APPENDIX C

LABORATORY TEST RESULTS

APPENDIX C

LABORATORY TEST RESULTS

The results of laboratory tests conducted as part of the Phase 2 geotechnical field exploration program are included in this appendix. Laboratory test results are organized as follows:

- Appendix C-1 Index Testing
- Appendix C-2 Compaction Testing
- Appendix C-3 Consolidation / Collapse Testing
- Appendix C-4 Permeability Testing
- Appendix C-5 Triaxial Testing
- Appendix C-6 Interface Shear Strength Testing
- Appendix C-7 Soil-Water Characteristic Curve Testing

The general purpose of each group of laboratory tests is described below:

- *Index Testing* – Classification of overburden soils.
- *Compaction Testing* – Determine the compaction characteristics of the overburden soils for possible use as compacted structural fill or soil liner.
- *Consolidation / Collapse Testing* – Estimate the potential settlement of the in-situ overburden soils and recompacted soil materials (i.e., structural fill) in response to wetting and increased pressures associated with the proposed facilities.
- *Permeability Testing* – Estimate the permeability of the in-situ soil (undisturbed samples) and the permeability of the recompacted soil for possible use as a compacted soil liner.
- *Triaxial Testing* – Estimate the strength properties of in-situ overburden soils and recompacted soils (i.e., structural fill) for use in engineering design.
- *Interface Shear Strength Testing* – Estimate the strength properties of critical interfaces for use in liner system design.
- *Soil-Water Characteristic Curve Testing* – Determine unsaturated permeability modeling parameters of potential cover soils for use in future tailings cell cover design.

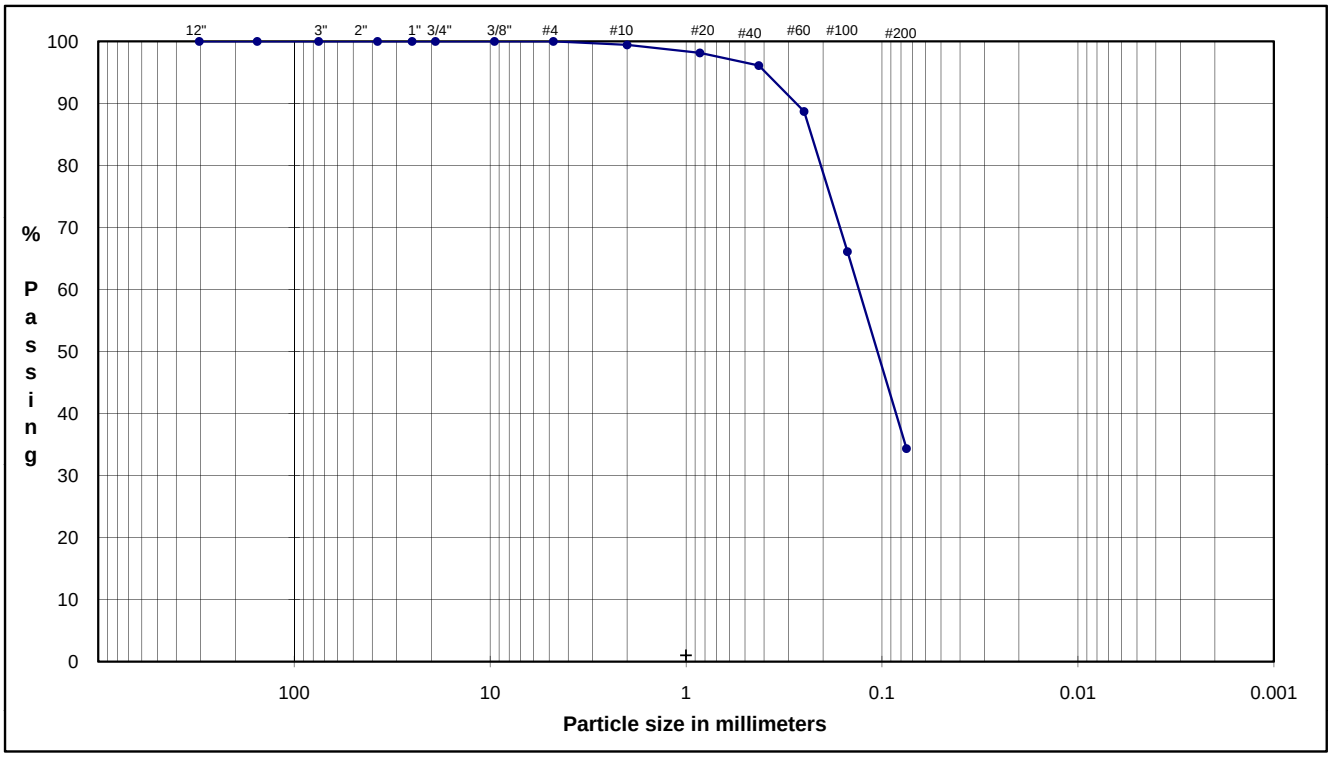
APPENDIX C-1

INDEX TESTING

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

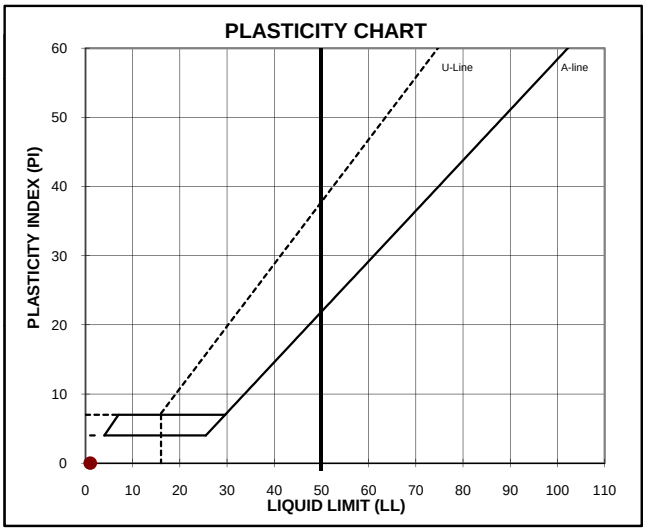
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-01** Depth (ft): **9.5-10**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.4**	Coarse Sand	**0.57**
#20	0.85	**98.1**		
#40	0.43	**96.1**	Medium Sand	**3.33**
#60	0.25	**88.7**		
#100	0.15	**66.1**		
#200	0.08	**34.4**	Fine Sand	**61.75**
			Fines	**34.35**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.4	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Yellowish red silty sand

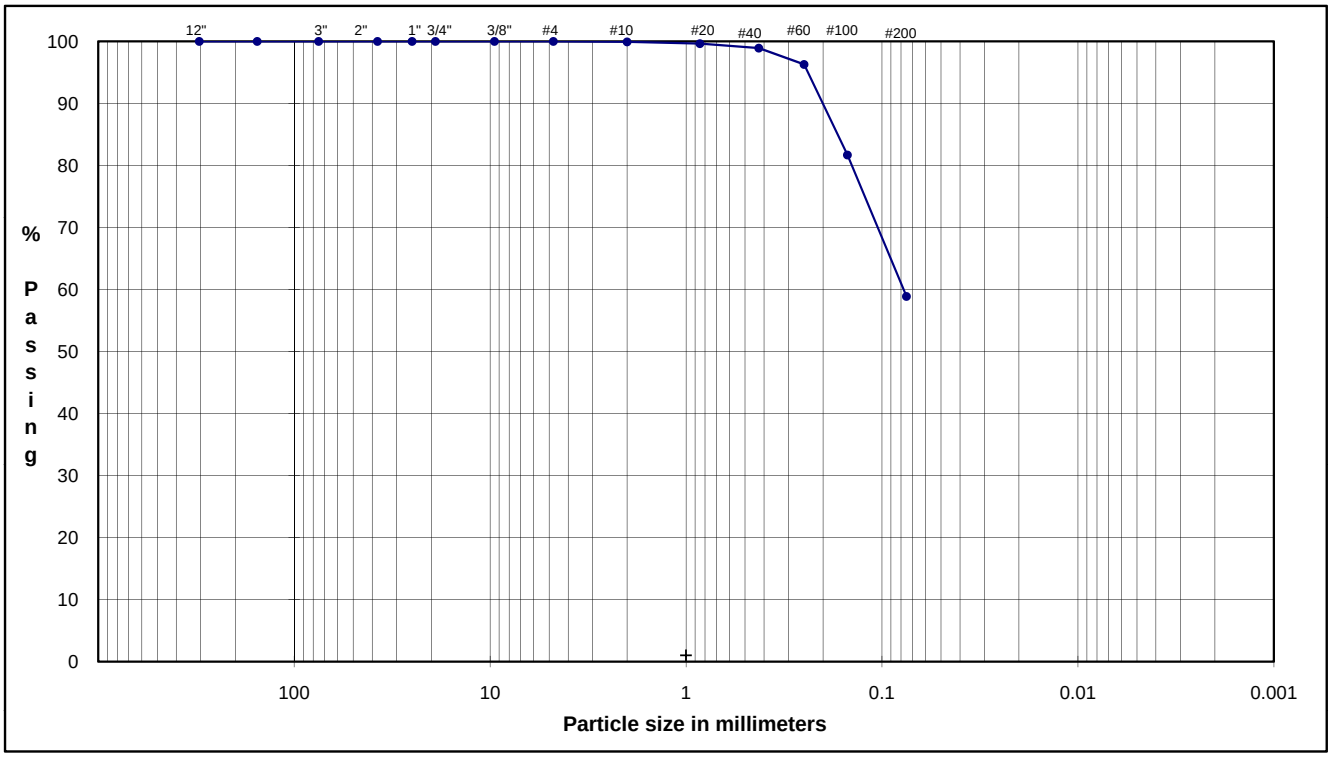
USCS: SM

TECH	CA
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

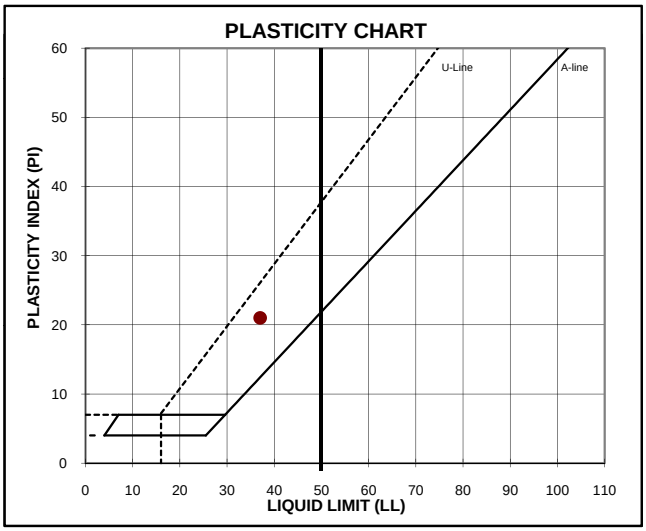
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-02** Depth (ft): **9.5-10**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.09**
#20	0.85	**99.6**		
#40	0.43	**98.9**	Medium Sand	**0.99**
#60	0.25	**96.3**		
#100	0.15	**81.7**		
#200	0.08	**58.9**	Fine Sand	**40.04**
			Fines	**58.89**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
7.6	**37**	**16**	**21**	**-**

DESCRIPTION: Yellowish red sandy lean clay

USCS: CL

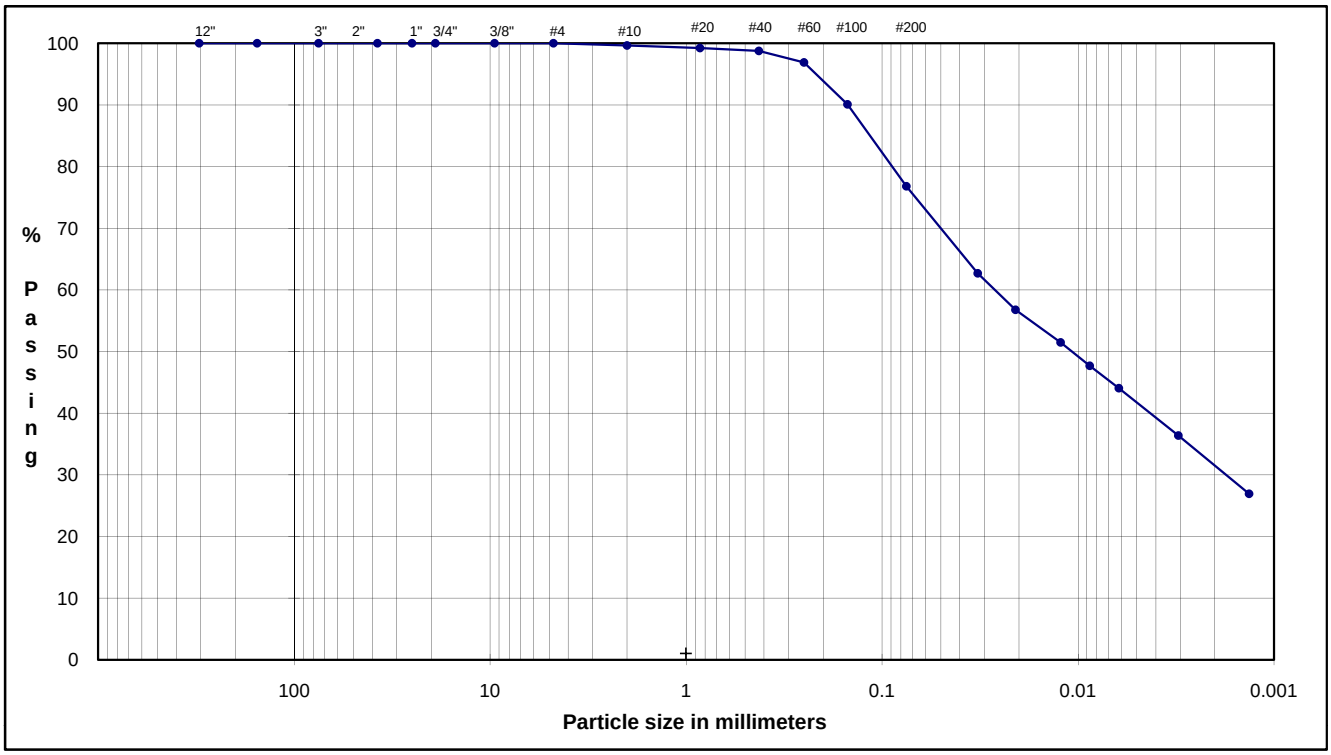
TECH	CA
DATE	11/23/07
REVIEW	MB

November-07 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **BA-BH-03** Depth (ft): **9.25-10**
TYPE: **Tube**



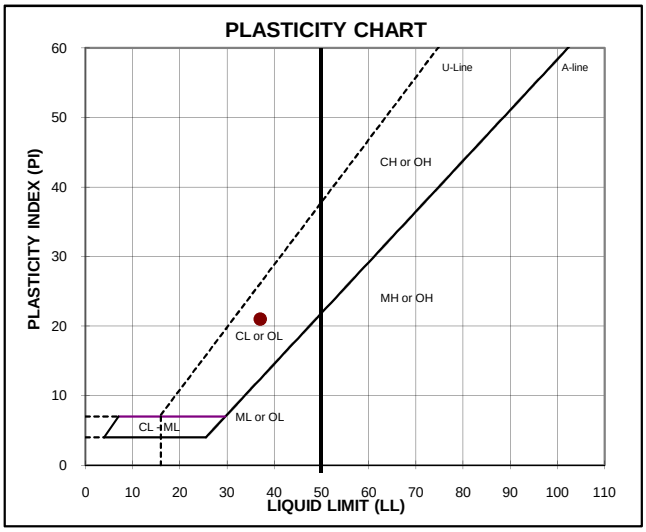
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**0.00**
0.75"	19.0	**100.0**		
0.375"	9.5	**100.0**		
#4	4.8	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.6**	Coarse Sand	**0.37**
#20	0.85	**99.2**		
#40	0.43	**98.8**	Medium Sand	**0.86**
#60	0.25	**96.9**		
#100	0.15	**90.1**		
#200	0.075	**76.8**	Fine Sand	**21.96**

Hydrometer Analysis

(mm)	%Finer		
0.033	**62.7**		
0.021	**56.8**		
0.012	**51.4**	Fines	
0.009	**47.7**	Silt or Clay	**76.81**
0.006	**44.1**		
0.003	**36.3**		
0.001	**26.9**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
9.9	**37**	**16**	**21**	**2.70**

DESCRIPTION: Yellowish red lean clay with sand

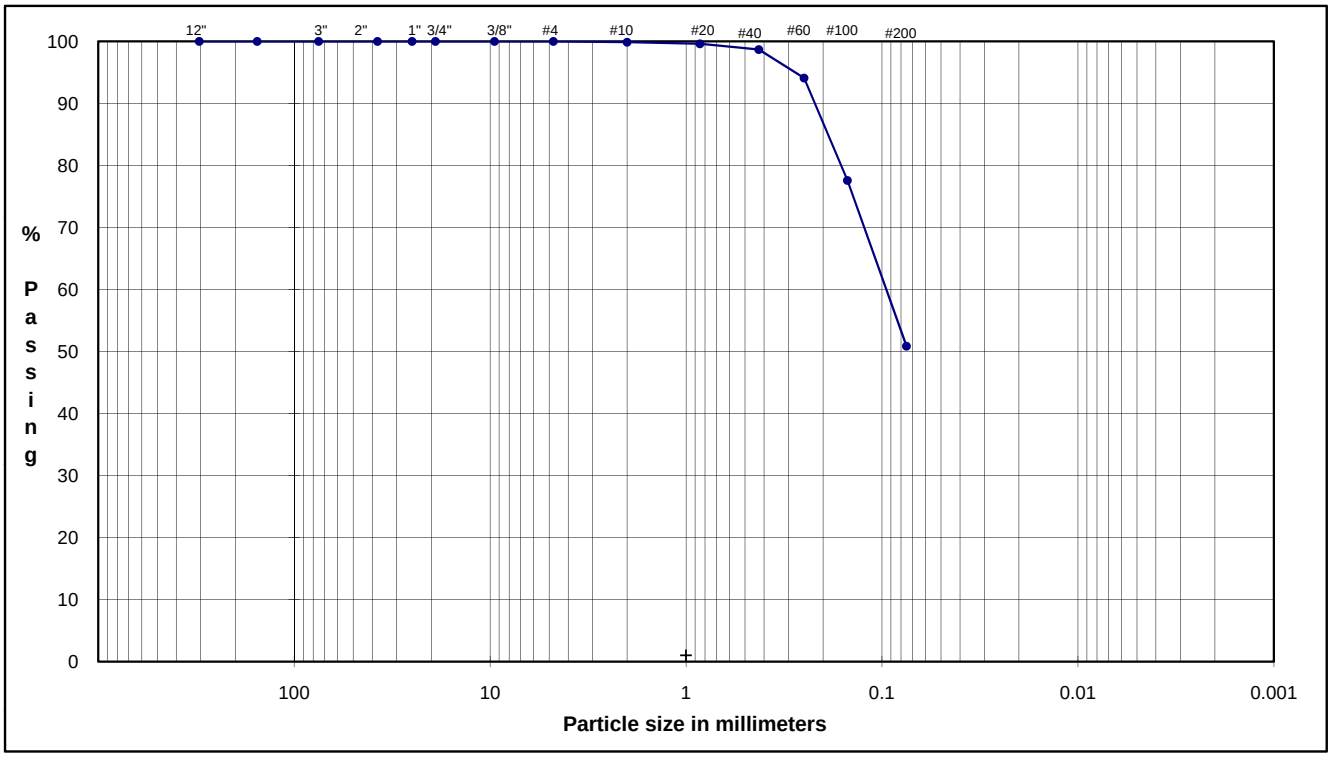
USCS: CL

TECH CA
DATE 11/15/2007
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

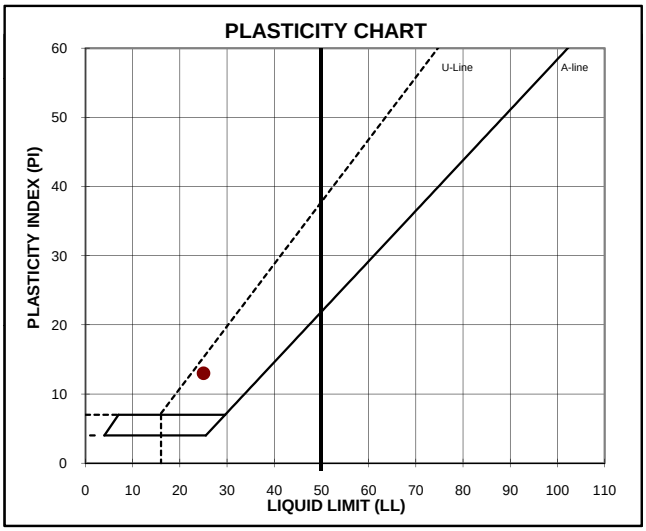
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-03** Depth (ft): **19.25-20**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.14**
#20	0.85	**99.6**		
#40	0.43	**98.7**	Medium Sand	**1.17**
#60	0.25	**94.1**		
#100	0.15	**77.6**		
#200	0.08	**50.9**	Fine Sand	**47.83**
			Fines	**50.86**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
6.1	**25**	**12**	**13**	**-**

DESCRIPTION: Yellowish red sandy lean clay

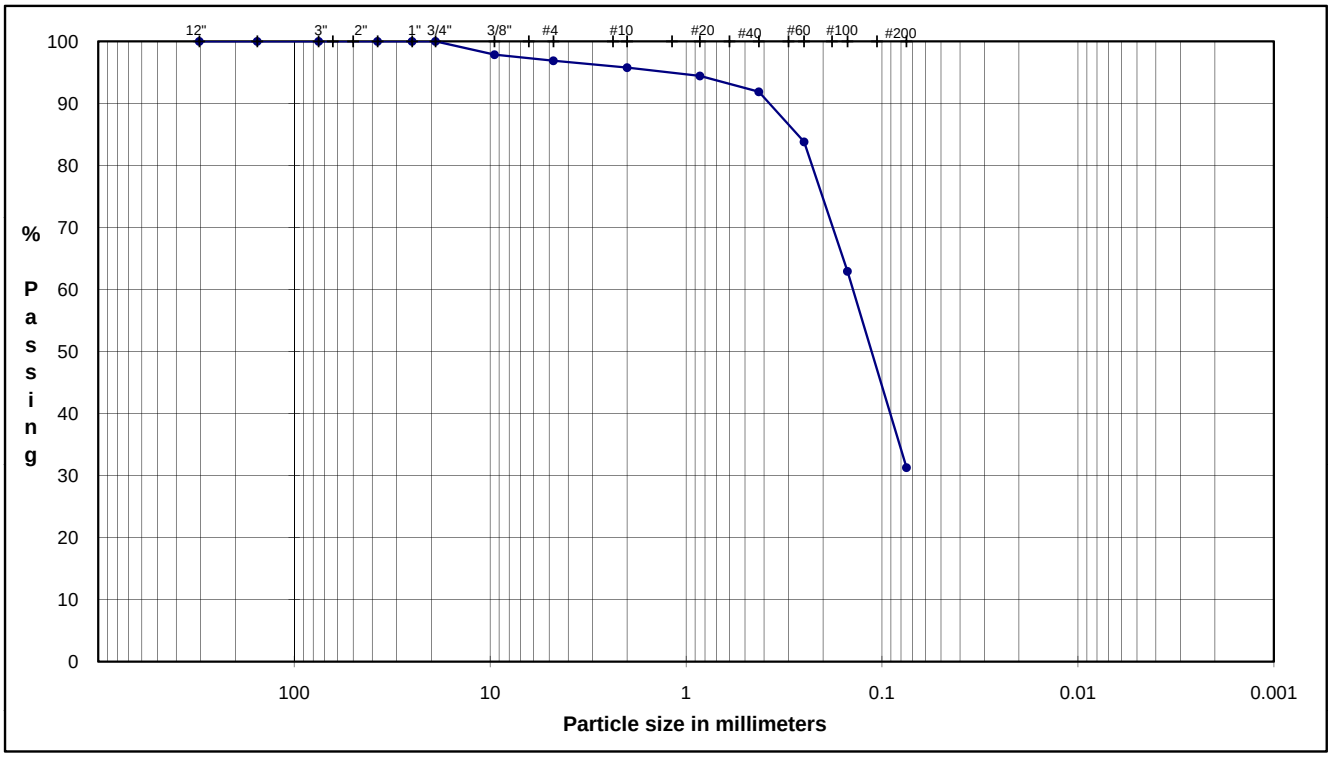
USCS: CL

TECH	CA
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

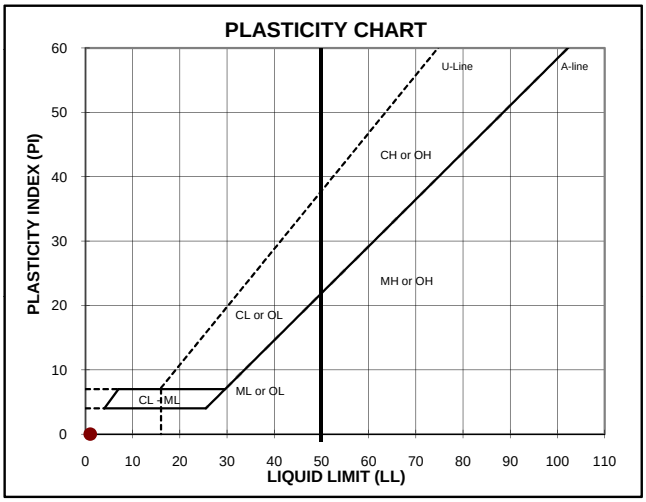
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-03** Depth (ft) **29.5-30**
TYPE: **Tube**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**100.0**	Coarse Gravel	**0.00**
0.375"	9.5	**97.9**		
#4	4.8	**96.9**	Fine Gravel	**3.11**
#10	2.0	**95.8**	Coarse Sand	**1.11**
#20	0.9	**94.4**		
#40	0.4	**91.9**	Medium Sand	**3.90**
#60	0.3	**83.8**		
#100	0.2	**62.9**		
#200	0.1	**31.3**	Fine Sand	**60.61**
			Fines	**31.27**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.7	**NP**	**NP**	**NP**	**--**

DESCRIPTION: Yellowish red silty sand

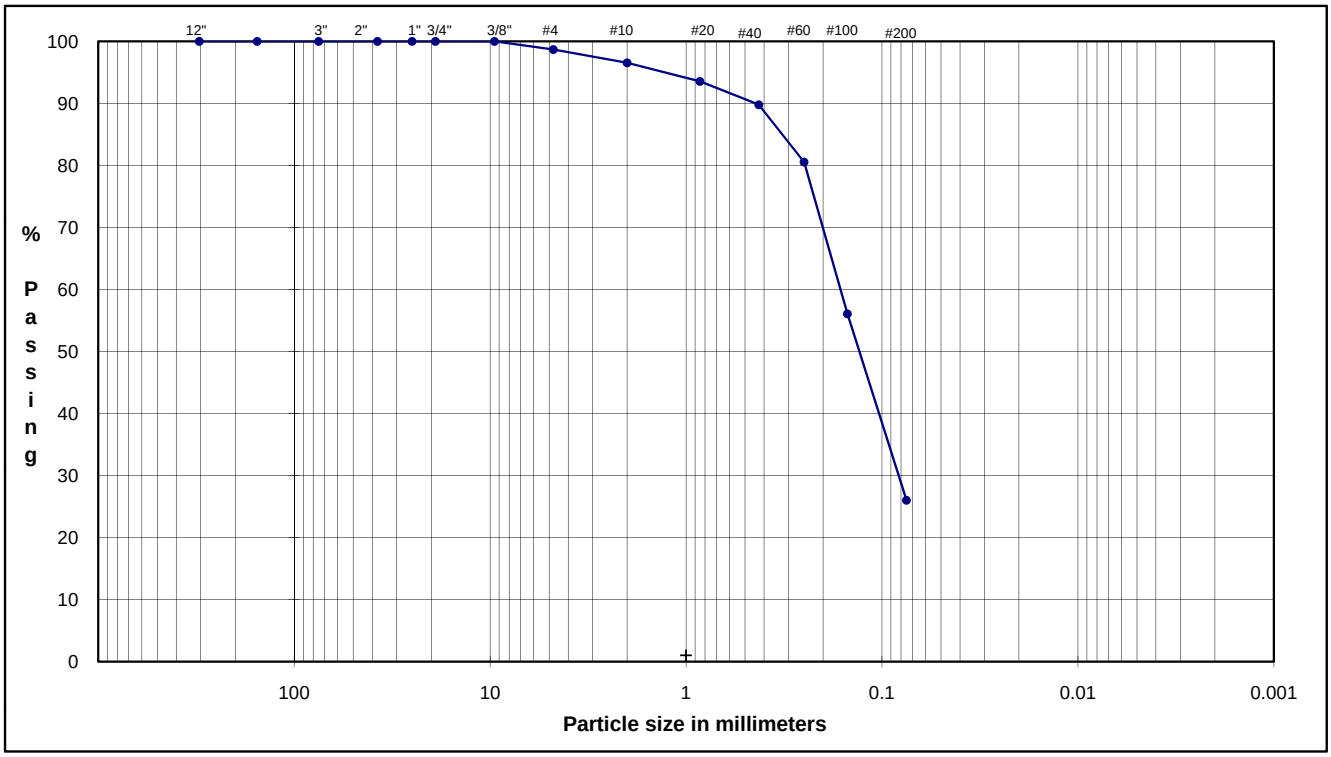
USCS: SM

TECH	CA
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

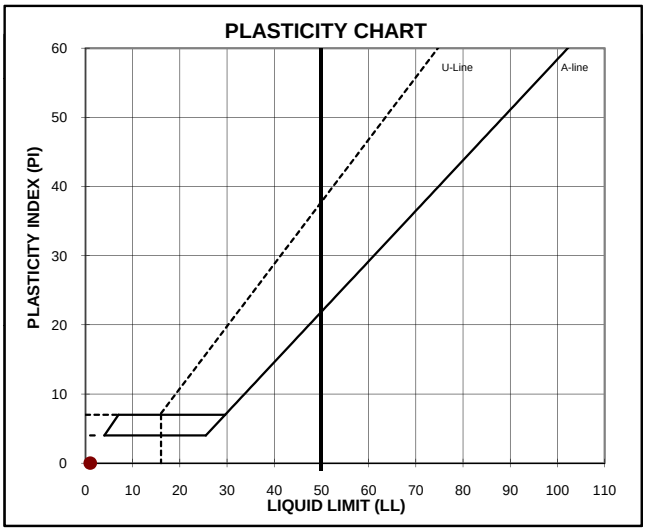
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-06** Depth (ft): **4-5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**98.7**	Fine Gravel	**1.31**
#10	2.00	**96.5**	Coarse Sand	**2.15**
#20	0.85	**93.6**		
#40	0.43	**89.8**	Medium Sand	**6.77**
#60	0.25	**80.6**		
#100	0.15	**56.1**		
#200	0.08	**26.0**	Fine Sand	**63.77**
			Fines	**26.01**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.6	--	--	--	-

DESCRIPTION: Reddish brown

USCS: --

TECH	MKS
DATE	11/23/07
REVIEW	MB

ATTERBERG LIMITS

ASTM D 4318

PROJECT NAME: Energy Fuels/Geotech Pinon Ridge
PROJECT NUMBER: 073-81694
SAMPLE ID: GA-BH-06 **SAMPLE DEPTH (ft):** 24.5-25
SAMPLE TYPE: Tube

SAMPLE PREPARATION

Wet or Dry: Dry Minus #40 Sieve: Yes

PLASTIC LIMIT DETERMINATION

Number of Blows		
Weight of Wet Soil & Tare (gm)	20.13	22.14
Weight of Dry Soil & Tare (gm)	19.30	21.33
Weight of Tare (gm)	13.78	15.91
Weight of Water (gm)	0.83	0.81
Weight of Dry Soil (gm)	5.52	5.42
Water Content %	15.04	14.94

LIQUID LIMIT DETERMINATION

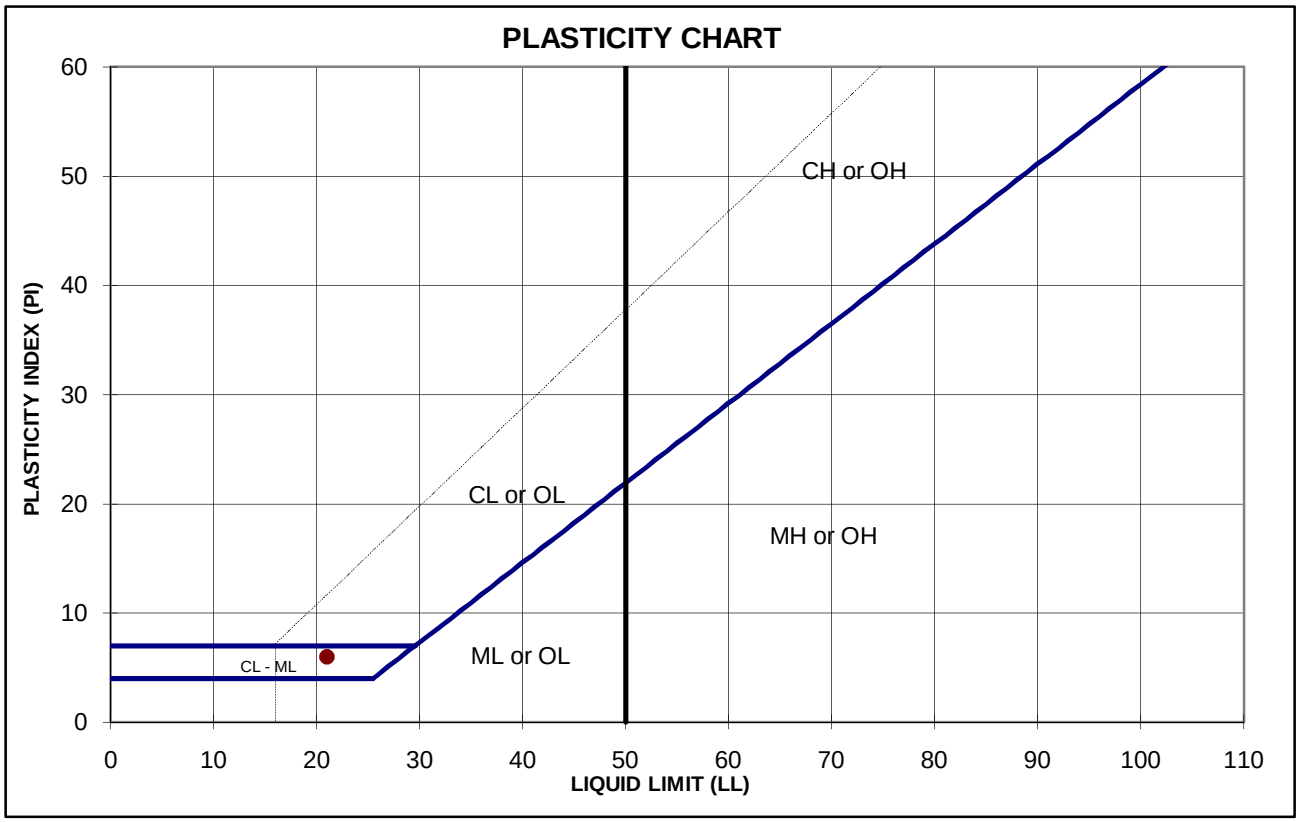
27	21	15
32.73	30.09	29.66
29.41	27.57	26.95
13.51	15.64	14.58
3.32	2.52	2.71
15.90	11.93	12.37
20.88	21.12	21.91

PLASTIC LIMIT (PL): 15

LIQUID LIMIT (LL): 21

PLASTICITY INDEX (PI): 6

NOTE:

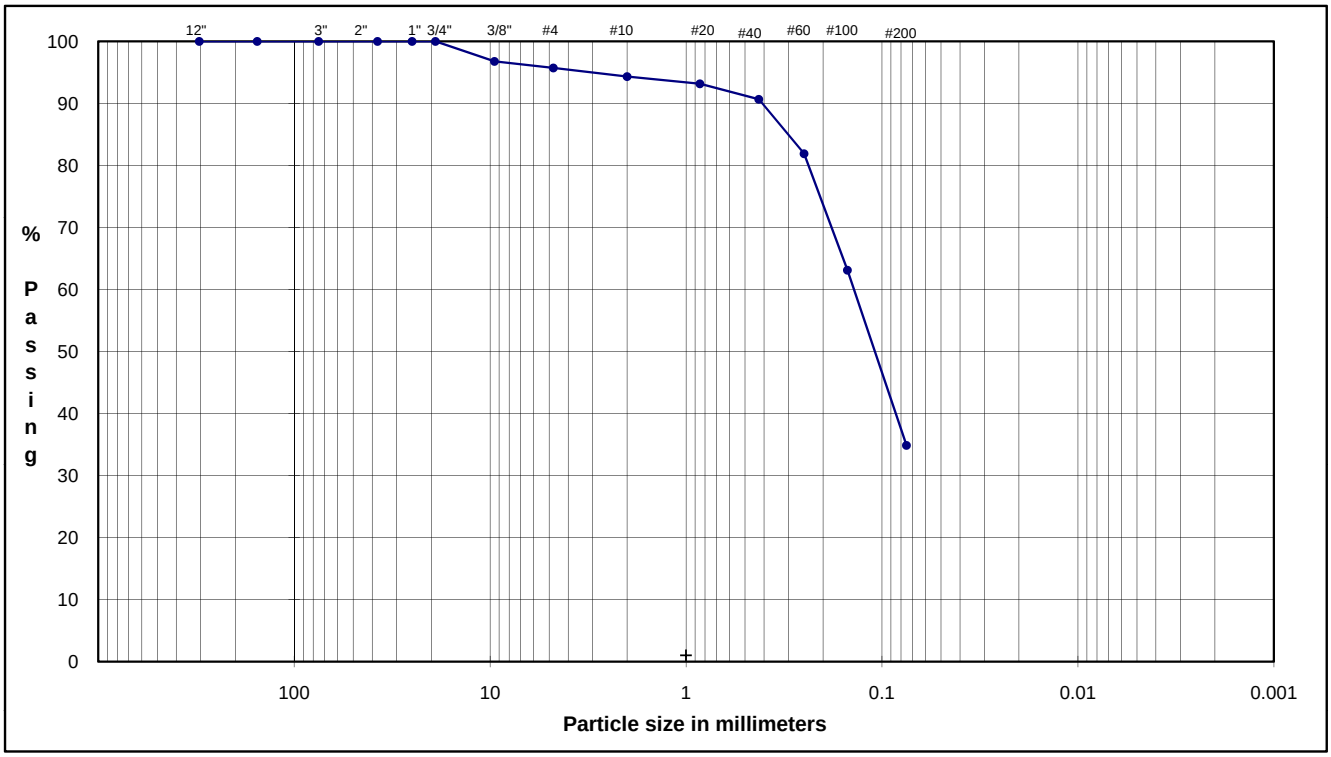


TECH	TES
DATE	11/26/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

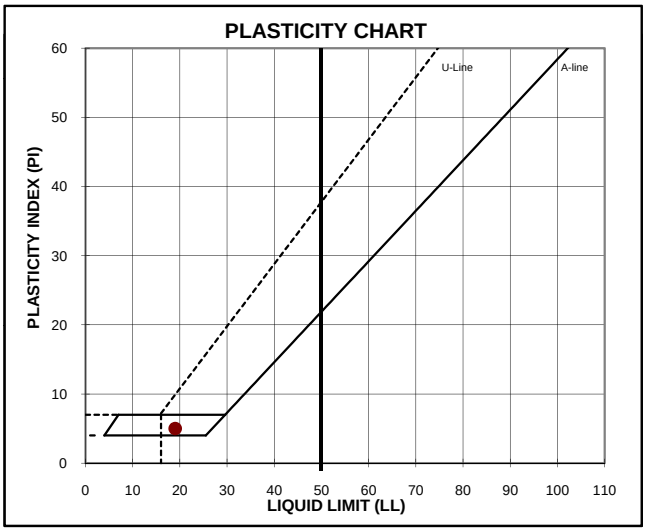
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-06** Depth (ft): **39-40**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**96.8**		
#4	4.75	**95.7**	Fine Gravel	**4.28**
#10	2.00	**94.3**	Coarse Sand	**1.40**
#20	0.85	**93.2**		
#40	0.43	**90.6**	Medium Sand	**3.66**
#60	0.25	**81.9**		
#100	0.15	**63.1**		
#200	0.08	**34.9**	Fine Sand	**55.78**
			Fines	**34.86**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.9	**19**	**14**	**5**	**-**

DESCRIPTION: Reddish brown silty, clayey sand

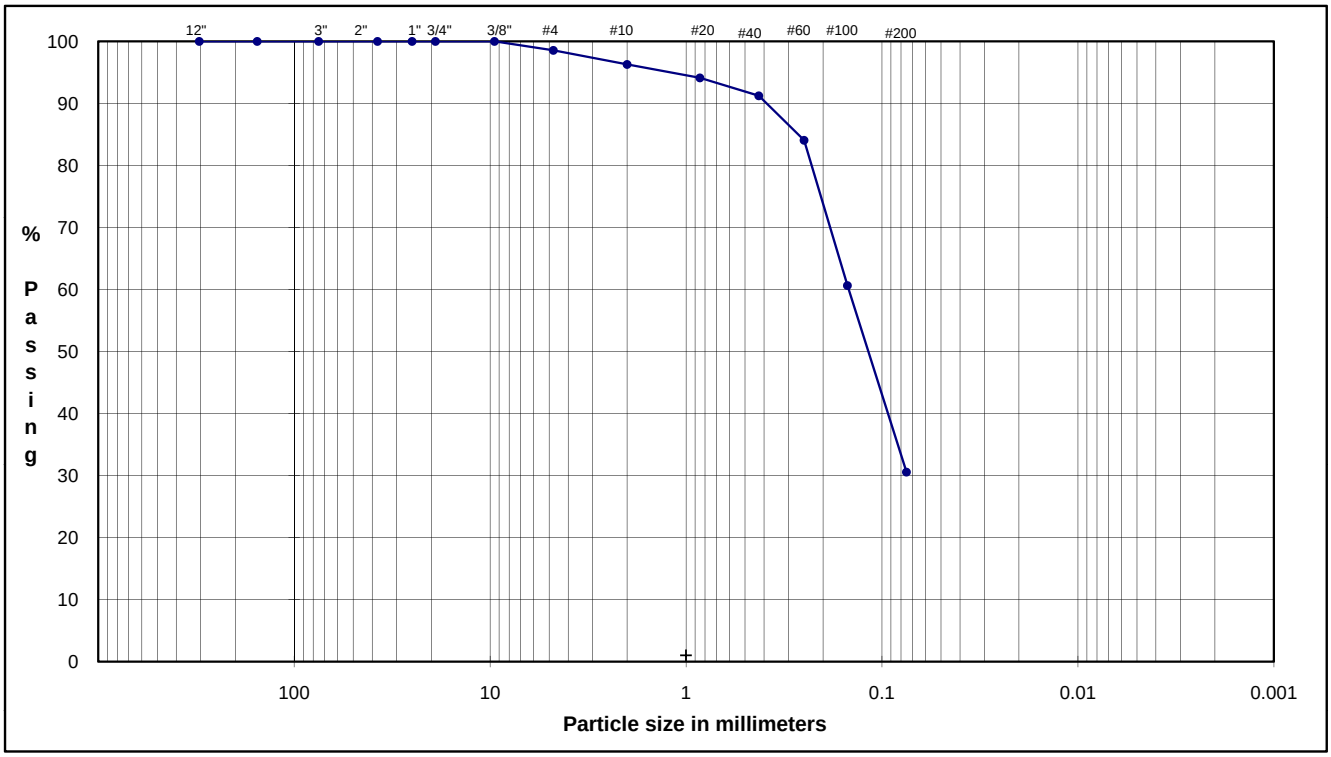
USCS: SC-SM

TECH	MKS
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

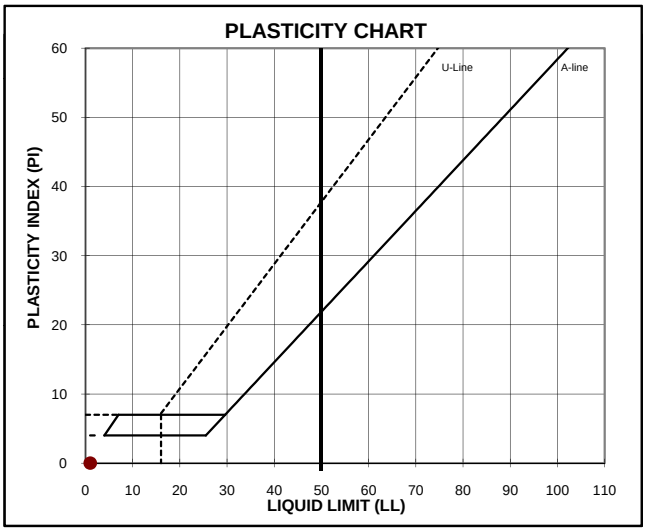
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-08** Depth (ft): **9-10**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**98.6**	Fine Gravel	**1.44**
#10	2.00	**96.3**	Coarse Sand	**2.27**
#20	0.85	**94.1**		
#40	0.43	**91.2**	Medium Sand	**5.07**
#60	0.25	**84.1**		
#100	0.15	**60.6**		
#200	0.08	**30.6**	Fine Sand	**60.67**
			Fines	**30.55**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.9	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Reddish brown silty sand

