clay clay NOTE: Contacts are at brown brown 10-40 deg dip. See longitudinal sections. Color NN dark Jark bere red pa Alteration/weathering least weathe least weathe least weath Matric suction (kpa) N GHN-VTM-0203 GHN-VTM-0203 GHN-KMD-0005 GHN-VTM-0207 GHN-KMD-0019 GHN-VTM-0200 GHN-VTM-0205 GHN-KMD-0013 GHN-KMD-0039 GHN-VTM-0208 GHN-VTM-0204 Sample Number Moisture content % 8.9 13.7 18.0 10.1 Paste pH 3.3 3.6 2.5 5.8 2.5 Paste conductivity (uS) 5 1.621 2.29 2.94 3.15 4.24 68[.] Dry density (g/cm3) Pyrite % 0.38 Comments unoxidized unoxidized unoxidized

Trench LFG-006 Bench 9N, 2 of 4

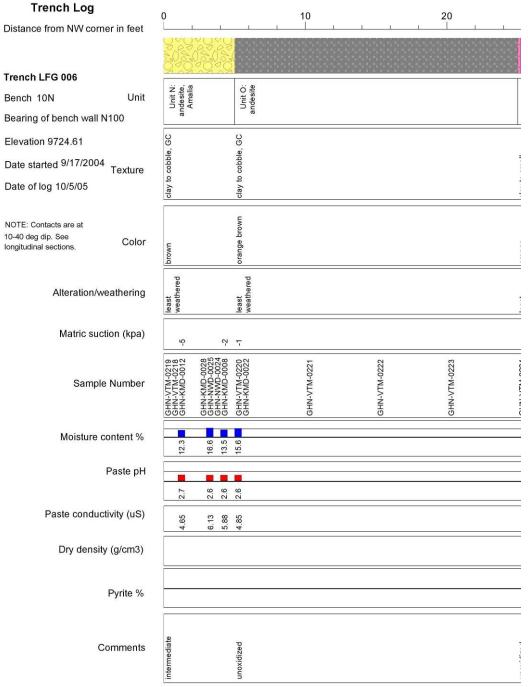
Goathill North Rock Pile Trench Log Distance from NW corner in feet	70	1 1	80		90 		100
Trench LFG 006				с. ș	نة <u>و</u> نة يو	10000000000000000000000000000000000000	<u>کة 5 ق</u>
Bench 9N Unit				Unit R: andesite	Unit S: andesite		Unit M: andesite, Amalia
Bearing of bench wall N100 Elevation 9729.86							
D. I I. I. 9/17/2004				all o	clay to boulders (3ft), GC		clay to boulders (3ft), GC
Texture				clay to small cobbles, GC	, GC		, GC
Date of log 10/5/05				clay	clay (3ft)		clay (3ft)
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.				dark brown	orange brown		orange brown
Alteration/weathering				least weathered	least weathered		least weathered
Matric suction (kpa)		0	۲.		7	Ŗ	
Sample Number	GHN-VTM-0200 GHN-VTM-0200 GHN-VTM-0211 GHN-VTM-0211	GHN-KMD-0040 GHN-VTM-0212	GHN-KMD-0007 GHN-VTM-0213	GHN-VTM-0214	GHN-VTM-0215 GHN-KMD-0015 GHN-KMD-0041	GHN-VTM-0216 GHN-KMD-0042 GHN-KMD-0016	GHN-VTM-0217
Moisture content %							1
		11.6	10.1		9.9	1.11	
Paste pH							
		3.6	4.2		5.5	5.8 5.7	
Paste conductivity (uS)		1.49	4 2		1.88	2.45 2.46	
Dry density (g/cm3)							
Pyrite %							
Comments				unoxidized	unoxidized		pezipixoun

Trench LFG-006 Bench 9N, 3 of 4

NEW MEXICO TECH WEATHERING STUDY	
Goathill North Rock Pile Trench Log	110
Distance from NW corner in feet	
Trench LFG 006	
Bench 9N Unit	
Bearing of bench wall N100	
Elevation 9729.86	
Date started 9/17/2004 Texture	
Date of log 10/5/05	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	
Alteration/weathering	
Matric suction (kpa)	Ŷ
Sample Number	012000 012000 00000 00000 00000 00000 00000 00000 0000
Moisture content %	12.7
Paste pH	<u>ل</u> ن ت ت ت ت ت
Paste conductivity (uS)	2,17 1,17 1,17 1,17 1,17 1,17 1,17 1,17
Dry density (g/cm3)	
Pyrite %	
Comments	

Trench LFG-006 Bench 9N, 4 of 4

Goathill North Rock Pile



Trench LFG-006 Bench 10N, 1 of 2

Goathill North Rock Pile Trench Log Distance from NW corner in feet	30 I I I I	40	50	60 1 1 1 1
	, , , , , , , , , , , , , , , , , , , 			
Trench LFG 006		Ξ m a		
Bench 10N Unit Bearing of bench wall N100	Unit R: andesite Unit S: andesite	Unit M: andesite, Amalia		
Elevation 9724.61		2		
	cobles, GC cobles, GC clay to boulders (3ft), GC	(3ft), GC ulders		
Date of log 10/5/05	cables, GC cobbles, GC clay to bould (3ft), GC	clay to (3ft), G		
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	orange gray to gray brown	light gray to tan		
Alteration/weathering	least weathered least weathered	weathered		
Matric suction (kpa)		4	4	Ņ
Sample Number	GHN-V IM-U224 GHN-VTM-0225	GHN-VTM-0226 GHN-KMD-0023 GHN-VTM-0227 GHN-VTM-0228 GHN-KMD-0006	GHN-KMD-0024 GHN-VTM-0229 GHN-VTM-0230 GHN-VTM-0230	GHN-KMD-0025
Moisture content %				
		11.5 11.1	20 4	5.7
Paste pH				
		6.0	9. 7	ດ .
Paste conductivity (uS)		3.6	9 9	1.56
Dry density (g/cm3)				
Pyrite %				
Comments	unoxiaizea unoxidized	unoxidized		