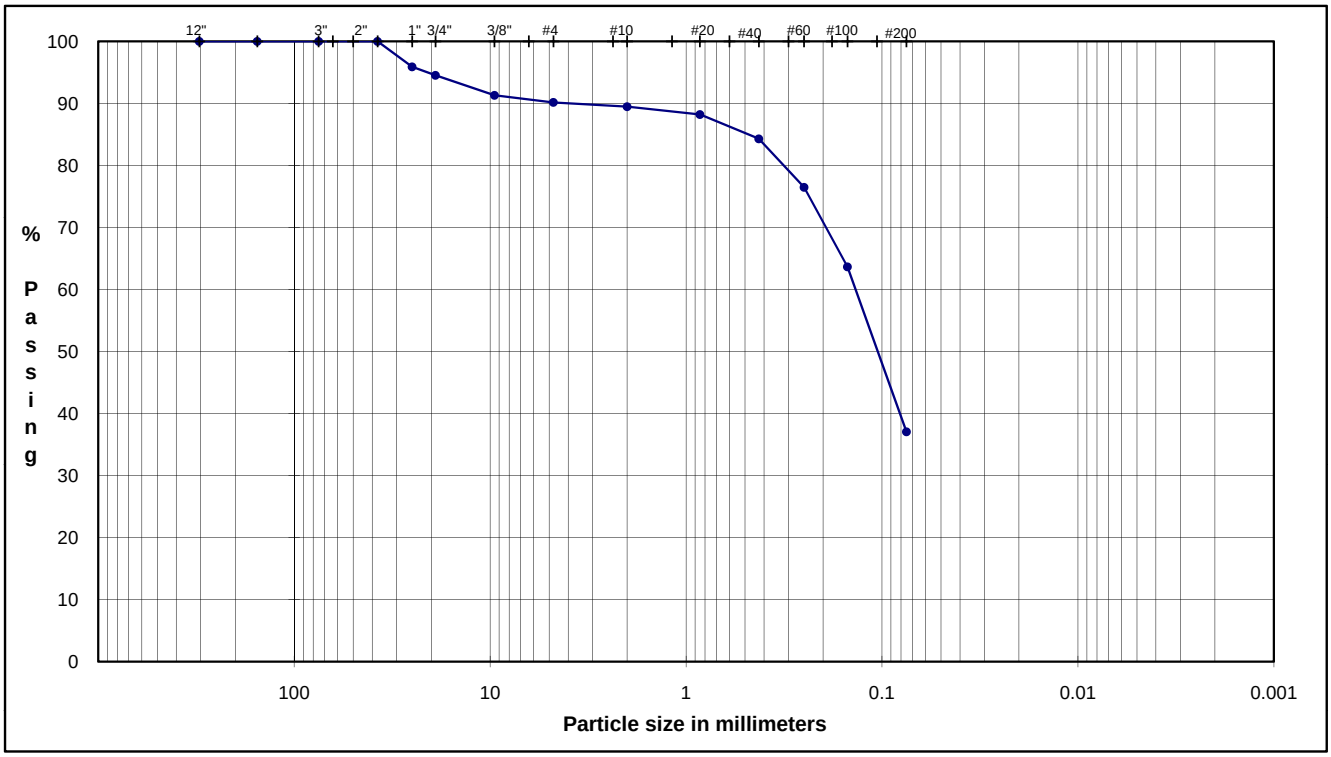
USCS: SM

TECH	MKS
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

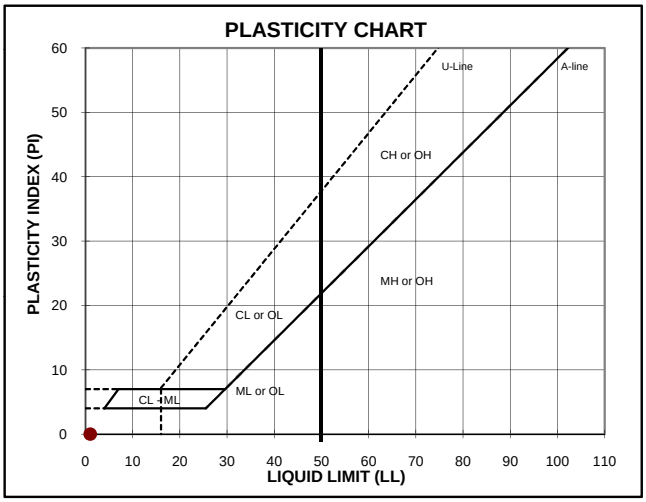
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-08** Depth (ft) **19.25-20**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**95.9**		
0.75"	19.0	**94.5**	Coarse Gravel	**5.48**
0.375"	9.5	**91.3**		
#4	4.8	**90.2**	Fine Gravel	**4.36**
#10	2.0	**89.5**	Coarse Sand	**0.68**
#20	0.9	**88.2**		
#40	0.4	**84.3**	Medium Sand	**5.20**
#60	0.3	**76.5**		
#100	0.2	**63.7**		
#200	0.1	**37.0**	Fine Sand	**47.24**
			Fines	**37.04**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.8	--	--	--	--

DESCRIPTION: Yellowish red

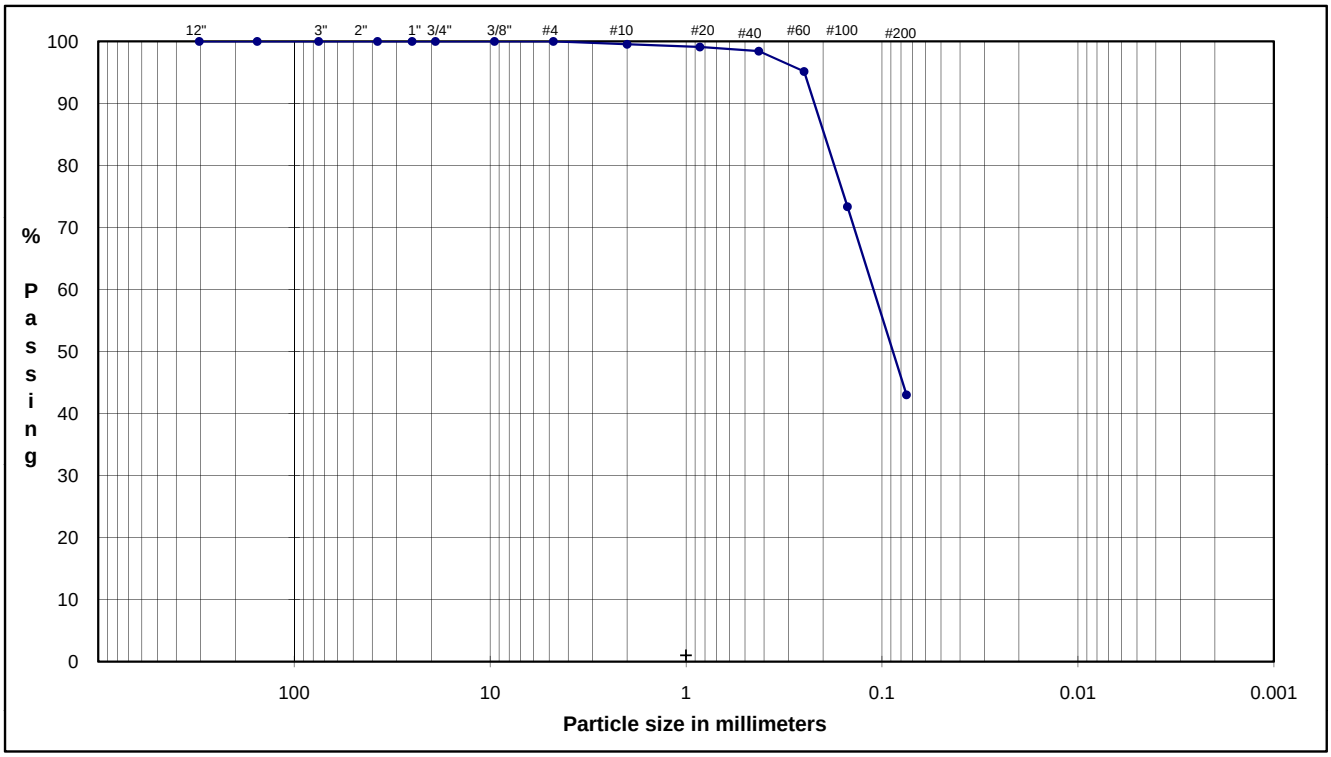
USCS: --

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

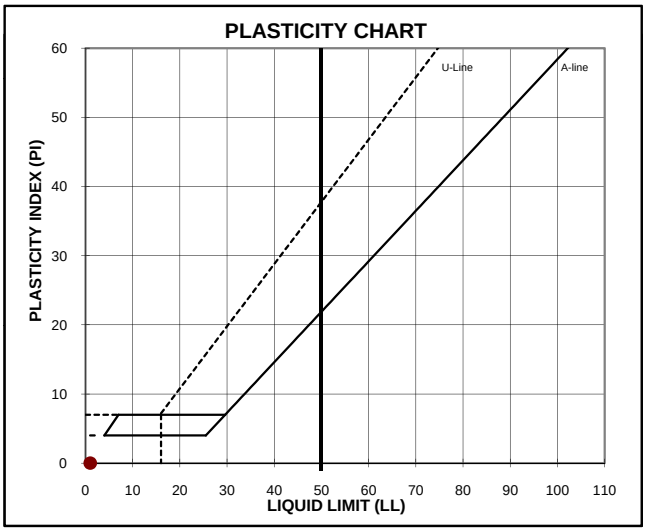
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-08** Depth (ft): **29-29.5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.5**	Coarse Sand	**0.45**
#20	0.85	**99.1**		
#40	0.43	**98.4**	Medium Sand	**1.12**
#60	0.25	**95.1**		
#100	0.15	**73.4**		
#200	0.08	**43.0**	Fine Sand	**55.41**
			Fines	**43.02**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
6.2	--	--	--	-

DESCRIPTION: Yellowish red

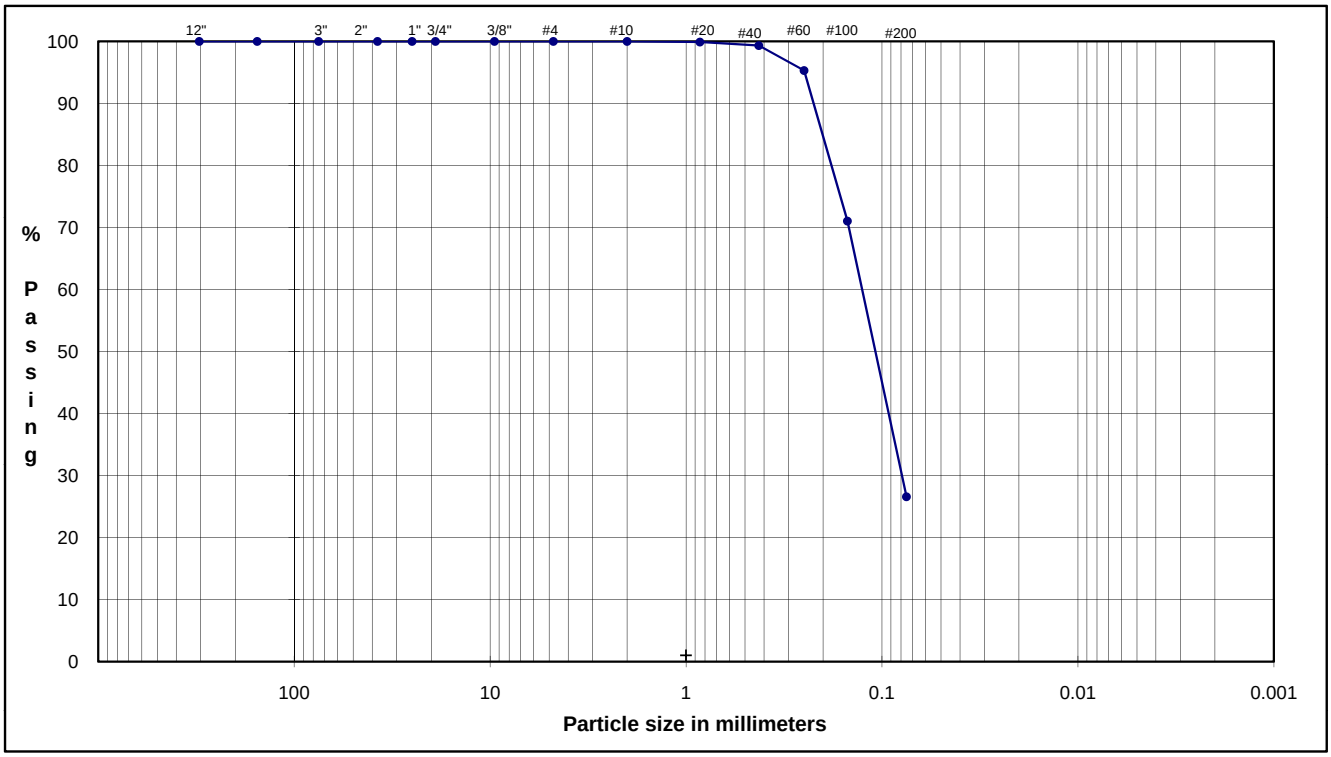
USCS: --

TECH	CA
DATE	11/26/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

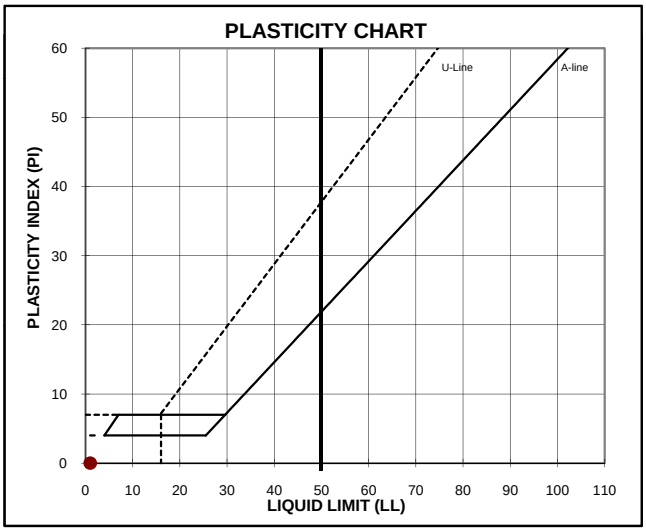
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-08** Depth (ft): **34.25-35**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.00**
#20	0.85	**99.9**		
#40	0.43	**99.3**	Medium Sand	**0.68**
#60	0.25	**95.3**		
#100	0.15	**71.0**		
#200	0.08	**26.6**	Fine Sand	**72.74**
			Fines	**26.58**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.4	--	--	--	-

DESCRIPTION: Yellowish red

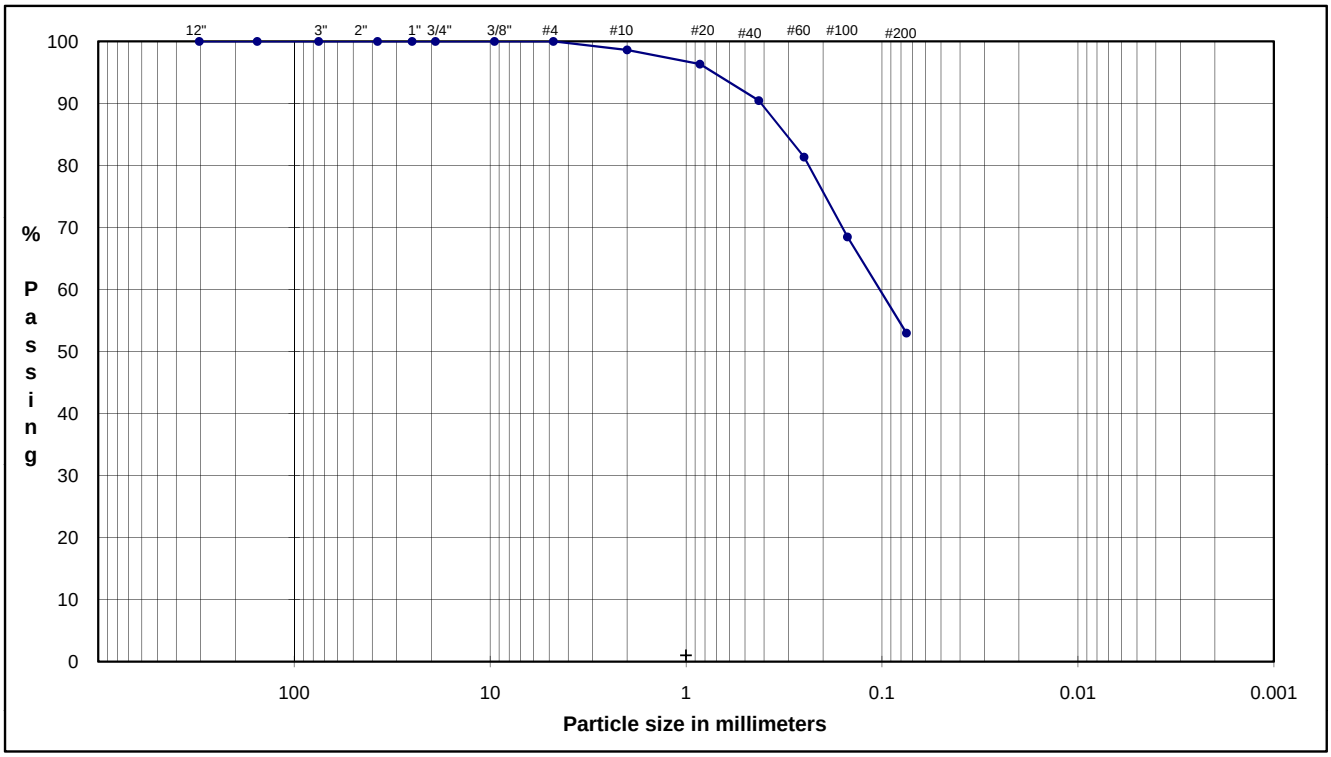
USCS: --

TECH	CA
DATE	11/26/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

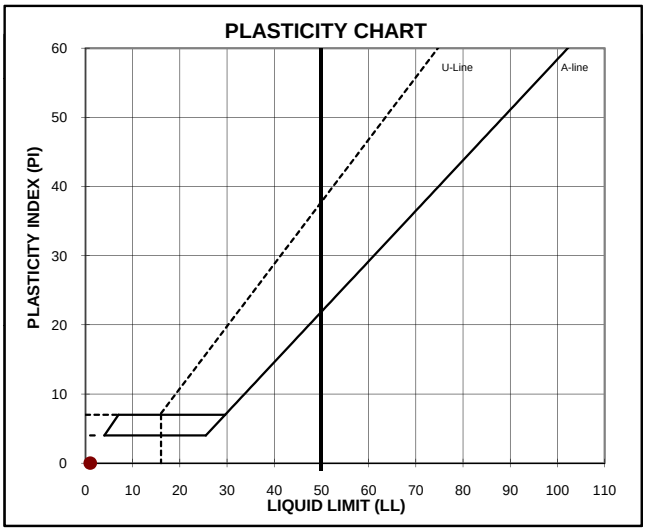
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-08** Depth (ft): **44-45**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**98.6**	Coarse Sand	**1.38**
#20	0.85	**96.3**		
#40	0.43	**90.5**	Medium Sand	**8.17**
#60	0.25	**81.4**		
#100	0.15	**68.5**		
#200	0.08	**53.0**	Fine Sand	**37.48**
			Fines	**52.97**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
13.1	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Brown sandy silt

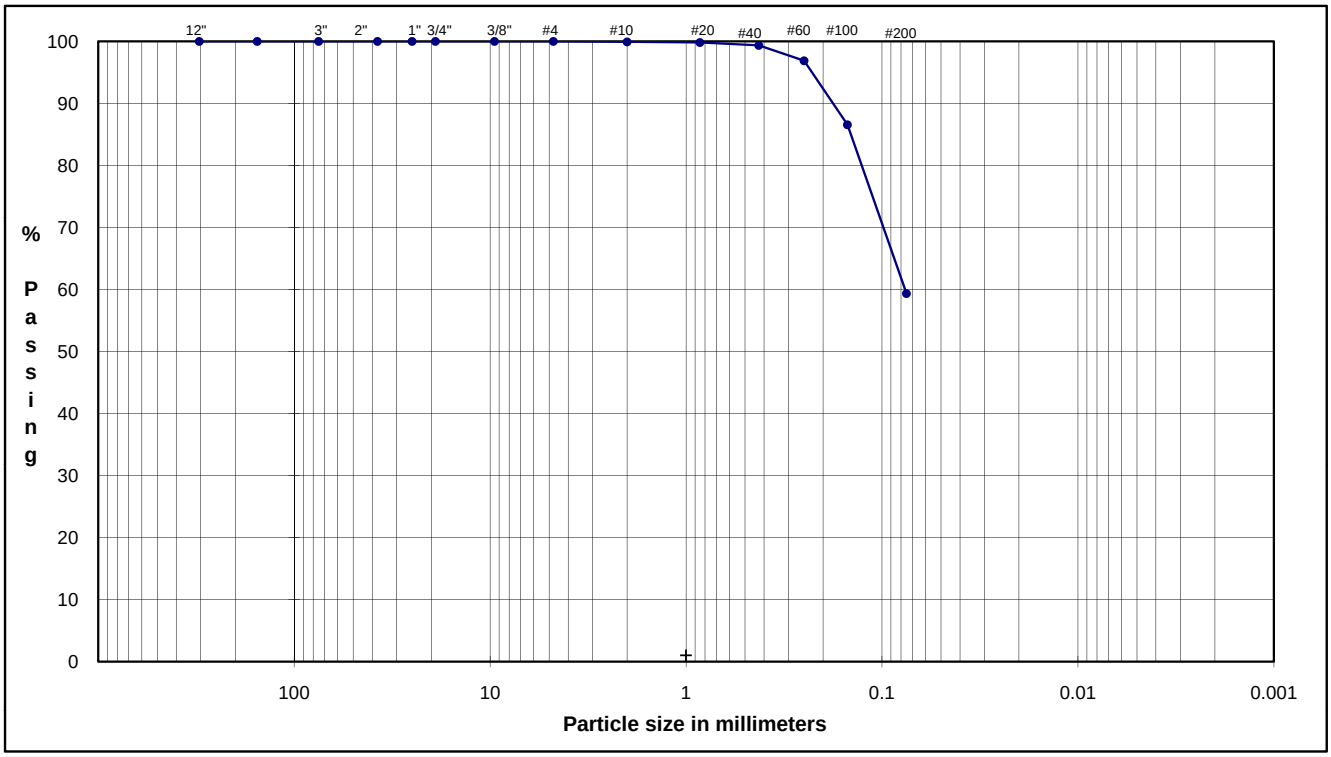
USCS: ML

TECH	CA
DATE	12/6/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

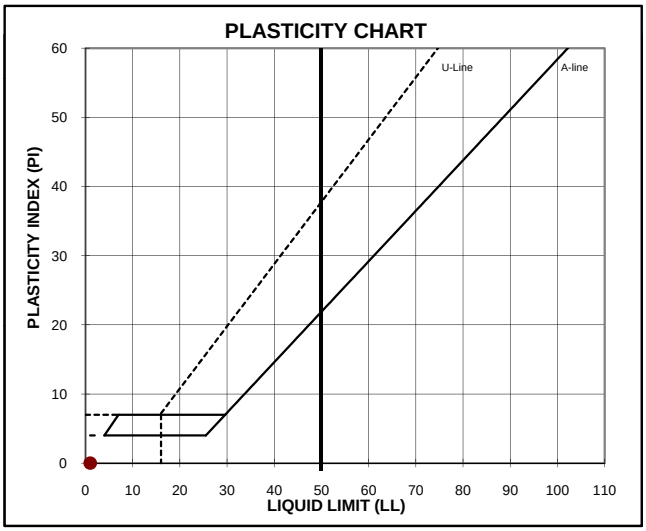
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-08** Depth (ft): **49-49.5**
TYPE: **Tube**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.07**
#20	0.85	**99.8**		
#40	0.43	**99.4**	Medium Sand	**0.57**
#60	0.25	**96.9**		
#100	0.15	**86.6**		
#200	0.08	**59.3**	Fine Sand	**40.02**
			Fines	**59.35**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
8.2	--	--	--	-

DESCRIPTION: Strong brown

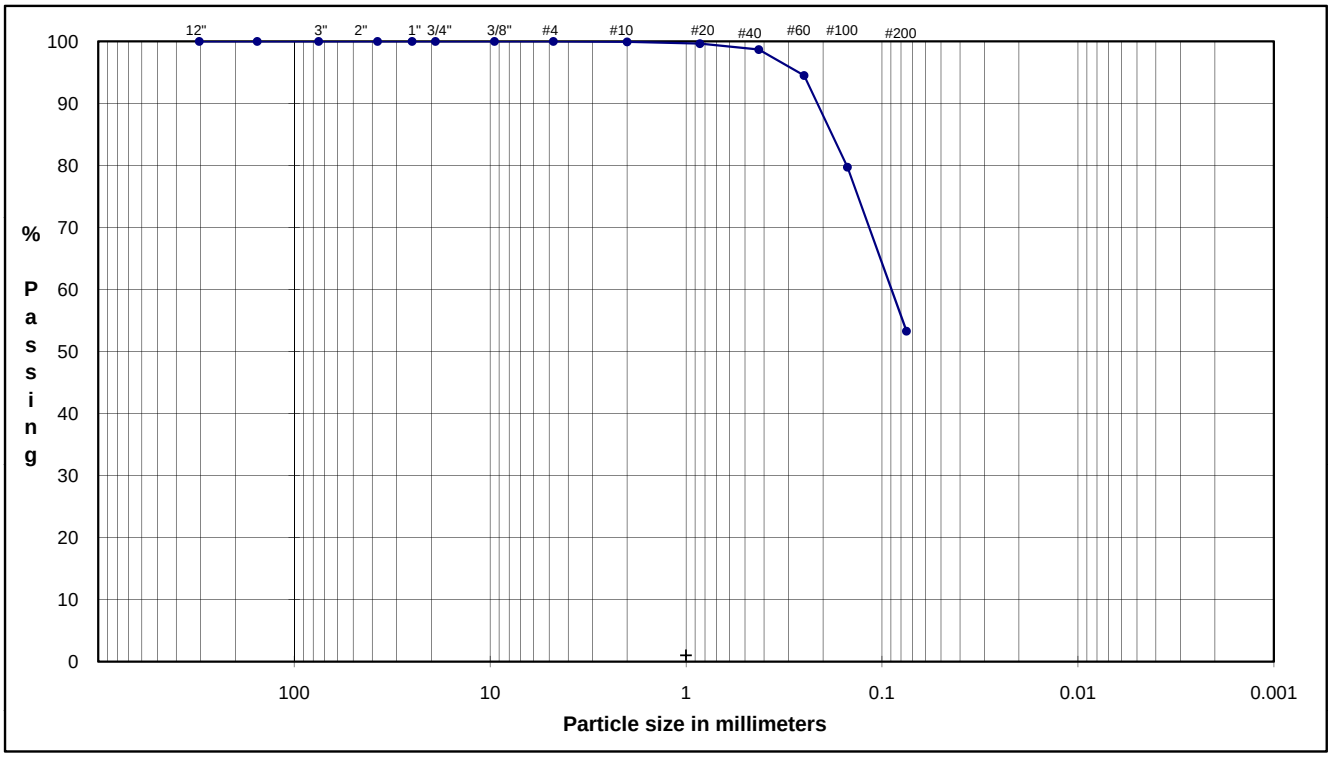
USCS: --

TECH	CA
DATE	11/26/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

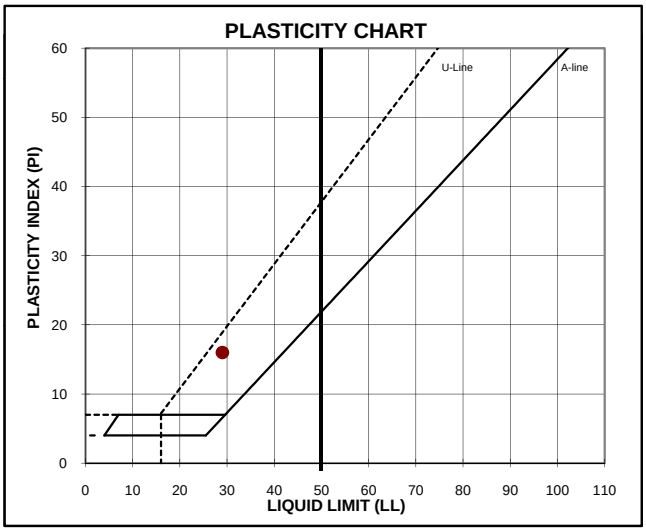
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-10** Depth (ft): **9.3-10**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.08**
#20	0.85	**99.6**		
#40	0.43	**98.7**	Medium Sand	**1.24**
#60	0.25	**94.5**		
#100	0.15	**79.7**		
#200	0.08	**53.3**	Fine Sand	**45.40**
			Fines	**53.29**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
5.5	**29**	**13**	**16**	**-**

DESCRIPTION: Yellowish red sandy lean clay

USCS: CL

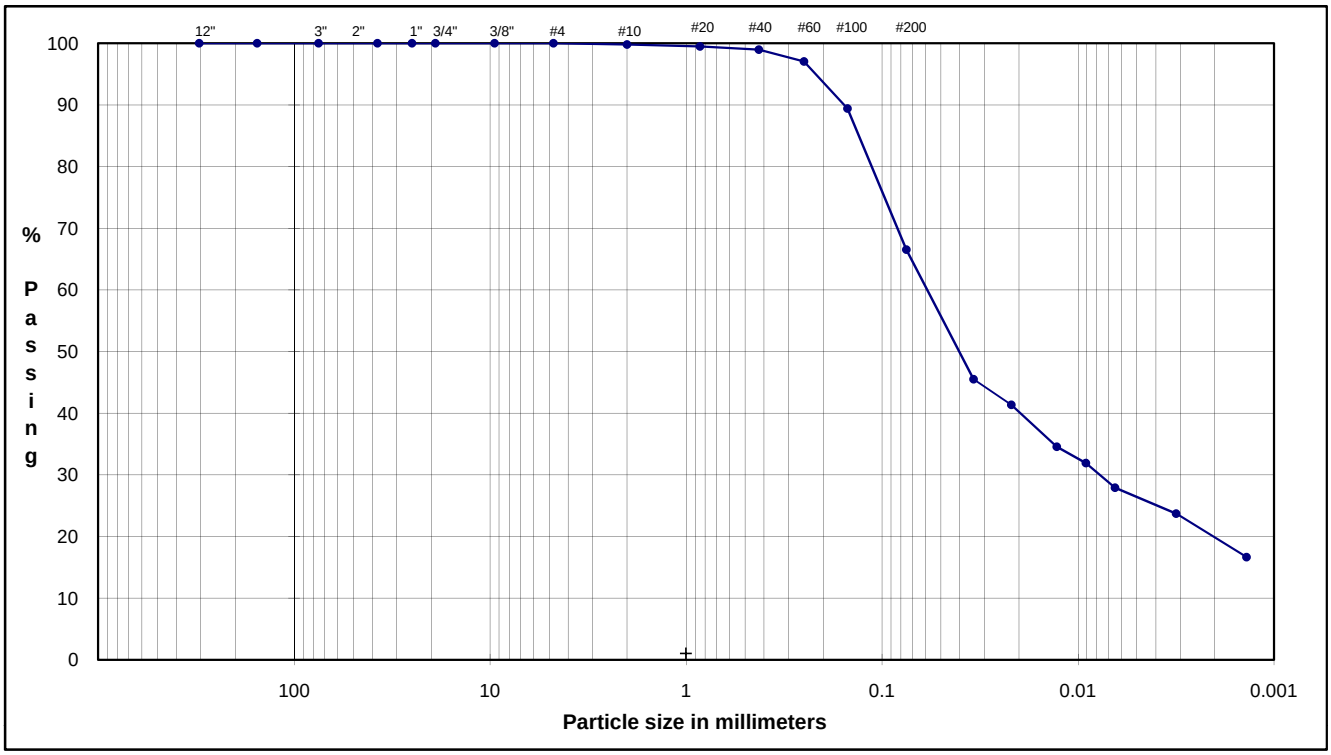
TECH	CA
DATE	11/16/07
REVIEW	CA/MB

November-07 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-10** Depth (ft): **24.5-25**
TYPE: **Tube**



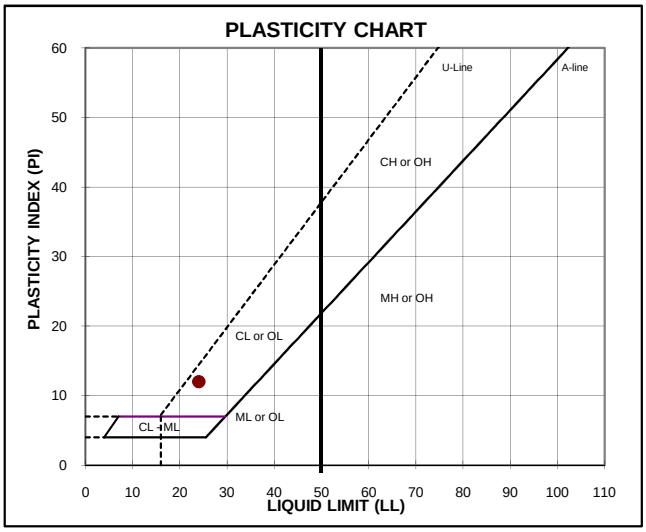
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**0.00**
0.75"	19.0	**100.0**		
0.375"	9.5	**100.0**		
#4	4.8	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.8**	Coarse Sand	**0.19**
#20	0.85	**99.5**		
#40	0.43	**99.0**	Medium Sand	**0.83**
#60	0.25	**97.0**		
#100	0.15	**89.4**		
#200	0.075	**66.5**	Fine Sand	**32.46**

Hydrometer Analysis

(mm)	%Finer		
0.034	**45.5**		
0.022	**41.3**		
0.013	**34.5**	Fines	
0.009	**31.9**	Silt or Clay	**66.51**
0.006	**27.9**		
0.003	**23.7**		
0.001	**16.6**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
--	**24**	**12**	**12**	**2.70**

DESCRIPTION: Yellowish red sandy lean clay

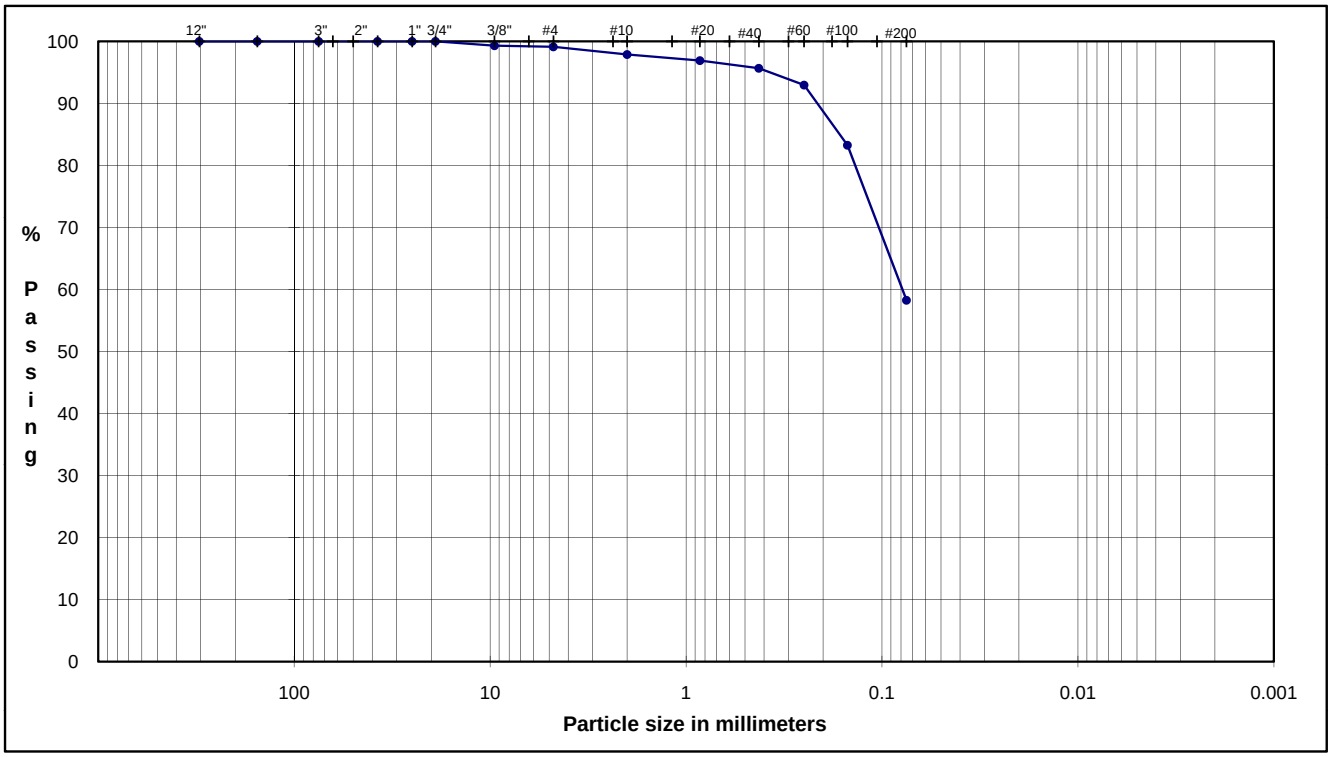
USCS: CL

TECH CA
DATE 11/15/2007
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

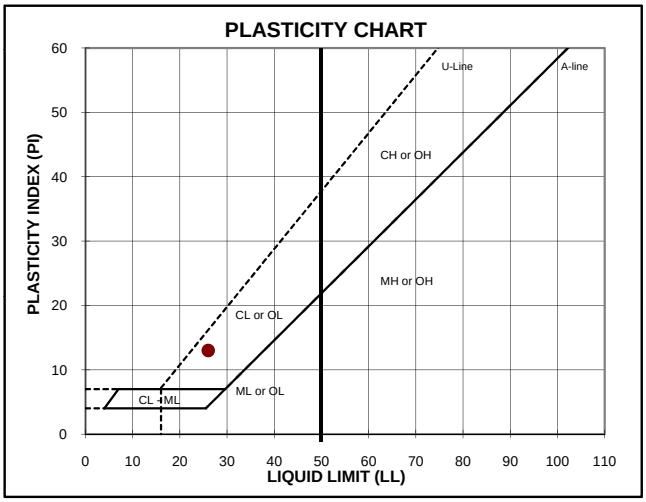
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-10** Depth (ft) **39-40**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**100.0**	Coarse Gravel	**0.00**
0.375"	9.5	**99.3**		
#4	4.8	**99.1**	Fine Gravel	**0.89**
#10	2.0	**97.9**	Coarse Sand	**1.23**
#20	0.9	**96.9**		
#40	0.4	**95.7**	Medium Sand	**2.22**
#60	0.3	**93.0**		
#100	0.2	**83.2**		
#200	0.1	**58.3**	Fine Sand	**37.40**
			Fines	**58.26**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
7.4	**26**	**13**	**13**	**--**

DESCRIPTION: Yellowish red sandy lean clay

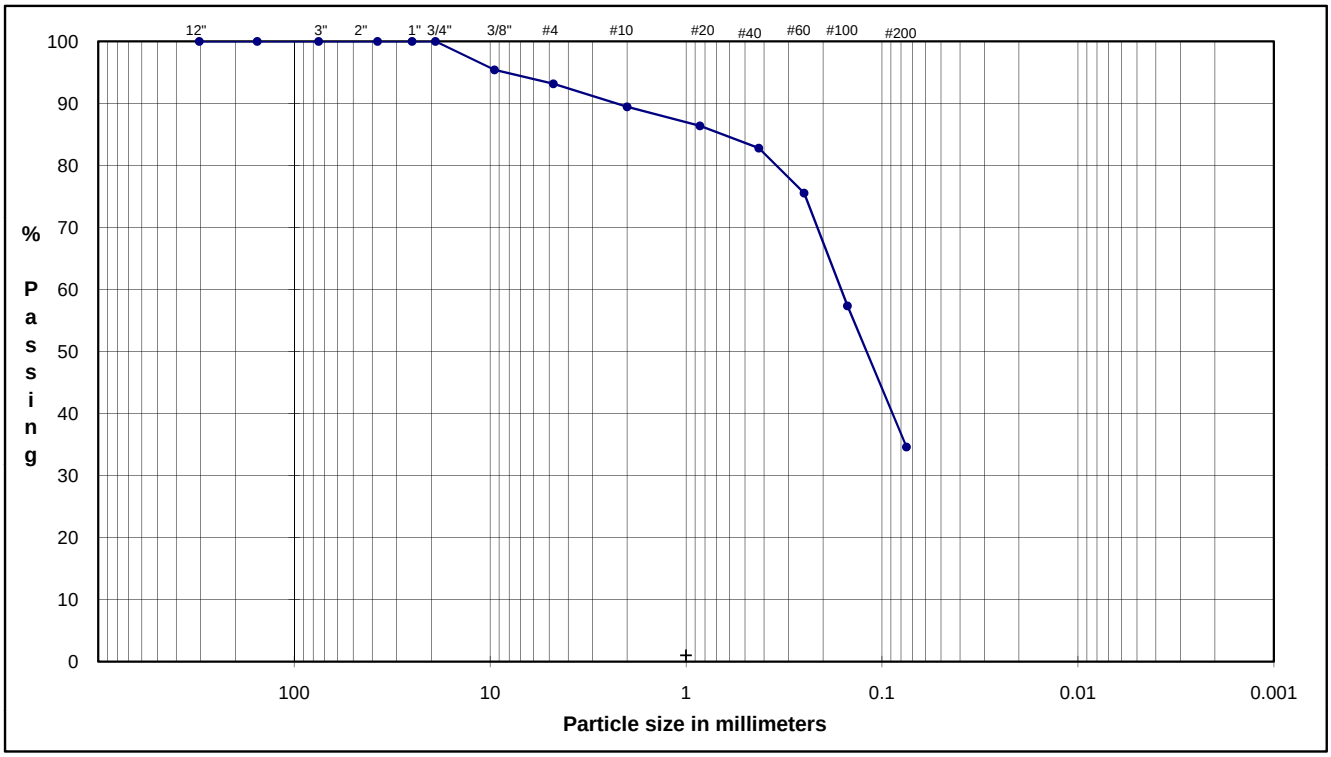
USCS: CL

TECH	CA
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

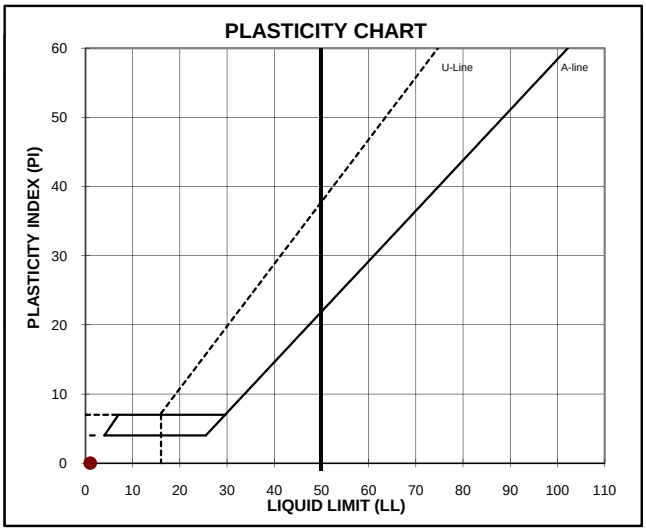
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-12** Depth (ft): **4-5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**95.4**		
#4	4.75	**93.2**	Fine Gravel	**6.83**
#10	2.00	**89.5**	Coarse Sand	**3.72**
#20	0.85	**86.4**		
#40	0.43	**82.8**	Medium Sand	**6.65**
#60	0.25	**75.6**		
#100	0.15	**57.4**		
#200	0.08	**34.6**	Fine Sand	**48.20**
			Fines	**34.61**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.2	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Reddish brown silty sand

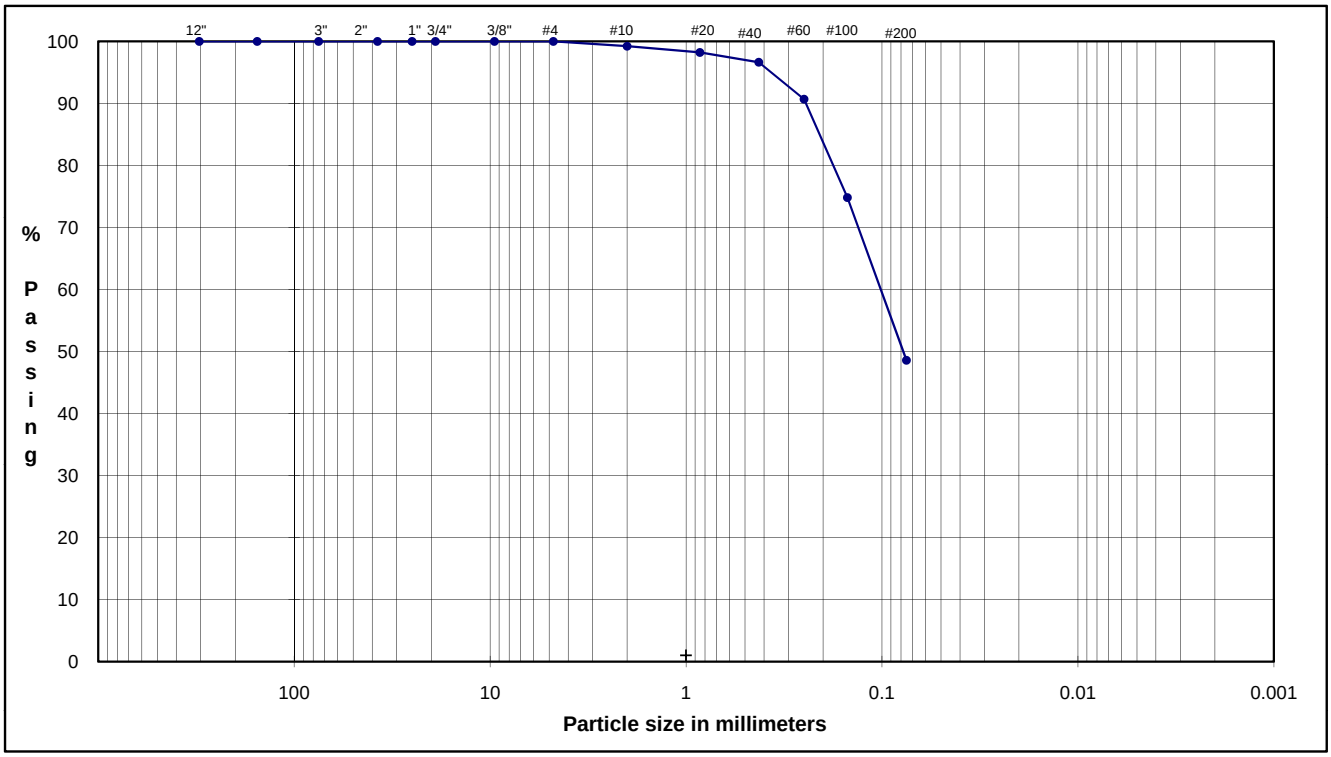
USCS: SM

TECH	MKS
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

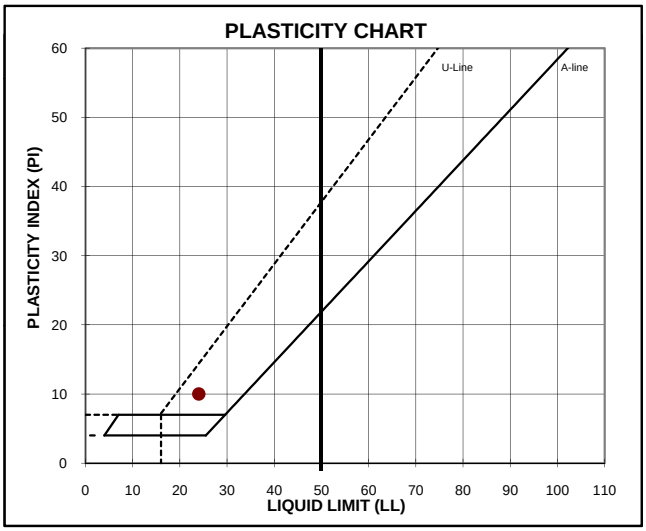
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-12** Depth (ft): **9.25-9.75**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.2**	Coarse Sand	**0.76**
#20	0.85	**98.2**		
#40	0.43	**96.6**	Medium Sand	**2.60**
#60	0.25	**90.7**		
#100	0.15	**74.8**		
#200	0.08	**48.6**	Fine Sand	**48.06**
			Fines	**48.57**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.9	**24**	**14**	**10**	**-**

P

DESCRIPTION: Light red clayey sand

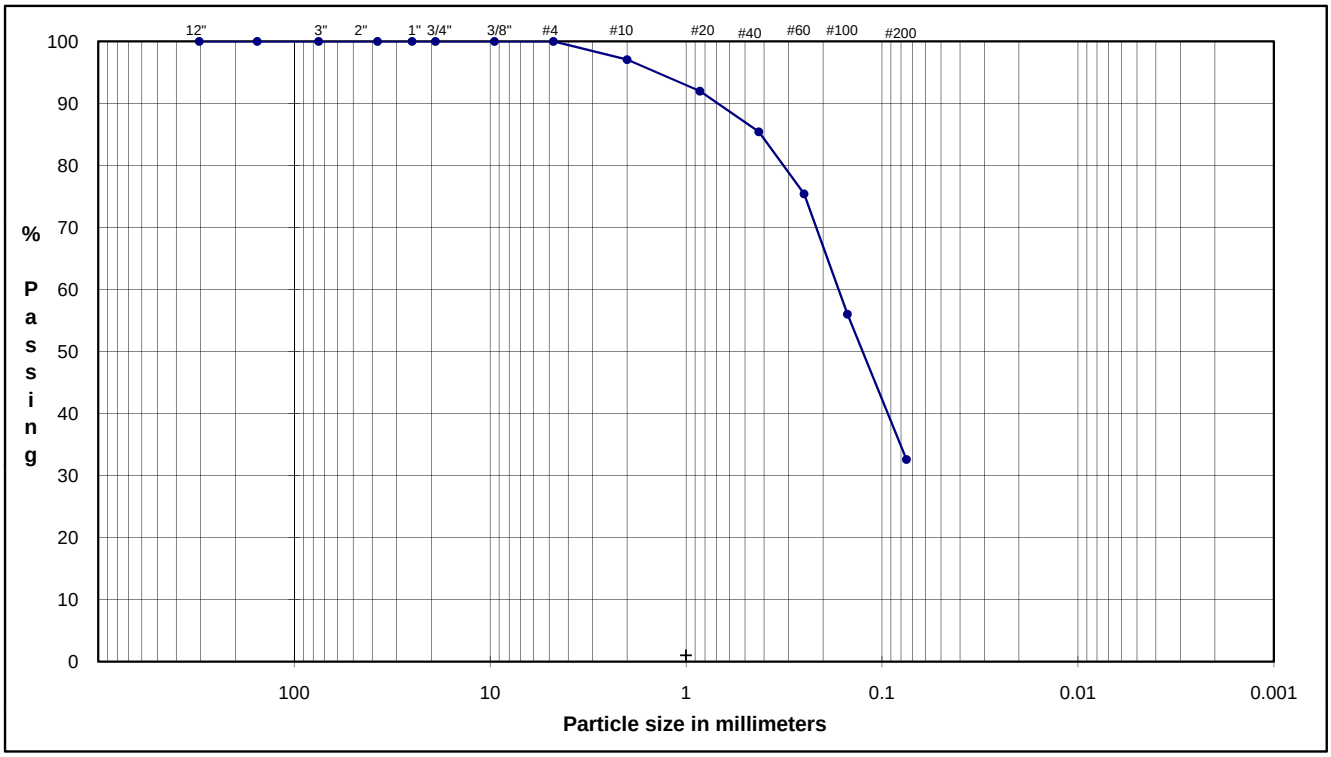
USCS: SC

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

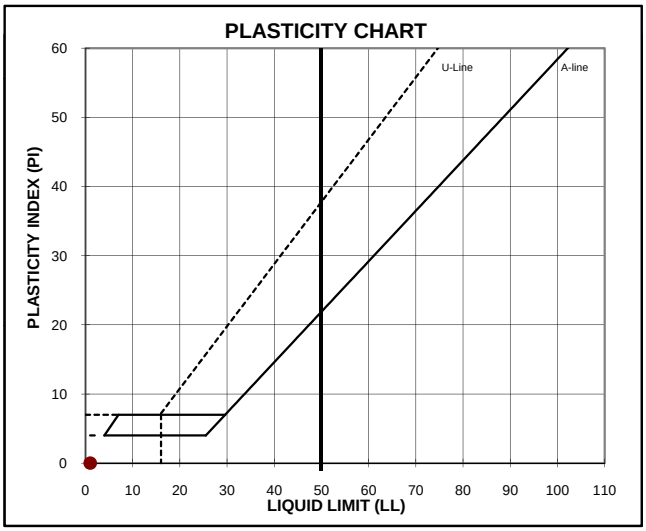
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-12** Depth (ft): **19.5-20**
TYPE: **Tube**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**97.1**	Coarse Sand	**2.93**
#20	0.85	**92.0**		
#40	0.43	**85.4**	Medium Sand	**11.65**
#60	0.25	**75.4**		
#100	0.15	**56.0**		
#200	0.08	**32.6**	Fine Sand	**52.82**
			Fines	**32.60**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.6	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Yellowish red sandy silt

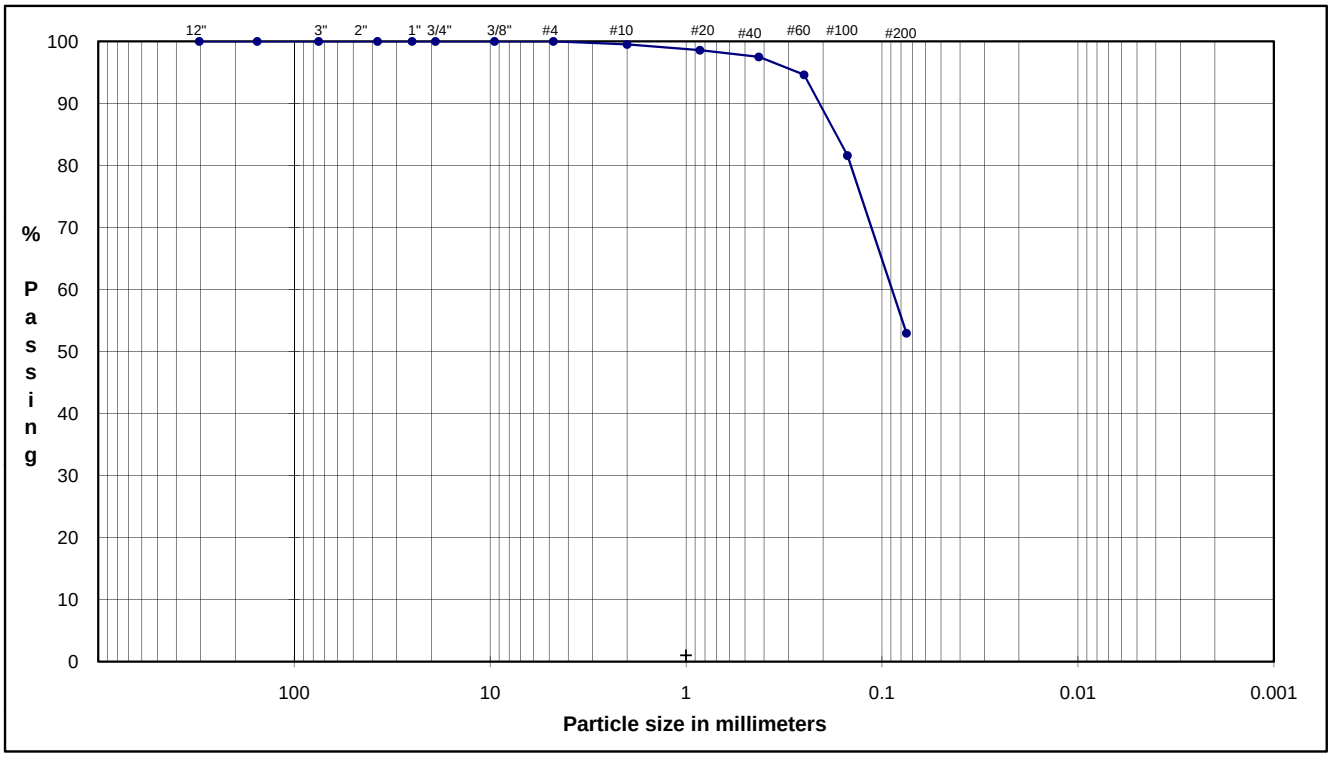
USCS: ML

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

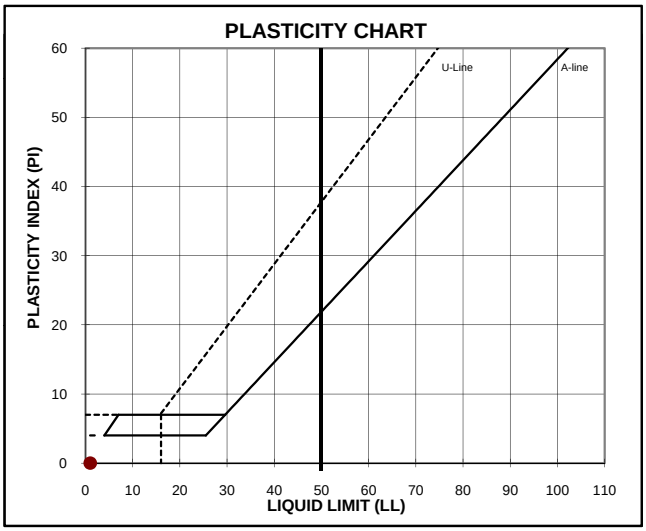
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-12** Depth (ft): **24-24.5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.5**	Coarse Sand	**0.50**
#20	0.85	**98.6**		
#40	0.43	**97.5**	Medium Sand	**2.00**
#60	0.25	**94.6**		
#100	0.15	**81.6**		
#200	0.08	**53.0**	Fine Sand	**44.55**
			Fines	**52.95**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
5.3	--	--	--	-

DESCRIPTION: Yellowish red

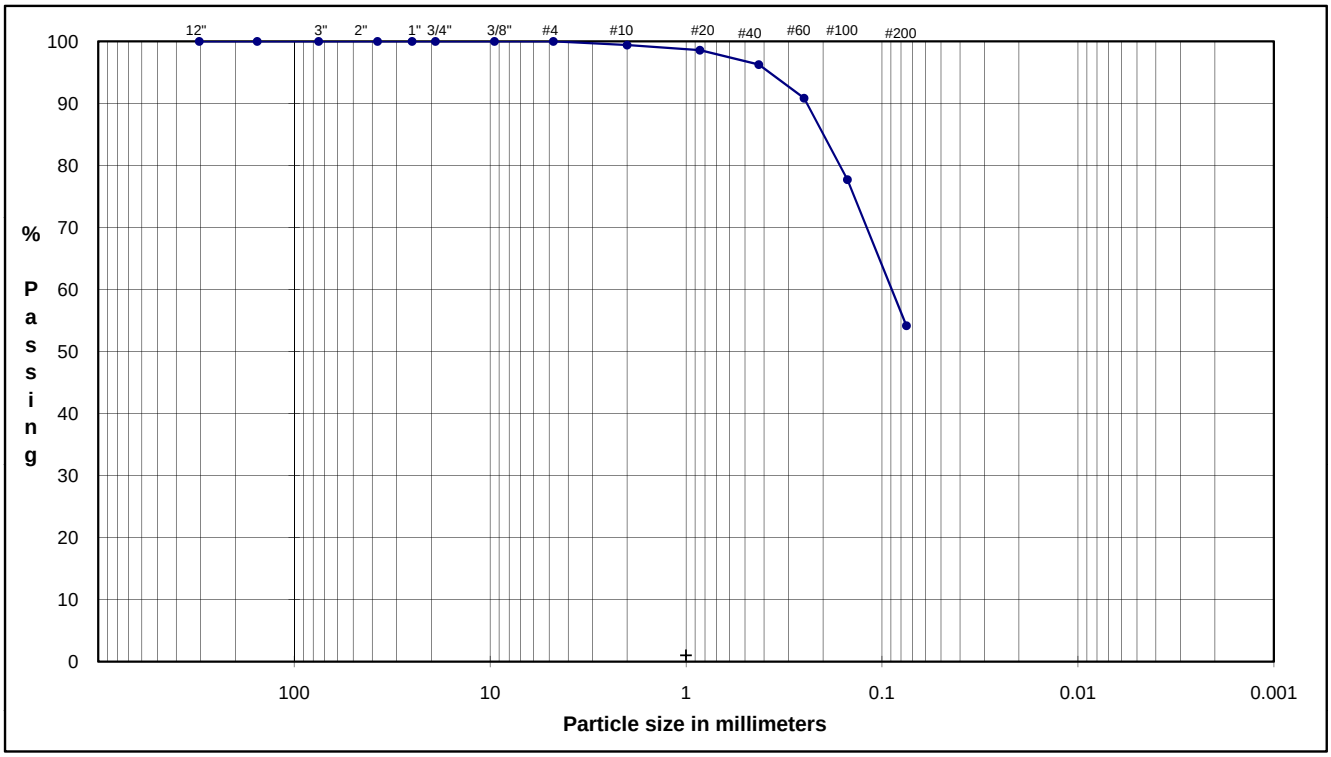
USCS: --

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

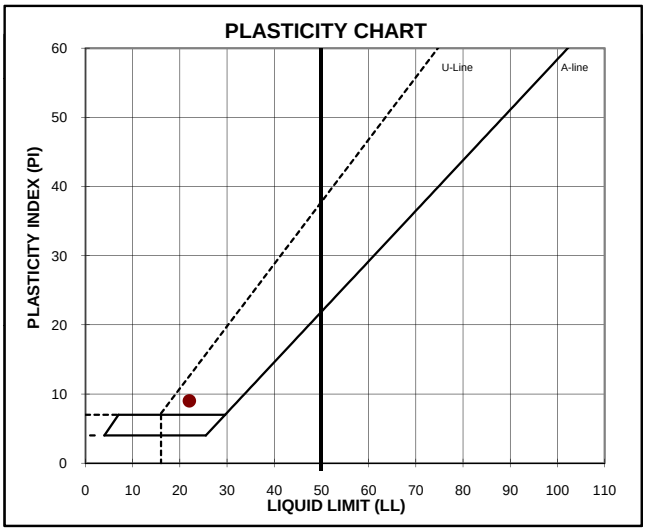
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-12** Depth (ft): **34-35**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.4**	Coarse Sand	**0.59**
#20	0.85	**98.6**		
#40	0.43	**96.3**	Medium Sand	**3.15**
#60	0.25	**90.8**		
#100	0.15	**77.7**		
#200	0.08	**54.2**	Fine Sand	**42.11**
			Fines	**54.15**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
6.5	**22**	**13**	**9**	**-**

DESCRIPTION: Reddish brown sandy lean clay

USCS: CL

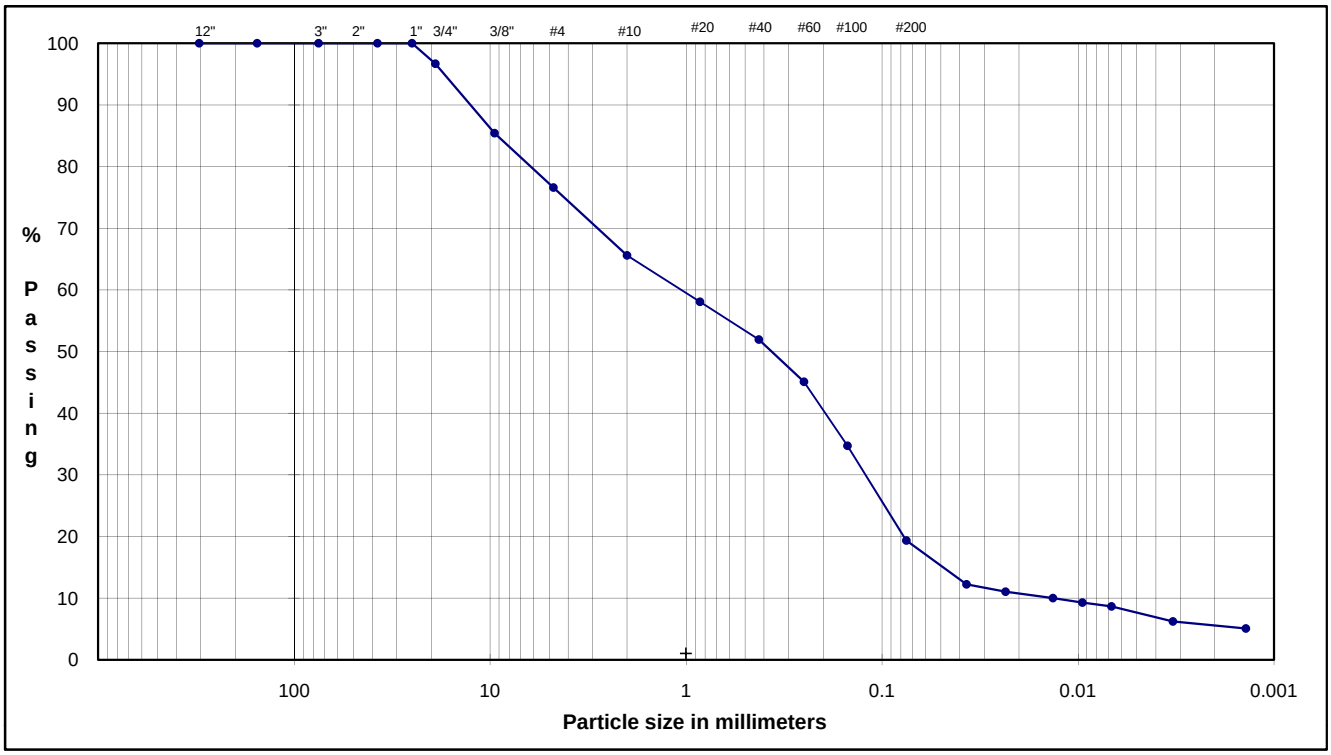
TECH	MKS
DATE	11/23/07
REVIEW	MB

November-07 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-12** Depth (ft): **44-45**
TYPE: **Tube**



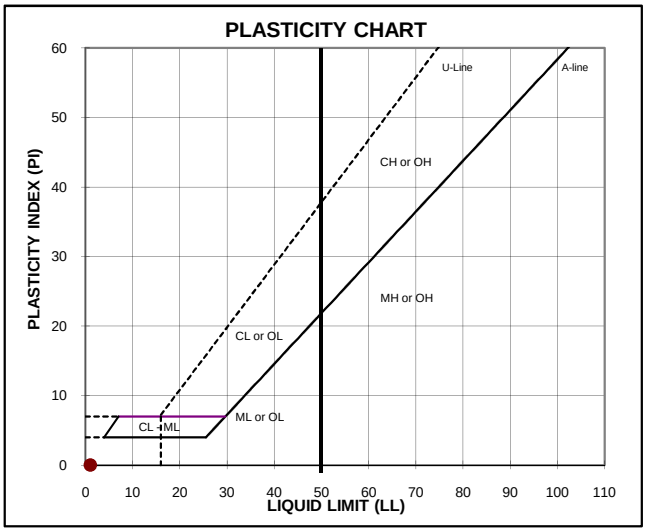
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**3.33**
0.75"	19.0	**96.7**		
0.375"	9.5	**85.4**		
#4	4.8	**76.6**	Fine Gravel	**20.08**
#10	2.00	**65.6**	Coarse Sand	**11.00**
#20	0.85	**58.0**		
#40	0.43	**52.0**	Medium Sand	**13.63**
#60	0.25	**45.1**		
#100	0.15	**34.7**		
#200	0.075	**19.3**	Fine Sand	**32.62**

Hydrometer Analysis

(mm)	%Finer		
0.037	**12.2**		
0.023	**11.1**		
0.013	**10.0**	Fines	
0.009	**9.3**	Silt or Clay	**19.34**
0.007	**8.7**		
0.003	**6.2**		
0.001	**5.1**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
--	**NP**	**NP**	**NP**	**2.70**

DESCRIPTION: Reddish brown silty sand with gravel

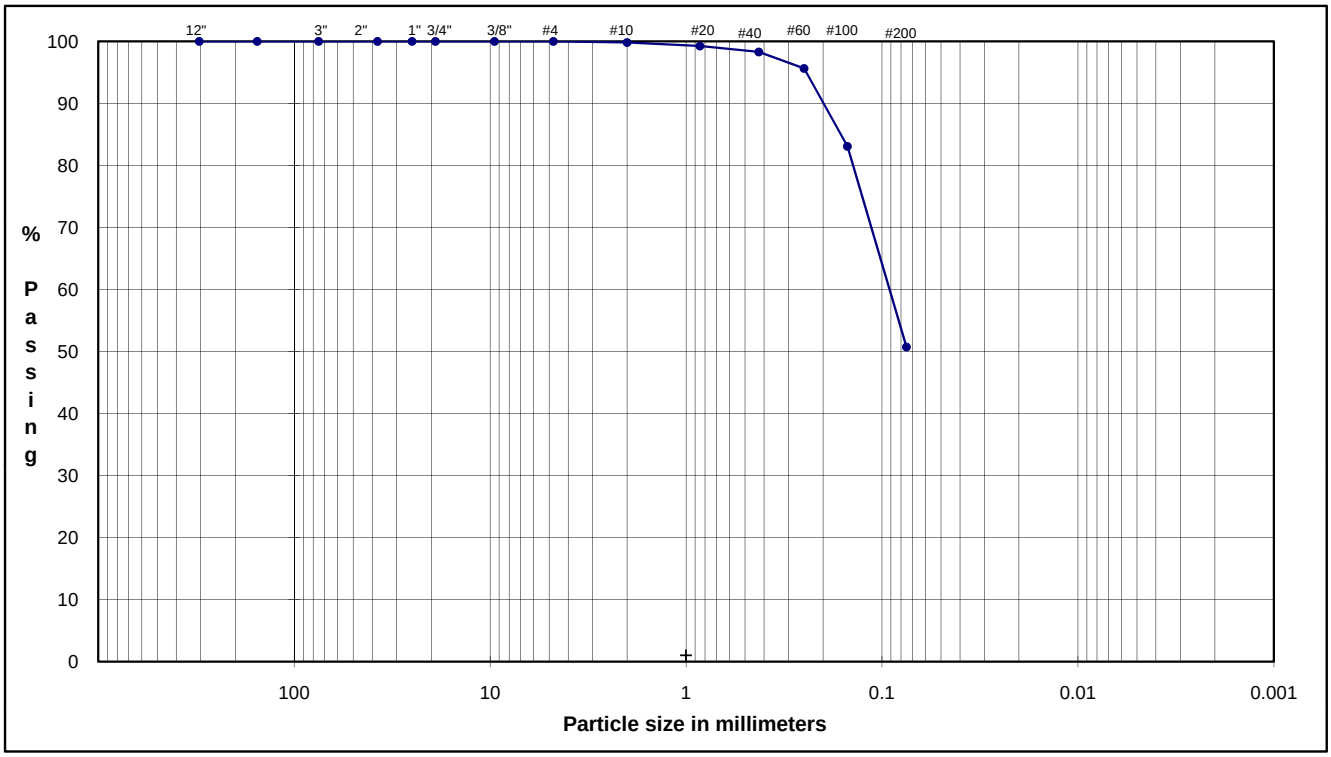
USCS: SM

TECH MKS
DATE 11/23/2007
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

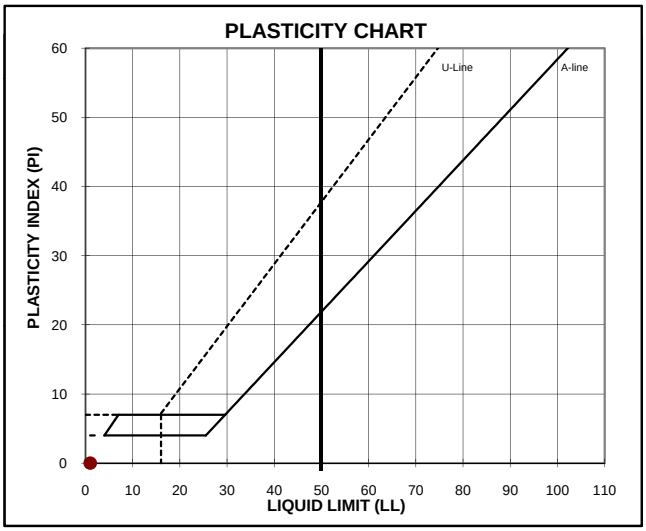
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-14** Depth (ft): **9-10**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.8**	Coarse Sand	**0.18**
#20	0.85	**99.3**		
#40	0.43	**98.3**	Medium Sand	**1.51**
#60	0.25	**95.6**		
#100	0.15	**83.1**		
#200	0.08	**50.7**	Fine Sand	**47.60**
			Fines	**50.71**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.7	**NP**	**NP**	**NP**	**--**

DESCRIPTION: Yellowish red sandy silt

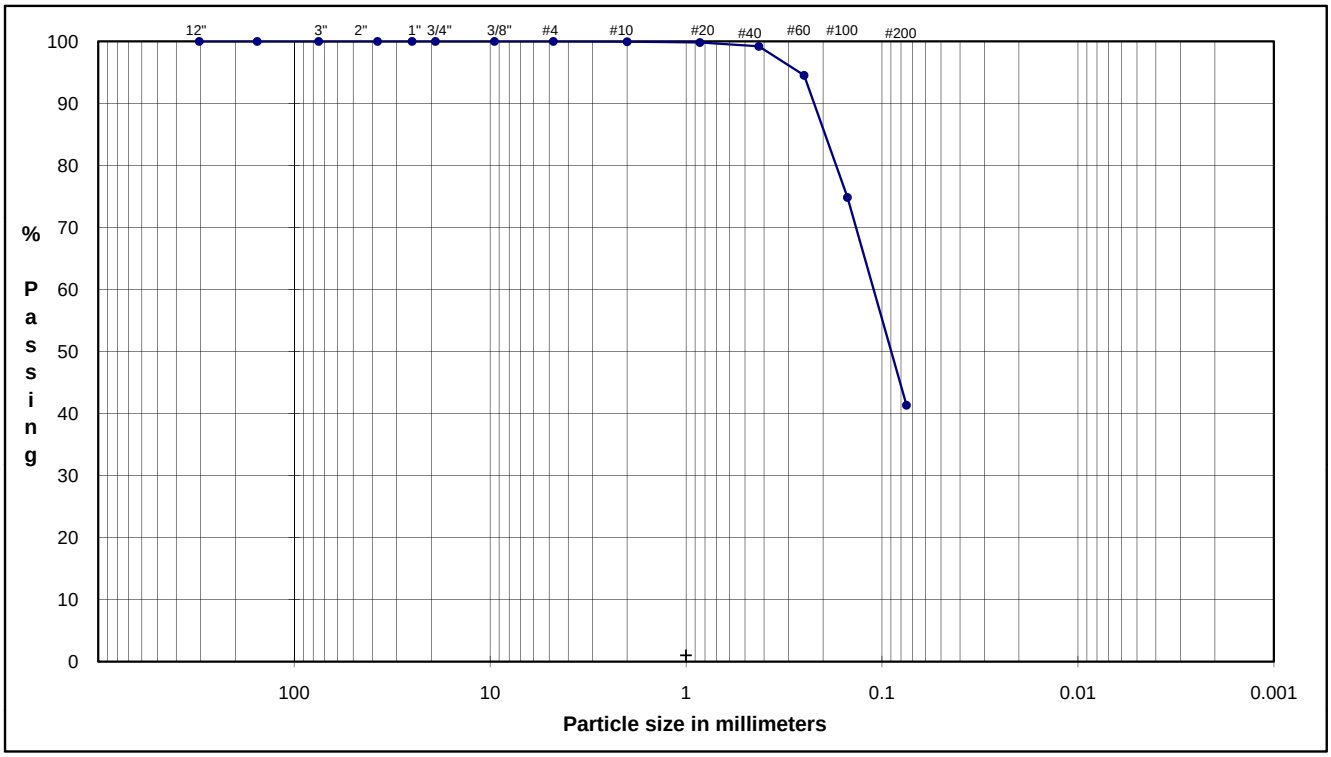
USCS: ML

TECH	CA
DATE	11/16/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

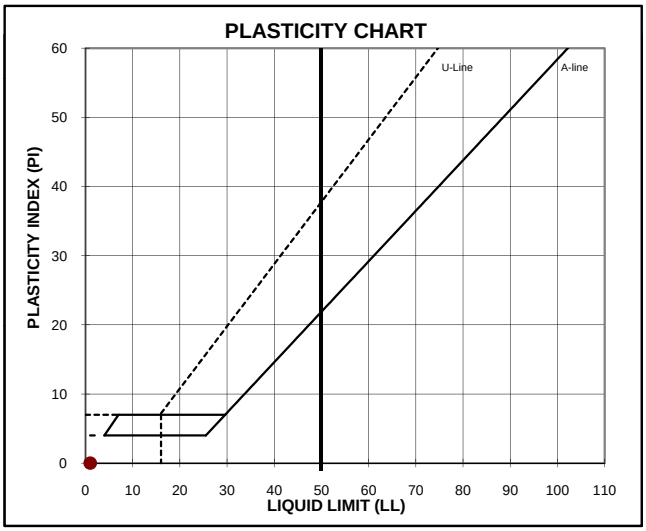
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-14** Depth (ft): **19.3-20**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.05**
#20	0.85	**99.8**		
#40	0.43	**99.2**	Medium Sand	**0.75**
#60	0.25	**94.5**		
#100	0.15	**74.8**		
#200	0.08	**41.3**	Fine Sand	**57.87**
			Fines	**41.33**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.2	--	--	--	-

DESCRIPTION: Yellowish red

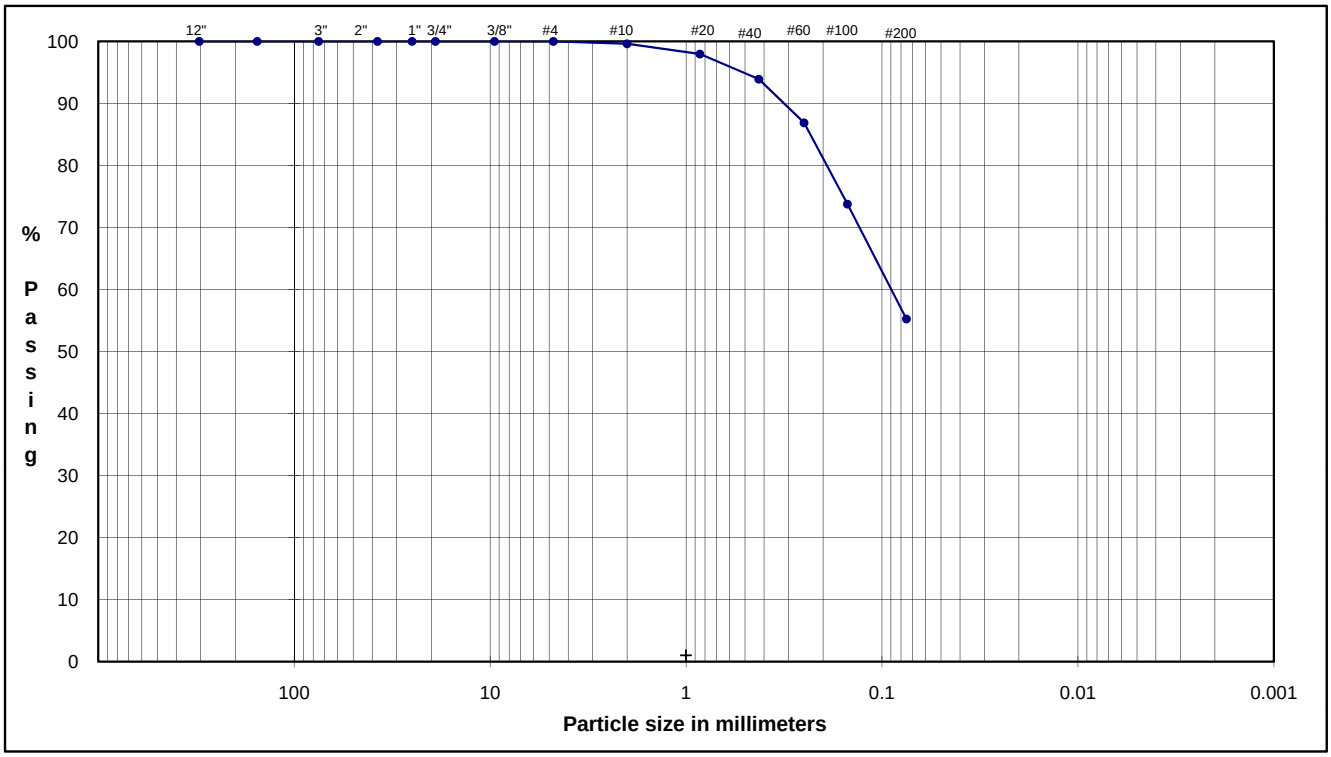
USCS: --

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

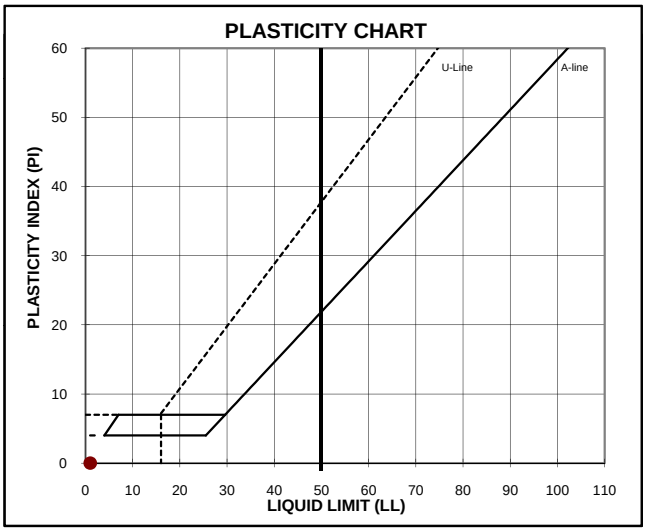
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-14** Depth (ft): **44.5-45**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.6**	Coarse Sand	**0.39**
#20	0.85	**98.0**		
#40	0.43	**93.9**	Medium Sand	**5.70**
#60	0.25	**86.9**		
#100	0.15	**73.8**		
#200	0.08	**55.2**	Fine Sand	**38.68**
			Fines	**55.24**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
5.6	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Reddish yellow sandy silt

USCS: ML

TECH CA
DATE 11/23/07
REVIEW MB

ATTERBERG LIMITS

ASTM D 4318

PROJECT NAME: Energy Fuels/Geotech Pinon Ridge
PROJECT NUMBER: 073-81694
SAMPLE ID: GA-BH-16 **SAMPLE DEPTH (ft):** 9.3-10
SAMPLE TYPE: Tube

SAMPLE PREPARATION

Wet or Dry: Dry

Minus #40 Sieve: Yes

PLASTIC LIMIT DETERMINATION

Number of Blows		
Weight of Wet Soil & Tare (gm)	--	--
Weight of Dry Soil & Tare (gm)	--	--
Weight of Tare (gm)	--	--
Weight of Water (gm)		
Weight of Dry Soil (gm)		
Water Content %		

LIQUID LIMIT DETERMINATION

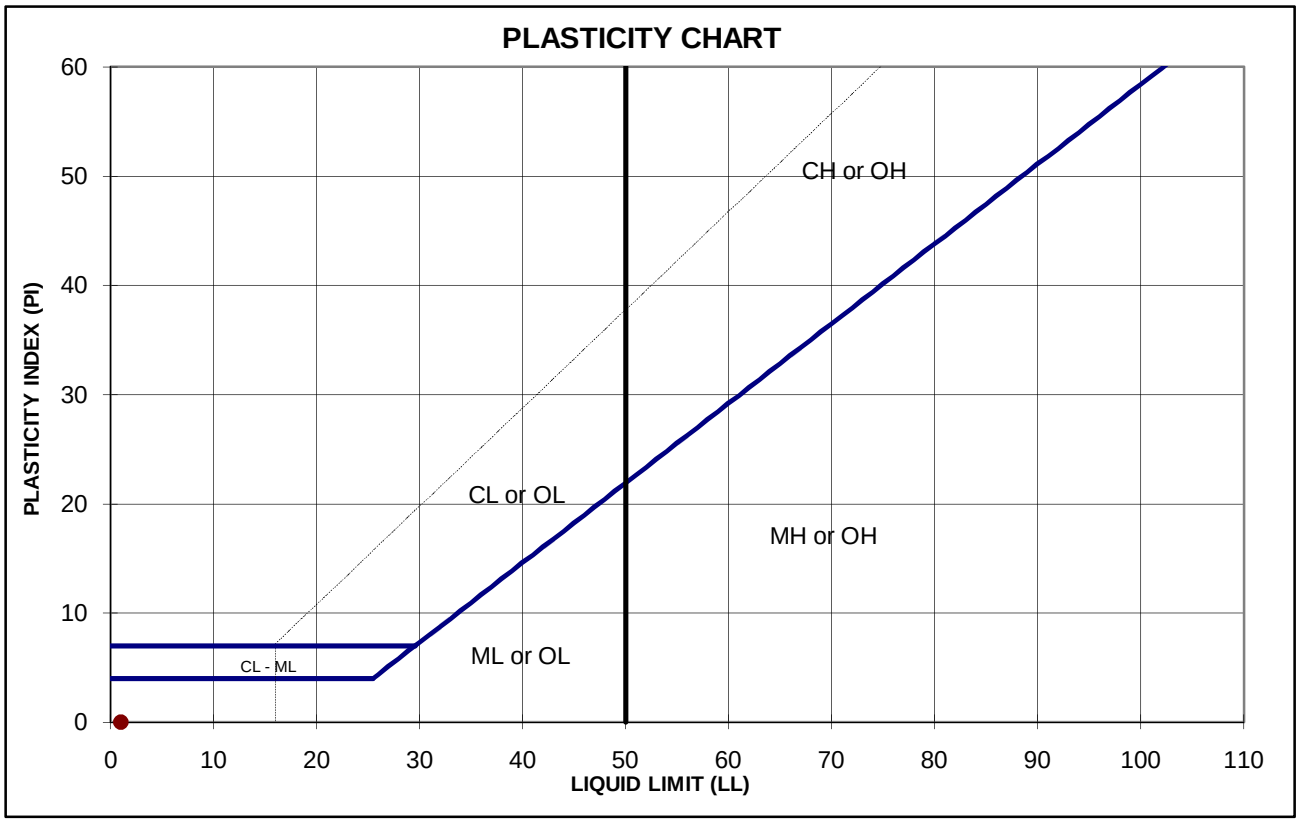
--	--	--
--	--	--
--	--	--
--	--	--

PLASTIC LIMIT (PL)
NP

LIQUID LIMIT (LL)
NP

PLASTICITY INDEX (PI)
NP

NOTE:

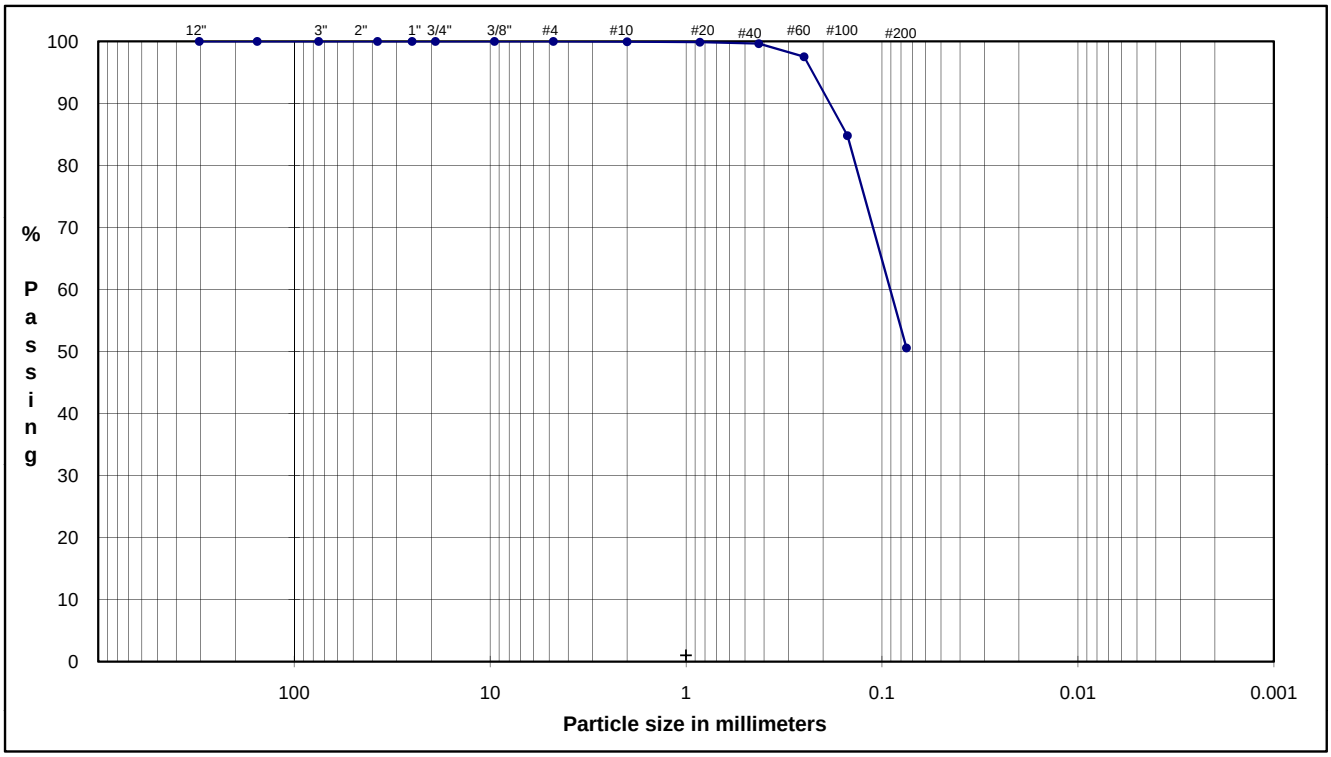


TECH	TES
DATE	11/27/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

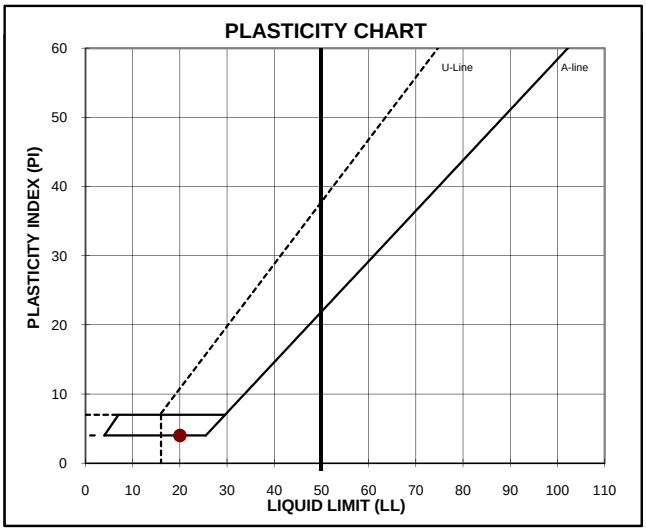
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-16** Depth (ft): **19.3-20**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.06**
#20	0.85	**99.9**		
#40	0.43	**99.6**	Medium Sand	**0.30**
#60	0.25	**97.5**		
#100	0.15	**84.8**		
#200	0.08	**50.6**	Fine Sand	**49.08**
			Fines	**50.57**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.9	**20**	**16**	**4**	**-**