Trench LFG-006 Bench 10N, 2 of 2

Goathill North Rock Pile Trench Log

Trench Log	0			10		20	
Distance from NW corner in feet						20	
	1	= = = = = = = = = = = = =	4 4 4 4	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			
Trench LFG 007							.0
Bench 12N Unit	Unit I: andesite, Amalia Unit J: andesite					Unit N: andesite	Amali
Bearing of bench wall N100	a					ŭ	i
Elevation 9692.2	gs gs					with	
Date started 9/24/2004 Texture	clay, (Iravel,					Iravel	
Date of log 10/5/05	gravely clay, GC sandy gravel, GS					sandy gravel with clay, GS	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	yellowish grey with orange brown					orange brown	
Alteration/weathering	weathered weathered					least weathered	
Matric suction (kpa)				13		8-	
Sample Number	GHN-VTM-0231	GHN-VTM-0232	GHN-VTM-0233	GHN-KMD-0054 GHN-VTM-0234	GHN-VTM-0235	GHN-KMD-0053	GHN-VTM-0236 GHN-VTM-0237
Moisture content %							
				9.6		9.4	
Paste pH							
				6. E		4.3	
Paste conductivity (uS)				6.05		2.84	
Dry density (g/cm3)	2			121.2		112.8	
Pyrite %							
Comments	oxidized oxidized					intermedite	

Trench LFG-007 Bench 12N, 1 of 4

Goathill North Rock Pile

Trench Log	30	40	50		60	
Distance from NW corner in feet				BOBOBOBO	10 80 B	
Trench LFG 007						
Bench 12N Unit	Unit O:		rait C	ndesit	Unit O: andesite	
Bearing of bench wall N100		0		Ø	đ	
Elevation 9692.2	es		, GC		ß	
Date started 9/24/2004 Texture	gravel		grave		gravel	
Date of log 10/5/05	andy gravel, GS		clayey gravel, GC		sandy gravel, GS	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	dark brown with little grey		Aerg		dark brown with little grey	
Alteration/weathering	least weathered		least weashennd		least weathered	
Matric suction (kpa)		ų		ø		
Sample Number	GHN-VTM-0238 GHN-VTM-0239 GHN-VTM-0260 GHN-VTM-0260	GHN-VTM-0240 GHN-KMD-0044 GHN-VTM-0241	GHN-KMD-0052 GHN-VTM-0242	GHN-VTM-0243 GHN-KMD-0051	GHN-VTM-0244	GHN-VTM-0245
Moisture content %						
		11.3	8. 0	6.7		
Paste pH						
		4.7	5. 1	7.2		
Paste conductivity (uS)		7.96	2.64	2.94		
Dry density (g/cm3)			120.4	123.8		
Pyrite %	0 ees	0 0 0	0.32			
Comments	unoxidized		pszipixoun		unoxidized	

Trench LFG-007 Bench 12N, 2 of 4

NEW MEXICO TECH WEATHERING STUDY								
Goathill North Rock Pile Trench Log	7	0	8	80		90	1	00
Distance from NW corner in feet								
Trench LFG 007								
Bench 12N Unit								
Bearing of bench wall N100								
Elevation 9692.2								
Date started 9/24/2004 Texture								
Date of log 10/5/05								
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.								
Alteration/weathering								
Matric suction (kpa)				q				
Sample Number	GHN-VTM-0246	GHN-VTM-0247	GHN-VTM-0248	GHN-VTM-0249 GHN-VTM-0250 GHN-KMD-0066	GHN-KMD-0050 GHN-VTM-0251	GHN-VTM-0252	GHN-VTM-0253	GHN-VTM-0254
Moisture content %								
				8 2	0 0			
Paste pH								
Deste see dustivity (vC)					5.7			
Paste conductivity (uS)				4 05	3.64			
Dry density (g/cm3)			116.3	125.2				
Pyrite %								
Comments								