DESCRIPTION: Strong brown sandy silty clay

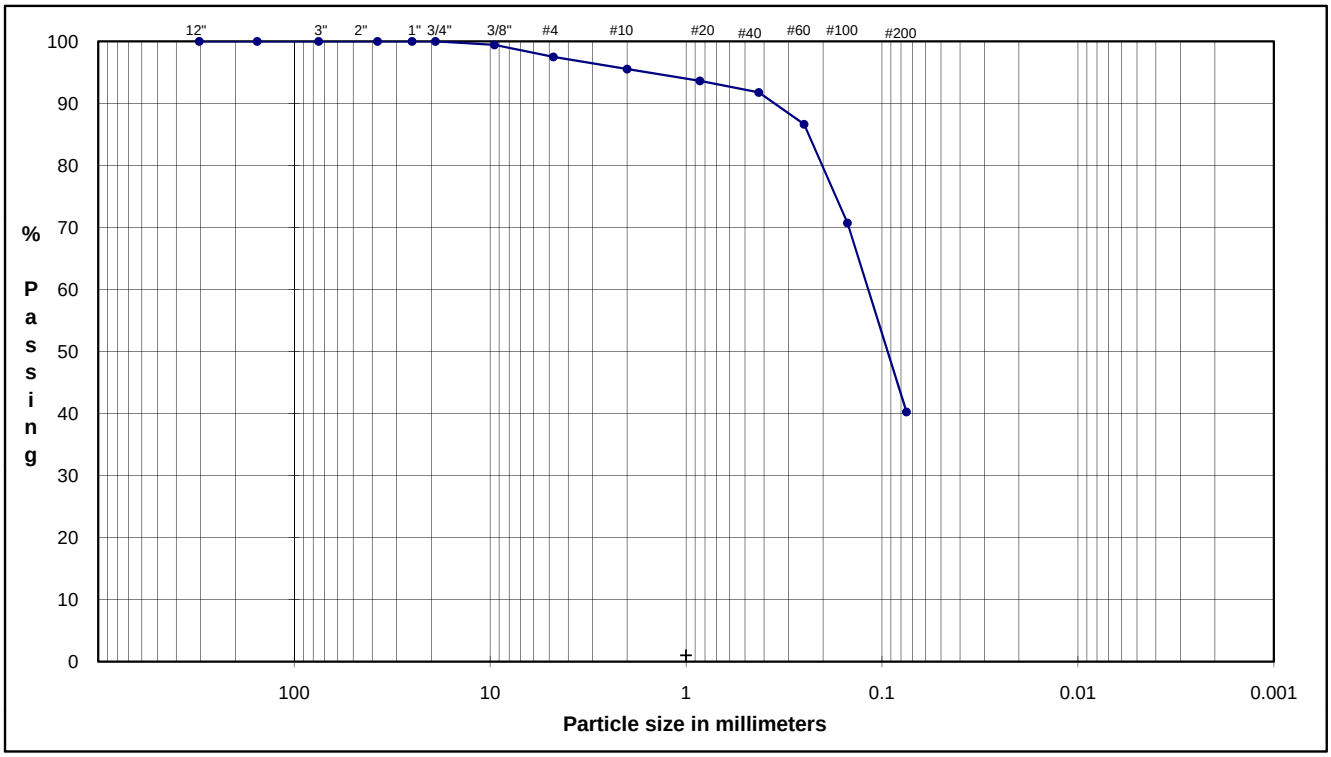
USCS: CL-ML

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

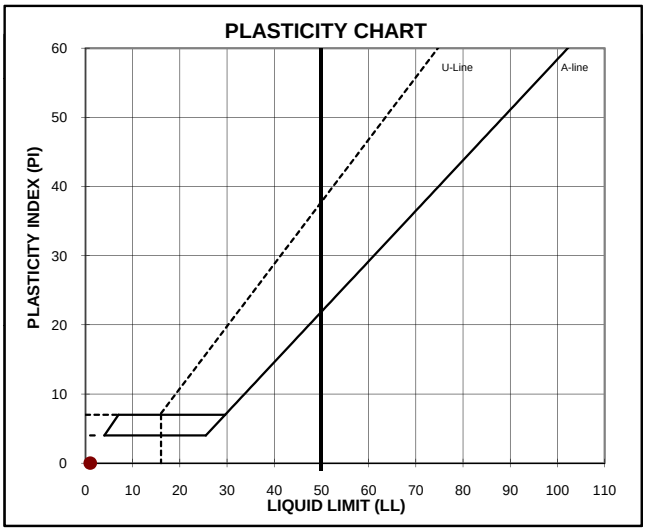
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-16** Depth (ft): **34.3-35**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**99.4**		
#4	4.75	**97.5**	Fine Gravel	**2.49**
#10	2.00	**95.5**	Coarse Sand	**1.98**
#20	0.85	**93.6**		
#40	0.43	**91.8**	Medium Sand	**3.75**
#60	0.25	**86.6**		
#100	0.15	**70.7**		
#200	0.08	**40.3**	Fine Sand	**51.53**
			Fines	**40.25**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	--	--	--	-

DESCRIPTION: Yellowish red

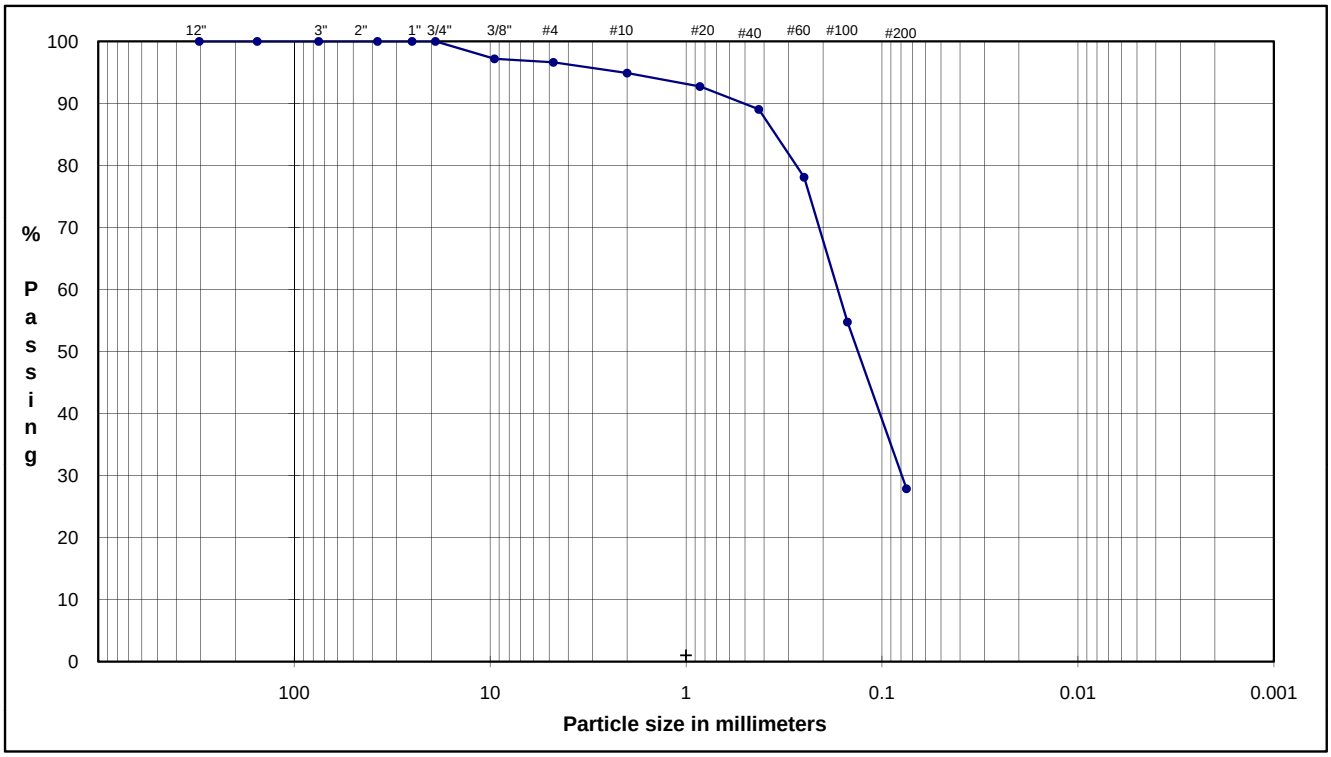
USCS: --

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

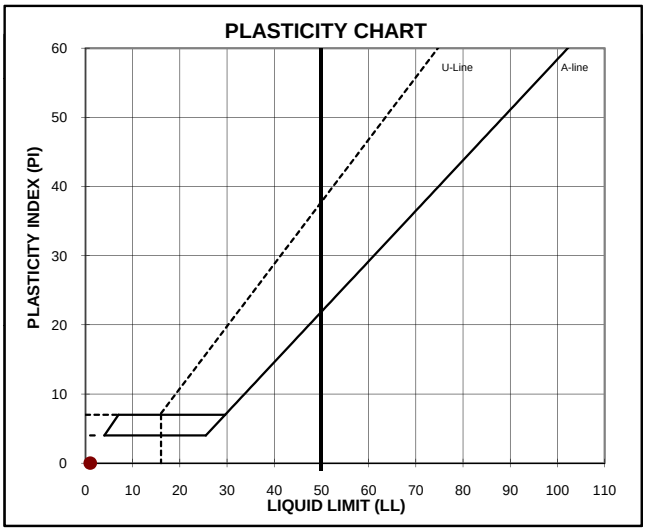
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-16** Depth (ft): **54-55**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**97.2**		
#4	4.75	**96.6**	Fine Gravel	**3.37**
#10	2.00	**94.9**	Coarse Sand	**1.73**
#20	0.85	**92.7**		
#40	0.43	**89.0**	Medium Sand	**5.85**
#60	0.25	**78.1**		
#100	0.15	**54.8**		
#200	0.08	**27.9**	Fine Sand	**61.18**
			Fines	**27.87**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.9	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Reddish brown silty sand

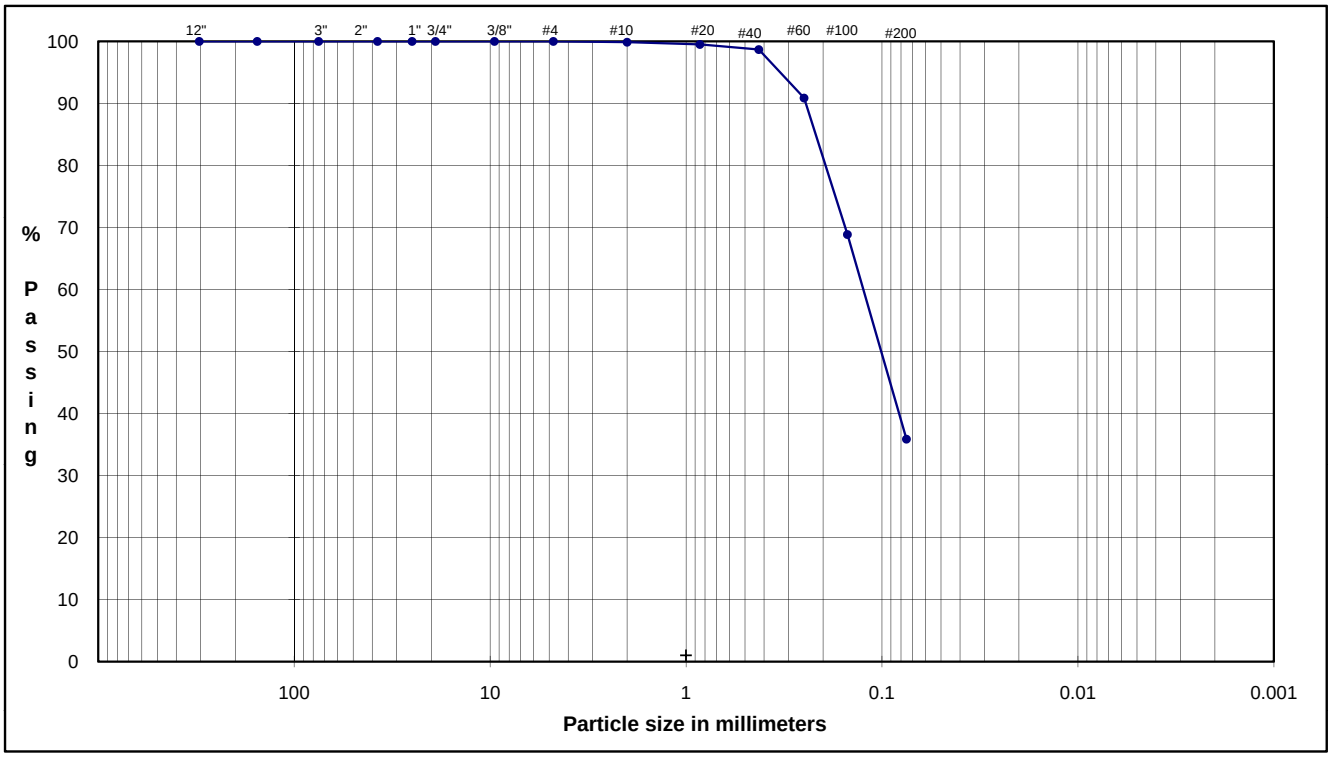
USCS: SM

TECH	MKS
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

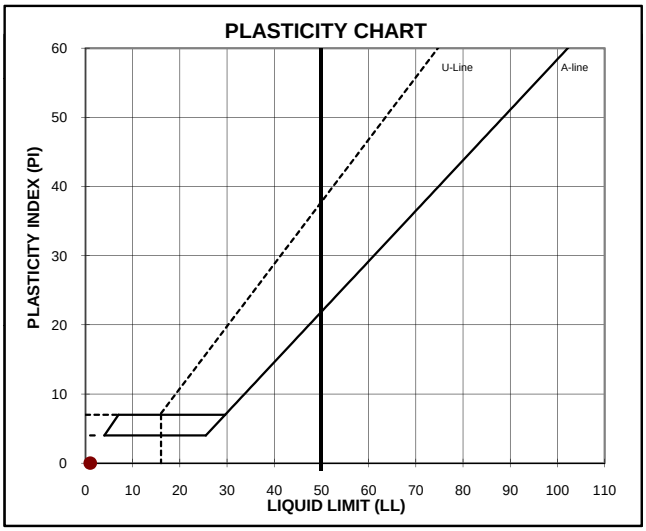
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-16** Depth (ft): **69-70**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.13**
#20	0.85	**99.5**		
#40	0.43	**98.7**	Medium Sand	**1.20**
#60	0.25	**90.9**		
#100	0.15	**68.9**		
#200	0.08	**35.9**	Fine Sand	**62.81**
			Fines	**35.86**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.6	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Reddish yellow silty sand

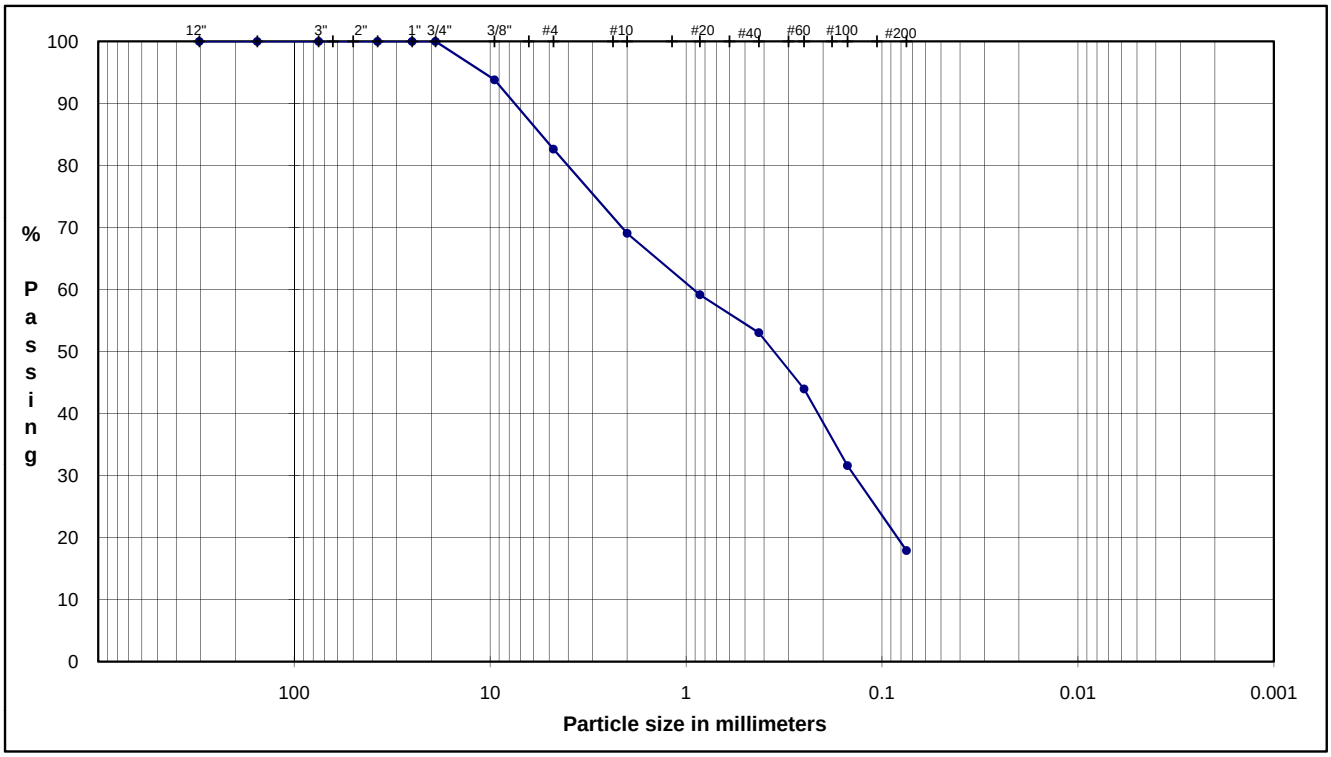
USCS: SM

TECH	CA
DATE	11/16/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

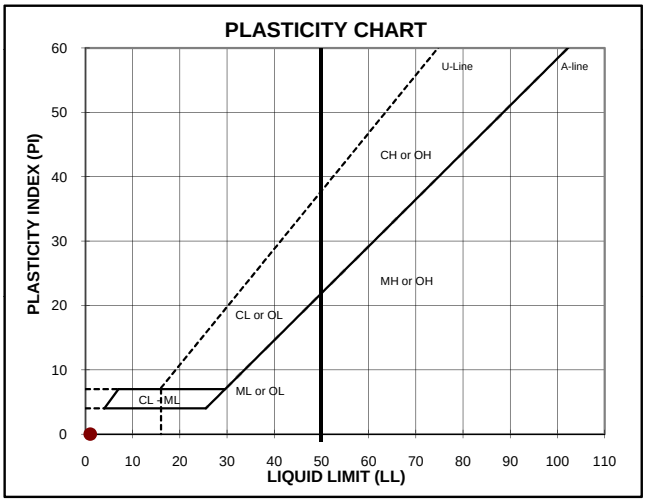
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-23** Depth (ft) **39-39.5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**100.0**	Coarse Gravel	**0.00**
0.375"	9.5	**93.8**		
#4	4.8	**82.6**	Fine Gravel	**17.36**
#10	2.0	**69.1**	Coarse Sand	**13.59**
#20	0.9	**59.2**		
#40	0.4	**53.0**	Medium Sand	**16.02**
#60	0.3	**44.0**		
#100	0.2	**31.6**		
#200	0.1	**17.9**	Fine Sand	**35.14**
			Fines	**17.90**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
1.8	**NP**	**NP**	**NP**	**--**

DESCRIPTION: Strong brown silty sand with gravel

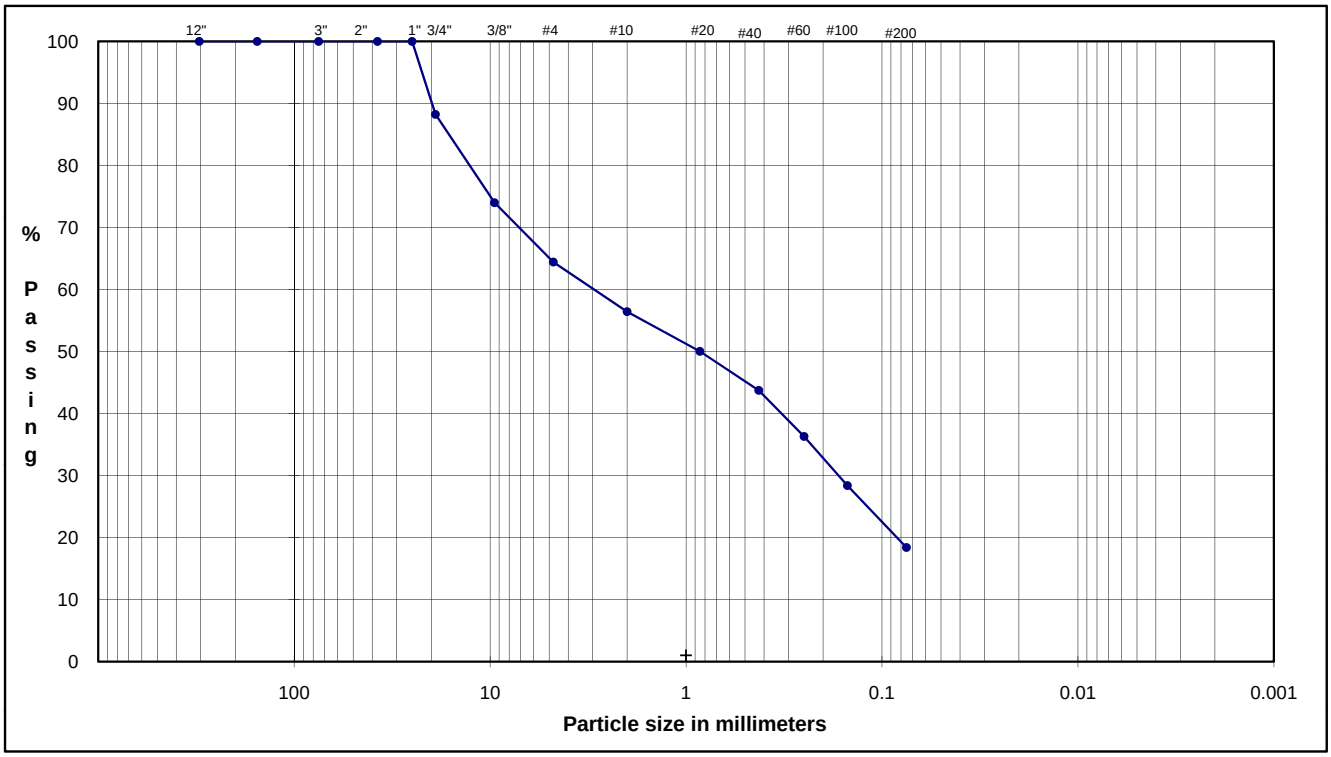
USCS: SM

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

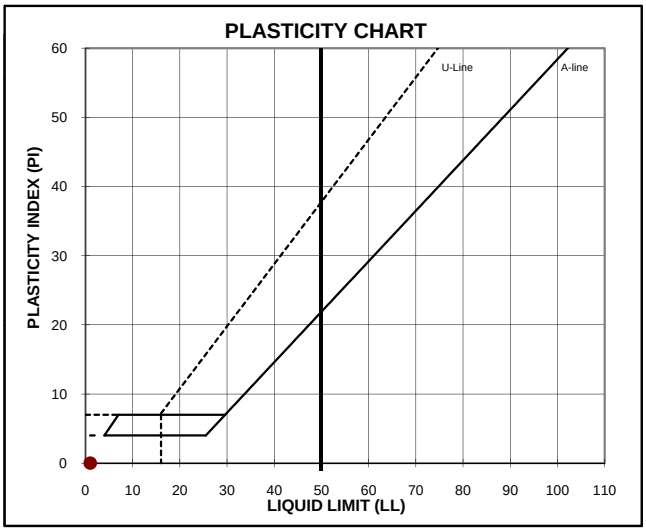
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-23** Depth (ft): **44-45**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**11.77**
0.75"	19.00	**88.2**		
0.375"	9.50	**74.0**		
#4	4.75	**64.4**	Fine Gravel	**23.82**
#10	2.00	**56.4**	Coarse Sand	**7.99**
#20	0.85	**50.0**		
#40	0.43	**43.7**	Medium Sand	**12.70**
#60	0.25	**36.3**		
#100	0.15	**28.4**		
#200	0.08	**18.4**	Fine Sand	**25.33**
			Fines	**18.39**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.4	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Light yellowish brown silty sand with gravel

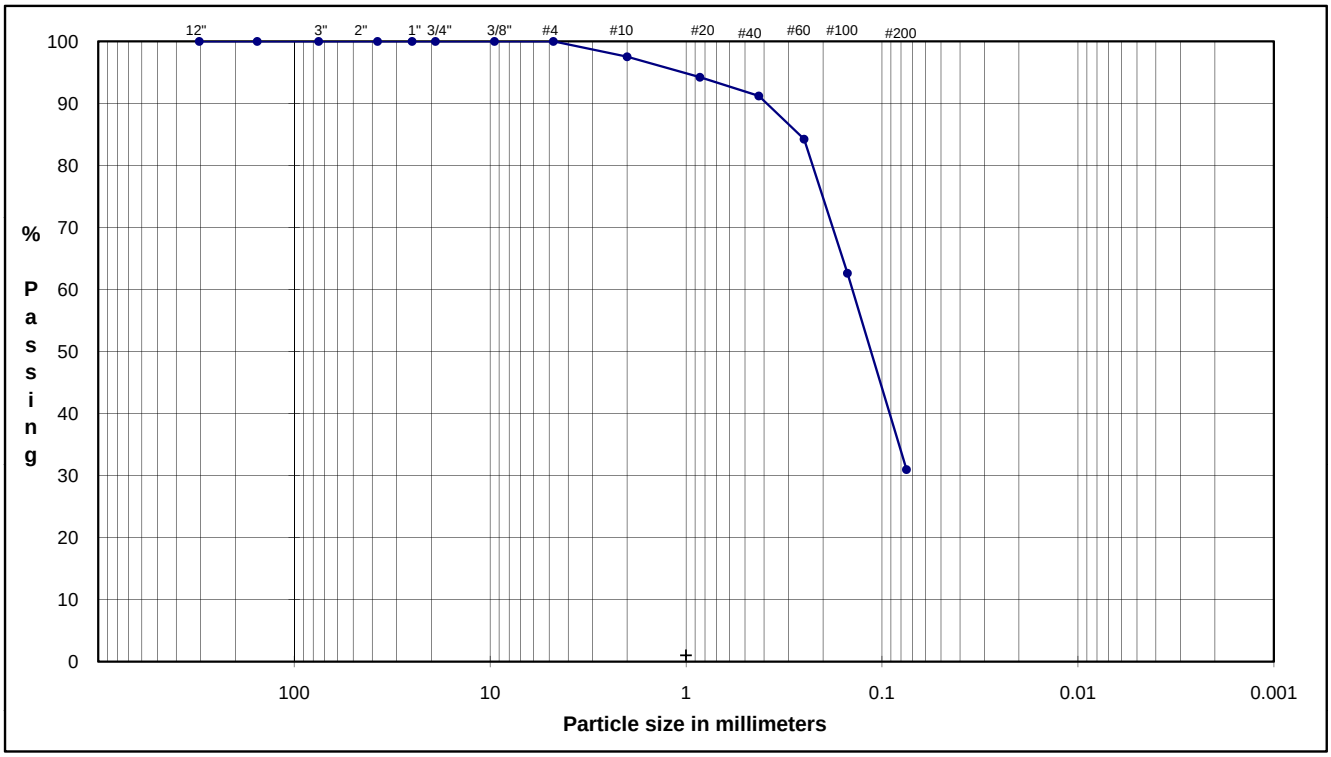
USCS: SM

TECH	MKS
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

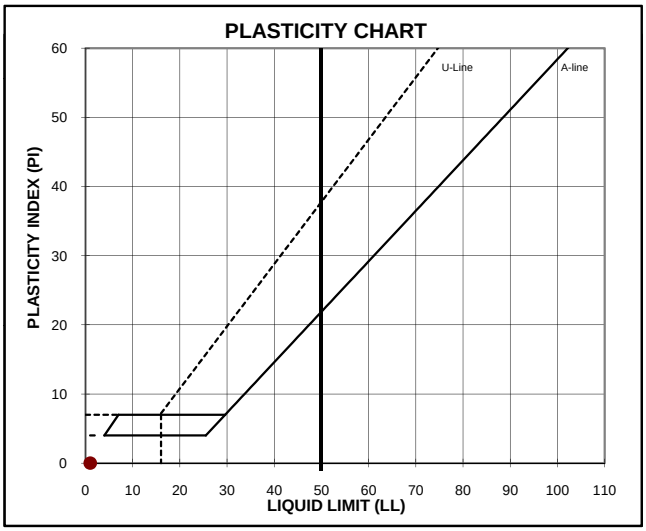
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-27** Depth (ft): **15.25-16**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**97.5**	Coarse Sand	**2.48**
#20	0.85	**94.2**		
#40	0.43	**91.2**	Medium Sand	**6.31**
#60	0.25	**84.2**		
#100	0.15	**62.6**		
#200	0.08	**31.0**	Fine Sand	**60.25**
			Fines	**30.97**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Yellowish red silty sand

USCS: SM

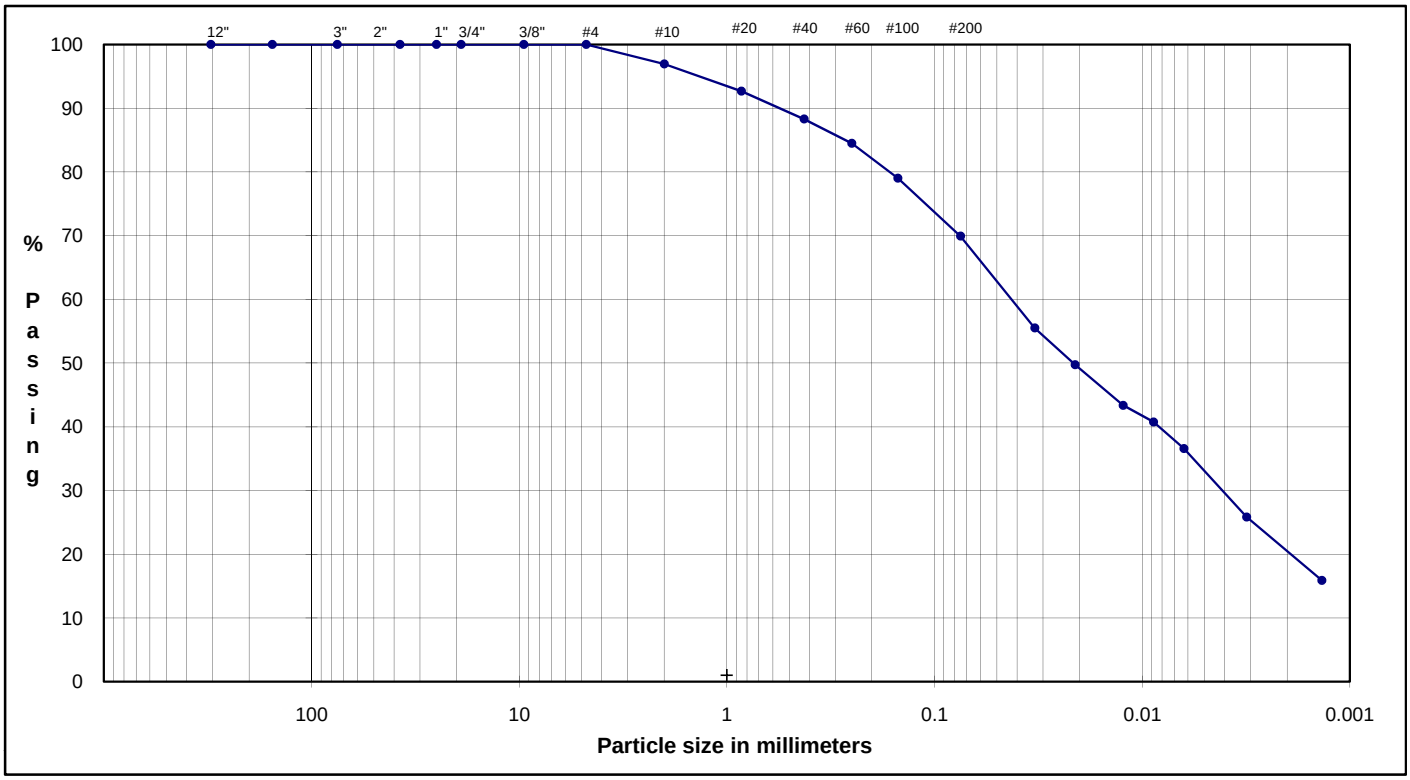
TECH	DS
DATE	12/18/07
REVIEW	MB

December-07 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-27** Depth (ft): **30.25-31**
TYPE: **Pail**



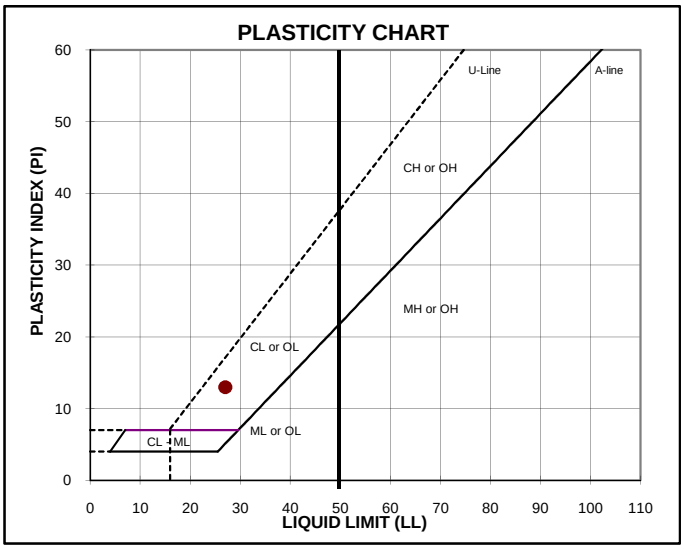
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**0.00**
0.75"	19.0	**100.0**		
0.375"	9.5	**100.0**		
#4	4.8	**100.0**	Fine Gravel	**0.00**
#10	2.00	**97.0**	Coarse Sand	**3.04**
#20	0.85	**92.7**		
#40	0.43	**88.3**	Medium Sand	**8.67**
#60	0.25	**84.5**		
#100	0.15	**79.0**		
#200	0.075	**69.9**	Fine Sand	**18.35**

Hydrometer Analysis

(mm)	%Finer		
0.033	**55.5**		
0.021	**49.7**		
0.012	**43.4**	Fines	
0.009	**40.8**	Silt or Clay	**69.93**
0.006	**36.6**		
0.003	**25.9**		
0.001	**15.9**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG
6.9	**27**	**14**	**13**	**2.70**

DESCRIPTION: Yellowish brown sandy lean clay

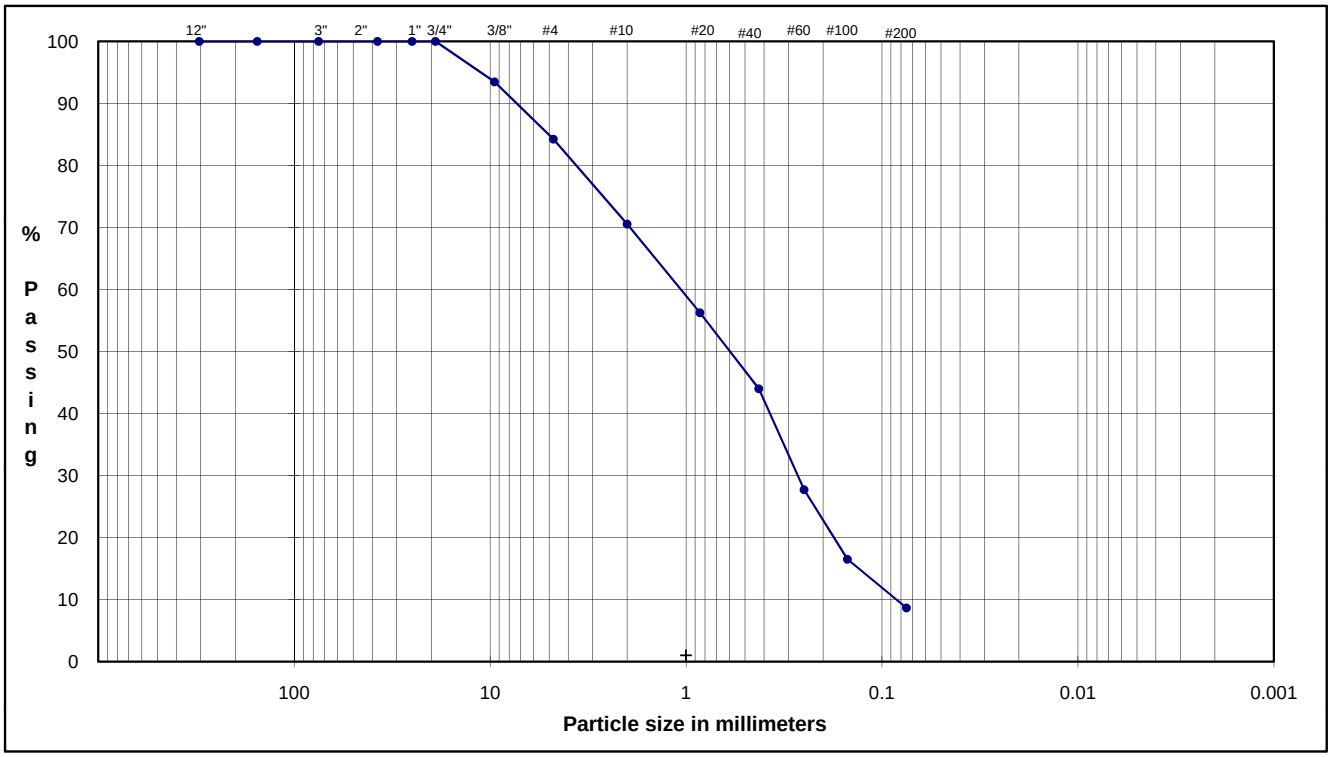
USCS: CL

TECH DS
DATE 12/18/2007
REVIEW CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

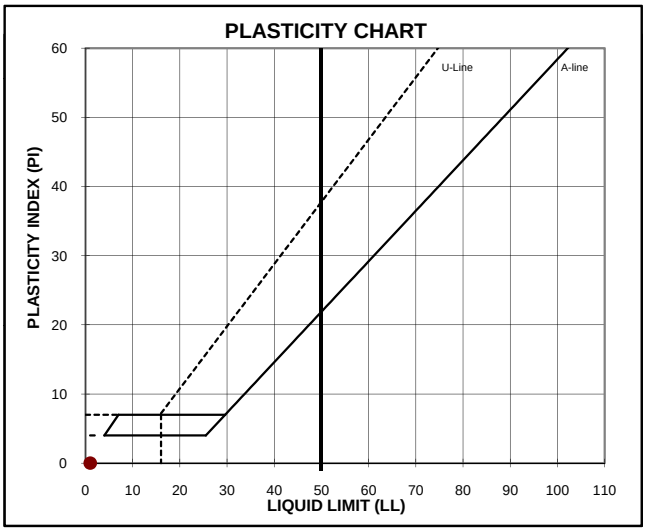
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-30** Depth (ft): **4-4.5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**93.5**		
#4	4.75	**84.2**	Fine Gravel	**15.77**
#10	2.00	**70.5**	Coarse Sand	**13.68**
#20	0.85	**56.3**		
#40	0.43	**44.0**	Medium Sand	**26.54**
#60	0.25	**27.7**		
#100	0.15	**16.5**		
#200	0.08	**8.6**	Fine Sand	**35.35**
			Fines	**8.65**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.3	--	--	--	-

DESCRIPTION: Strong brown

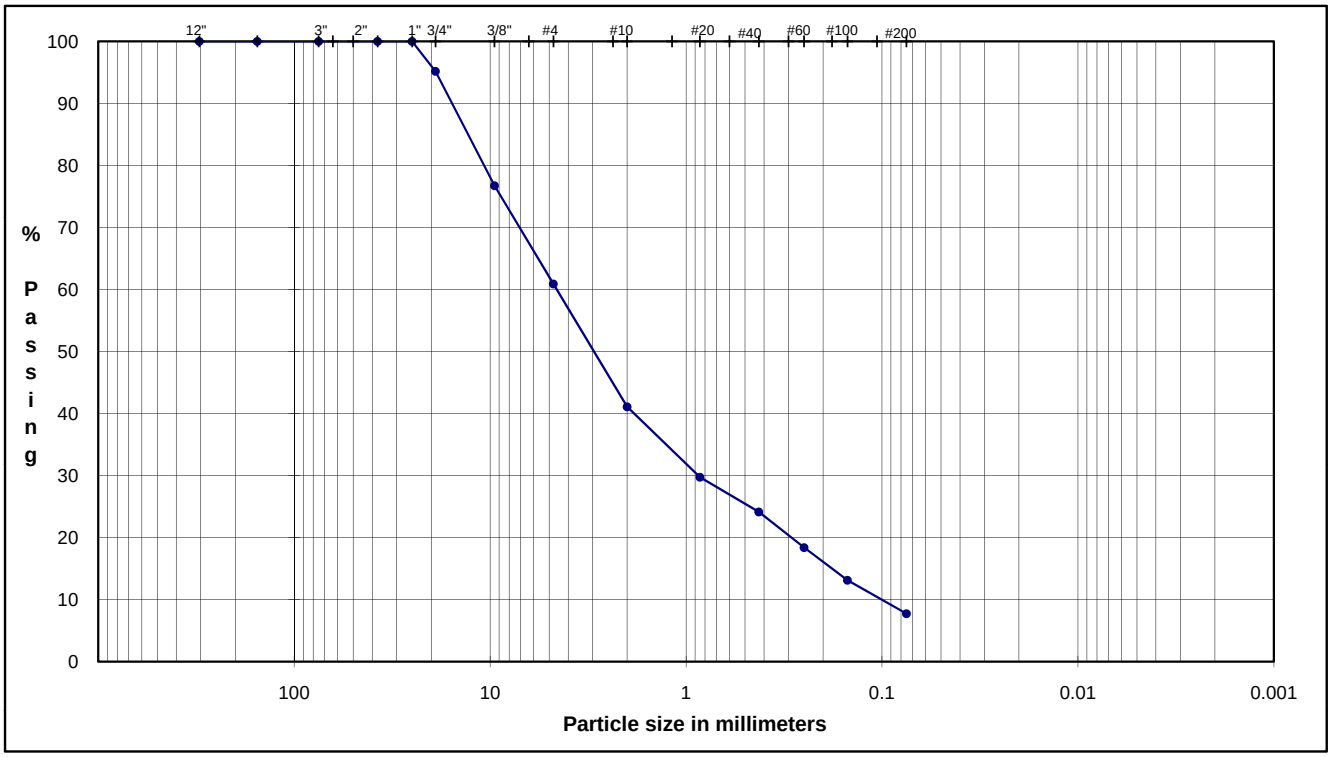
USCS: --

TECH	CA
DATE	11/16/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

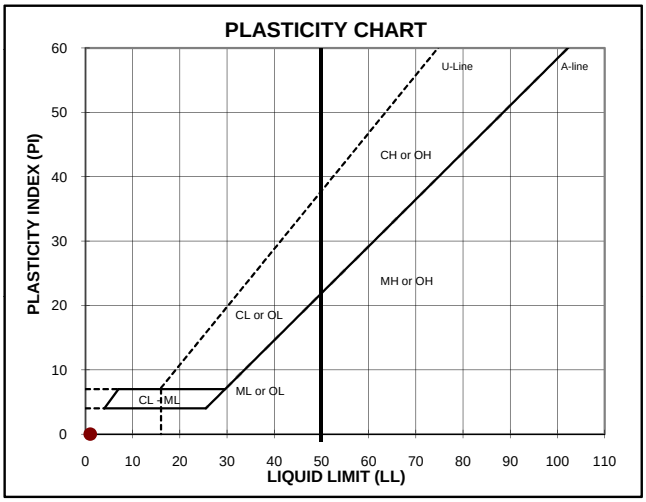
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-30** Depth (ft) **14-14.5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**95.2**	Coarse Gravel	**4.82**
0.375"	9.5	**76.7**		
#4	4.8	**60.9**	Fine Gravel	**34.29**
#10	2.0	**41.1**	Coarse Sand	**19.80**
#20	0.9	**29.7**		
#40	0.4	**24.1**	Medium Sand	**16.95**
#60	0.3	**18.4**		
#100	0.2	**13.1**		
#200	0.1	**7.7**	Fine Sand	**16.41**
			Fines	**7.73**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.2	**NP**	**NP**	**NP**	**--**

DESCRIPTION: Light reddish brown well-graded sand with silt and gravel

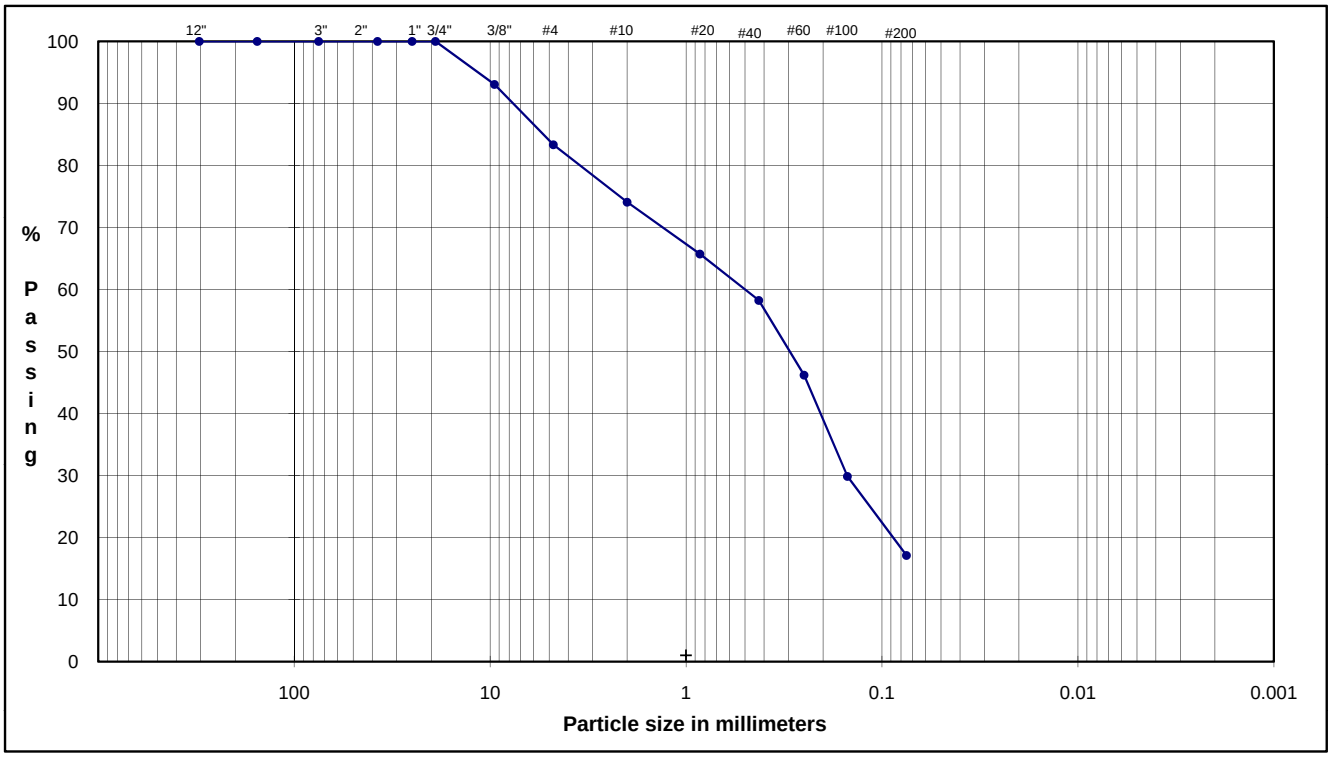
USCS: SW-SM

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

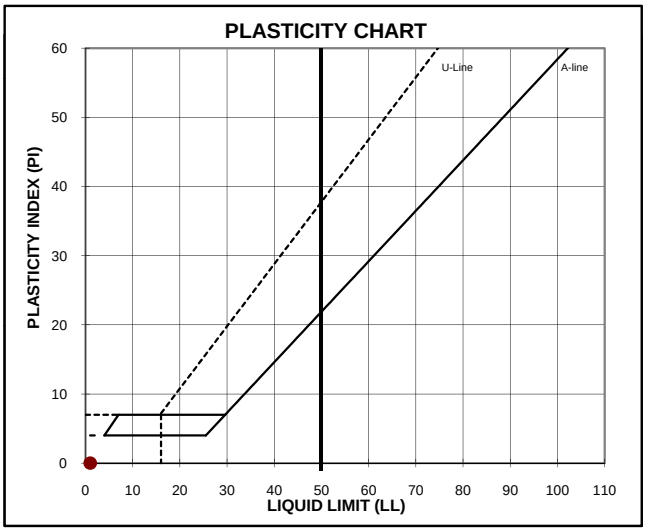
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-30** Depth (ft): **24-24.5**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**93.1**		
#4	4.75	**83.3**	Fine Gravel	**16.66**
#10	2.00	**74.1**	Coarse Sand	**9.27**
#20	0.85	**65.7**		
#40	0.43	**58.2**	Medium Sand	**15.82**
#60	0.25	**46.2**		
#100	0.15	**29.9**		
#200	0.08	**17.1**	Fine Sand	**41.13**
			Fines	**17.12**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.4	--	--	--	-