Trench LFG-007 Bench 12N, 3 of 4

WEATHERING STUDY

Goathill North Rock Pile

Distance from NW corner in feet Image: constant of the constant	Trench Log	110	120	
Bench 12N Unit	Distance from NW corner in feet			
Bench 12N Unit			$\begin{array}{c} 1 & -1 & -1 & -1 & -1 & -1 & -1 & -1 &$	الجنب الجنبي الجنبي العلم الحد الحد الحد الحد الحد الح الحد الحد الحد الح
Defining of deficit real read Image: Section 1 Elevation 9692.2 Image: Section 1 Date of log 10/5/05 Texture NOTE: Contacts are at 10-40 deg dp. Section 1 Image: Section 1 Indiguinal sections. Color Alteration/weathering Image: Section 1 Matric suction (kpa) Image: Section 1 Sample Number Image: Section 1 VY Image: Section 1 Moisture content % Image: Section 1 Paste pH Image: Section 1 Pyrite % Image: Section 1	Trench LFG 007			
Defining of deficit real read Image: Section 1 Elevation 9692.2 Image: Section 1 Date of log 10/5/05 Texture NOTE: Contacts are at 10-40 deg dp. Section 1 Image: Section 1 Indiguinal sections. Color Alteration/weathering Image: Section 1 Matric suction (kpa) Image: Section 1 Sample Number Image: Section 1 VY Image: Section 1 Moisture content % Image: Section 1 Paste pH Image: Section 1 Pyrite % Image: Section 1	Bench 12N Unit	Unit N Idesit	Unit and and a site of the sit	
Date started 9/24/2004 Texture up or 30% fight and the product of th	Bearing of bench wall N100	E.	o o	
NOTE: Contacts are at: 10-40 deg dp. See Color 9 deg dp. See 0	Elevation 9692.2	and I, GS	and	
NOTE: Contacts are at: 10-40 deg dp. See Color 9 deg dp. See 0	Date started 9/24/2004 Texture	sand SC grave	sco	
Alteration/weathering <u>b - y - y - y - y - y - y - y - y - y - </u>		clayey gravel, gandyl,	clayey gravel,	
Matric suction (kpa)	10-40 deg dip. See	orange brown grayish brown	orange brown	
Sample Number 90 10 90	Alteration/weathering	least kestered kestered weathered		
Moisture content % Paste pH Paste conductivity (uS) Dry density (g/cm3) Pyrite %	Matric suction (kpa)			
Paste pH Paste conductivity (uS) Dry density (g/cm3) Pyrite %	Sample Number	GHN-VTM-0255 GHN-VTM-0256	GHN-VTM-0257 GHN-VTM-0258	4 of 4
Paste conductivity (uS) Dry density (g/cm3) Pyrite %	Moisture content %			
Dry density (g/cm3) Pyrite %	Paste pH			
Pyrite %	Paste conductivity (uS)			
	Dry density (g/cm3)			
Comments Parpix ou	Pyrite %			
	Comments	unoxidized unoxidized		

Trench LFG-007 Bench 12N, 4 of 4

Goathill North Rock Pile Trench Log

Trench Log	0		10		20	
Distance from NW corner in feet		<u> </u>				<u> </u>
		< < < < < < < < < < < < < < < < < < <				#
Trench LFG 007		<u>`````````````````````````````````````</u>	ա	մեննենենենեն	ստուստուստուստո	
Bench 13N Unit	Unit C: andesite, Amalia	Unit I: andesite.	Amalia			Unit J: andesite
Bearing of bench wall N100	e	a La				σ
Elevation 9686.48						e, GC
Date started 9/24/2004 Texture	large s, GC	large s, GC				cobble
Date of log 10/5/05	clay to large cobbles, GC	clay to large cobbles, GC				clay to cobble, GC
NOTE: Contacts are at	No	/ellow				
10-40 deg dip. See Color longitudinal sections.	light yellow	orange yellow with gray				brown
Alteration/weathering	ered	ered				ered
Alteration/weathering	weathered	weathered				weathered
Matric suction (kpa)						¢
Sample Number	GHN-VTM-0261 GHN-VTM-0262		GHN-KMD-0059 GHN-VTM-0263 GHN-KMD-0058	GHN-VTM-0264	GHN-VTM-0265	GHN-VTM-0266
Moisture content %		j	00 0	5 0	0	; ;
Paste pH						
Paste conductivity (uS)						
Dry density (g/cm3)						
Pyrite %						
Comments	oxidized	oxidized				oxidized

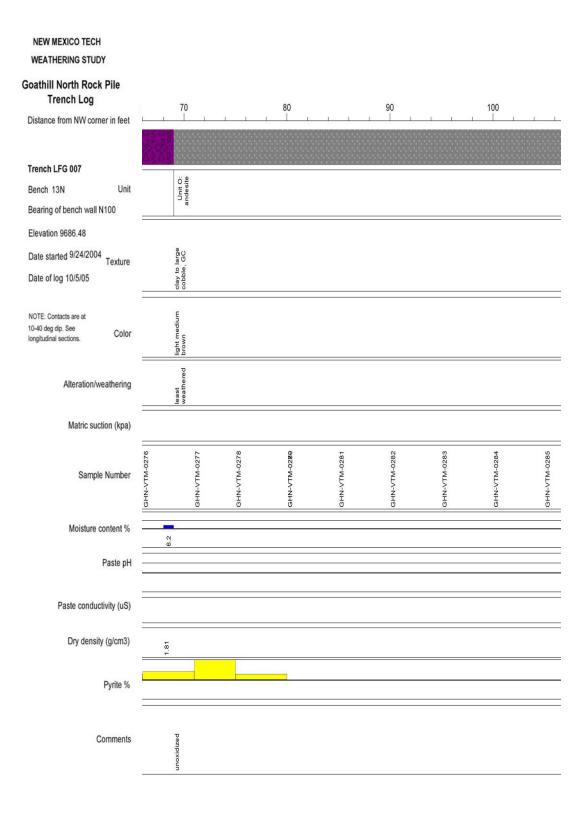
Trench LFG-007 Bench 13N, 1 of 4

WEATHERING STUDY

Goathill North Rock Pile

Trench Log	30	40	5	0	60	
Distance from NW corner in feet			00000000000	00000		14N
	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4			\$0\$0\$0		23
Trench LFG 007		ia și		i; o		ž š
Bench 13N Unit		Unit N: andesite , Amalia		Unit O: andesite		Unit K: andesite
Bearing of bench wall N100						
Elevation 9686.48		0				
Date started 9/24/2004 Texture		o large		e, GC		o large e, GC
Date of log 10/5/05		clay to large cobble, GC		clay to large cobble, GC		clay to large cobble, GC
NOTE: Contacts are at		L N		ark		gray with yellow
10-40 deg dip. See Color		orange brown		brown to dark brown		with y
iongrudulital accordina.		oran		brow		gray
Alteration/weathering		ere d		ered		ered
Alteration/weathering		least weathered		least weathered		least weathered
Matric suction (kpa)	ņ					11
		0 15	2	33	74 75	
Sample Number	сниич45 GHN-KMD-0060 GHN-VTM-0268 GHN-VTM-0269 GHN-VTM-0269	GHN-VTM-0270 GHN-KMD-0061 GHN-KMD-0061	GHN-VTM-0272	GHN-VTM-0273	GHN-VTM-0274 GHN-VTM-0275	GHN-KMD-0045
			LV-NH	LV-NH	TV-NH	N-KA
	5 0 0 0	ō ōō	ō	ō	<u>ō</u> ō	1.5.5
Moisture content %	0					11.7
Paste pH						
	2. #					4.6
Paste conductivity (uS)	ρ					
	4					3.85
Dry density (g/cm3)						
Pyrite %						
Comments		intemediate		dized		dized
		intem		unoxidized		unoxidized

Trench LFG-007 Bench 13N, 2 of 4



Trench LFG-007 Bench 13N, 3 of 4

WEATHERING STUDY

Goathill North Rock Pile

Trench Log	110	120	n	130	
Distance from NW corner in feet					-
Trench LFG 007		2			
Bench 13N Unit		Unit M: andesite, Amalia			
Bearing of bench wall N100		ä			
Elevation 9686.48		GC			
Date started 9/24/2004 Texture		sobble			
Date of log 10/5/05		clay to cobble, GC			
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.		light brown			
Alteration/weathering		least weathered			
Matric suction (kpa)					
Sample Number	GHN-VTM-0286	GHN-VTM-0287	GHN-VTM-0289	GHN-VTM-0290	4 01
Moisture content %					
Paste pH					
Paste conductivity (uS)					
Dry density (g/cm3)					
Pyrite %					
Comments		unoxidized			
					100

of 4

Trench LFG-007 Bench 13N, 4 of 4

Goathill North Rock Pile Trench Log

Distance from NW corne	in feet
------------------------	---------

-20

Distance from NW corner in feet		
T		1999-1999 4 4 4 4 4 4 4 1999-1999 4 4 4 4 4 4 4 1999-1999 4 4 4 4 4 4 4
Trench LFG 007		t J: site
Bench 14N Unit	Unit C: Amalia Unit I: andesite, Amalia	Unit J: andesite
Bearing of bench wall N100		
Elevation 9685.56		٥Q
Date started 9/24/2004 Texture	clay to large cobbles, GC clay to large cobbles, GC	ciay to large cobbles, GC
Date of log 10/26/05	clay t cobbl cobbl	clay t cobbl
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	light yellow orange yellow with gray	brown
Alteration/weathering	oxidized oxidized	oxidized
Matric suction (kpa)		
Sample Number	GHN-VTM-0291 GHN-VTM-0292 GHN-VTM-0293	GHN-VTM-0294 GHN-VTM-0295
Moisture content %		
Paste pH		
Paste conductivity (uS)		
Dry density (g/cm3)		
Pyrite %		
Comments		

-10

0

Trench LFG-007 Bench 14N, 1 of 5

WEATHERING STUDY

Goathill North Rock Pile Trench Log Distance from NW corner in feet		10 1	1 1	20	1 1	1 1	30 				40
	= = = = = =								28ab	1000 C	
Trench LFG 007		11111	Charles And Cale of the Solar Solar	NY NY NY NY	NA NA NA.]	20			
Bench 14N Unit			Unit N: andesite, Amalia			Unit N1: andesite, Amalia	Unit O: andesite	Unit O1: andesite	Unit K: andesite		Unit O: andesite
Bearing of bench wall N100			ā			ar	ß	2 0	α	1	a,
Elevation 9685.56											
Date started 9/24/2004 Texture			large , GC			large GC GC		s	large , GC		arge , GC
Date of log 10/26/05			clay to large cobble, GC			clay to large cobble GC cobble large cobble, GC		cobbles	clay to large cobble, GC		clay to large cobble, GC
NOTE: Contacts are at			Ę			E E		En la	ray		Ę
10-40 deg dip. See Color Iongitudinal sections.			light medium brown			light medium brown light medium brown		light medium brown	purplish gray		light medium brown
Alteration/weathering			intermediate			intermediate not oxidized		not oxidized	not oxidized		not oxidized
Matric suction (kpa)	φ				ņ						
Sample Number	GHN-KMD-0063	GHN-VTM-0296	GHN-VTM-0297	GHN-VTM-0298	GHN-VTM-0299 GHN-KMD-0062	GHN-VTM-0300	GHN-VTM-0301		GHN-VTM-0302	GHN-VTM-0303	GHN-VTM-0305 GHN-VTM-0304
Moisture content %											
	10.3				13.5						
Paste pH											
	4.0				4.4						
Paste conductivity (uS)	5.24				3.79						
Dry density (g/cm3)											
Pyrite %				0.27	0.44	0.77	0.66		1.44	2.01	0.38
				0	0	Ö	Ö		~	N	0
Comments											