DESCRIPTION: Yellowish red

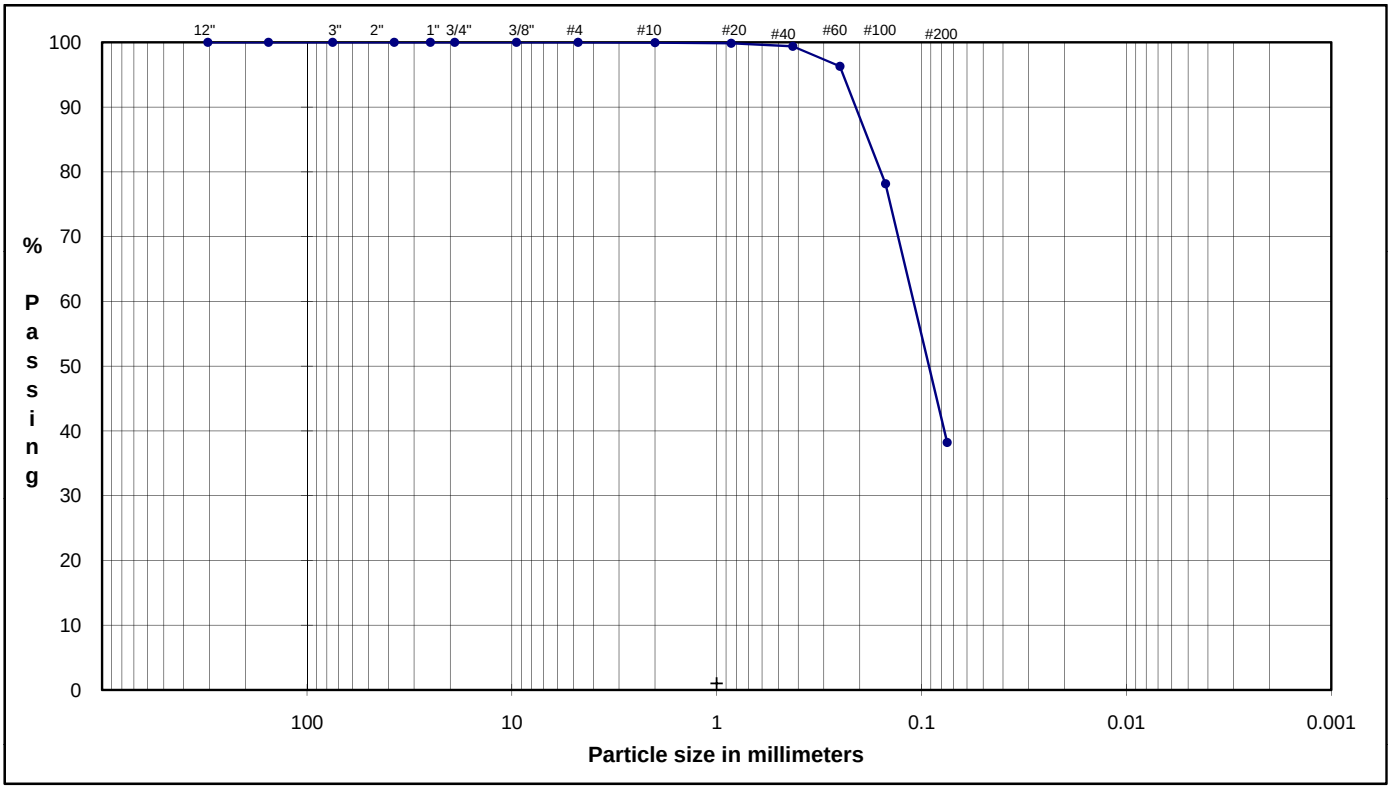
USCS: --

TECH	DCS
DATE	11/16/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

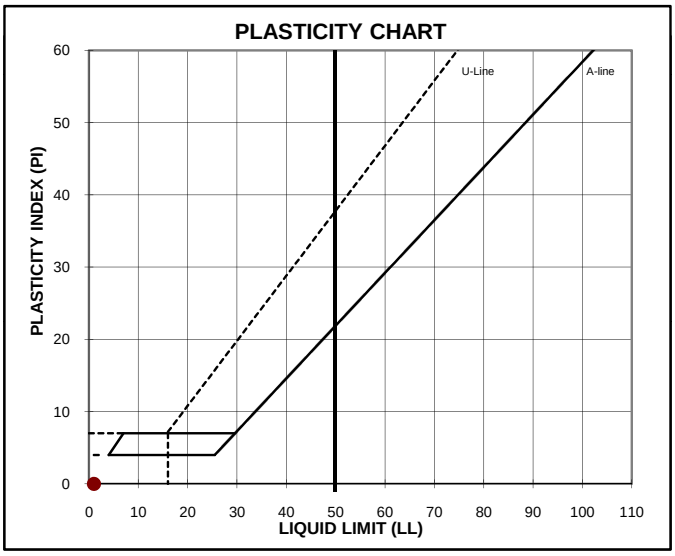
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-31** Depth (ft): **25.25-26**
TYPE: **Tube**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.04**
#20	0.85	**99.9**		
#40	0.43	**99.4**	Medium Sand	**0.58**
#60	0.25	**96.3**		
#100	0.15	**78.2**		
#200	0.08	**38.2**	Fine Sand	**61.17**
			Fines	**38.21**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	-

DESCRIPTION: Strong brown silty sand

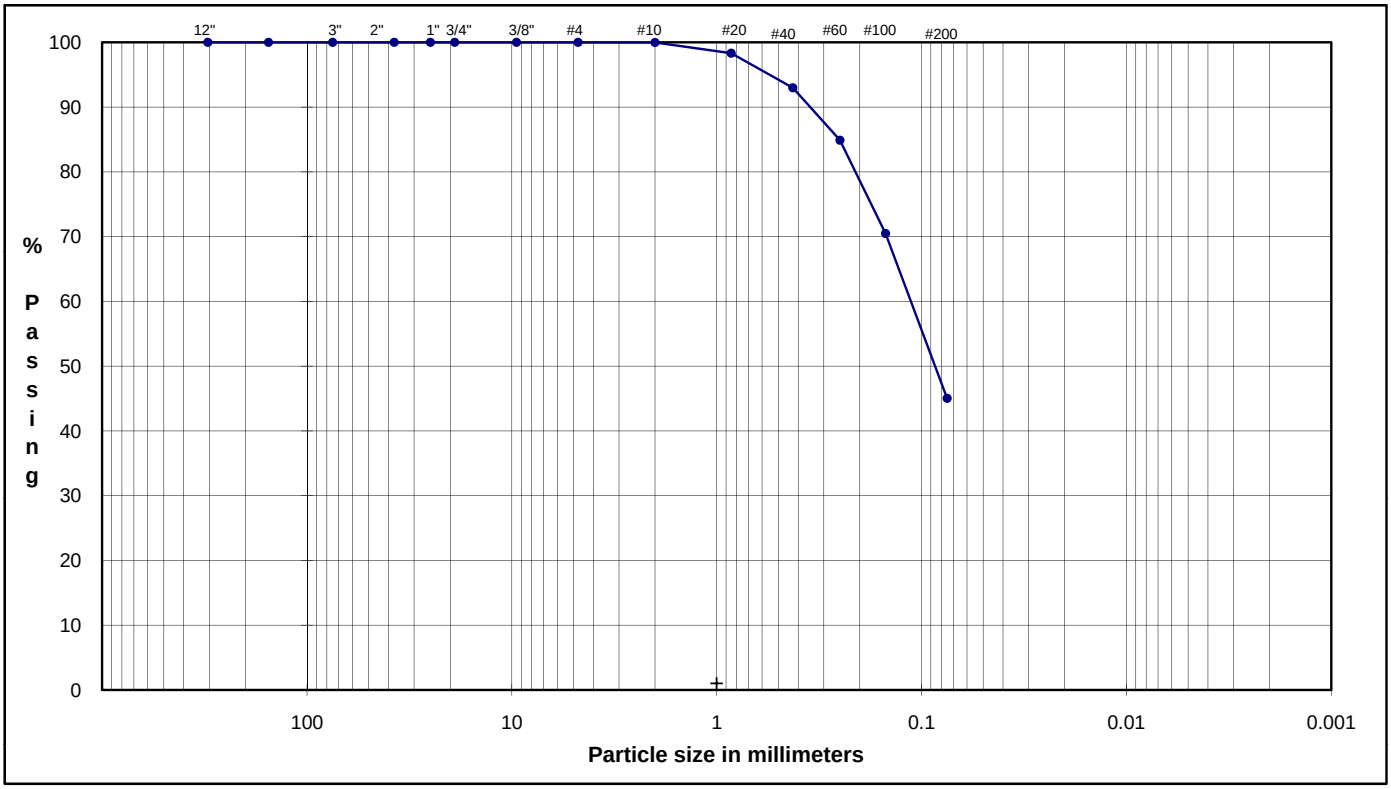
USCS: SM

TECH DS
DATE 12/18/07
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

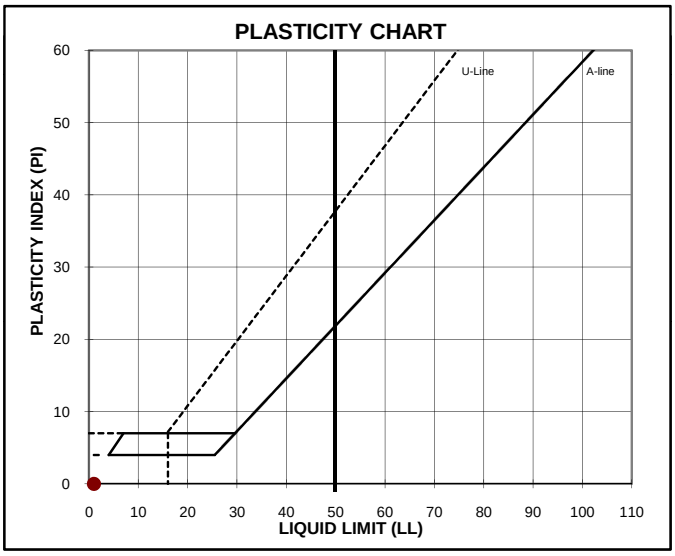
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-31** Depth (ft): **40-40.75**
TYPE: **Tube**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.02**
#20	0.85	**98.3**		
#40	0.43	**93.0**	Medium Sand	**7.01**
#60	0.25	**84.9**		
#100	0.15	**70.5**		
#200	0.08	**45.0**	Fine Sand	**47.95**
			Fines	**45.03**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	-

DESCRIPTION: Light brown silty sand

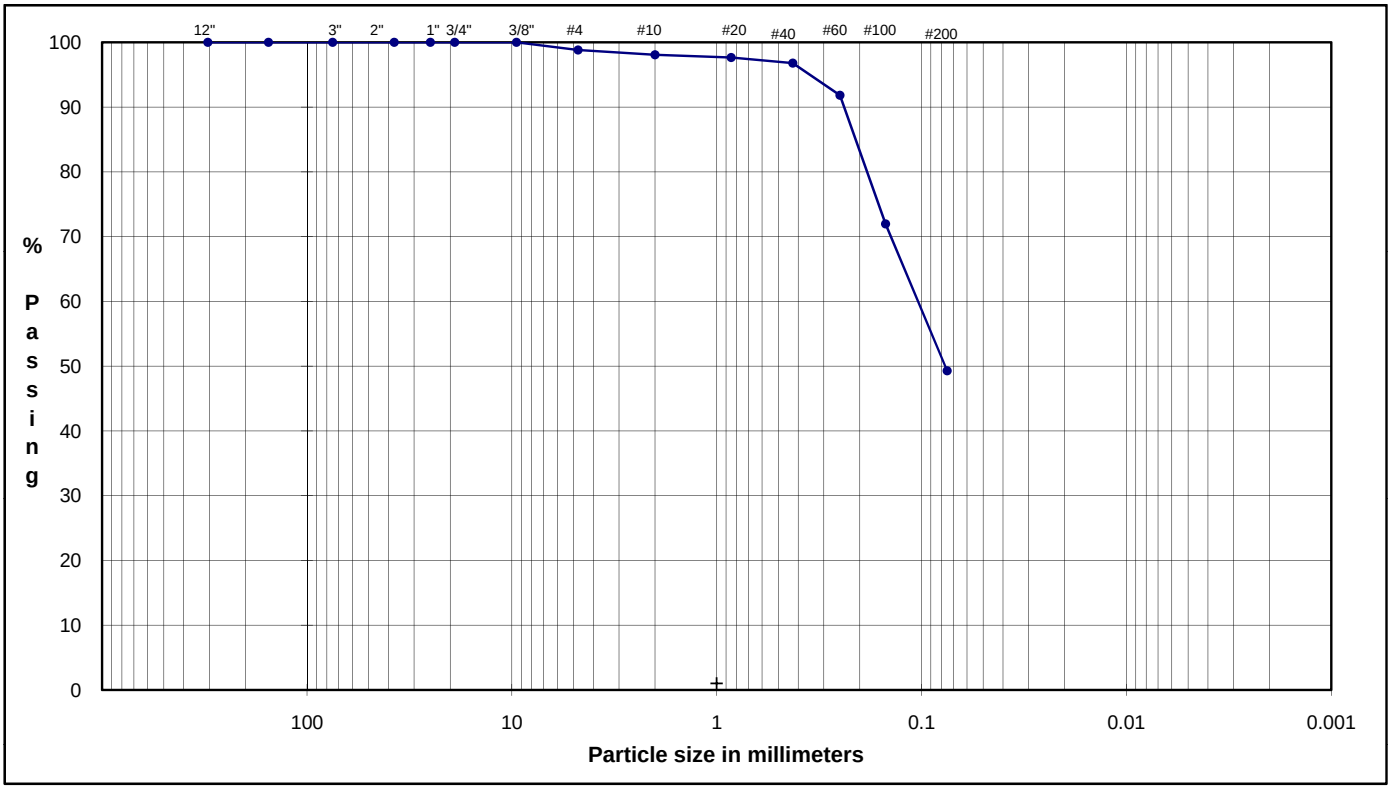
USCS: SM

TECH DS
DATE 12/18/07
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

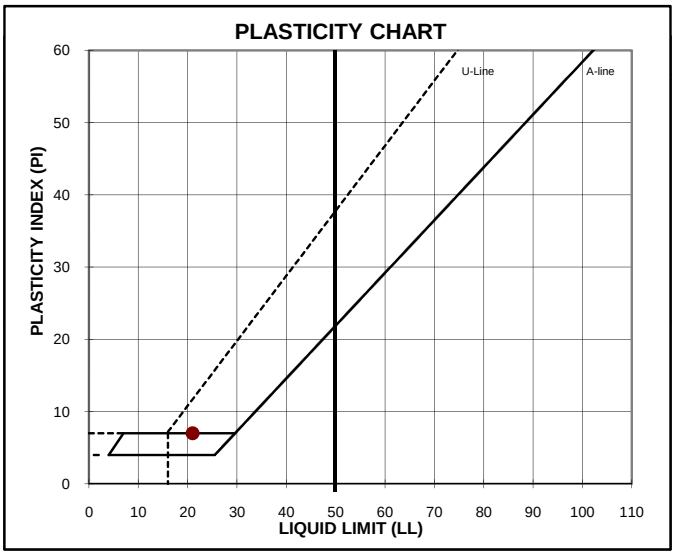
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-33** Depth (ft): **5-6**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**98.8**	Fine Gravel	**1.19**
#10	2.00	**98.1**	Coarse Sand	**0.74**
#20	0.85	**97.7**		
#40	0.43	**96.8**	Medium Sand	**1.30**
#60	0.25	**91.8**		
#100	0.15	**72.0**		
#200	0.08	**49.3**	Fine Sand	**47.50**
			Fines	**49.28**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**21**	**14**	**7**	**-**

DESCRIPTION: Light brown silty, clayey sand

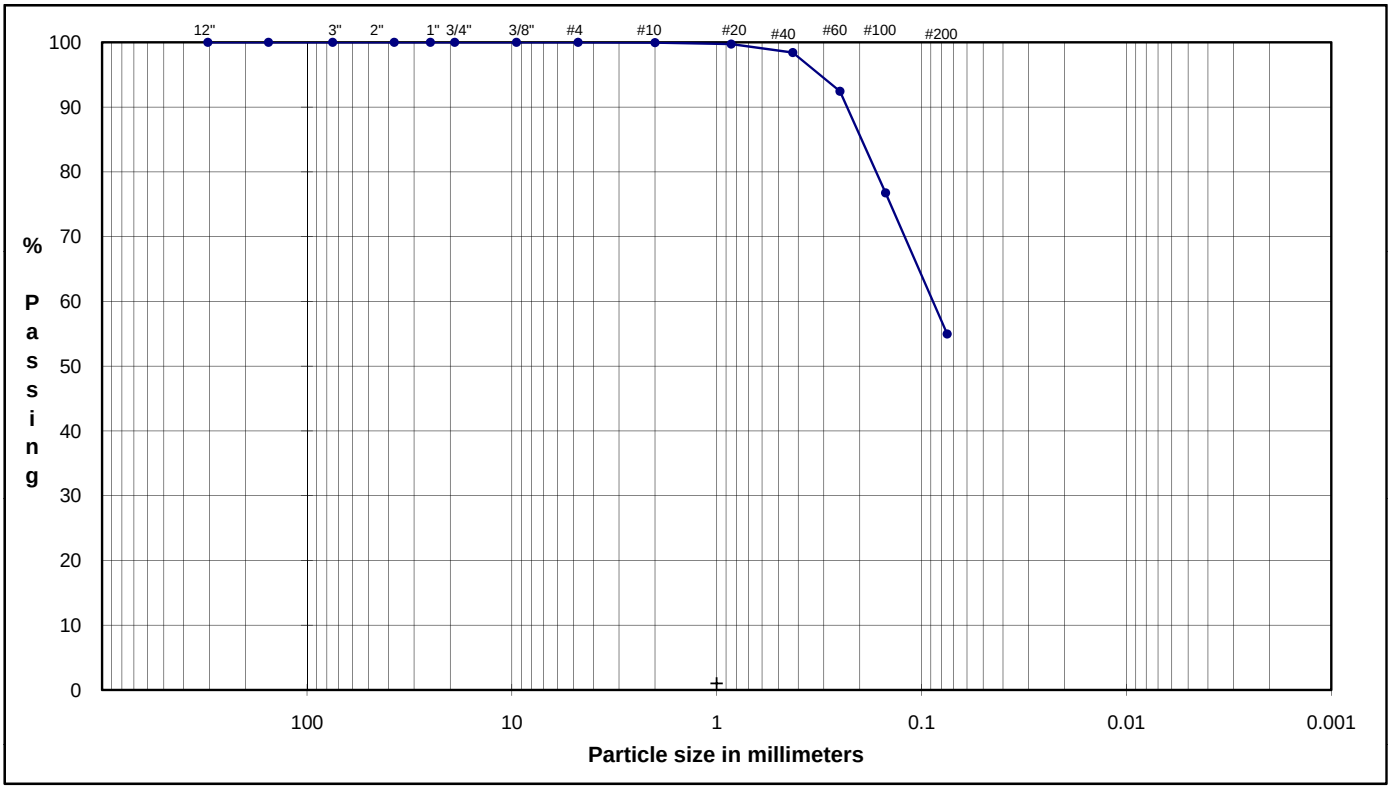
USCS: SC-SM

TECH DS
DATE 12/18/07
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

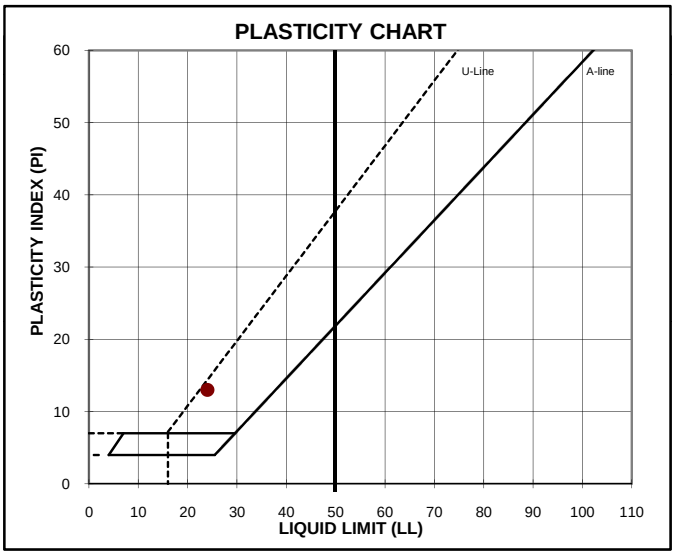
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-33** Depth (ft): **20.25-21**
TYPE: **Tube**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.04**
#20	0.85	**99.7**		
#40	0.43	**98.4**	Medium Sand	**1.53**
#60	0.25	**92.4**		
#100	0.15	**76.8**		
#200	0.08	**55.0**	Fine Sand	**43.45**
			Fines	**54.98**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
5.4	**24**	**11**	**13**	**-**

DESCRIPTION: Strong brown sandy lean clay

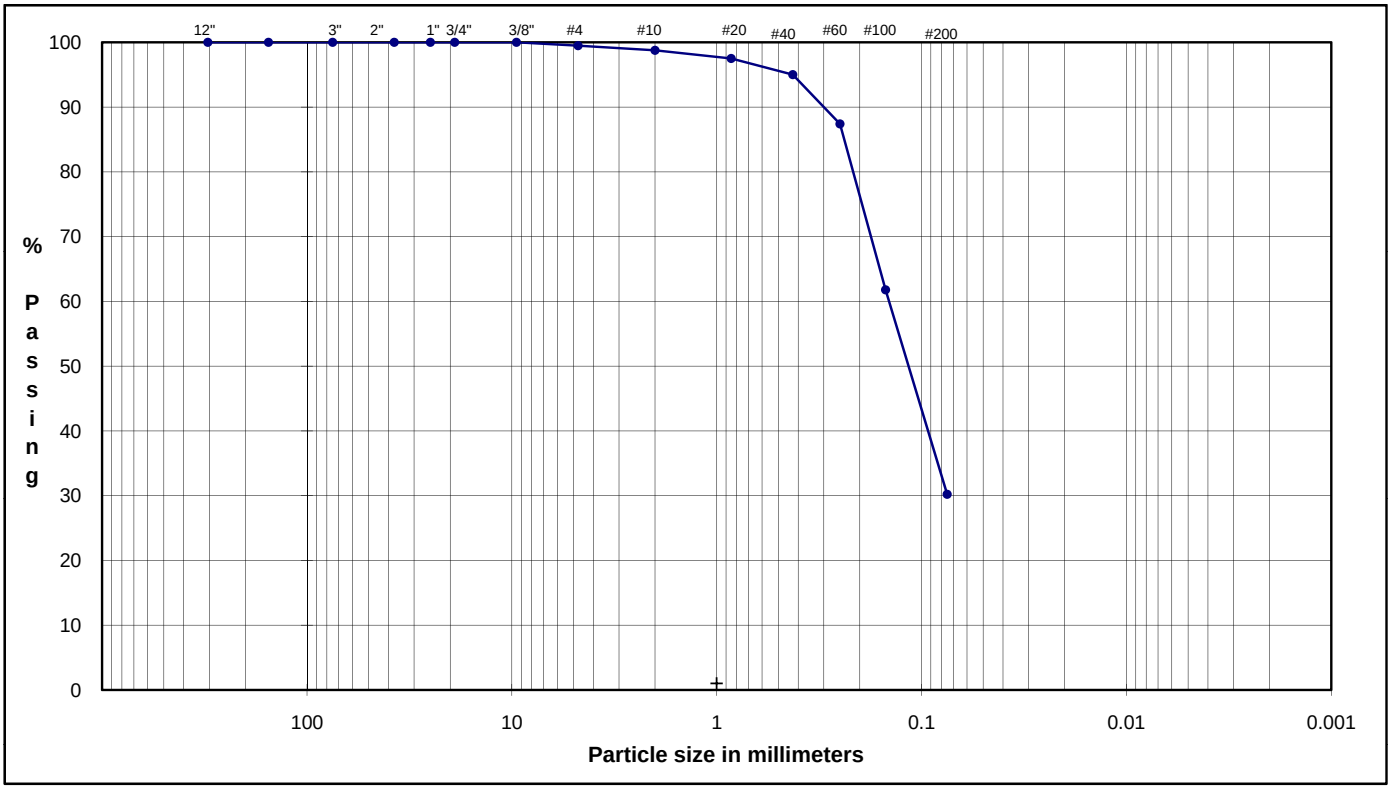
USCS: CL

TECH DS
DATE 12/18/07
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

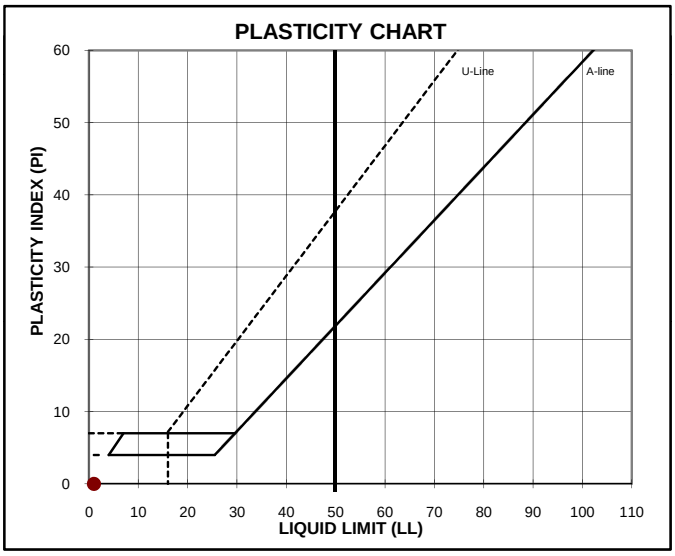
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-33** Depth (ft): **30-30.75**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**99.5**	Fine Gravel	**0.51**
#10	2.00	**98.8**	Coarse Sand	**0.72**
#20	0.85	**97.5**		
#40	0.43	**95.0**	Medium Sand	**3.75**
#60	0.25	**87.4**		
#100	0.15	**61.8**		
#200	0.08	**30.2**	Fine Sand	**64.80**
			Fines	**30.22**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	-

DESCRIPTION: Yellowish red silty sand

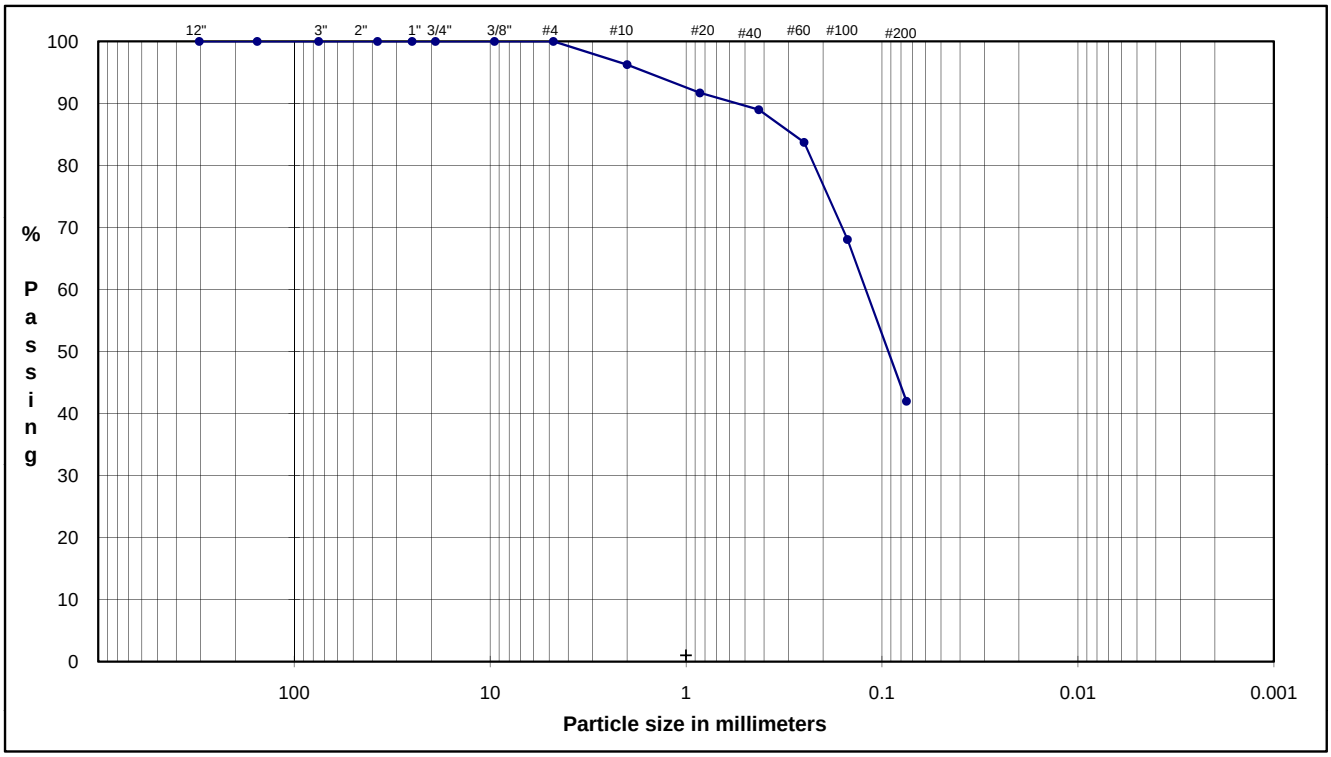
USCS: SM

TECH DS
DATE 12/18/07
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

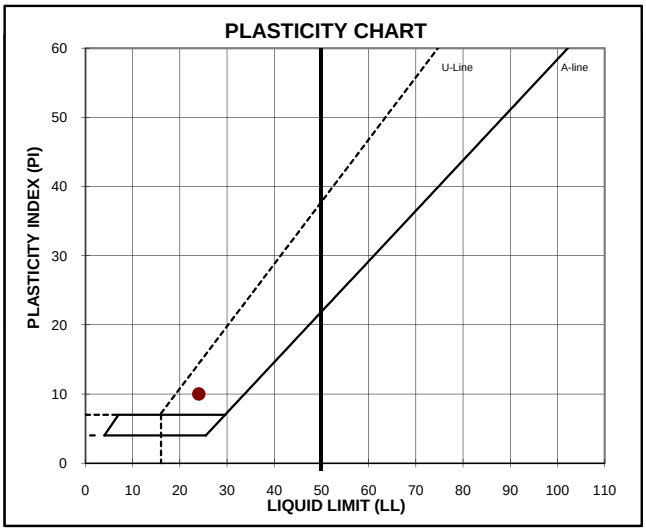
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-35** Depth (ft): **19-20**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**96.2**	Coarse Sand	**3.75**
#20	0.85	**91.7**		
#40	0.43	**89.0**	Medium Sand	**7.26**
#60	0.25	**83.7**		
#100	0.15	**68.1**		
#200	0.08	**42.0**	Fine Sand	**47.01**
			Fines	**41.97**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
5.0	**24**	**14**	**10**	**-**

DESCRIPTION: Yellowish red clayey sand

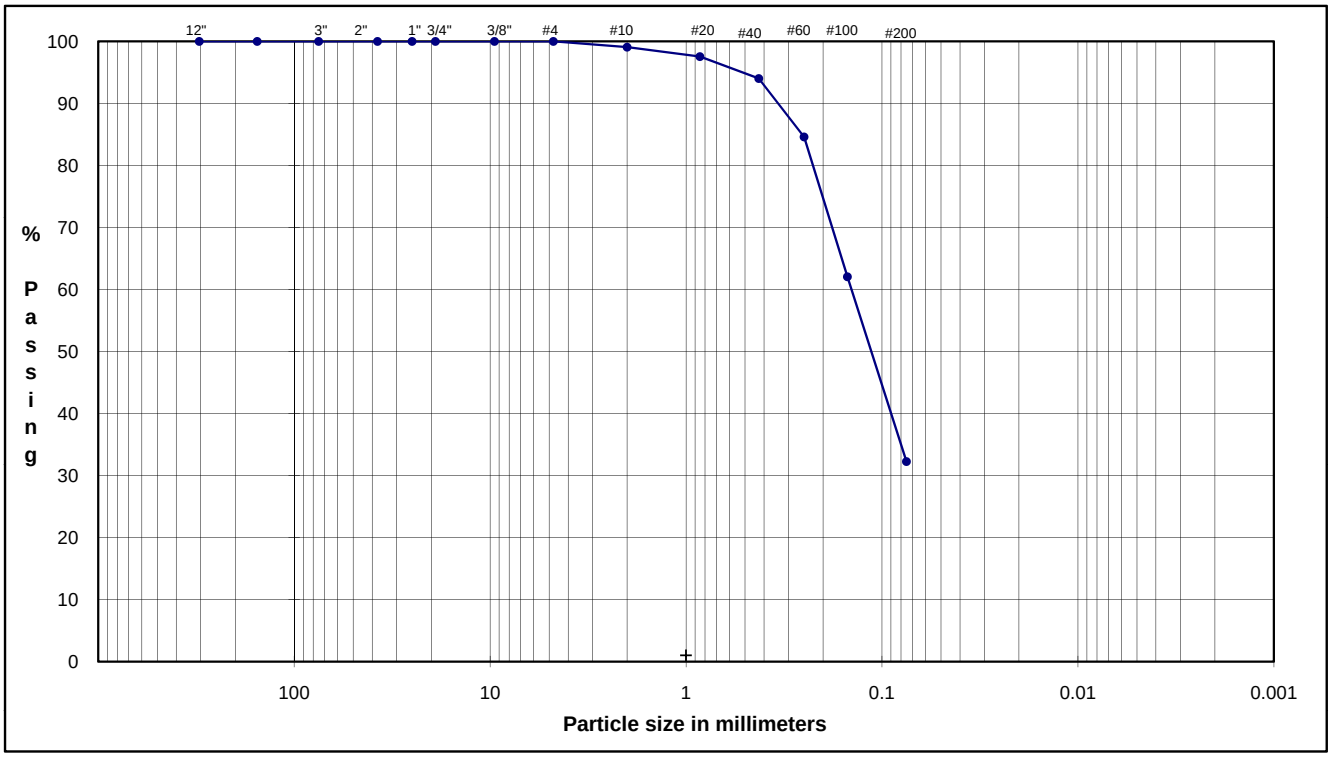
USCS: SC

TECH	CA
DATE	11/16/07
REVIEW	CA/MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

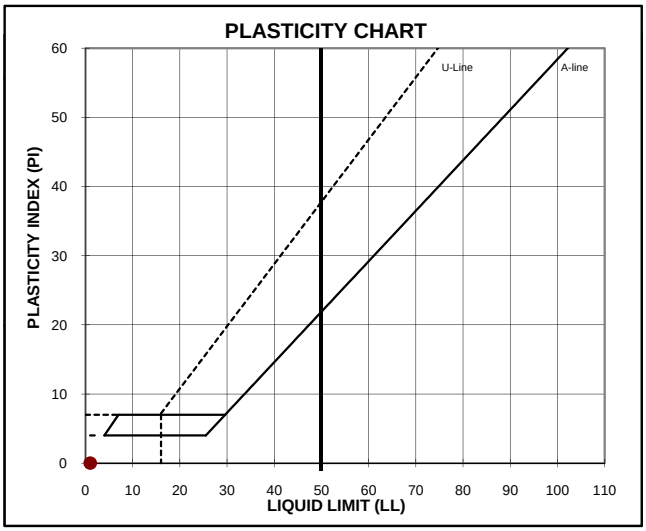
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-35** Depth (ft): **34.3-35**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.1**	Coarse Sand	**0.92**
#20	0.85	**97.6**		
#40	0.43	**94.0**	Medium Sand	**5.06**
#60	0.25	**84.6**		
#100	0.15	**62.0**		
#200	0.08	**32.2**	Fine Sand	**61.78**
			Fines	**32.24**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
5.4	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Reddish yellow silty sand

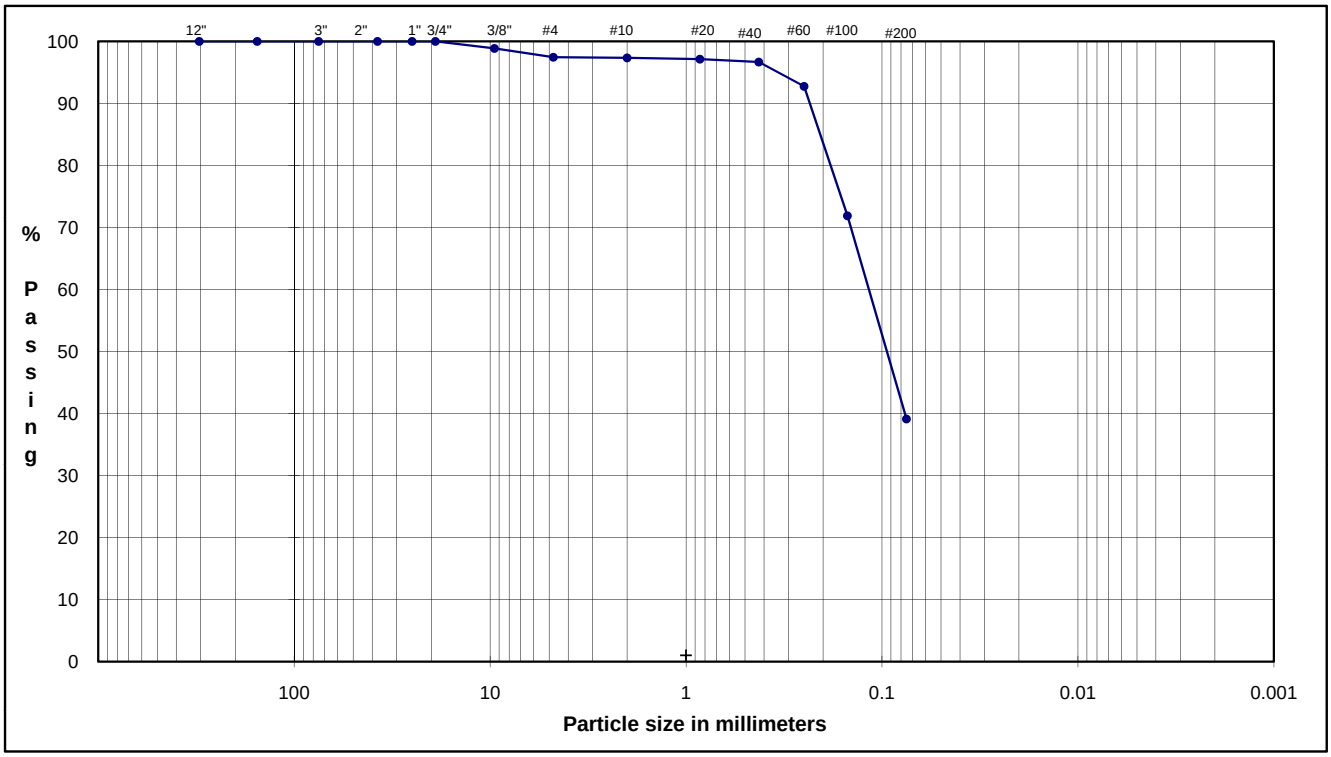
USCS: SM

TECH	CA
DATE	11/16/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

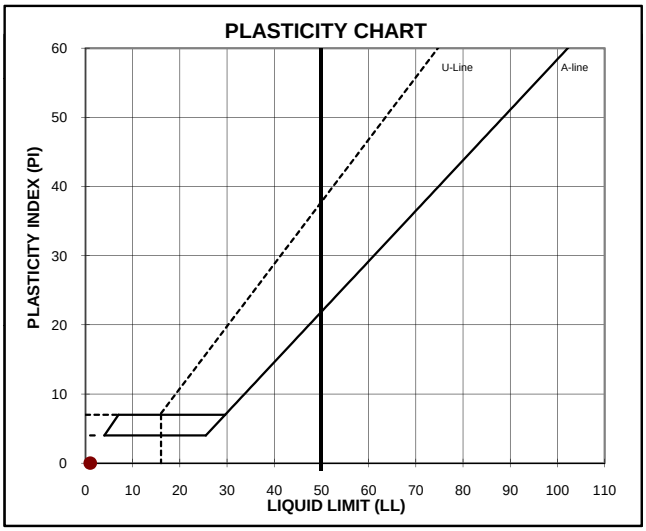
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-35** Depth (ft): **44-45**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**98.9**		
#4	4.75	**97.4**	Fine Gravel	**2.55**
#10	2.00	**97.4**	Coarse Sand	**0.09**
#20	0.85	**97.1**		
#40	0.43	**96.7**	Medium Sand	**0.68**
#60	0.25	**92.7**		
#100	0.15	**71.9**		
#200	0.08	**39.1**	Fine Sand	**57.55**
			Fines	**39.12**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Pink silty sand

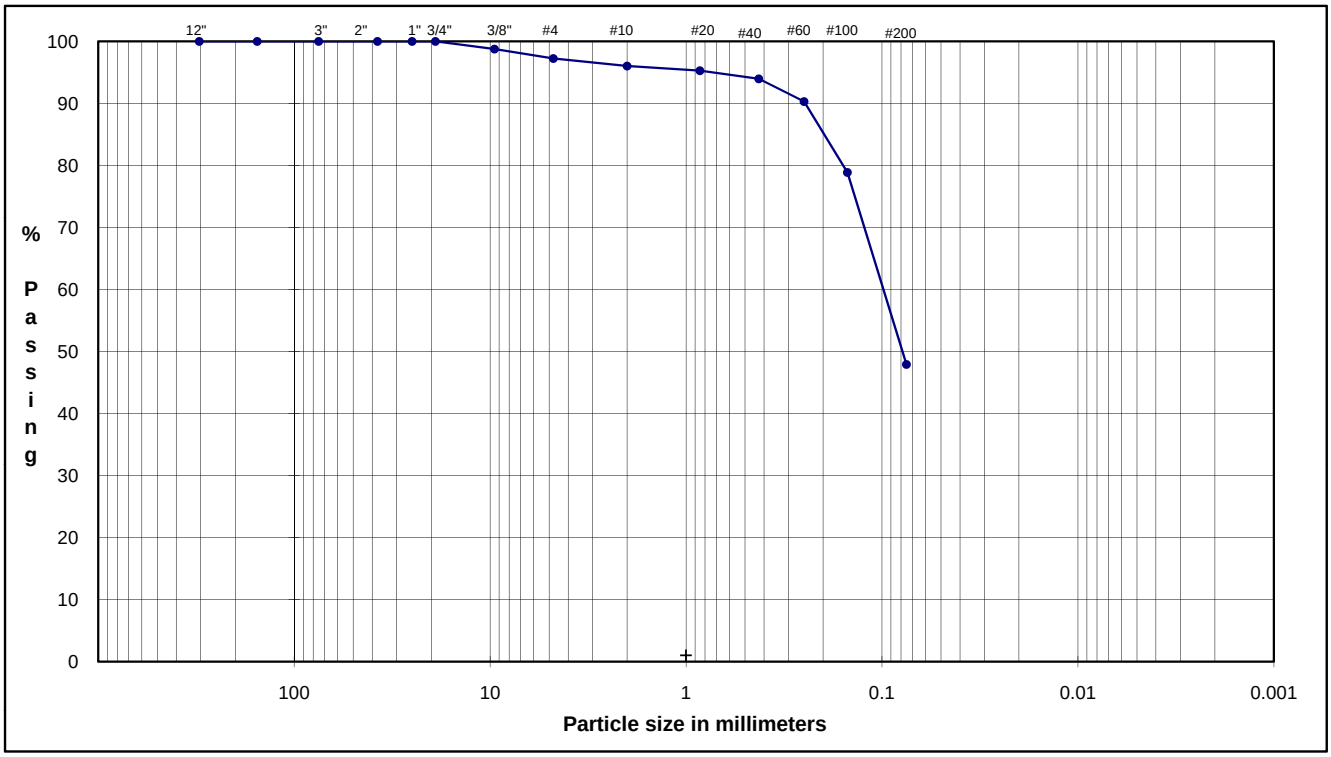
USCS: SM

TECH	MS
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

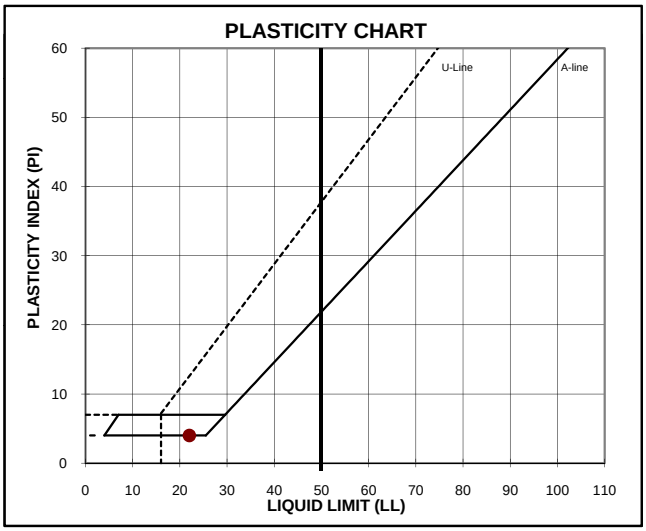
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-35** Depth (ft): **54-55**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**98.8**		
#4	4.75	**97.2**	Fine Gravel	**2.76**
#10	2.00	**96.0**	Coarse Sand	**1.21**
#20	0.85	**95.3**		
#40	0.43	**94.0**	Medium Sand	**2.08**
#60	0.25	**90.3**		
#100	0.15	**78.9**		
#200	0.08	**47.9**	Fine Sand	**46.05**
			Fines	**47.91**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
5.0	**22**	**18**	**4**	**-**

DESCRIPTION: Reddish brown silty, clayey sand

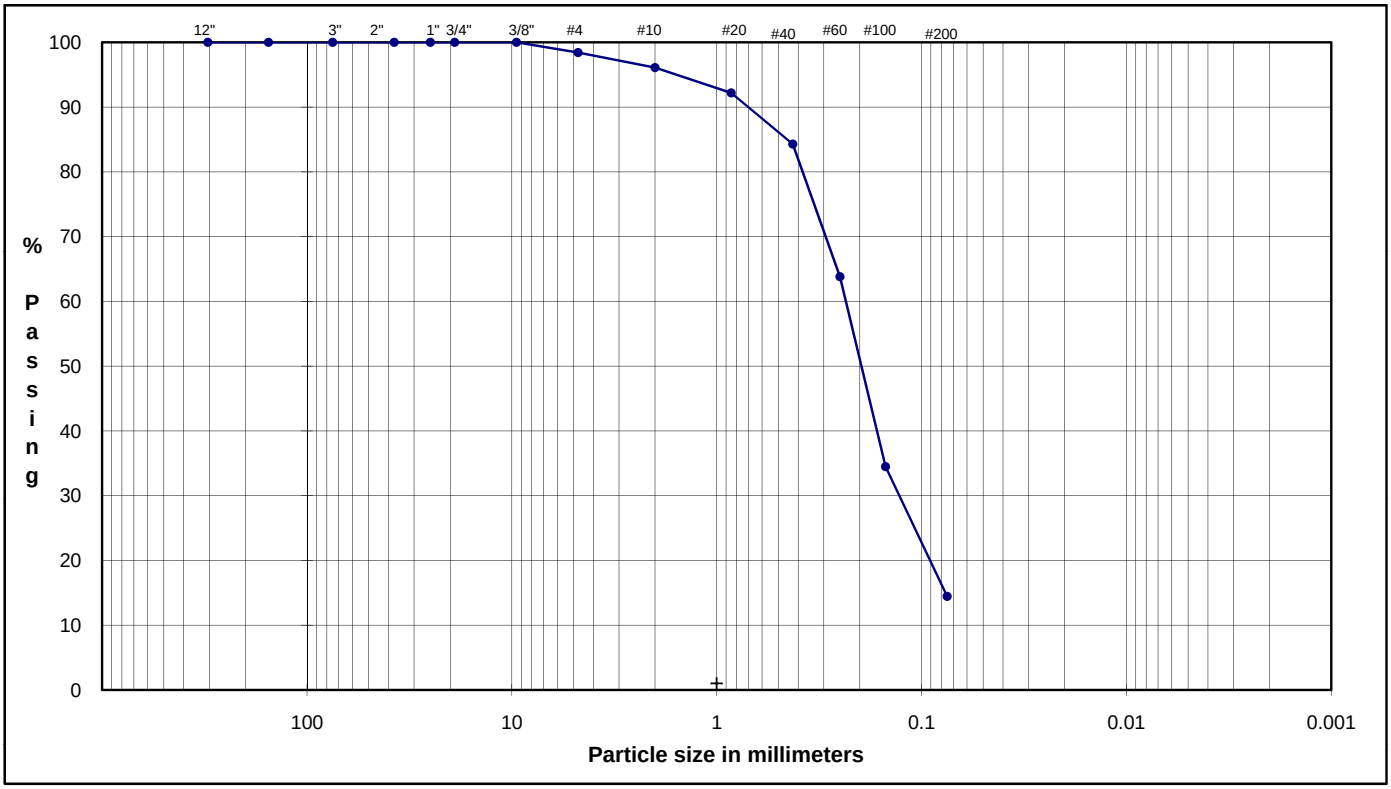
USCS: SC-SM

TECH	MKS
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

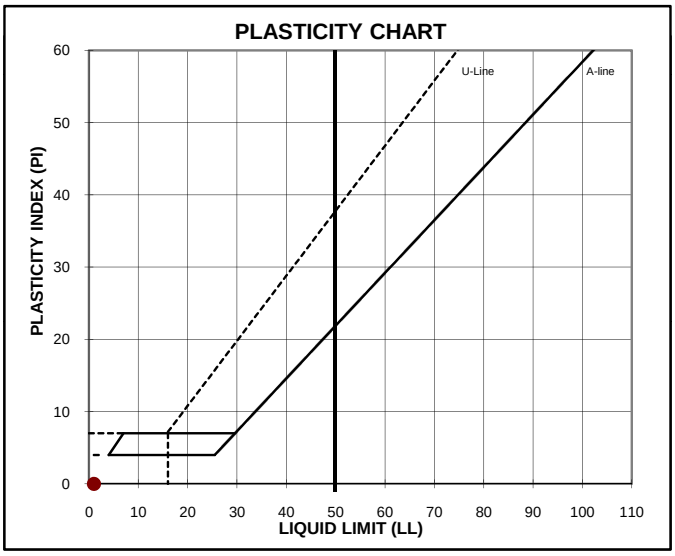
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-36** Depth (ft): **10.25-11**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**98.4**	Fine Gravel	**1.59**
#10	2.00	**96.1**	Coarse Sand	**2.32**
#20	0.85	**92.2**		
#40	0.43	**84.3**	Medium Sand	**11.80**
#60	0.25	**63.8**		
#100	0.15	**34.5**		
#200	0.08	**14.5**	Fine Sand	**69.83**
			Fines	**14.46**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	-

DESCRIPTION: Light brown silty sand

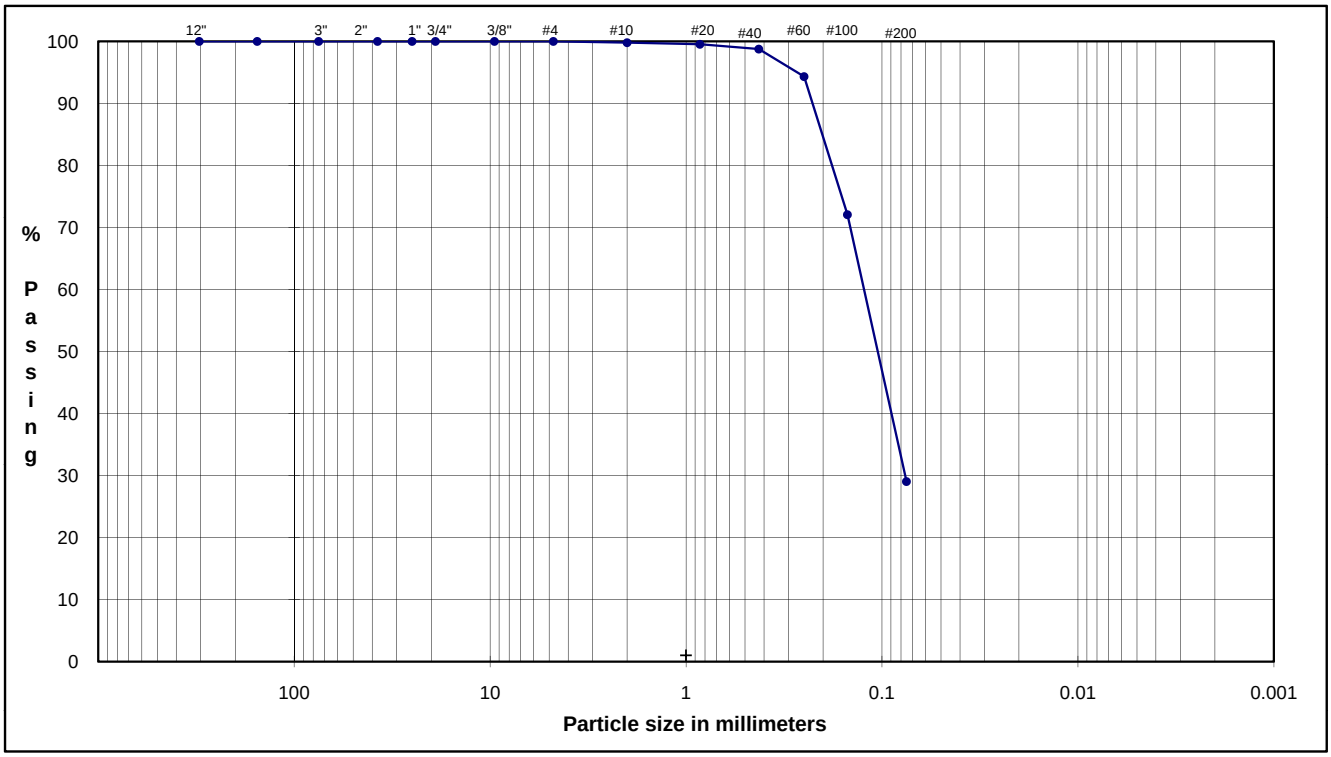
USCS: SM

TECH DS
DATE 12/18/07
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

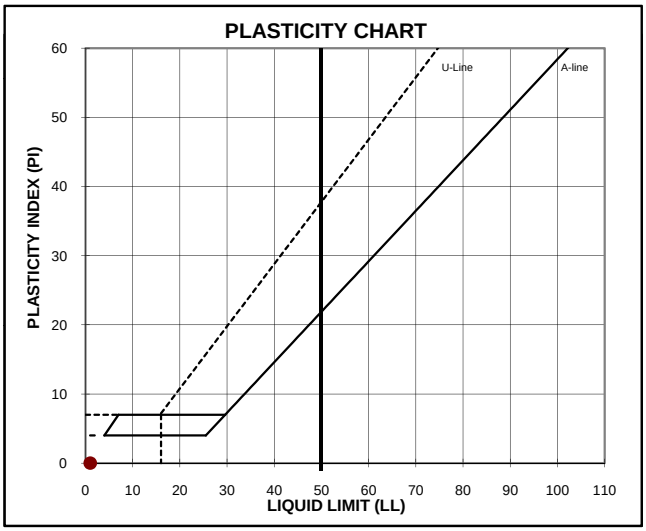
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-36** Depth (ft): **30-30.75**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.8**	Coarse Sand	**0.19**
#20	0.85	**99.5**		
#40	0.43	**98.8**	Medium Sand	**1.05**
#60	0.25	**94.3**		
#100	0.15	**72.1**		
#200	0.08	**29.0**	Fine Sand	**69.72**
			Fines	**29.04**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Strong brown silty sand

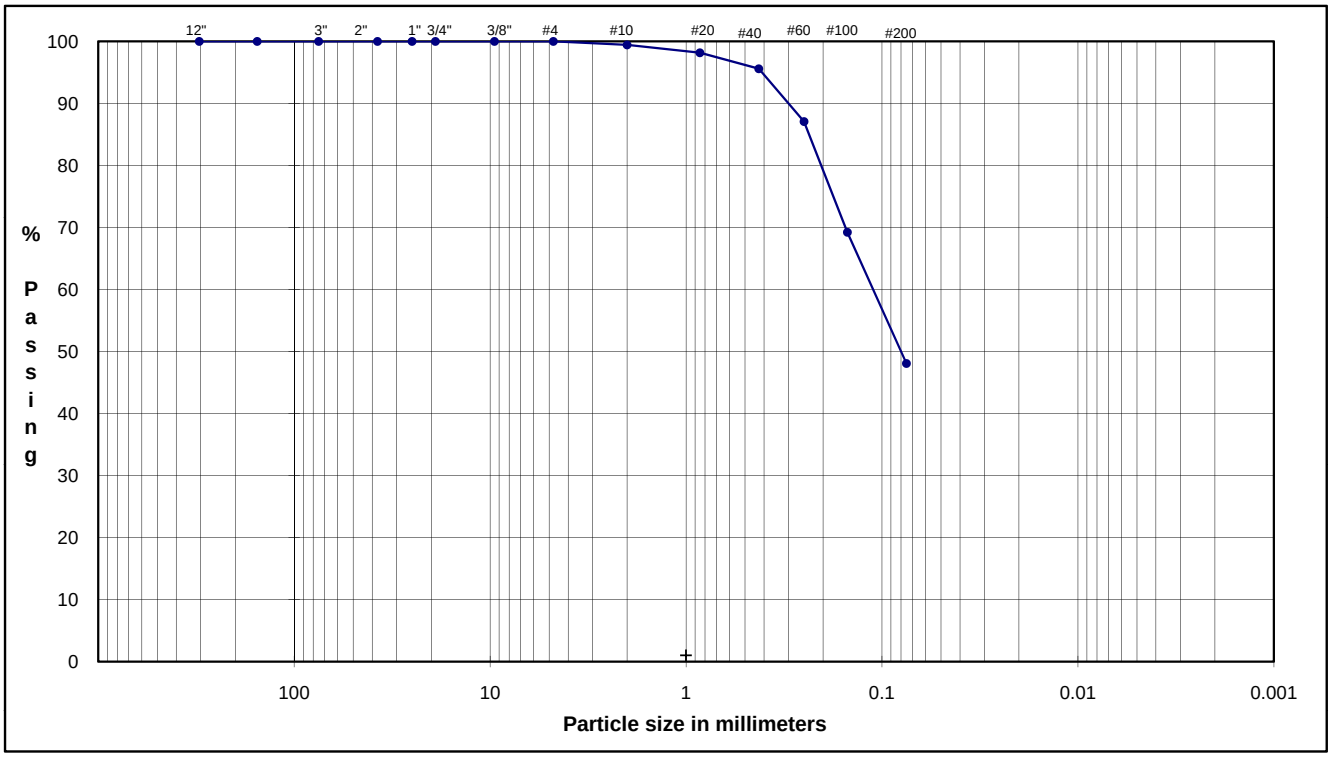
USCS: SM

TECH	DS
DATE	12/18/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

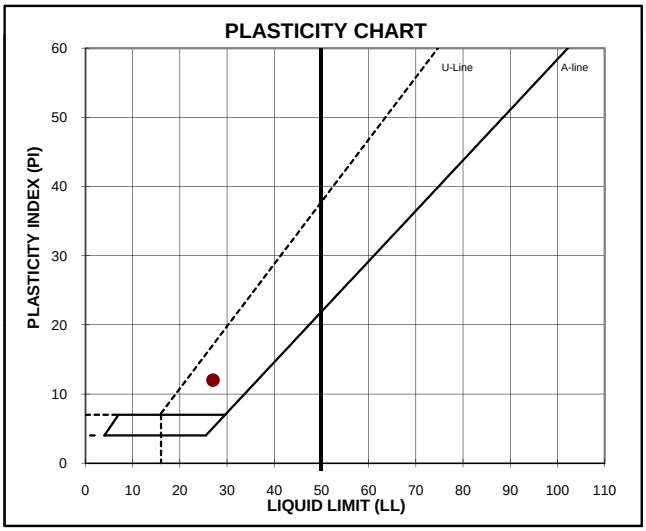
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-40** Depth (ft): **14-15**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.4**	Coarse Sand	**0.56**
#20	0.85	**98.2**		
#40	0.43	**95.6**	Medium Sand	**3.85**
#60	0.25	**87.1**		
#100	0.15	**69.2**		
#200	0.08	**48.1**	Fine Sand	**47.53**
			Fines	**48.06**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
6.4	**27**	**15**	**12**	**-**

DESCRIPTION: Pink clayey sand

USCS: SC

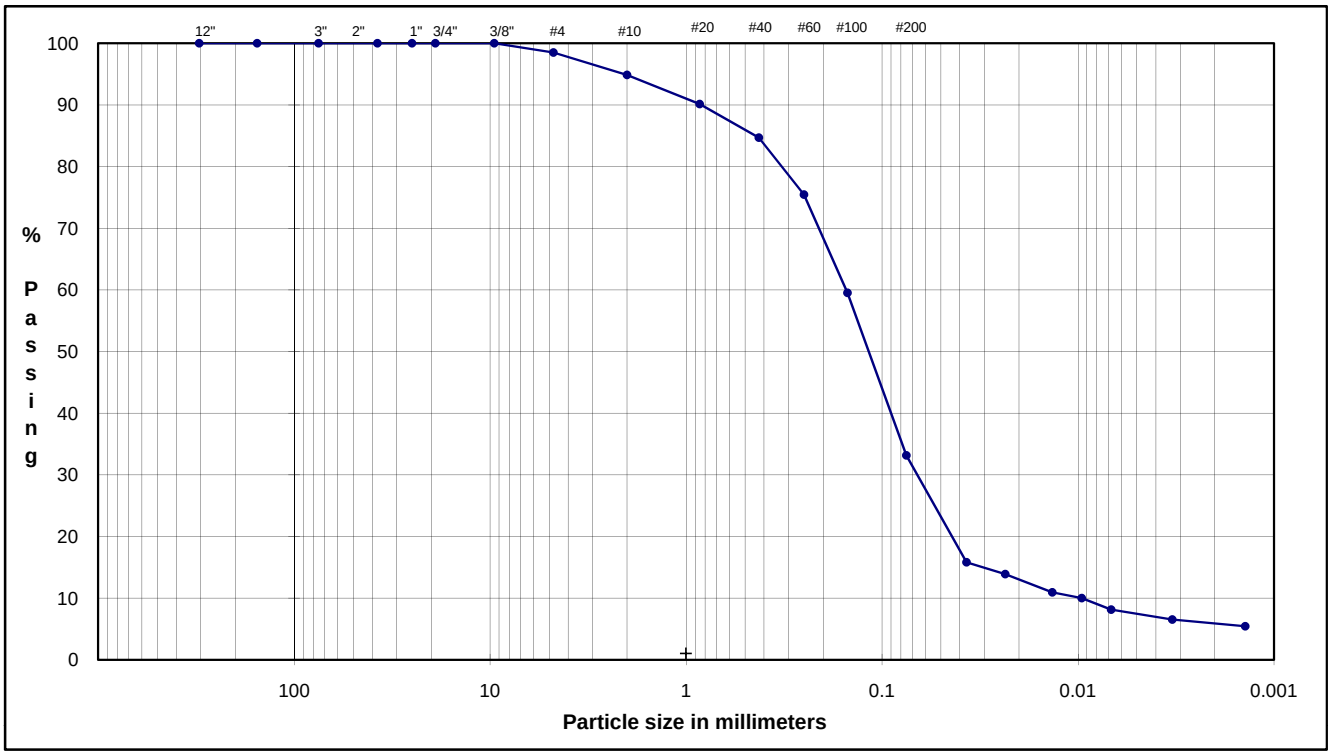
TECH	MKS
DATE	11/23/07
REVIEW	MB

November-07 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-40** Depth (ft): **34-35**
TYPE: **Tube**



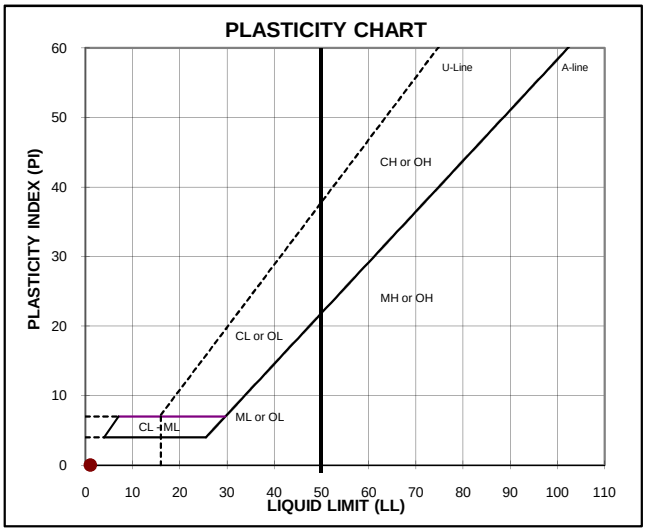
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**0.00**
0.75"	19.0	**100.0**		
0.375"	9.5	**100.0**		
#4	4.8	**98.5**	Fine Gravel	**1.53**
#10	2.00	**94.8**	Coarse Sand	**3.63**
#20	0.85	**90.2**		
#40	0.43	**84.7**	Medium Sand	**10.14**
#60	0.25	**75.5**		
#100	0.15	**59.5**		
#200	0.075	**33.1**	Fine Sand	**51.58**

Hydrometer Analysis

(mm)	%Finer		
0.037	**15.8**		
0.024	**13.9**		
0.014	**10.9**	Fines	
0.010	**10.0**	Silt or Clay	**33.13**
0.007	**8.1**		
0.003	**6.5**		
0.001	**5.4**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
--	--	--	--	**2.70**

DESCRIPTION: Yellowish red

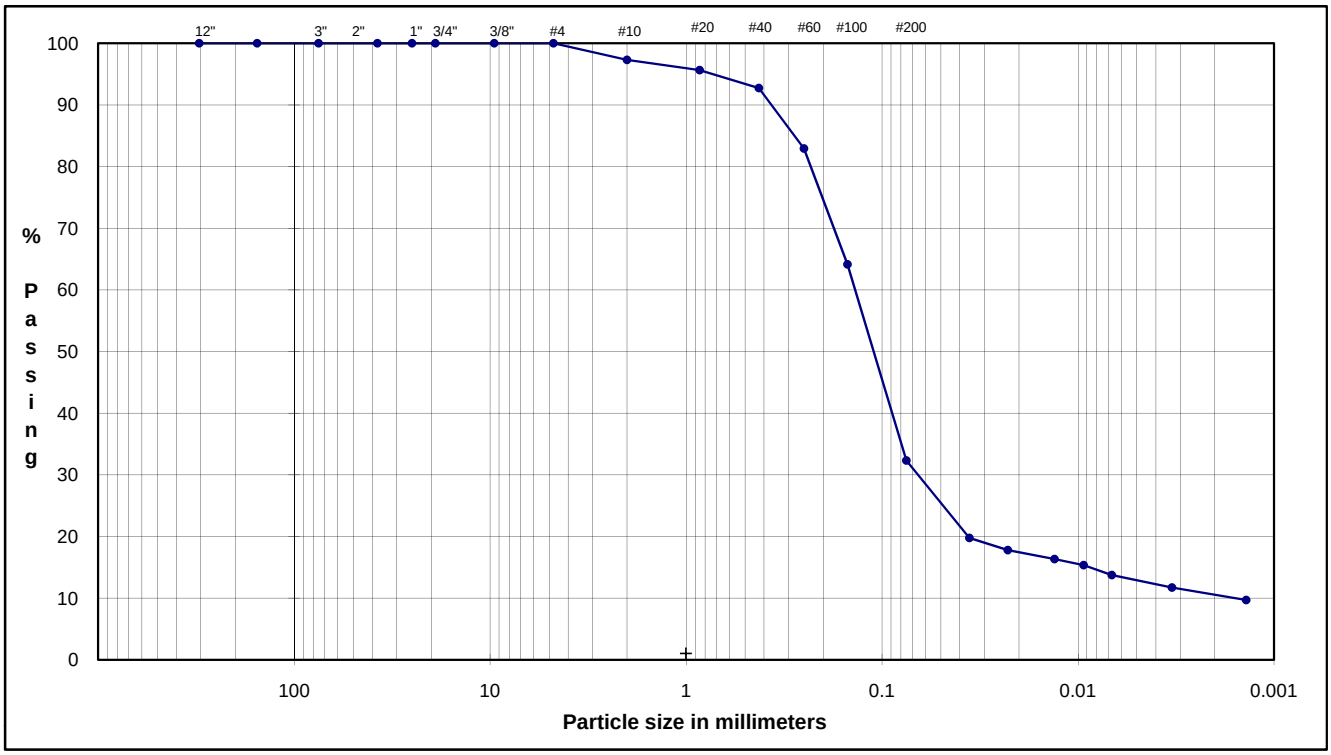
USCS: --

TECH CA
DATE 11/23/2007
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-41** Depth (ft): **24.3-25'**
TYPE: **Tube**



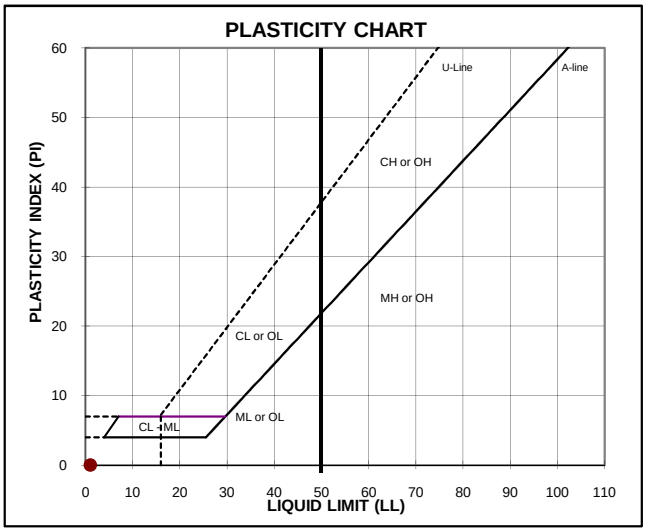
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**0.00**
0.75"	19.0	**100.0**		
0.375"	9.5	**100.0**		
#4	4.8	**100.0**	Fine Gravel	**0.00**
#10	2.00	**97.3**	Coarse Sand	**2.70**
#20	0.85	**95.7**		
#40	0.43	**92.7**	Medium Sand	**4.58**
#60	0.25	**82.9**		
#100	0.15	**64.1**		
#200	0.075	**32.3**	Fine Sand	**60.42**

Hydrometer Analysis

(mm)	%Finer		
0.036	**19.8**		
0.023	**17.8**		
0.013	**16.3**	Fines	
0.009	**15.3**	Silt or Clay	**32.30**
0.007	**13.7**		
0.003	**11.7**		
0.001	**9.7**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
2.5	**NP**	**NP**	**NP**	**2.70**

DESCRIPTION: Light reddish brown silty sand

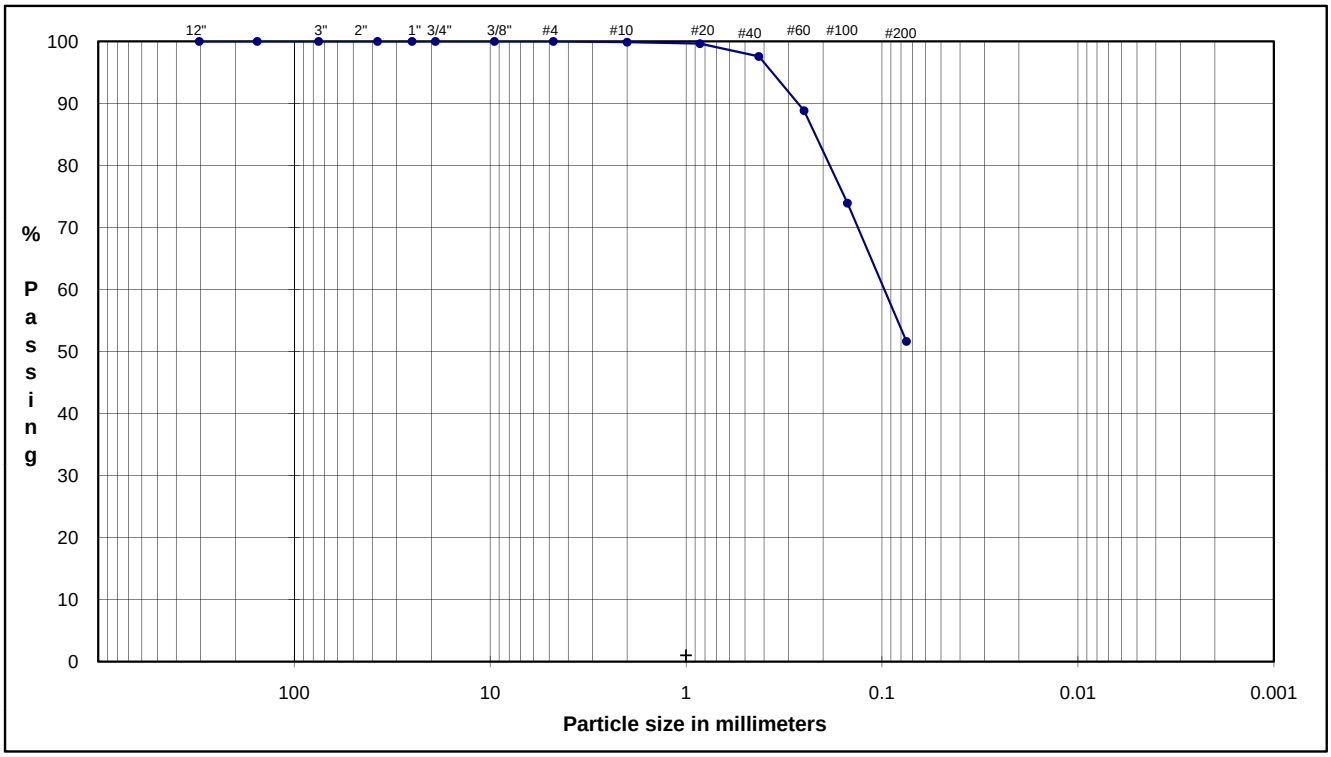
USCS: SM

TECH MKS
DATE 1/11/2008
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

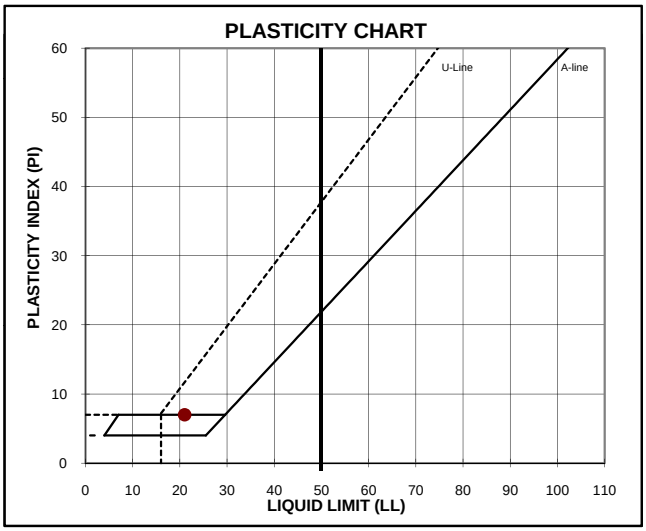
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-41** Depth (ft): **29.3-30'**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.13**
#20	0.85	**99.6**		
#40	0.43	**97.6**	Medium Sand	**2.30**
#60	0.25	**88.8**		
#100	0.15	**73.9**		
#200	0.08	**51.6**	Fine Sand	**45.95**
			Fines	**51.62**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.2	**21**	**14**	**7**	**-**

DESCRIPTION: Light brown sandy silty clay

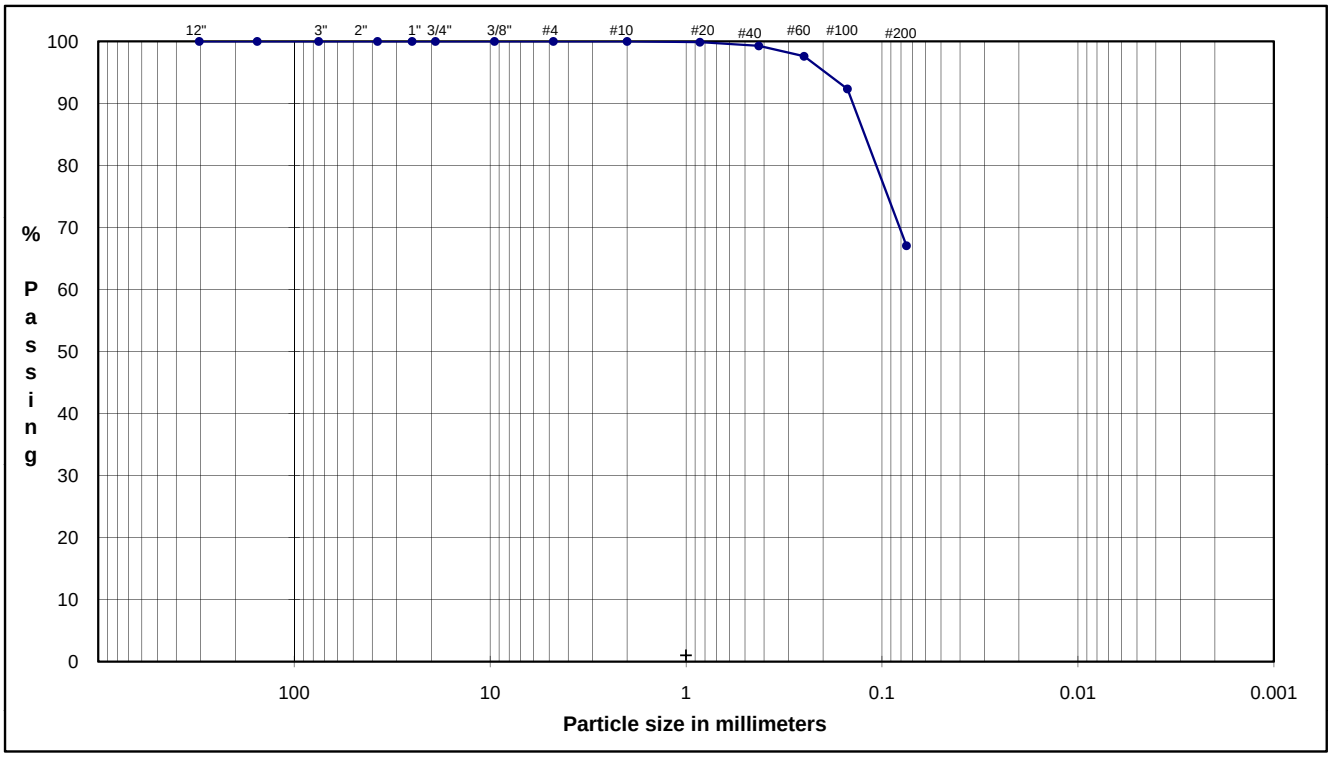
USCS: CL-ML

TECH	MKS
DATE	1/10/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

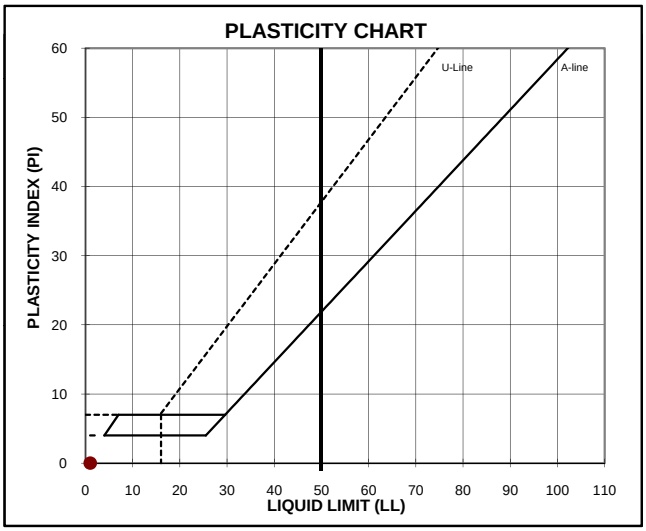
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-41** Depth (ft): **34.3-35'**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.01**
#20	0.85	**99.9**		
#40	0.43	**99.3**	Medium Sand	**0.72**
#60	0.25	**97.6**		
#100	0.15	**92.3**		
#200	0.08	**67.0**	Fine Sand	**32.24**
			Fines	**67.04**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.7	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Light brown sandy silt

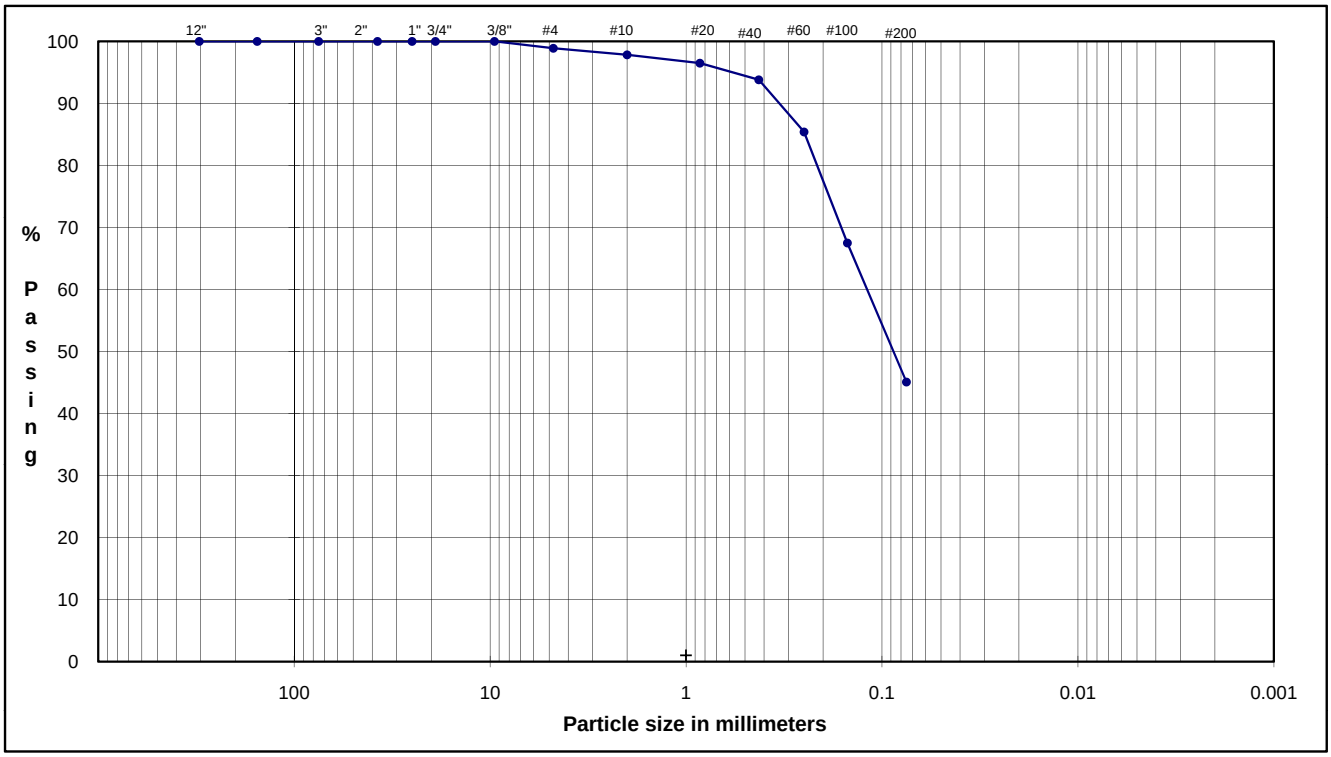
USCS: ML

TECH	MKS
DATE	1/10/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

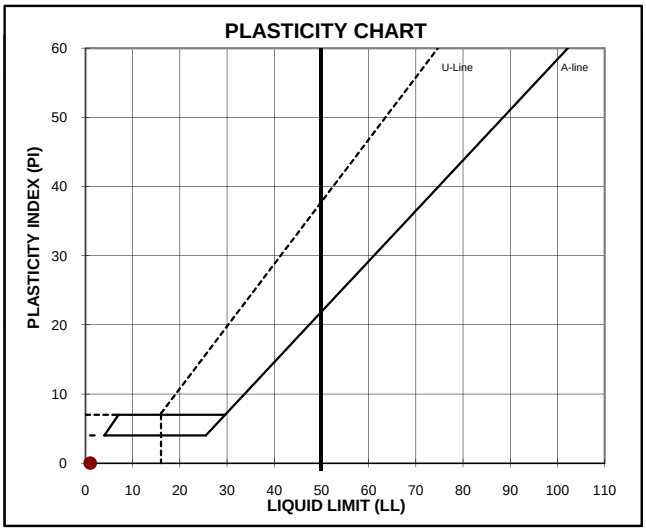
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-42** Depth (ft): **5.25-6'**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**98.9**	Fine Gravel	**1.10**
#10	2.00	**97.8**	Coarse Sand	**1.07**
#20	0.85	**96.5**		
#40	0.43	**93.8**	Medium Sand	**4.01**
#60	0.25	**85.4**		
#100	0.15	**67.5**		
#200	0.08	**45.1**	Fine Sand	**48.75**
			Fines	**45.07**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.9	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Brown silty sand

USCS: SM

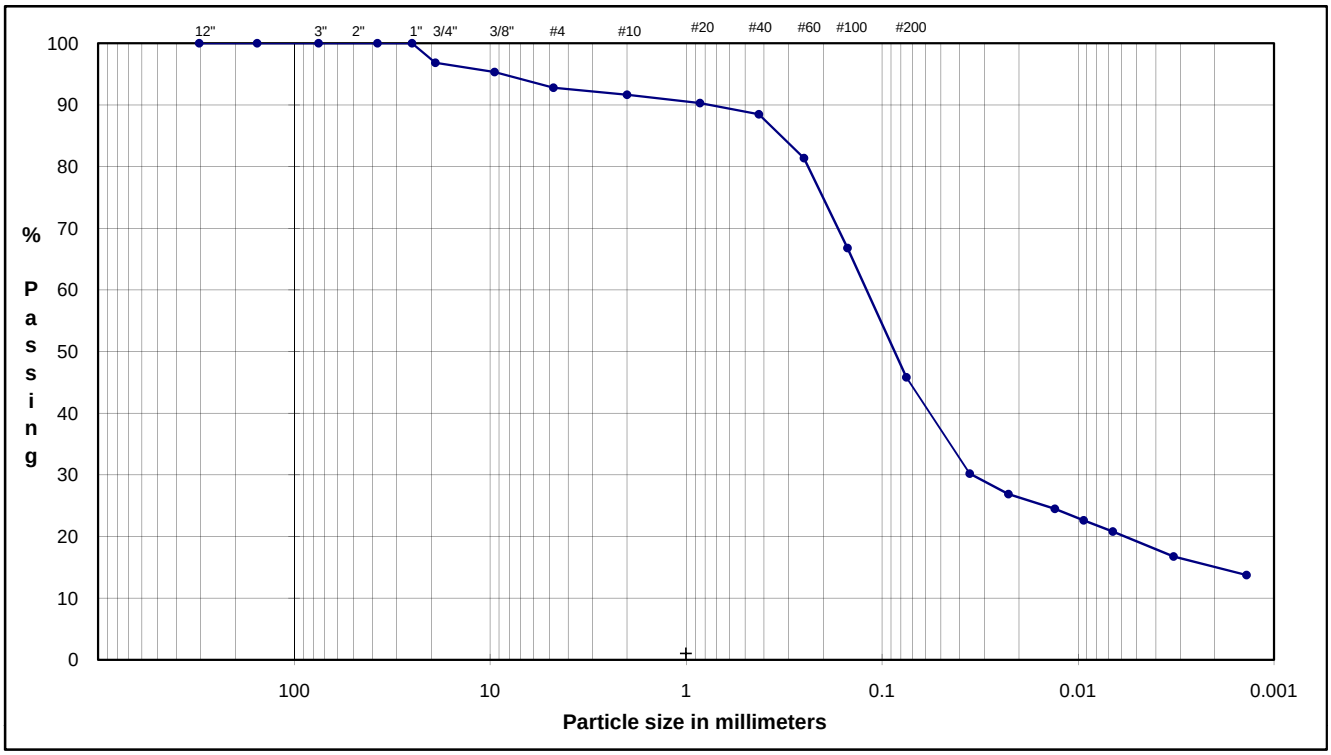
TECH	TES
DATE	1/10/08
REVIEW	MB

February-08 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-42** Depth (ft): **10-11'**
TYPE: **ST**



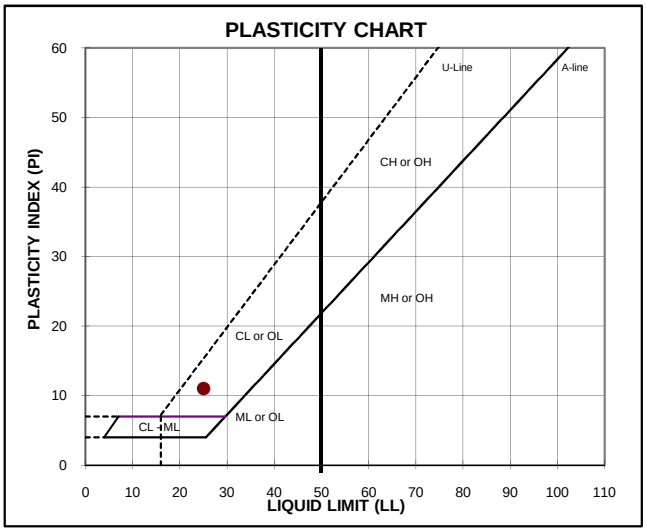
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**3.16**
0.75"	19.0	**96.8**		
0.375"	9.5	**95.3**		
#4	4.8	**92.8**	Fine Gravel	**4.05**
#10	2.00	**91.7**	Coarse Sand	**1.13**
#20	0.85	**90.3**		
#40	0.43	**88.5**	Medium Sand	**3.21**
#60	0.25	**81.4**		
#100	0.15	**66.8**		
#200	0.075	**45.8**	Fine Sand	**42.64**

Hydrometer Analysis

(mm)	%Finer		
0.036	**30.2**		
0.023	**26.9**		
0.013	**24.5**	Fines	
0.009	**22.6**	Silt or Clay	**45.81**
0.007	**20.8**		
0.003	**16.8**		
0.001	**13.7**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
5.3	**25**	**14**	**11**	**2.70**