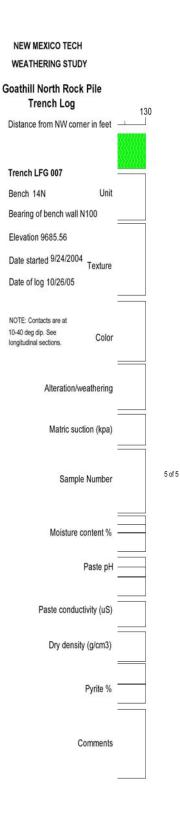
Trench LFG-007 Bench 14N, 2 of 5

NEW MEXICO TECH WEATHERING STUDY								
Goathill North Rock Pile Trench Log	50		60		70		80	
Distance from NW corner in feet		1 1						
						04040 00000000000000000000000000000000		
Trench LFG 007					10101010 # 2	iii e		
Bench 14N Unit					Unit R: andesite	Unit S: andesite	Unit U: andesite Unit V: andesite	
Bearing of bench wall N100						w		
Elevation 9685.56					clay to cobble, GC	and		
Date started 9/24/2004 Texture					cobbl	sand	grave	
Date of log 10/26/05					clay to	clayey sand and gravel, SC	sandy gravel sandy gravel	
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections. Color					reddish brown	brown gray		
							d brown d gray	
Alteration/weathering					not oxidized	not oxidized	not oxidized not oxidized	
Matric suction (kpa)				۲-				
Sample Number	GHN-VTM-0306 GHN-VTM-0307 GHN-KMD-0047	GHN-VTM-0308	GHN-VTM-0312	GHN-VTM-0310 GHN-KMD-0057	GHN-VTM-0311	GHN-VTM-0312	GHN-VTM-0313 GHN-VTM-0314	GHN-VTM-0316
Moisture content %	N							
2 3 3	10.2			6.7				
Paste pH								
Desta sectorità in (c.O.)	7.3			8.0				
Paste conductivity (uS)	ر . 1			0.18				
Dry density (g/cm3)		110.7						
Pyrite %								0.42
Comments								

Trench LFG-007 Bench 14N, 3 of 5

Goathill North Rock Pile Trench Log 100 110 120 90 Distance from NW corner in feet Trench LFG 007 Unit M: andesite, Amalia Bench 14N Unit Bearing of bench wall N100 clay to cobble, GC Elevation 9685.56 Date started 9/24/2004 Texture Date of log 10/26/05 NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color brown not oxidized Alteration/weathering Matric suction (kpa) ę GHN-VTM-0319 GHN-KMD-0056 GHN-VTM-0317 GHN-VTM-0318 Sample Number Moisture content % 8.6 Paste pH I 4.8 Paste conductivity (uS) 1.34 Dry density (g/cm3) Pyrite % 0.72 0.62 0.3 Comments

Trench LFG-007 Bench 14N, 4 of 5



Trench LFG-007 Bench 14N, 5 of 5

Goathill North Rock Pile Trench Log

Trench Log	0		10		20	
Distance from NW corner in feet		 ()>()>()>() <mark>(</mark> **				
	18080	\$0\$0\$ 0				
Trench LFG 007	z					
Bench 15N Uni		Unit N1	Unit O			
Bearing of bench wall N95)			
Elevation 9681.93						
Date started 9/24/2004 Texture	arge , GC	large	ec ec			
Date of log 10/30/05	clay to large cobbles, GC	clay to	cobble, GC cobble, GC cobble, GC			
NOTE: Contacts are at 10-40 deg dip. See Colo longitudinal sections.	gray brown	gray brown	brown gray			
Alteration/weathering]					
Matric suction (kpa))					
Sample Number	GHN-VTM-0330	GHN-VTM-0331	GHN-VTM-0332 GHN-VTM-0333	GHN-VTM-0334	GHN-VTM-0335	
Moisture content %						
Paste pł	1					
Paste conductivity (uS))					
Dry density (g/cm3)						
Pyrite %						
Comments	5					

Trench LFG-007 Bench 15N, 1 of 3

WEATHERING STUDY

Goathill North Rock Pile

Trench Log	30	40		50	60
Distance from NW corner in feet					100000000000000000000000000000000000000
			ויטינטיניטינערטינערטינערטינערטינערטינערטי	00 100	
Trench LFG 007		Unit R Unit S		Unit U	
Bench 15N Unit Bearing of bench wall N95				Г. Г.	5
Elevation 9681.93					
		oble, G		e	le >
Date started 9/24/2004 Texture Date of log 10/30/05		clay to cobble, GC clayey sand and	vel, SC	sandy gravel	sandy gravel
Date of log 10/30/05		cla) cla)	6 0	san	6 0
NOTE: Contacts are at				ay	
10-40 deg dip. See Color longitudinal sections.		brown gray		brown gray	gray
		br g		ā	ซิ
Alteration/weathering					
Matric suction (kpa)				6 7	0
Sample Number	сни-утм-0337 6HN-УТМ-0337 6HN-УТМ-0338 6HN-УТМ-0338 6HN-УТМ-0338	GHN-VTM-0340	GHN-VTM-0341	GHN-VTM-0342 GHN-VTM-0343 GHN-KMD-0048 GHN-KMD-0049 GHN-KMD-0049	GHN-KMD-0064 GHN-VTM-0344 GHN-VTM-0345 GHN-VTM-0345
Moisture content %					
				7.4	0 8
Paste pH				6.2	2.2
Paste conductivity (uS)				5.93 6. 5.93 2.	א בי ט
Dry density (g/cm3)				ري ع	<u> </u>
Pyrite %					
Comments					

Trench LFG-007 Bench 15N, 2 of 3

Goathill North Rock Pile Trench Log 80 70 Distance from NW corner in feet Trench LFG 007 Unit M Unit T Bench 15N Unit Bearing of bench wall N95 GC Elevation 9681.93 Date started 9/24/2004 Texture to cobble ndy gravel Date of log 10/30/05 clay NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color UM Alteration/weathering Matric suction (kpa) ŝ GHN-KMD-0065 GHN-VTM-0376 GHN-VTM-0348 GHN-VTM-0349 GHN-VTM-0350 GHN-VTM-0346 3 of 3 Sample Number Moisture content % 9.5 Paste pH 5.8 Paste conductivity (uS) .45 Dry density (g/cm3) Pyrite % Comments