DESCRIPTION: Light brown clayey sand

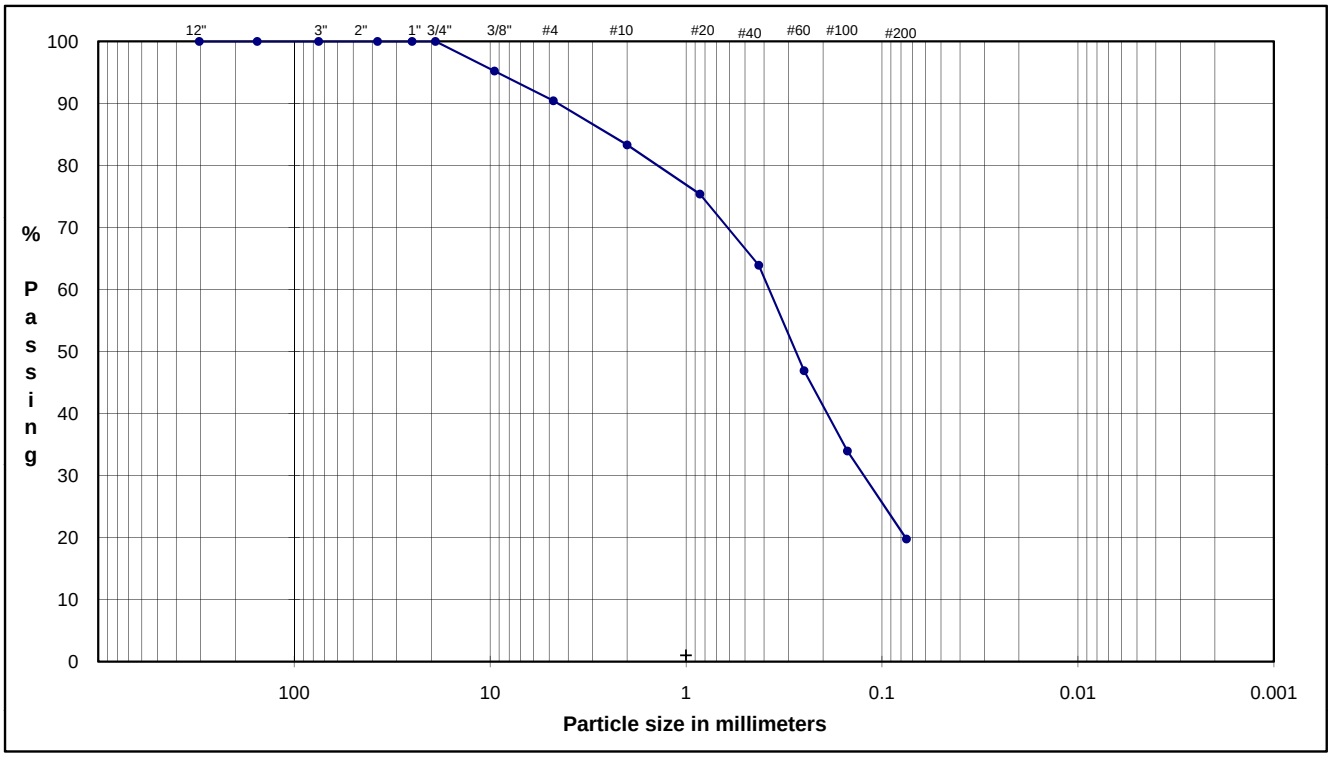
USCS: SC

TECH MKS
DATE 2/1/2008
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

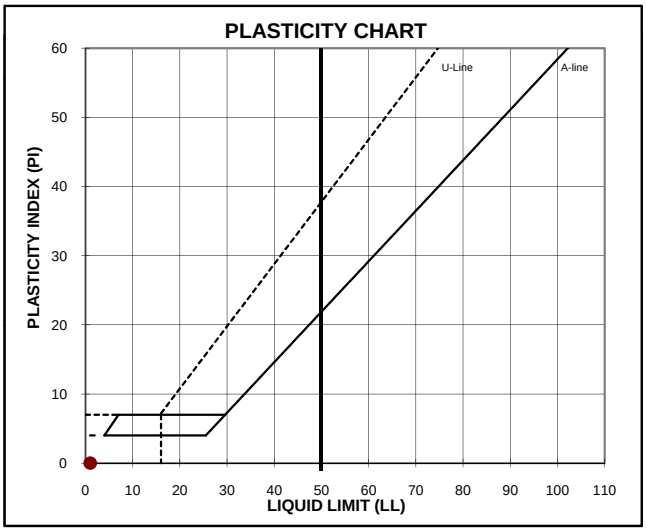
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-42** Depth (ft): **15.25-16'**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**95.2**		
#4	4.75	**90.4**	Fine Gravel	**9.57**
#10	2.00	**83.3**	Coarse Sand	**7.13**
#20	0.85	**75.4**		
#40	0.43	**63.9**	Medium Sand	**19.41**
#60	0.25	**46.9**		
#100	0.15	**33.9**		
#200	0.08	**19.8**	Fine Sand	**44.13**
			Fines	**19.76**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
1.5	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Light brown silty sand

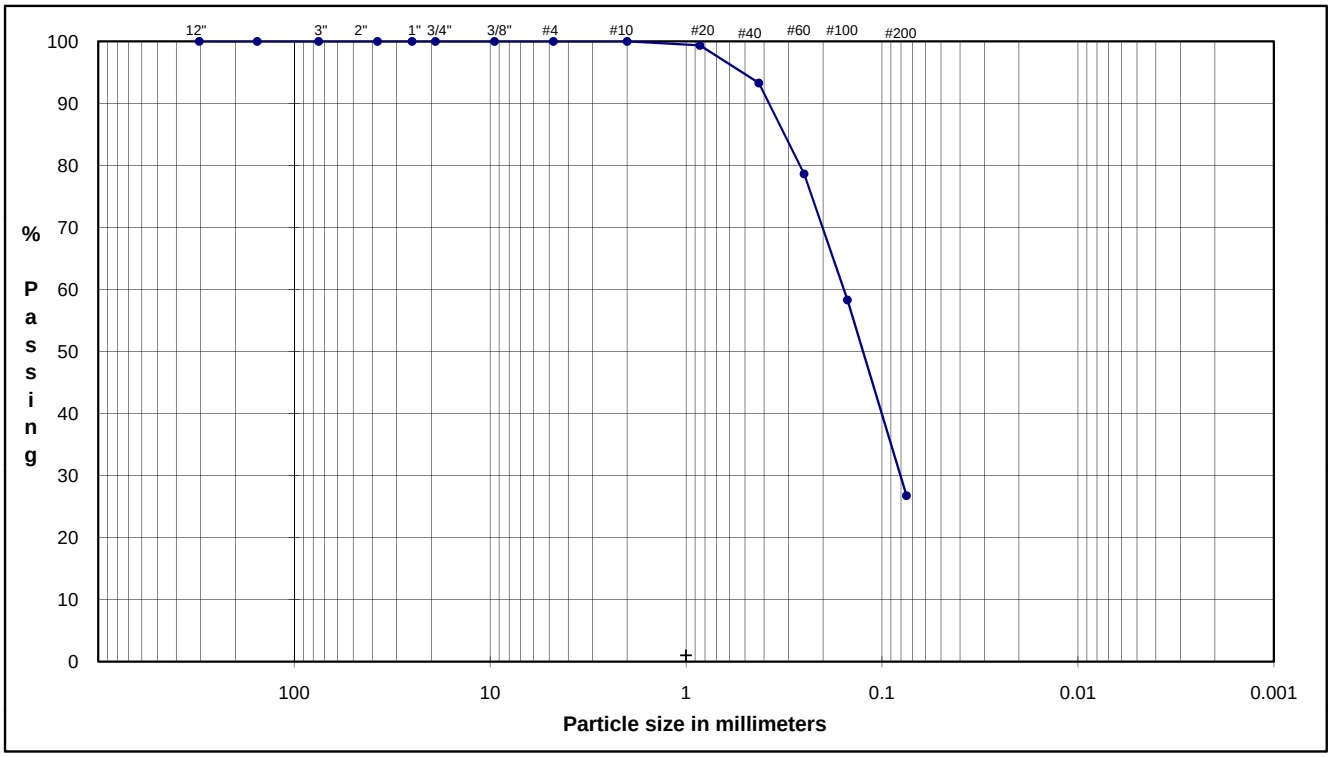
USCS: SM

TECH	TES
DATE	1/10/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

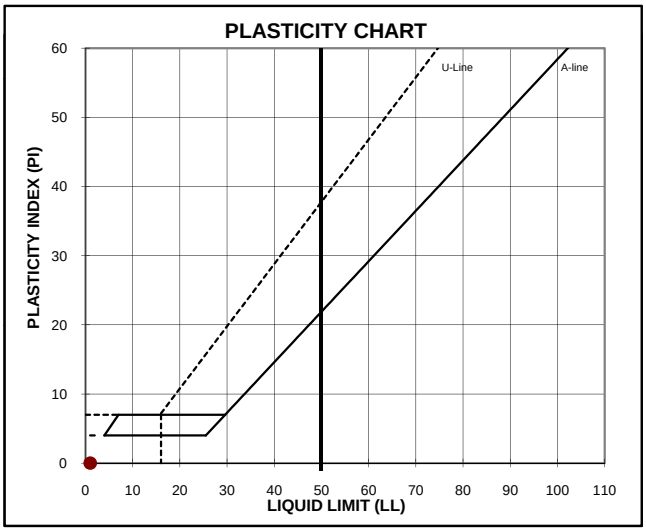
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-42** Depth (ft): **40.25-41'**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.00**
#20	0.85	**99.4**		
#40	0.43	**93.3**	Medium Sand	**6.70**
#60	0.25	**78.6**		
#100	0.15	**58.3**		
#200	0.08	**26.8**	Fine Sand	**66.54**
			Fines	**26.77**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
1.9	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Strong brown silty sand

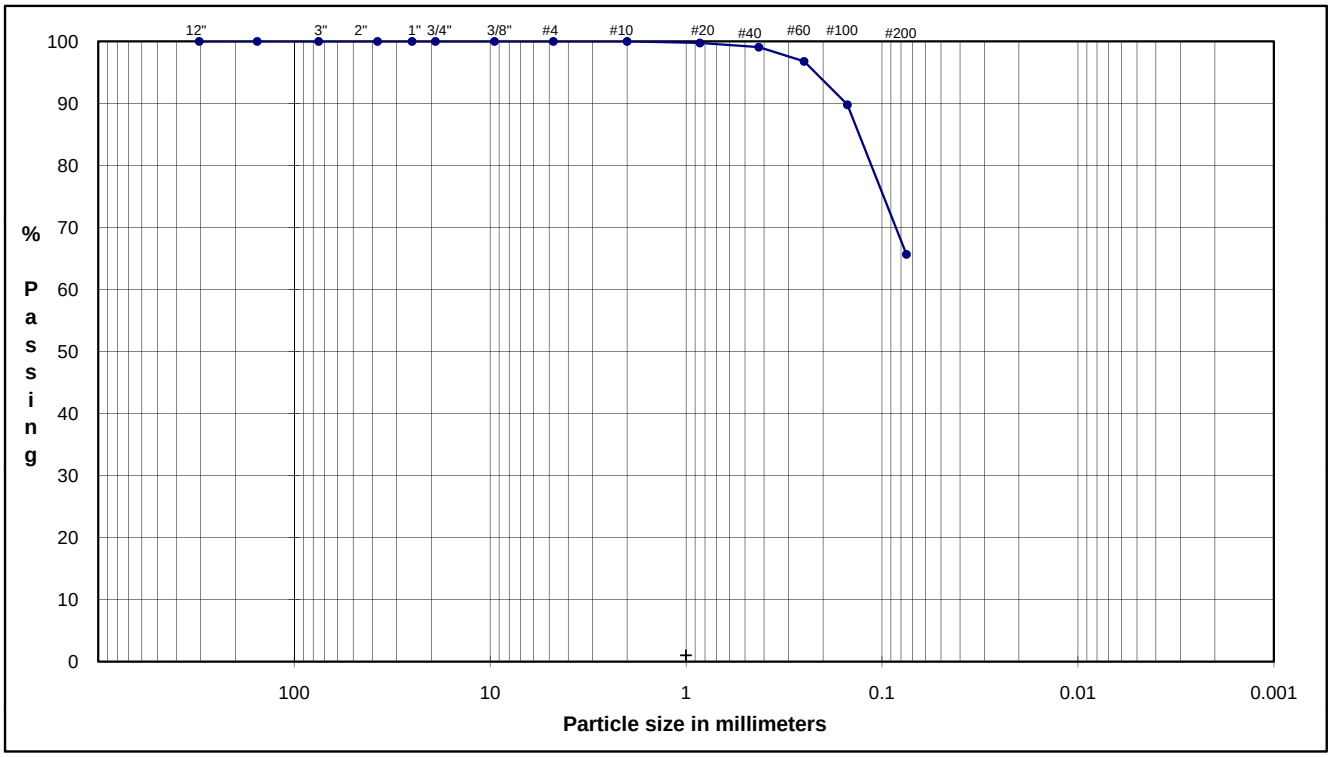
USCS: SM

TECH	TES
DATE	1/10/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

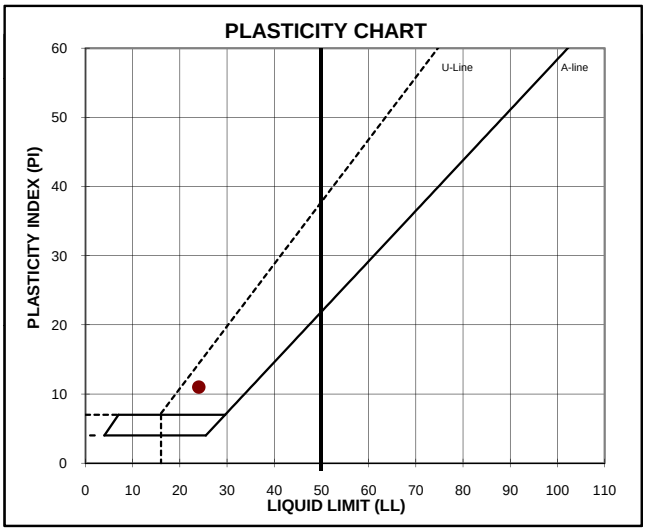
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-42** Depth (ft): **50-50.25'**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.00**
#20	0.85	**99.7**		
#40	0.43	**99.1**	Medium Sand	**0.92**
#60	0.25	**96.8**		
#100	0.15	**89.8**		
#200	0.08	**65.7**	Fine Sand	**33.41**
			Fines	**65.66**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
6.5	**24**	**13**	**11**	**-**

DESCRIPTION: Yellowish red sandy lean clay

USCS: CL

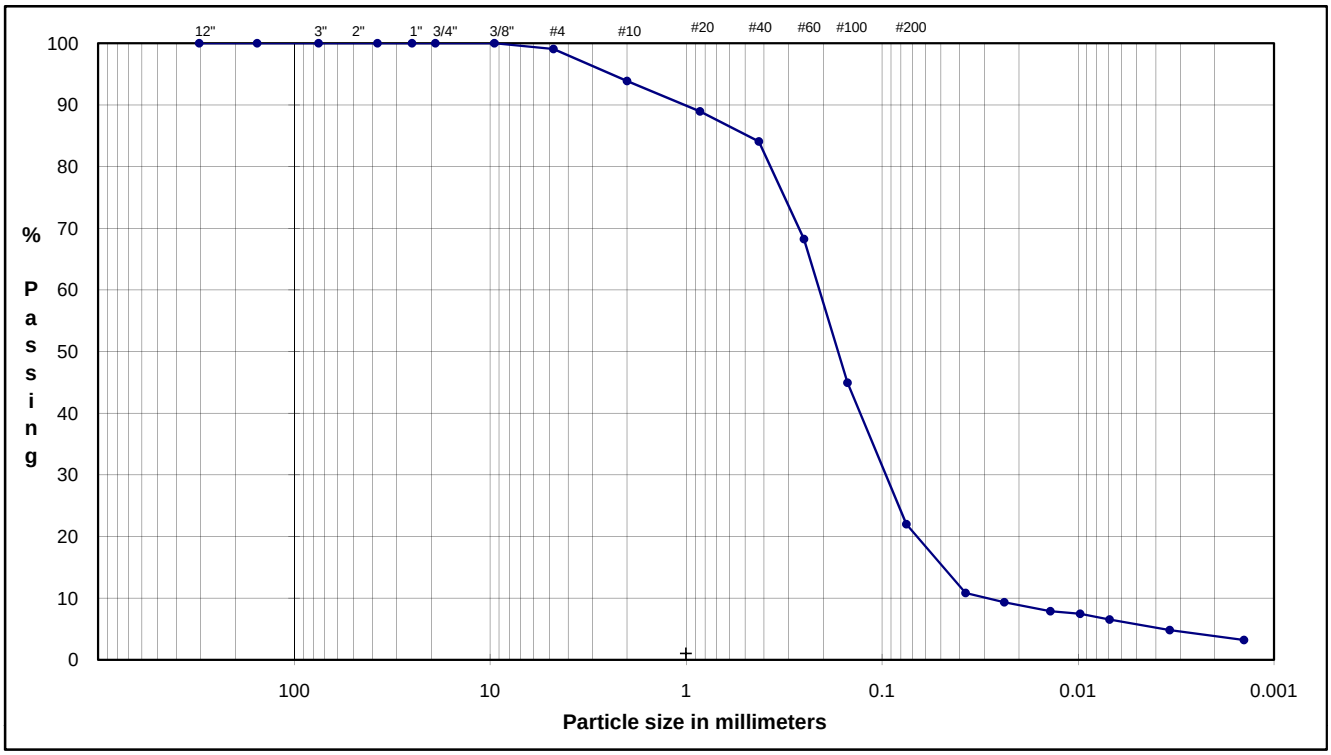
TECH	MKS
DATE	1/10/08
REVIEW	MB

February-08 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-47** Depth (ft): **2-3.5'**
TYPE: **ST**



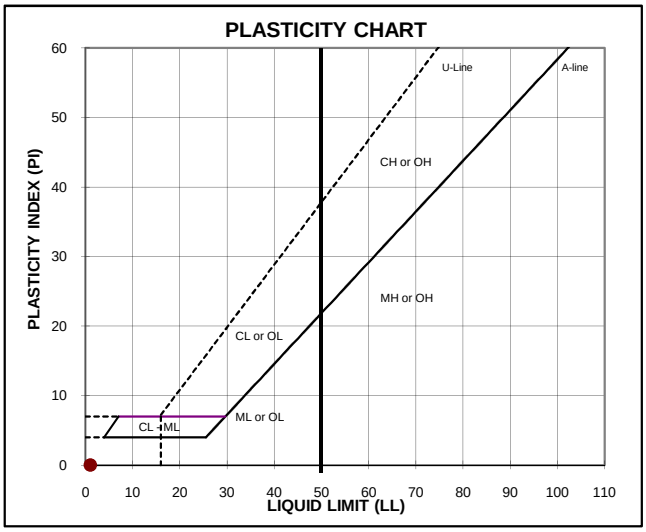
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**0.00**
0.75"	19.0	**100.0**		
0.375"	9.5	**100.0**		
#4	4.8	**99.1**	Fine Gravel	**0.92**
#10	2.00	**93.9**	Coarse Sand	**5.21**
#20	0.85	**88.9**		
#40	0.43	**84.1**	Medium Sand	**9.79**
#60	0.25	**68.2**		
#100	0.15	**44.9**		
#200	0.075	**22.0**	Fine Sand	**62.09**

Hydrometer Analysis

(mm)	%Finer		
0.037	**10.8**		
0.024	**9.3**		
0.014	**7.9**	Fines	
0.010	**7.5**	Silt or Clay	**21.98**
0.007	**6.5**		
0.003	**4.8**		
0.001	**3.2**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
1.6	**NP**	**NP**	**NP**	**2.70**

DESCRIPTION: Light brown silty sand

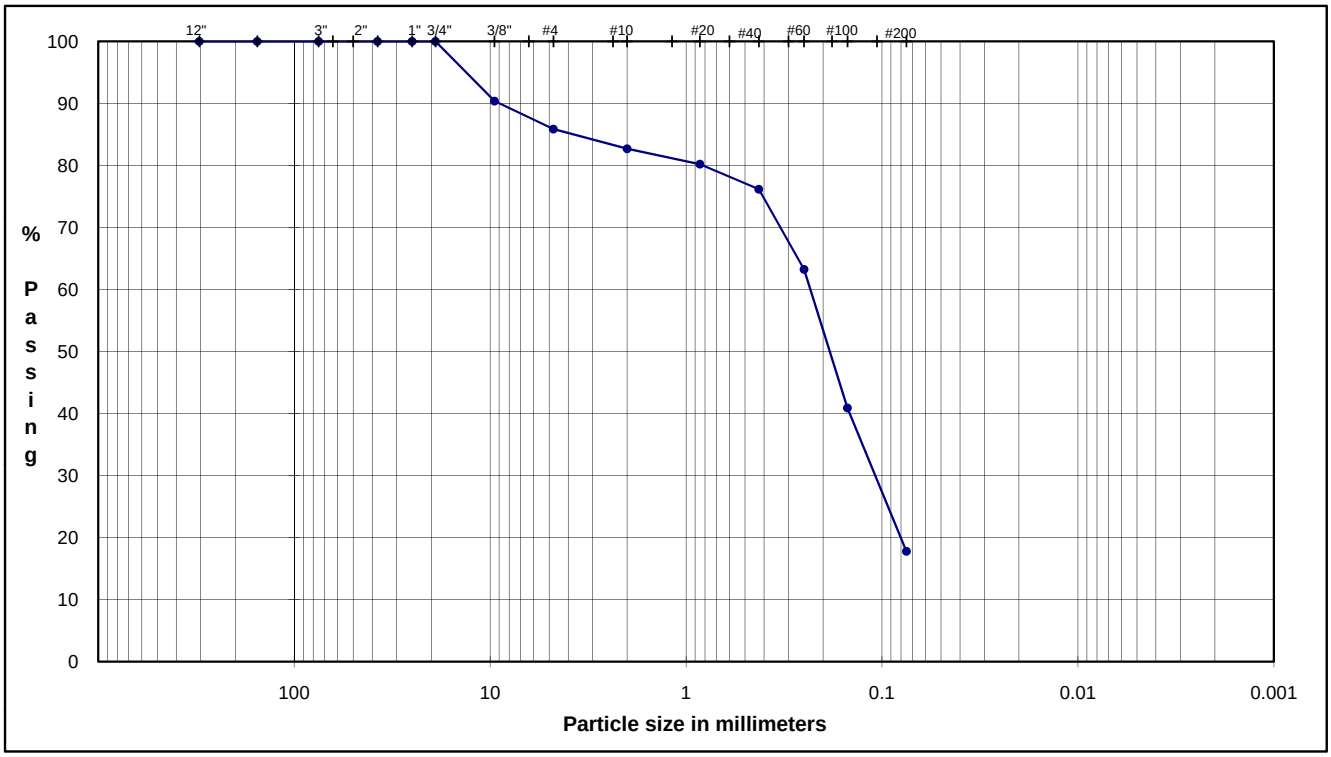
USCS: SM

TECH MKS
DATE 2/1/2008
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

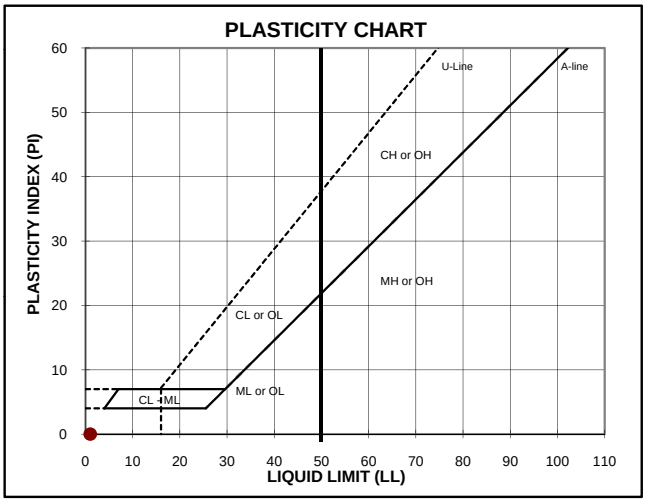
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-47** Depth (ft) **10.5-11**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**100.0**	Coarse Gravel	**0.00**
0.375"	9.5	**90.4**		
#4	4.8	**85.9**	Fine Gravel	**14.14**
#10	2.0	**82.7**	Coarse Sand	**3.17**
#20	0.9	**80.2**		
#40	0.4	**76.2**	Medium Sand	**6.52**
#60	0.3	**63.2**		
#100	0.2	**40.9**		
#200	0.1	**17.8**	Fine Sand	**58.39**
			Fines	**17.78**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.1	**NP**	**NP**	**NP**	**--**

DESCRIPTION: Yellowish red silty sand

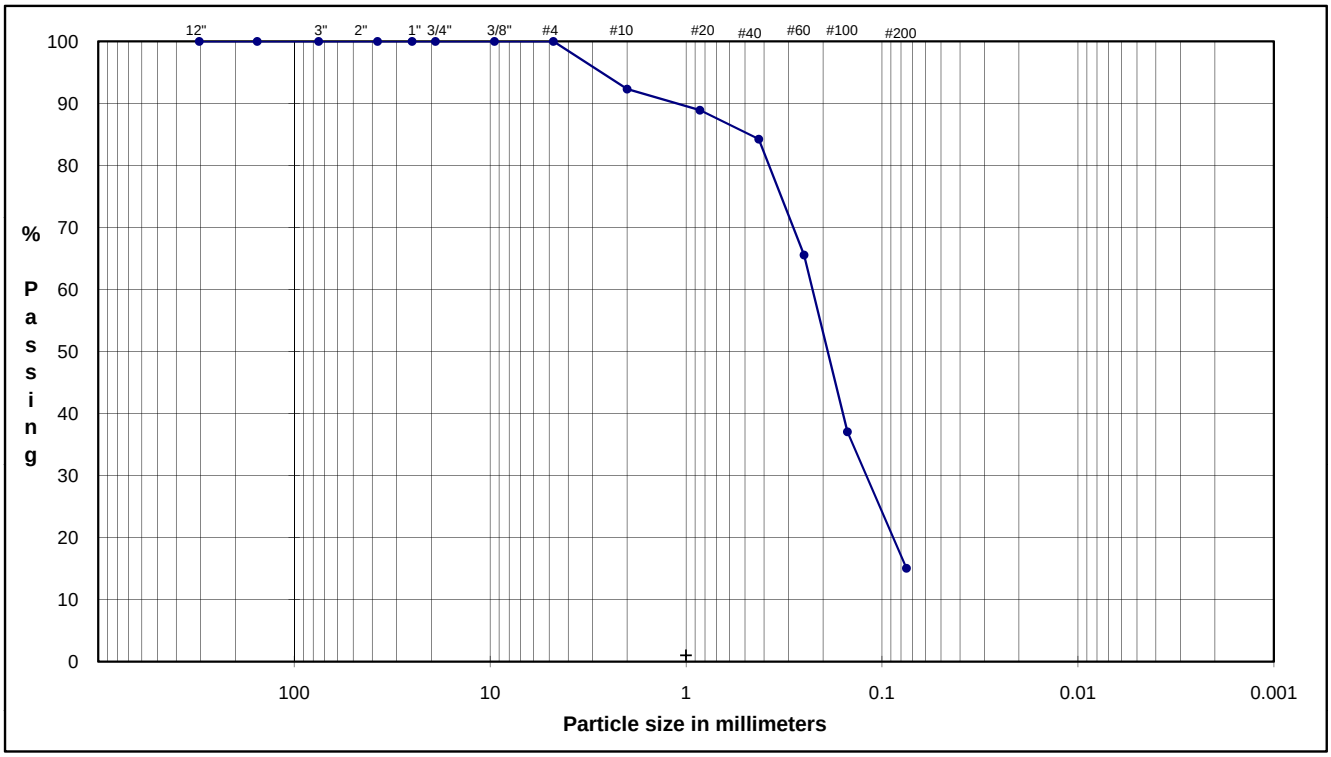
USCS: SM

TECH	DCS
DATE	11/16/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

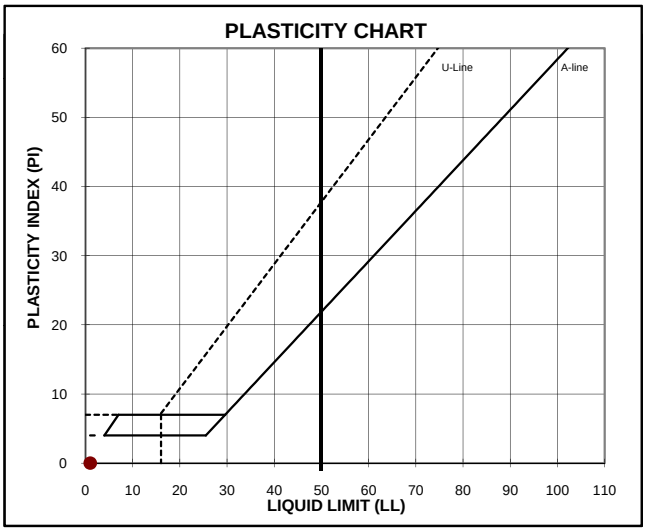
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-47** Depth (ft): **20.5-21**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**92.3**	Coarse Sand	**7.68**
#20	0.85	**88.9**		
#40	0.43	**84.2**	Medium Sand	**8.08**
#60	0.25	**65.6**		
#100	0.15	**37.0**		
#200	0.08	**15.0**	Fine Sand	**69.20**
			Fines	**15.04**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
1.6	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Yellowish red silty sand

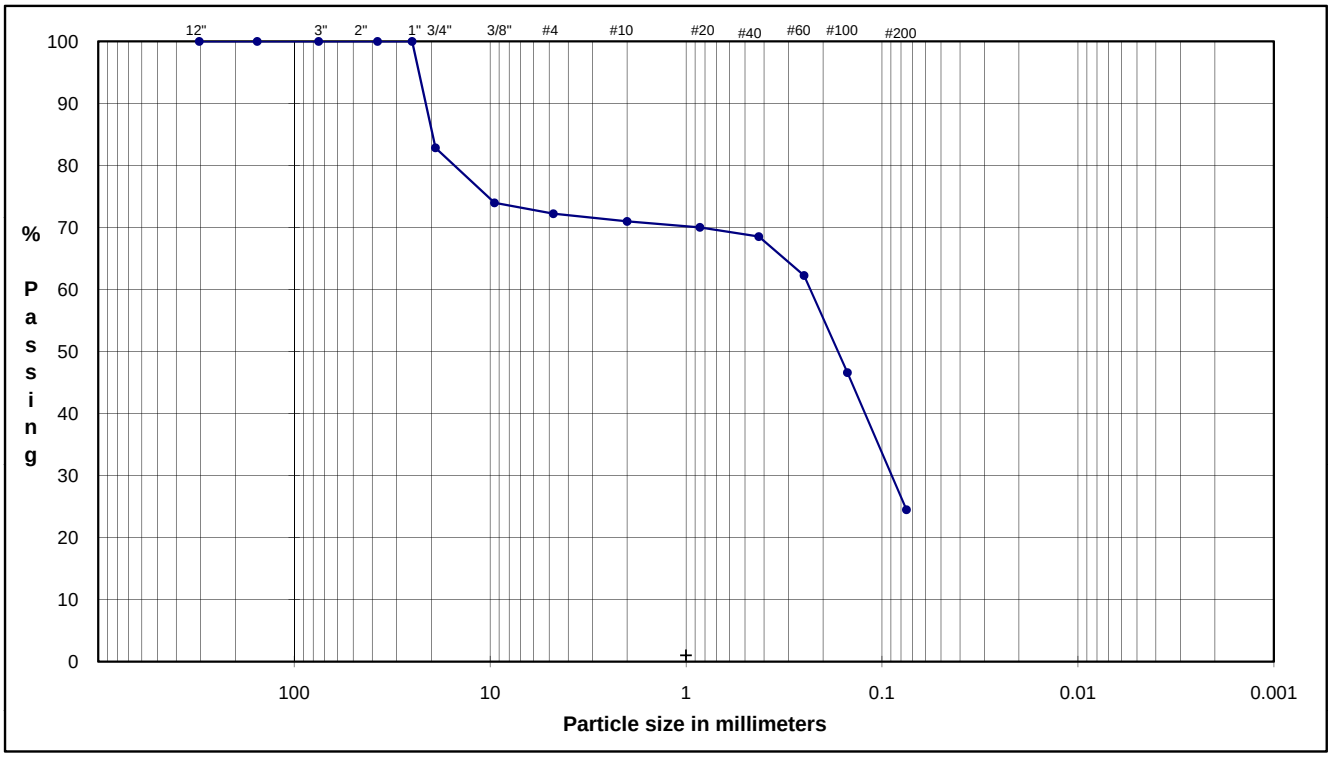
USCS: SM

TECH	CA
DATE	11/21/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

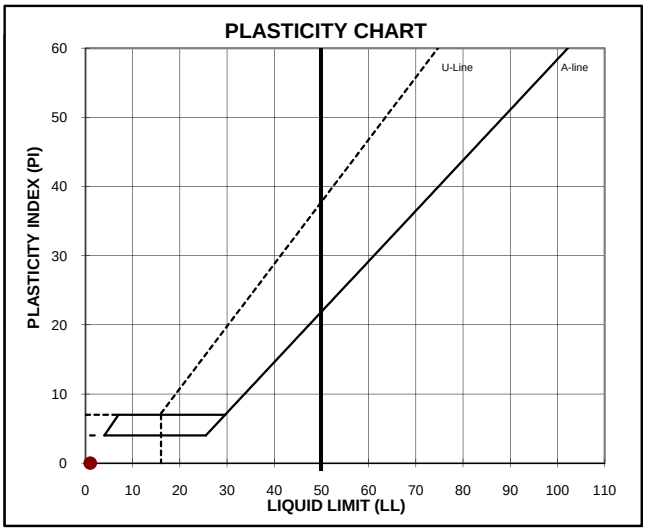
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-47** Depth (ft): **25.5-26'**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**17.17**
0.75"	19.00	**82.8**		
0.375"	9.50	**74.0**		
#4	4.75	**72.2**	Fine Gravel	**10.62**
#10	2.00	**71.0**	Coarse Sand	**1.23**
#20	0.85	**70.0**		
#40	0.43	**68.5**	Medium Sand	**2.46**
#60	0.25	**62.2**		
#100	0.15	**46.6**		
#200	0.08	**24.5**	Fine Sand	**44.04**
			Fines	**24.48**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.5	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Yellowish red silty sand with gravel

USCS: SM

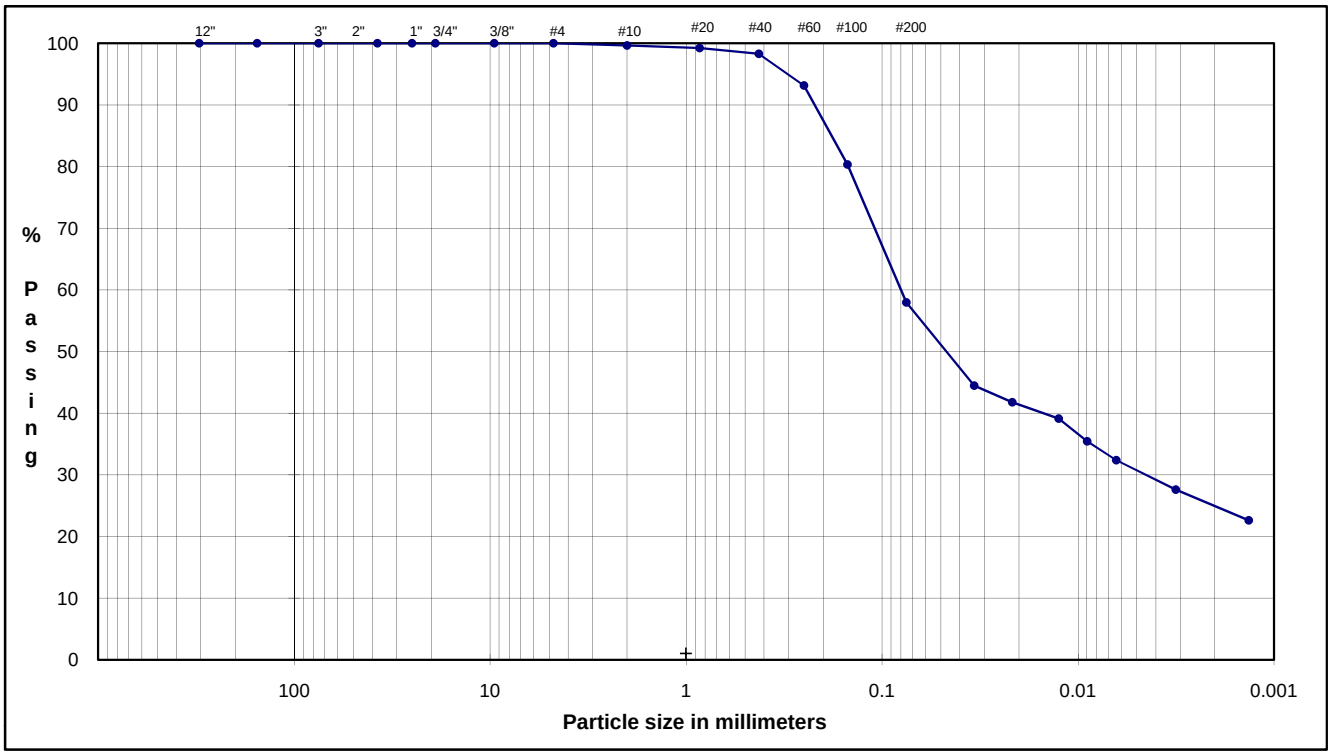
TECH	MKS
DATE	1/10/08
REVIEW	MB

December-07 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-48** Depth (ft): **5.5-5.7**
TYPE: **Tube**



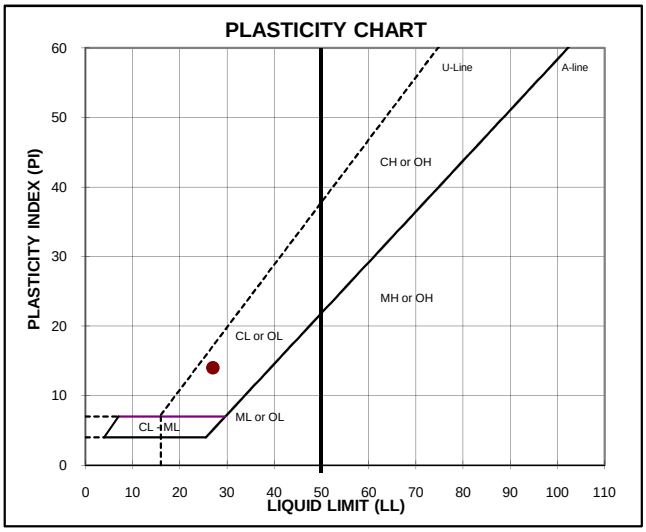
COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
12.0"	304.8	**100.0**	Cobbles	**0.00**
6.0"	154.2	**100.0**		
6.0"	154.2	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**	Coarse Gravel	**0.00**
0.75"	19.0	**100.0**		
0.375"	9.5	**100.0**		
#4	4.8	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.6**	Coarse Sand	**0.36**
#20	0.85	**99.2**		
#40	0.43	**98.3**	Medium Sand	**1.37**
#60	0.25	**93.1**		
#100	0.15	**80.3**		
#200	0.075	**58.0**	Fine Sand	**40.29**

Hydrometer Analysis

(mm)	%Finer		
0.034	**44.5**		
0.022	**41.8**		
0.013	**39.1**	Fines	
0.009	**35.4**	Silt or Clay	**57.98**
0.006	**32.4**		
0.003	**27.6**		
0.001	**22.6**		



ATTERBERG LIMITS

M_c	LL	PL	PI	SpG (assumed)
6.9	**27**	**13**	**14**	**2.70**

DESCRIPTION: Yellowish red sandy lean clay

USCS: CL

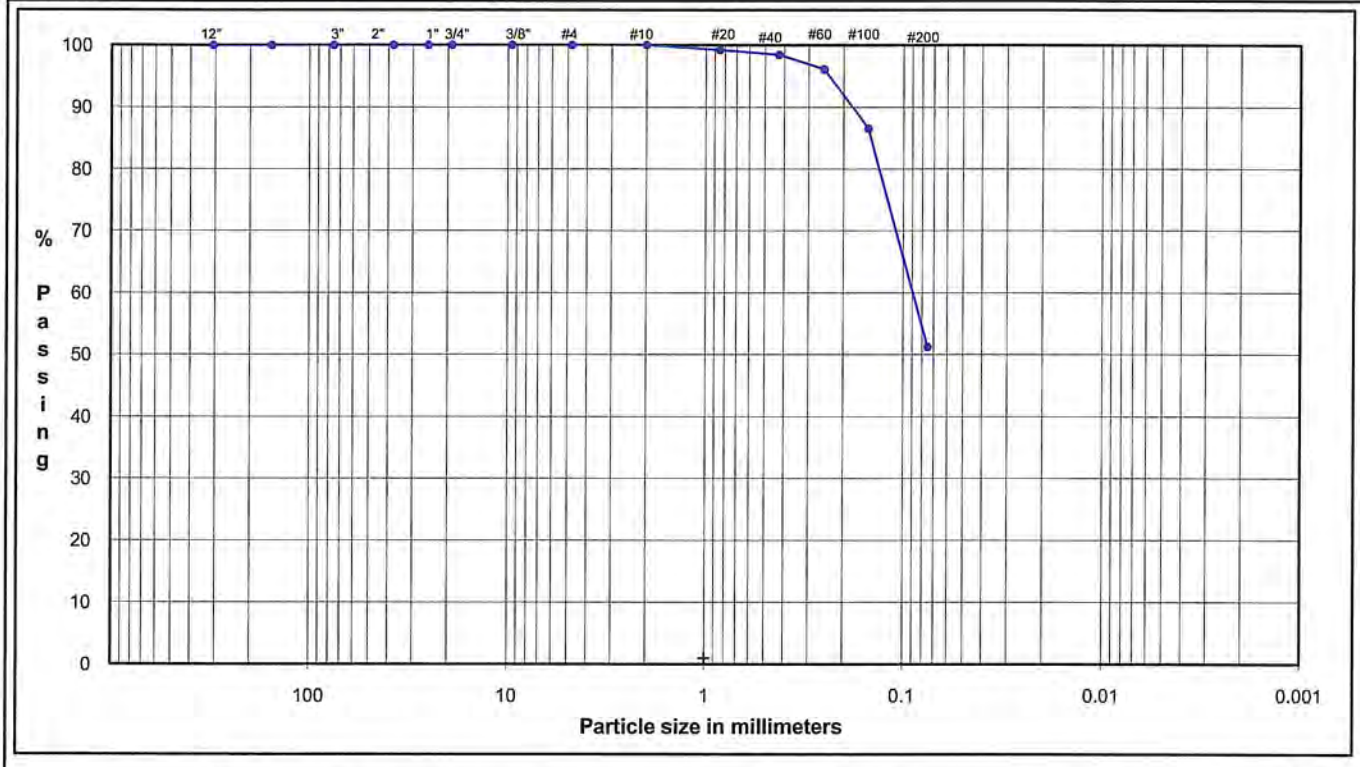
TECH CA
DATE 12/6/2007
REVIEW MB

November-07 073-81694

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

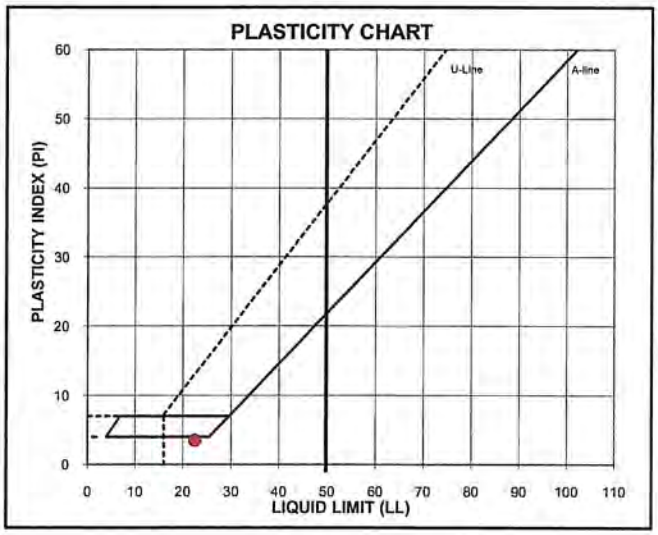
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-48** Depth (ft): **15.5-16**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.00**
#20	0.85	**99.2**		
#40	0.43	**98.5**	Medium Sand	**1.54**
#60	0.25	**96.1**		
#100	0.15	**86.6**		
#200	0.08	**51.3**	Fine Sand	**47.15**
			Fines	**51.30**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
4.3	**23**	**19**	**4**	**-**

DESCRIPTION: Strong brown sandy silty clay

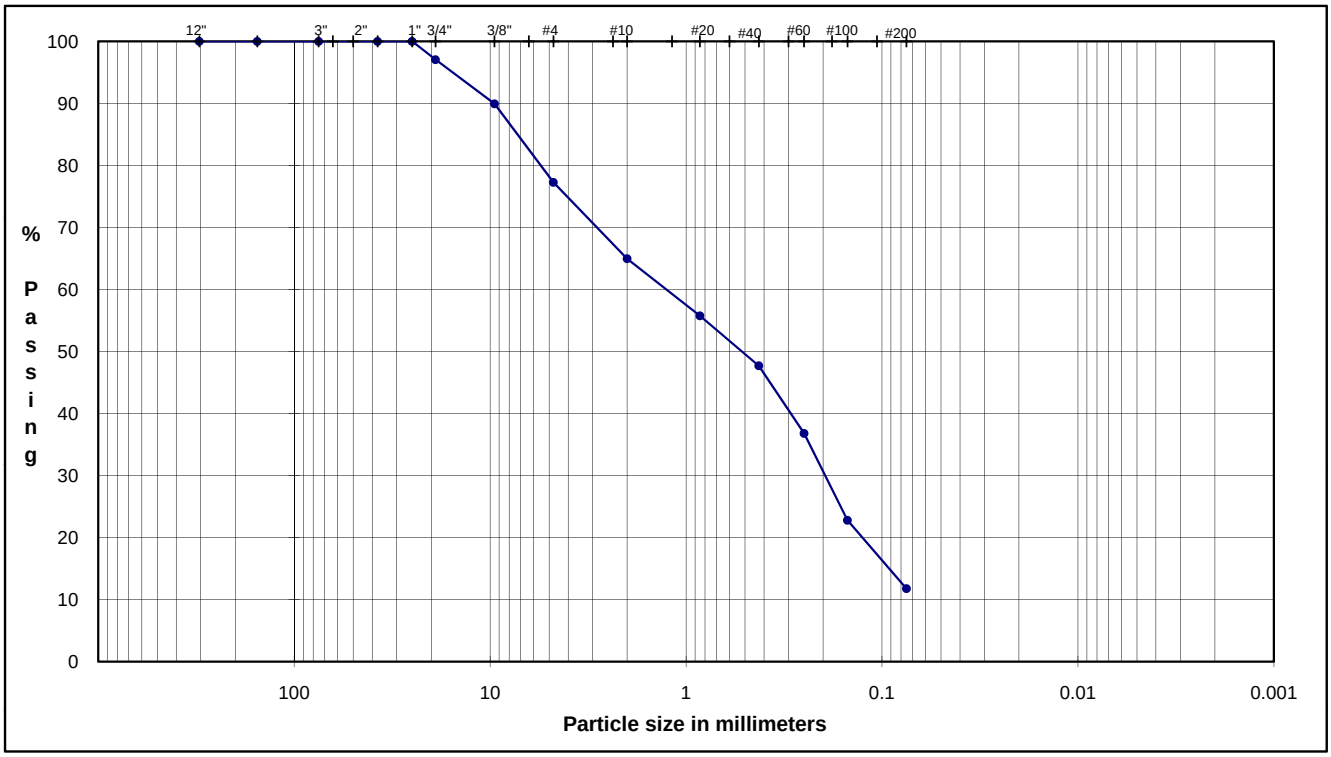
USCS: CL-ML

TECH	CA
DATE	12/6/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

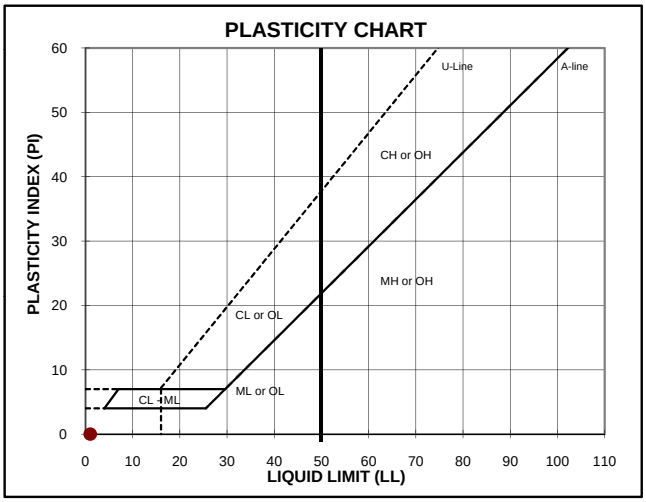
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-48** Depth (ft) **25.5-26**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**97.1**	Coarse Gravel	**2.95**
0.375"	9.5	**89.9**		
#4	4.8	**77.3**	Fine Gravel	**19.78**
#10	2.0	**65.0**	Coarse Sand	**12.31**
#20	0.9	**55.8**		
#40	0.4	**47.7**	Medium Sand	**17.26**
#60	0.3	**36.8**		
#100	0.2	**22.8**		
#200	0.1	**11.8**	Fine Sand	**35.93**
			Fines	**11.77**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**NP**	**NP**	**NP**	--