Trench LFG-007 Bench 15N, 3 of 3

Goathill North Rock Pile Trench Log

Trench Log	0 10	20
Distance from NW corner in feet		
Trench LFG 008		
Bench 17N Unit		Chait C
Bearing of bench wall N95		
Elevation 9639.18		
Date started 10/1/2004 Texture		0
Date of log 10/30/05		cobles
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	liott vollow	
Alteration/weathering	c c c c c c c c c c c c c c c c c c c	
Matric suction (kpa)		
Sample Number		
Moisture content %		
Paste pH		
Paste conductivity (uS)		
Dry density (g/cm3)		
Pyrite %		
Comments		

Trench LFG-008 Bench 17N, 1 of 3

MERITIENING OTODI			
Goathill North Rock Pile Trench Log	30	40 50	60
Distance from NW corner in feet			
		4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
Trench LFG 008	Ξ	7	E Z
Bench 17N Unit	L	Cuart	Unit N 1
Bearing of bench wall N95			
Elevation 9639.18		with	S
Date started 10/1/2004 Texture	огалде уеном интл	orange yallow with gray	clay to large cobble, GC clay to cobble, SC
Date of log 10/30/05	gray gray	orang gray	clay transformed to the clay t
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.	orange yenow with gray	E	gray brown orange brown
to gradinal de de tra	with	r word	gray oran
Alteration/weathering	o Xiai Xea		oxidized layers
Matric suction (kpa)			
Sample Number			GHN-VTM-0351
Moisture content %			
Paste pH			
Paste conductivity (uS)			
Dry density (g/cm3)			
Pyrite %			
Comments			

Trench LFG-008 Bench 17N, 2 of 3

WEATHERING STUDY

Goathill North Rock Pile Trench Log Distance from NW corner in feet	L	70		1	30 	_111	90 		100	
		10000								
Trench LFG 008	F	× ×						********		
Bench 17N Unit	Unit 01	Unit K	Unit O							
Bearing of bench wall N95	_									
Elevation 9639.18	sc	.90	90							
Date started 10/1/2004 Texture	sobble	obble	obble							
Date of log 10/30/05	clay to cobble,SC	clay to cobble,GC	clay to cobble,GC							
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	orange brown	brown grey	dark brown							
Alteration/weathering	oxidized		unoxidized							
Matric suction (kpa)				ų						
Sample Number	GHN-VTM-0352	GHN-VTM-0353	GHN-VTM-0355 GHN-VTM-0355	GHN-KMD-0098 GHN-KMD-0067	GHN-VTM-0356	GHN-VTM-0357	GHN-VTM-0358	GHN-VTM-0359	GHN-VTM-0360	
Moisture content %				10.1 9.8						_
Paste pH				L						
0.02754243689448425				7.0						
Paste conductivity (uS)				5.1.32						
Dry density (g/cm3)					116.6			119.5		120.1
Pyrite %									1,35	
Comments										

Trench LFG-008 Bench 17N, 3 of 3

Goathill North Rock Pile Trench Log

10 20 0 Distance from NW corner in feet H. # 11 4 Trench LFG LFG-008 Unit J: oxidized Unit C: oxidized Unit I: oxidized Unit Bench 18N Bearing of bench wall N95 Elevation 9650.08 Date started 10/1/2004 Texture clay to large cobbles, GC clay to large cobbles, GC clay to large cobbles, GC Date of log 10/30/05 orange yellow with gray NOTE: Contacts are at ight yellow 10-40 deg dip. See longitudinal sections. Color UNN Alteration/weathering Matric suction (kpa) Sample Number Moisture content % Paste pH Paste conductivity (uS) Dry density (g/cm3) Pyrite % Comments

Trench LFG-008 Bench 18N, 1 of 4

WEATHERING STUDY

Goathill North Rock Pile

Trench Log Distance from NW corner in feet	30	40	50	60
		4 4 4 4 20 20 20 20 20 20 20 20 20 20 20 20 20		
Trench LFG LFG-008				öD
Bench 18N Unit		Unit N: ntermedia te	Unit K: unoxídízed	Unit O: unoxidized
Bearing of bench wall N95		inter	ůn	or S
Elevation 9650.08				
Date started 10/1/2004 Texture		s, GC	clay to cobble	clay to cobble
Date of log 10/30/05		clay to large cobbles, GC	clay to	clay to
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.		gray brown	greenish gray	dark brown
Alteration/weathering				
Matric suction (kpa)				φ
Sample Number				GHN-KMD-0073
Moisture content %				
				11,4
Paste pH				
				ю. ю
Paste conductivity (uS)				
Dry density (g/cm3)				
Pyrite %				
Comments				

Trench LFG-008 Bench 18N, 2 of 4

Goathill North Rock Pile Trench Log 80 70 90 100 Distance from NW corner in feet Trench LFG LFG-008 Unit V: Unit V: Unit V: Unit M: Unit M: Unit M: Unit R: unoxidized Unit S: unoxidized Unit U: xidized Bench 18N Unit Bearing of bench wall N95 Elevation 9650.08 to cobble Date started 10/1/2004 Texture clay to cobble to cobble to cobble to cobble Date of log 10/30/05 clay clay clay clay range brown NOTE: Contacts are at dark brown 10-40 deg dip. See longitudinal sections. Color Alteration/weathering Matric suction (kpa) ę 00 9 GHN-KMD-0068 GHN-KMD-0072 GHN-KMD-0071 GHN-KMD-0099 Sample Number Moisture content % 8.8 7.4 9.6 8.4 Paste pH 7.0 7.2 4.3 2.8 Paste conductivity (uS) 0.72 2.18 .42 1.91 Dry density (g/cm3) Pyrite % Comments

Trench LFG-008 Bench 18N, 3 of 4

NEW MEXICO TECH WEATHERING STUDY		
Goathill North Rock Pile Trench Log	110	
Distance from NW corner in feet		1
Trench LFG LFG-008		
Bench 18N Unit		
Bearing of bench wall N95		
Elevation 9650.08		
Date started 10/1/2004 Texture		
Date of log 10/30/05		
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.		
Alteration/weathering		
Matric suction (kpa)		
Sample Number		4 of 4
Moisture content %		
Paste pH		
Paste conductivity (uS)		
Dry density (g/cm3)		
Pyrite %		
Comments		

Trench LFG-008 Bench 18N, 4 of 4

Goathill North Rock Pile

Trench Log	0		10 20	
Distance from NW corne				
			1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
Trench LFG LFG-008				7
Bench 19N	Unit	Unit I	T jir T	Unit N
Bearing of bench wall N	1100			
Elevation 9645.78				
Date started 10/1/04	Texture	, GC	O C C C	, GC
Date of log 10/30/05	Texture	clay to large cobbles, GC	clay to large cobbles, GC	clay to large cobbles, GC
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.	Color	light yellow	orange yellow with gray	brown
Alteration/we	eathering	oxidized	oxidized	
Matric suct	ion (kpa)			
Sample	Number			
Moisture co	ontent %			
	Paste pH			
Paste conduct	livity (uS)			
Dry density	r (g/cm3)			
	Pyrite %			
Co	omments			

Trench LFG-008 Bench 19N, 1 of 4

Goathill North Rock Pile Trench Log Distance from NW corner in feet	30		40	50	60		
Distance from NVV comer in feet		No.					
Trench LFG LFG-008	AKAKAKAKAKAK	-					
Bench 19N Unit Bearing of bench wall N100		Unit O1	Unit O				
Elevation 9645.78							
Date started 10/1/04 Texture Date of log 10/30/05		clay to large cobbles, GC	clay to cobble				
NOTE: Contacts are at 10-40 deg dip. See Color longitudinal sections.		yellow brown	grey-brown				
Alteration/weathering		oxidized					
Matric suction (kpa)						-12	
Sample Number					GHN-KMD-0100 GHN-VTM-0375	GHN-KMD-0075	GHN-VTM-0377
Moisture content %							6.6
Paste pH							<u>о</u>
					3.4	5.9	5.2
Paste conductivity (uS)					3.25 2.48	3.19	2.26
Dry density (g/cm3)							
Pyrite %							
Comments							

Trench LFG-008 Bench 19N, 2 of 4

athill North Rock Pile Trench Log Distance from NW corner in feet	70	a ar	80	1 1 1	90	III	100	r
rench LFG LFG-008				aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa	uuquuquu	wawaaa	anaanaanaanaa ah	aaa
ench 19N Unit		Unit R Unit U	Unit V Unit M					
Bearing of bench wall N100								
levation 9645.78								
Date started 10/1/04		obble	obble					
Date of log 10/30/05		clay to cobble clay to cobble	clay to cobble clay to cobble					
IOTE: Contacts are at		UMOI						
0-40 deg dip. See Color ongitudinal sections.		orange brown brown	brown w/yellow brown,sh					
Alteration/weathering			oxidized layers					
			oxidi layer					
Matric suction (kpa)		-5 -10						
Sample Number	GHN-VTM-0378	GHN-KMD-0069 GHN-VTM-0379 GHN-KM0-0886	GHN-VTM-0381 GHN-VTM-0382	GHN-VTM-0383 GHN-VM-0009	GHN-VTM-0385	GHN-VTM-0386	GHN-VTM-0387	
Moisture content %								
Moisture content %		12.5	11.0					
Paste pH								
	5.7	3.5 6.8 3.4	3.4	9°0	3.9	3.8	3.4	
Paste conductivity (uS)		2.48 2.16 1.75	1.03 0.912	1.808	2.82	3.41	2.44	
Dry density (g/cm3)								
Durite %								
Pyrite %								
Comments								

Trench LFG-008 Bench 19N, 3 of 4

NEW MEXICO TECH	
WEATHERING STUDY	
Goathill North Rock Pile Trench Log	110
Distance from NW corner in feet	
Trench LFG LFG-008	
Bench 19N Unit	
Bearing of bench wall N100	
Elevation 9645.78	
Date started 10/1/04 Texture	
Date of log 10/30/05	
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color	
Alteration/weathering	
Matric suction (kpa)	
	(Discret)
Sample Number	4 of 4
Moisture content %	
Paste pH	
Paste conductivity (uS)	
Dry density (g/cm3)	
, , , , ,	
Pyrite %	
0-2000 - 200	
Comments	

Trench LFG-008 Bench 19N, 4 of 4

Goathill North Rock Pile Trench Log

Henen Log	0		10	0		20
Distance from NW corner in feet	Ī					
				i = = = = = = = = = = = = = = = = i = = = =		020202020202
Trench LFG LFG-008		։ լկկկկկկ 	1	1 7 7 7 7 7 7		
Bench 19N Unit	Unit C	Unit I	Unit J		Unit N1	Unit N
Bearing of bench wall 95					2	
Elevation 9645.8						
Date started 10/1/2004 Texture						
Date of log 4/23/06						
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color	orange brown	orange brown	orange brown			orange brown
Alteration/weathering						
Matric suction (kpa)						
Sample Number						
Moisture content %						
Paste pH						
Paste conductivity (uS)						
Dry density (g/cm3)						
Pyrite %						
Comments						

Trench LFG-008 Bench 20N, 1 of 3

NEW MEXICO TECH WEATHERING STUDY							
Goathill North Rock Pile Trench Log	30	40			50	60	
Distance from NW corner in feet		1 I		1 1	_ I	ı [ı	1
Trench LFG LFG-008							
Bench 19N Unit	Unit O1 Unit O						
Bearing of bench wall 95		 				 	
Elevation 9645.8							
Date started 10/1/2004 Texture							
Date of log 4/23/06							
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color	orange brown dark brown						
Alteration/weathering							
Matric suction (kpa)			φφ				
Sample Number			GHN-KMD-0082 GHN-KMD-0083				
Moisture content %							
molotare comon yo			11.1	9.6			
Paste pH							
			3.3	4.4			
Paste conductivity (uS)			3.7 3.67				
Dry density (g/cm3)							
Pyrite %							
Comments							

Trench LFG-008 Bench 20N, 2 of 3

NEW MEXICO TECH WEATHERING STUDY												
Goathill North Rock Pile Trench Log		7	1				80				90	
Distance from NW corner in fee	et 📖	, li		1	1	1	Ĩ	E.	1 1			
Trench LFG LFG-008				uuu	unni	annai	uuuu	ama	nnn	unna		
Bench 19N Ur	nit	Unit U	Unit M									
Bearing of bench wall 95												
Elevation 9645.8												
Date started 10/1/2004 Textur	10											
Date of log 4/23/06												
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Col	or	orange brown	brown									
Alteration/weathering	ıg											
Matric suction (kp	a)								Ŷ			
Sample Numb	er	GHN-VTM-0388	GHN-VTM-0389	GHN-VTM-0390		GHN-VTM-0391	GHN-KMD-0094	GHN-VTM-0392	GHN-VTM-0393 GHN-KMD-0070			3 of 3
Moisture content	%										-	
								8.7		9.7		
Paste p	H											
		ű	3.7		3.5		3.3	3.1	4.8	4.3		
Paste conductivity (u	S)	1.39	1.95	1. 1.		0.97	0.7	1.76	1.88			
Dry density (g/cm3	3)											
Pyrite '	%											
Commen	ts											

Trench LFG-008 Bench 20N, 3 of 3

Goathill North Rock Pile Trench Log

Trench Log	40	50	60	
Distance from NW corner in feet	40			_
Trench LFG LFG-009 Bench 22N Unit Bearing of bench wall 90	Unit C-I Unit J Unit J È È È È	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	Unit N	NA NA
				=
Elevation 9604.6 Date started 10/8/2004 Texture Date of log 4/23/06	sandy gravel clayey gravel		sandy gravel	
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections. Color	gray to white orange to gray with orange spots		brown to light brown to dark brown	_
Alteration/weathering				_
Matric suction (kpa)			စုဖု	
Sample Number	GHN-VTM-0404	GHN-JRM-0021 GHN-JRM-0029 GHN-VTM-0405	GHN-VTM-0406 GHN-VTM-0407 GHN-VTM-0428 GHN-JTM-0001 GHN-JTM-0002 GHN-VTM-0408 GHN-VTM-0408	_
Moisture content %		12 3	9.8	_
Paste pH				_
		3.1 2.8 2.9 2.9	3.3 2.9 2.2	
Paste conductivity (uS)	1.494	4.3 3.22 1.518	1.708 2.45 2.28 6.31 5.46 1.861	_
Dry density (g/cm3)				_
Pyrite %				_
Comments	thin, fine-grained crust		base is less cobbles and more sand-sitt than throughout the unit, 3 to 6 inch thick coarse layers	

Trench LFG-008 Bench 22N, 1 of 2

Goathill North Rock Pile Trench Log Distance from NW corner in feet	70		80 	90	100
	02020202020				
Trench LFG LFG-009	<u>. NA NA NA NA 1</u>	N NA NA NA			
Bench 22N Unit			Unit N1 Unit K	Unit O1 Unit O	
Bearing of bench wall 90			[-]		
Elevation 9604.6				ttr	
Date started 10/8/2004 Texture			ravel	avelv	
Date of log 4/23/06			clayey gravel clayey gravel	sandy gravel with diay sandy gravel	
NOTE: Contacts are at 10-40 deg dip. See longitudinal sections.			orange brown purple gray	dark orange brown dark brown gray to dark gray	
Alteration/weathering					
Matric suction (kpa)	-14			-20	
Sample Number	GHN-VTM-0409 GHN-JRM-0028	GHN-VTM-0410	GHN-VTM-0411 GHN-VTM-0412	GHN-VTM-0413 GHN-VTM-0414 GHN-JRM-0022 GHN-VTM-0415 GHN-VTM-0415 GHN-VTM-0416 GHN-VTM-0416 GHN-VTM-0416	GHN-JRM-0023
Moisture content %					
Moisture content 76	8.9			0. 0	
Paste pH					
	3.4 3.3 4.2	3.8	3.9 4.2	6.6 5.5 6.2 5.7 5.7	6.7
Paste conductivity (uS)	1.983	1.943	2.58 2.41	1.818 2.58 4.42 2.655 3.09 3.09 2.39 2.39	
Dry density (g/cm3)					
Pyrite %					
Comments			orange brown zone thins	layers of cobbles throughout until	

Trench LFG-008 Bench 22N, 2 of 2

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