DESCRIPTION: Reddish brown poorly graded sand with silt and gravel

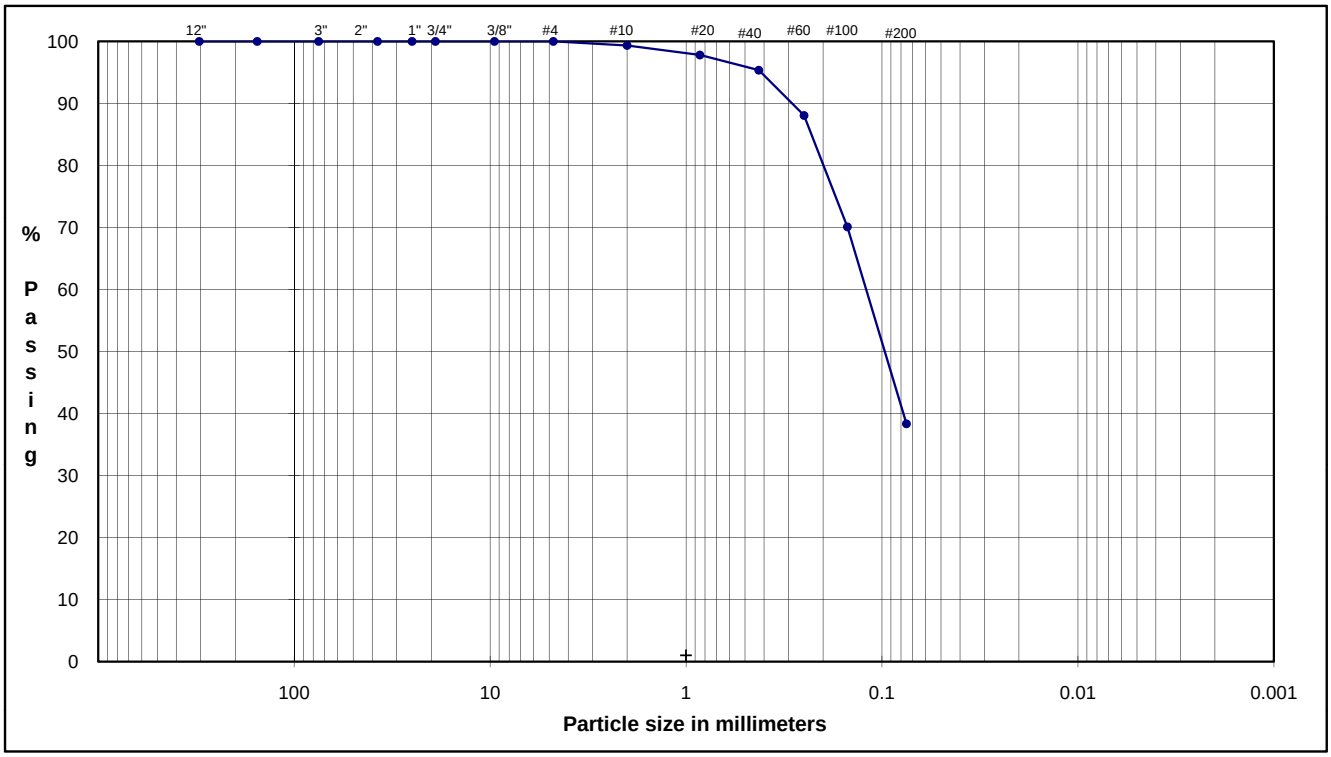
USCS: SP-SM

TECH	CA
DATE	11/21/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

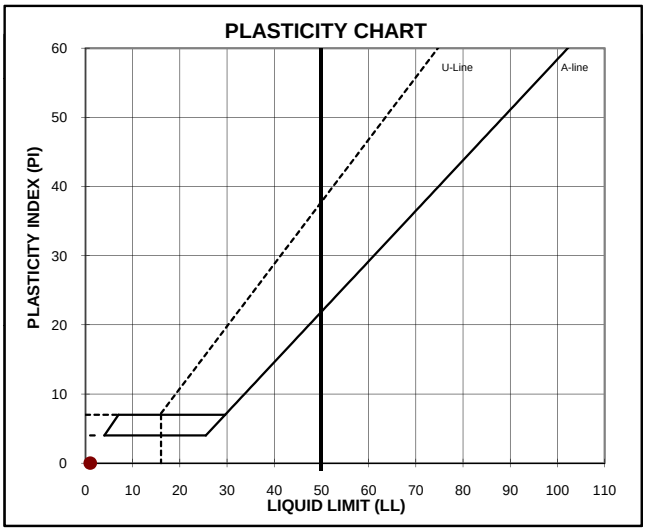
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-48** Depth (ft): **35.5-36**
TYPE: **Tube**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.3**	Coarse Sand	**0.66**
#20	0.85	**97.8**		
#40	0.43	**95.4**	Medium Sand	**3.98**
#60	0.25	**88.1**		
#100	0.15	**70.1**		
#200	0.08	**38.3**	Fine Sand	**57.03**
			Fines	**38.33**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
3.5	**NP**	**NP**	**NP**	**-**

DESCRIPTION: Yellowish red silty sand

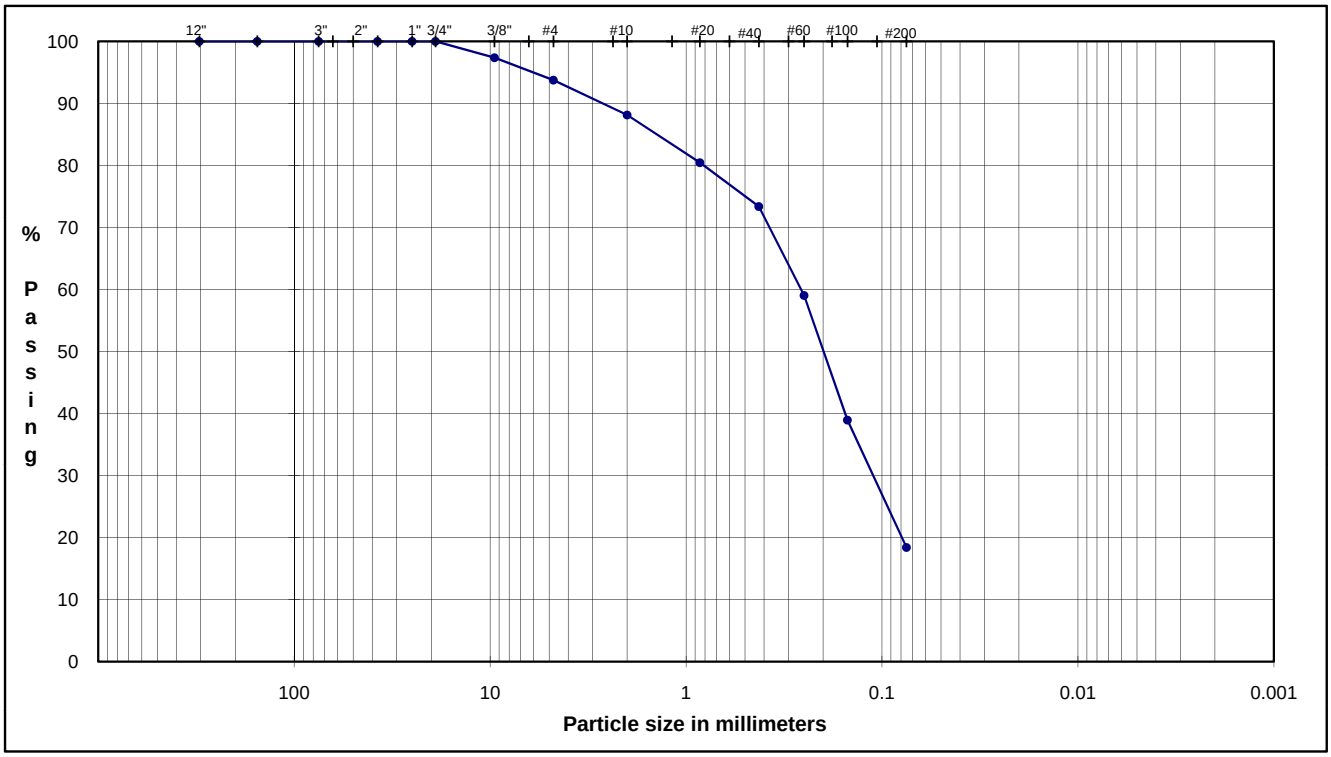
USCS: SM

TECH	CA
DATE	11/21/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

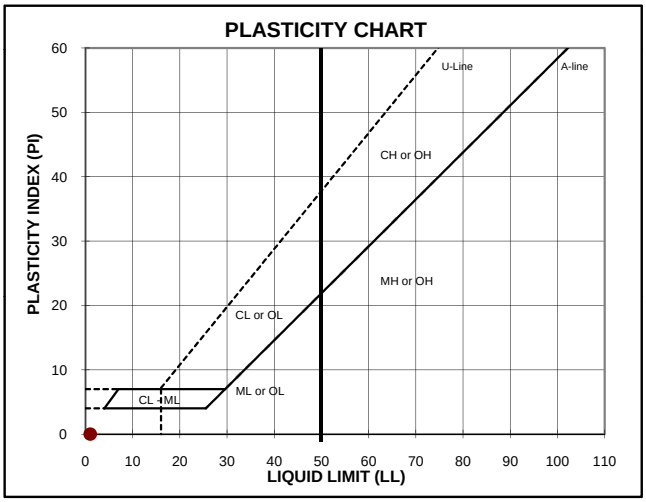
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-BH-48** Depth (ft) **50.5-51**
TYPE: **Tube**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**100.0**	Coarse Gravel	**0.00**
0.375"	9.5	**97.4**		
#4	4.8	**93.8**	Fine Gravel	**6.24**
#10	2.0	**88.1**	Coarse Sand	**5.62**
#20	0.9	**80.4**		
#40	0.4	**73.4**	Medium Sand	**14.77**
#60	0.3	**59.0**		
#100	0.2	**38.9**		
#200	0.1	**18.4**	Fine Sand	**54.96**
			Fines	**18.41**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
2.3	**NP**	**NP**	**NP**	**--**

DESCRIPTION: Yellowish red silty sand

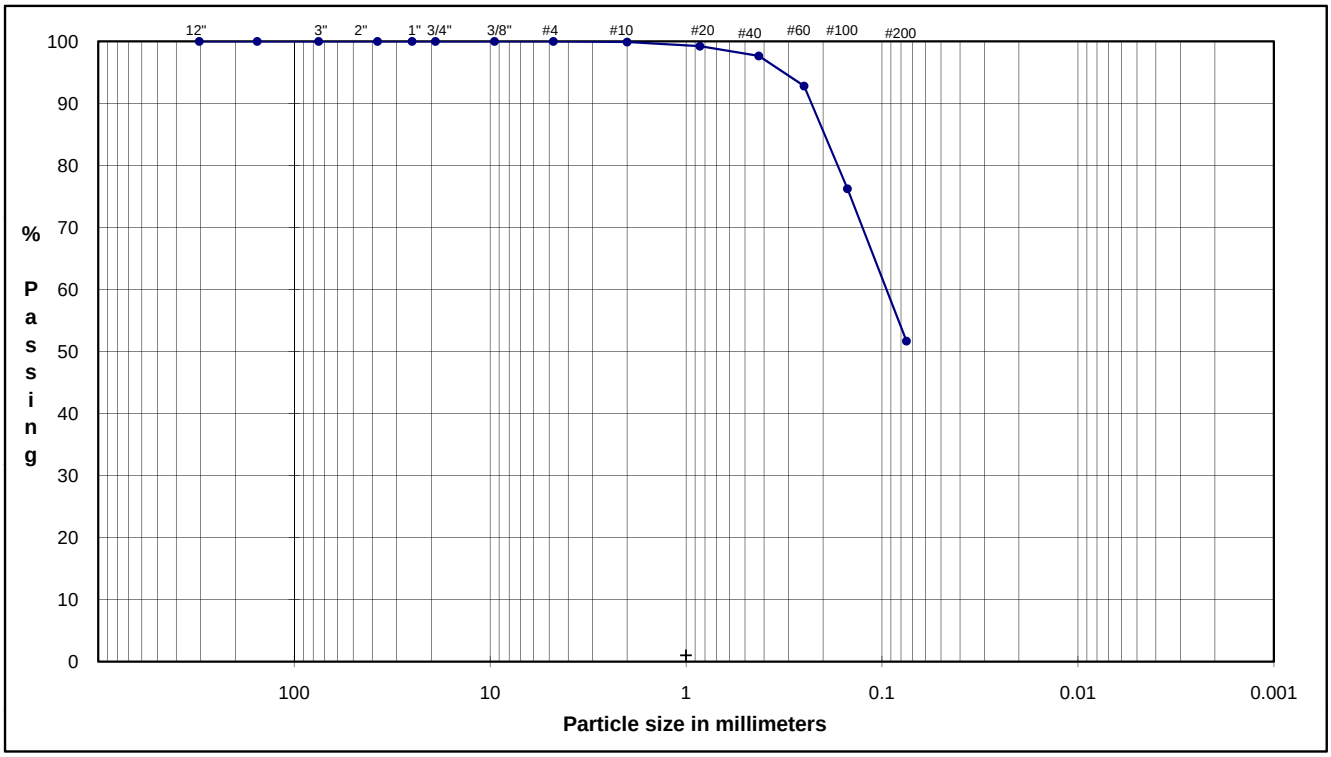
USCS: SM

TECH	CA
DATE	11/23/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

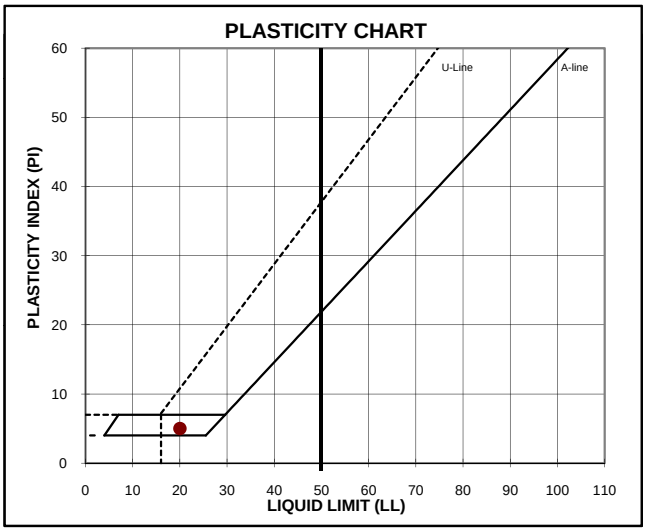
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-01** Depth (ft): **0-5**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.9**	Coarse Sand	**0.09**
#20	0.85	**99.2**		
#40	0.43	**97.6**	Medium Sand	**2.26**
#60	0.25	**92.8**		
#100	0.15	**76.2**		
#200	0.08	**51.7**	Fine Sand	**45.96**
			Fines	**51.69**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**20**	**15**	**5**	**-**

DESCRIPTION: Strong brown sandy silty clay

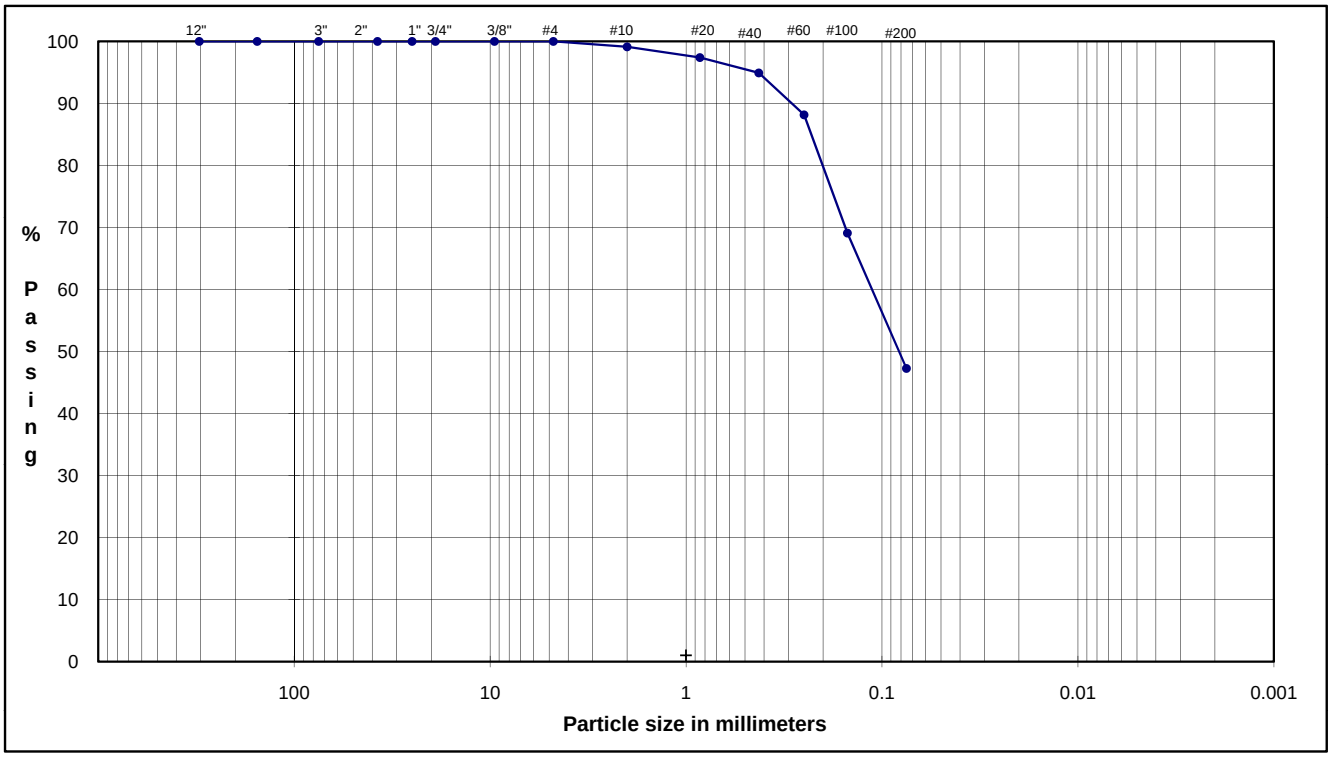
USCS: CL-ML

TECH	TES
DATE	1/15/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

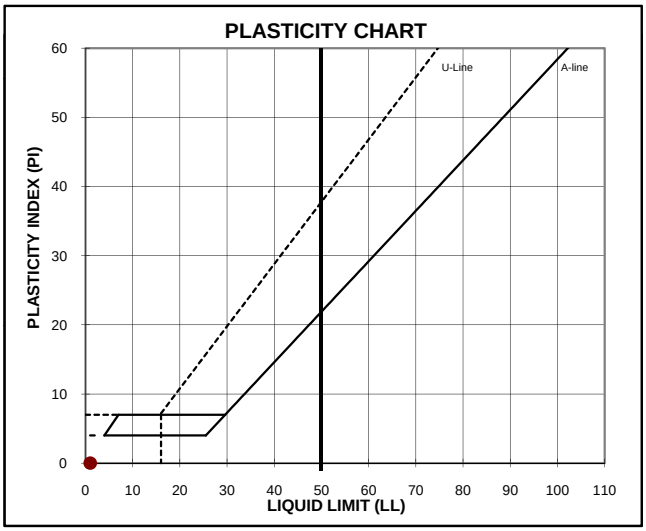
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-01** Depth (ft): **5-10'**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.1**	Coarse Sand	**0.88**
#20	0.85	**97.4**		
#40	0.43	**94.9**	Medium Sand	**4.20**
#60	0.25	**88.2**		
#100	0.15	**69.1**		
#200	0.08	**47.3**	Fine Sand	**47.65**
			Fines	**47.26**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG (assumed)
--	NP	NP	NP	-

DESCRIPTION: Yellowish red silty sand

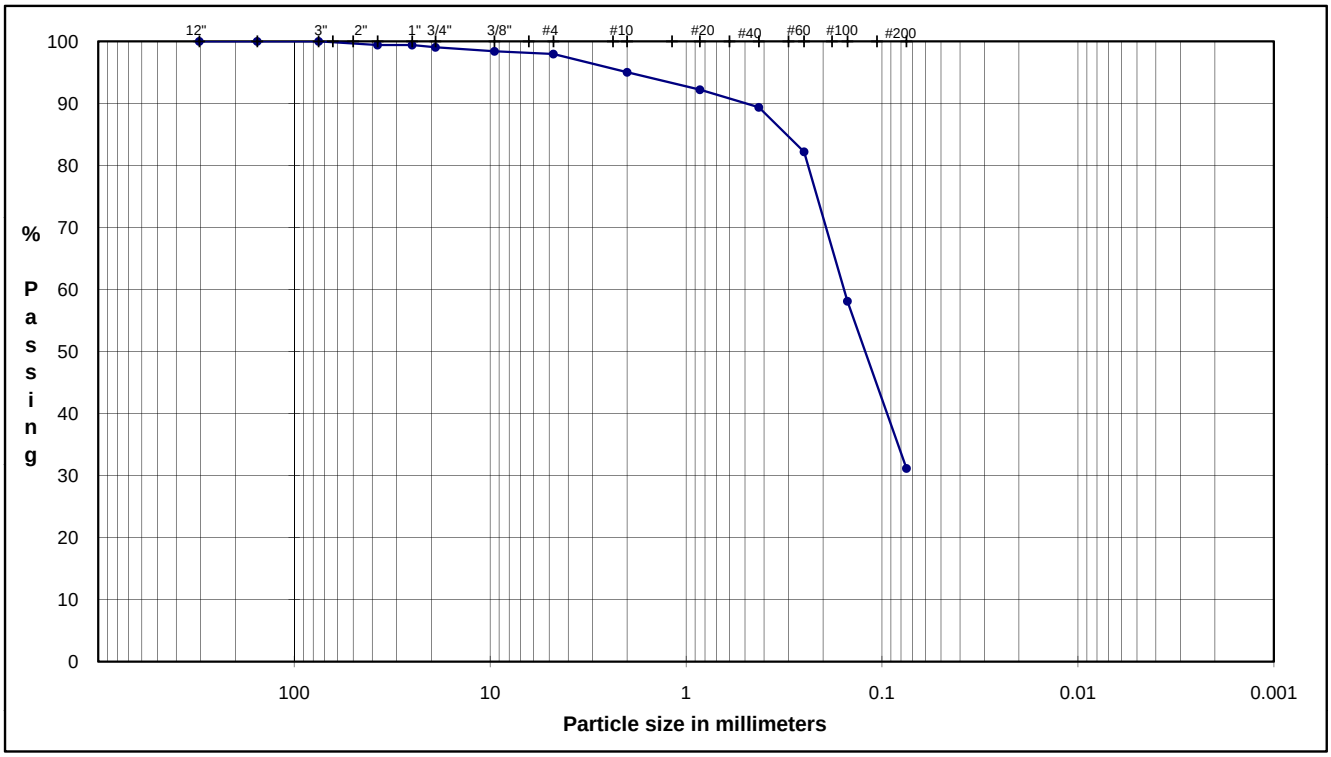
USCS: SM

TECH	TES
DATE	11/13/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

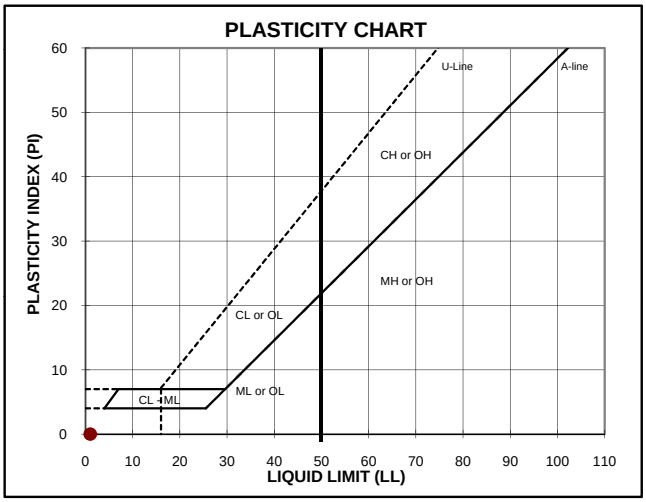
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-2** Depth (ft) **2-6**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**99.4**		
1.0"	25.0	**99.4**		
0.75"	19.0	**99.1**	Coarse Gravel	**0.95**
0.375"	9.5	**98.4**		
#4	4.8	**98.0**	Fine Gravel	**1.10**
#10	2.0	**95.0**	Coarse Sand	**2.94**
#20	0.9	**92.2**		
#40	0.4	**89.4**	Medium Sand	**5.65**
#60	0.3	**82.2**		
#100	0.2	**58.1**		
#200	0.1	**31.1**	Fine Sand	**58.23**
			Fines	**31.14**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Yellowish red silty sand

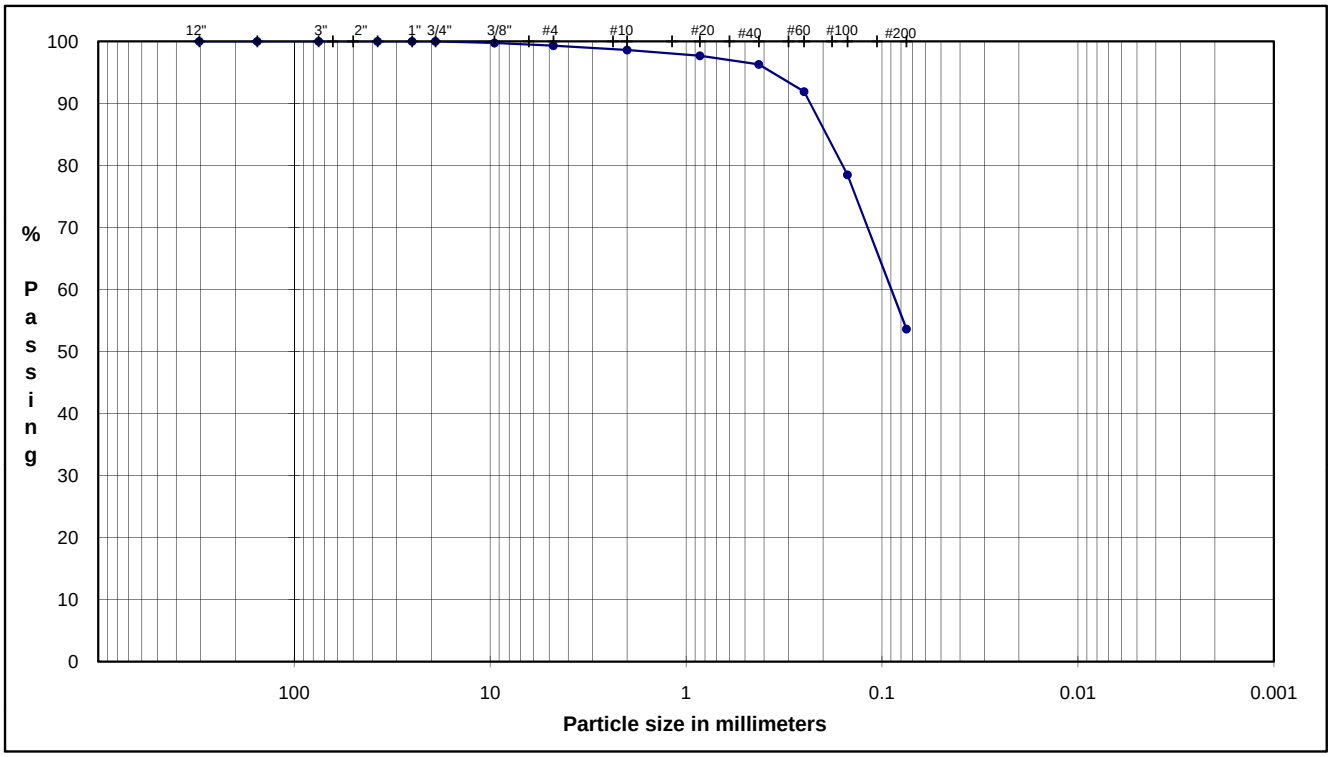
USCS: SM

TECH	TES
DATE	12/19/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

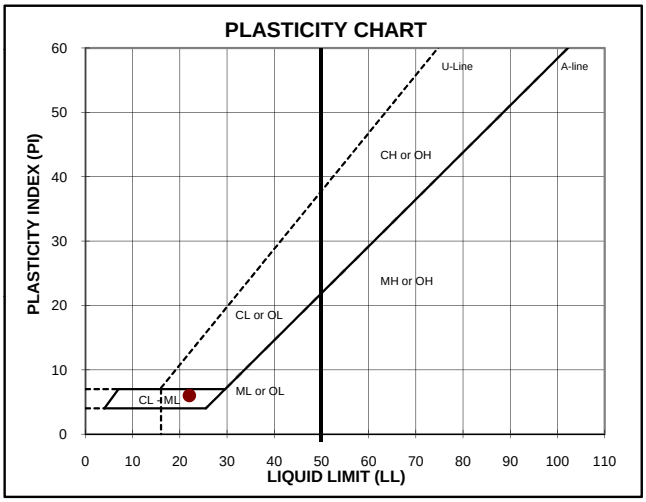
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-2** Depth (ft) **6-10**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**100.0**	Coarse Gravel	**0.00**
0.375"	9.5	**99.7**		
#4	4.8	**99.3**	Fine Gravel	**0.69**
#10	2.0	**98.6**	Coarse Sand	**0.71**
#20	0.9	**97.7**		
#40	0.4	**96.3**	Medium Sand	**2.31**
#60	0.3	**91.9**		
#100	0.2	**78.5**		
#200	0.1	**53.6**	Fine Sand	**42.68**
			Fines	**53.61**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**22**	**16**	**6**	--

DESCRIPTION: Strong brown sandy silty clay

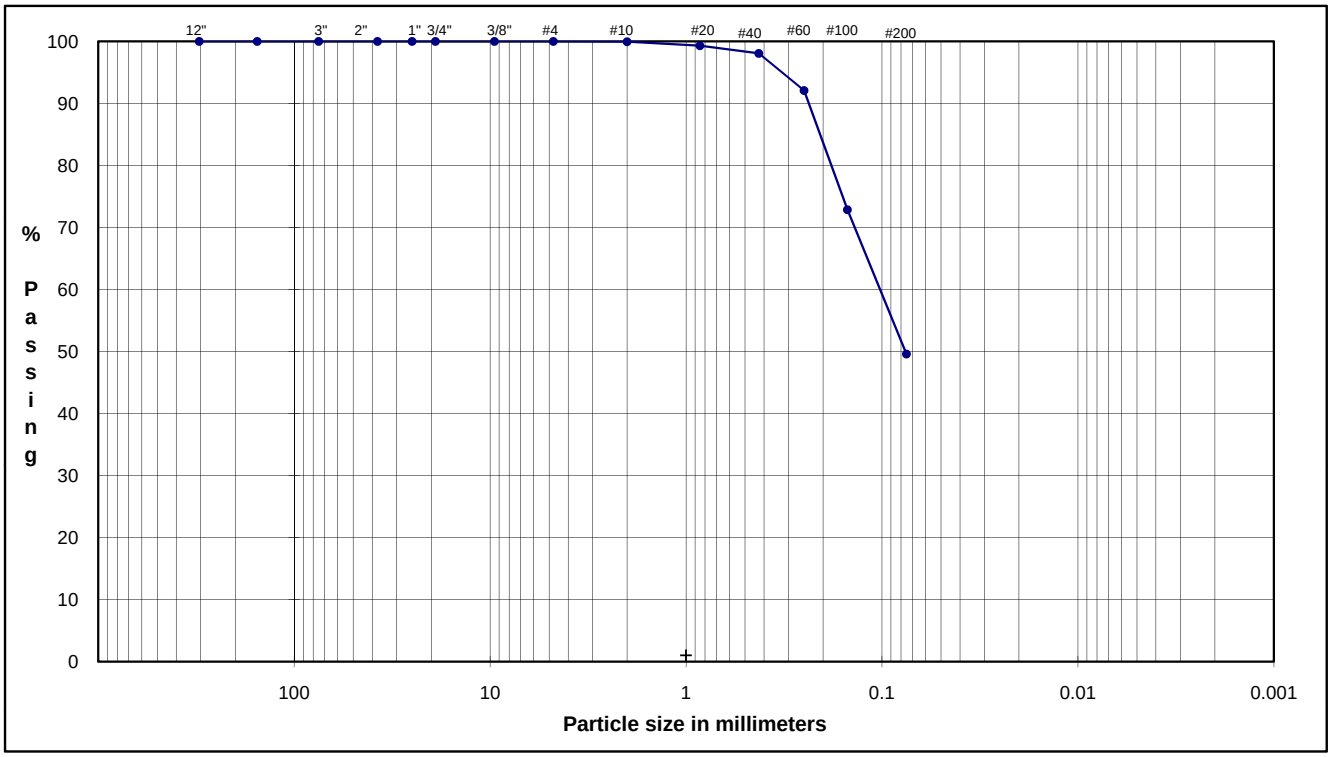
USCS: CL-ML

TECH	DS
DATE	1/21/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

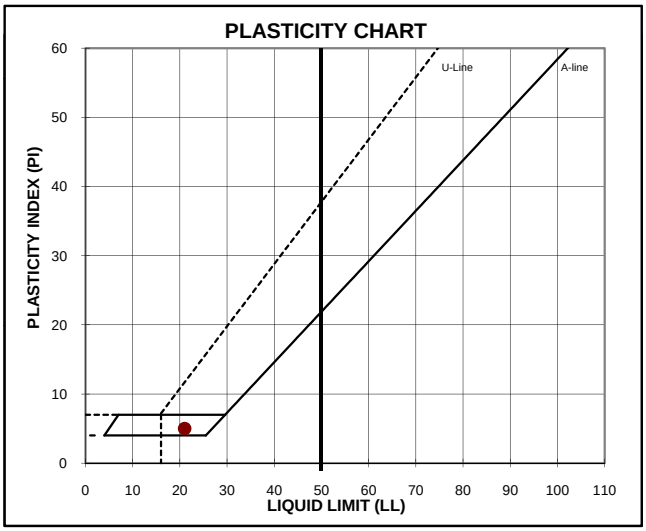
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-03** Depth (ft): **0-4**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**100.0**	Coarse Sand	**0.05**
#20	0.85	**99.3**		
#40	0.43	**98.1**	Medium Sand	**1.89**
#60	0.25	**92.1**		
#100	0.15	**72.9**		
#200	0.08	**49.6**	Fine Sand	**48.47**
			Fines	**49.60**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**21**	**16**	**5**	**-**

DESCRIPTION: Yellowish red silty sand

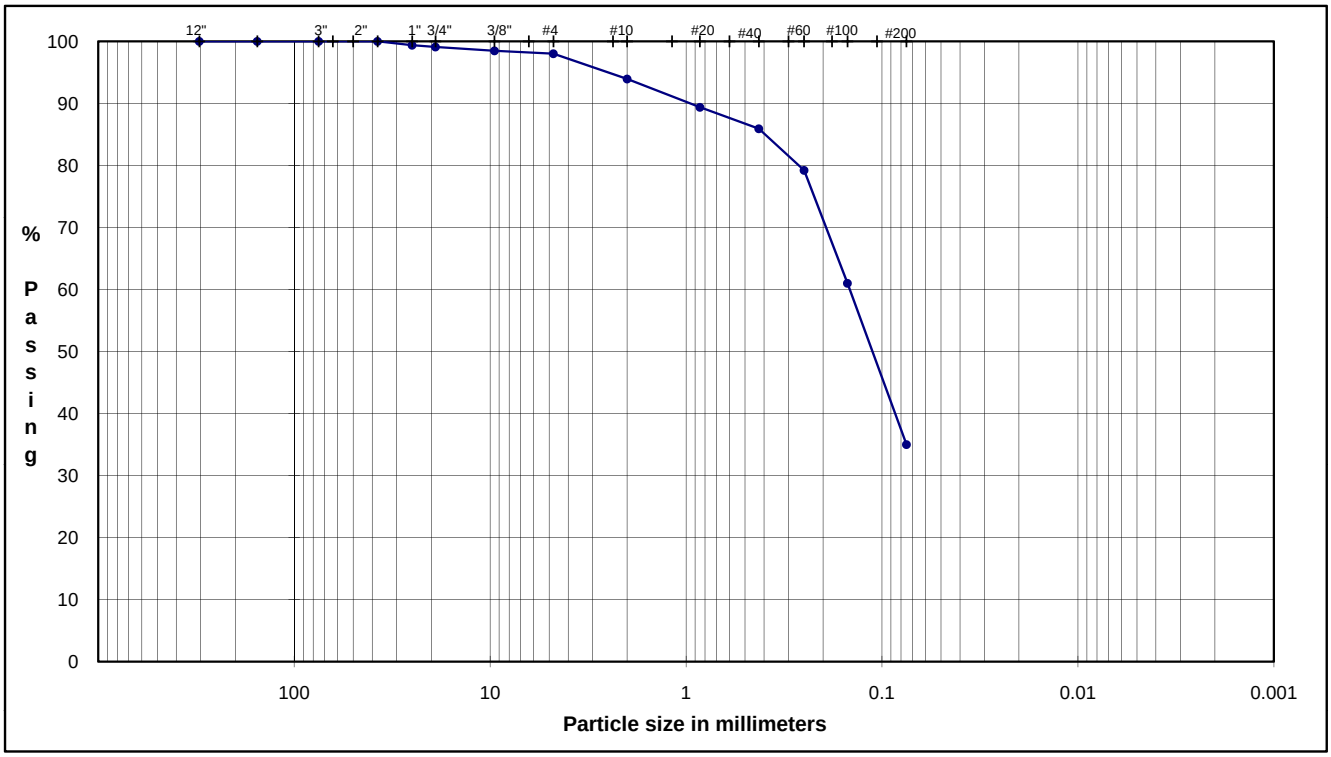
USCS: SM

TECH	TES
DATE	1/15/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

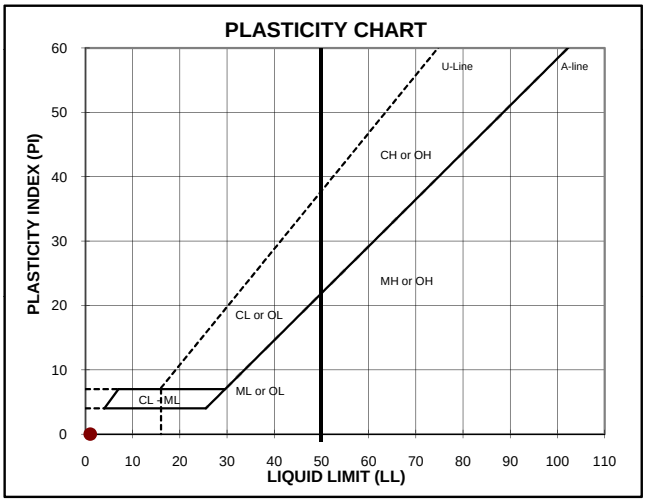
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-3** Depth (ft) **4-9**
TYPE: **Pail**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**99.4**		
0.75"	19.0	**99.1**	Coarse Gravel	**0.89**
0.375"	9.5	**98.5**		
#4	4.8	**98.0**	Fine Gravel	**1.10**
#10	2.0	**93.9**	Coarse Sand	**4.08**
#20	0.9	**89.4**		
#40	0.4	**85.9**	Medium Sand	**8.02**
#60	0.3	**79.2**		
#100	0.2	**61.0**		
#200	0.1	**35.0**	Fine Sand	**50.91**
			Fines	**34.99**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Strong brown silty sand

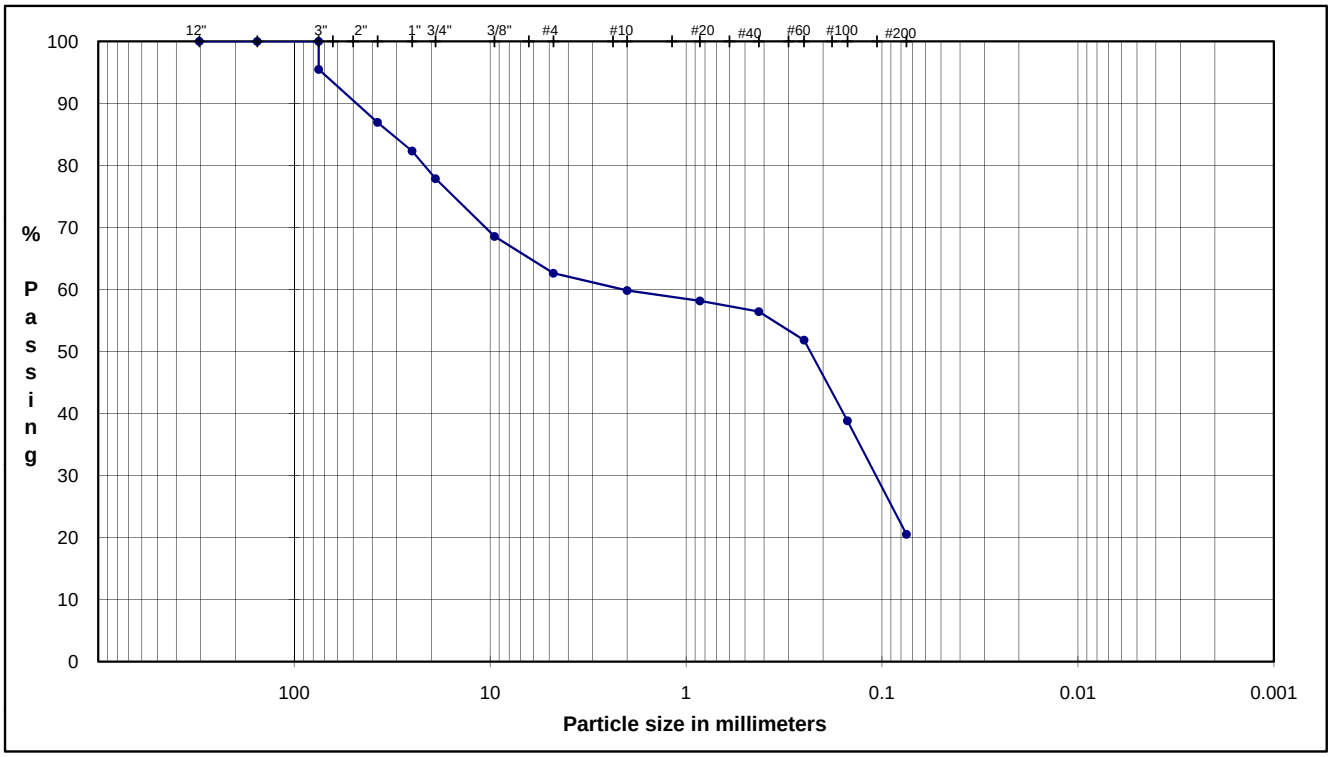
USCS: SM

TECH	TES
DATE	12/19/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

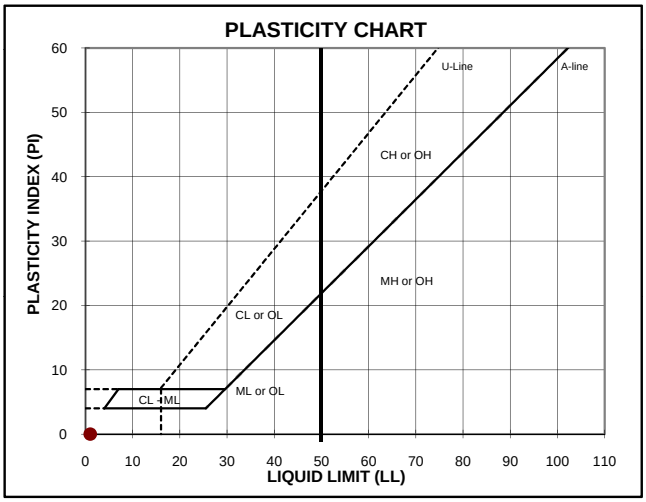
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-03** Depth (ft) **9-11**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**95.5**		
1.5"	37.5	**86.9**		
1.0"	25.0	**82.3**		
0.75"	19.0	**77.9**	Coarse Gravel	**22.14**
0.375"	9.5	**68.6**		
#4	4.8	**62.6**	Fine Gravel	**15.25**
#10	2.0	**59.8**	Coarse Sand	**2.78**
#20	0.9	**58.2**		
#40	0.4	**56.4**	Medium Sand	**3.40**
#60	0.3	**51.8**		
#100	0.2	**38.8**		
#200	0.1	**20.5**	Fine Sand	**35.93**
			Fines	**20.50**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Yellowish red silty sand with gravel

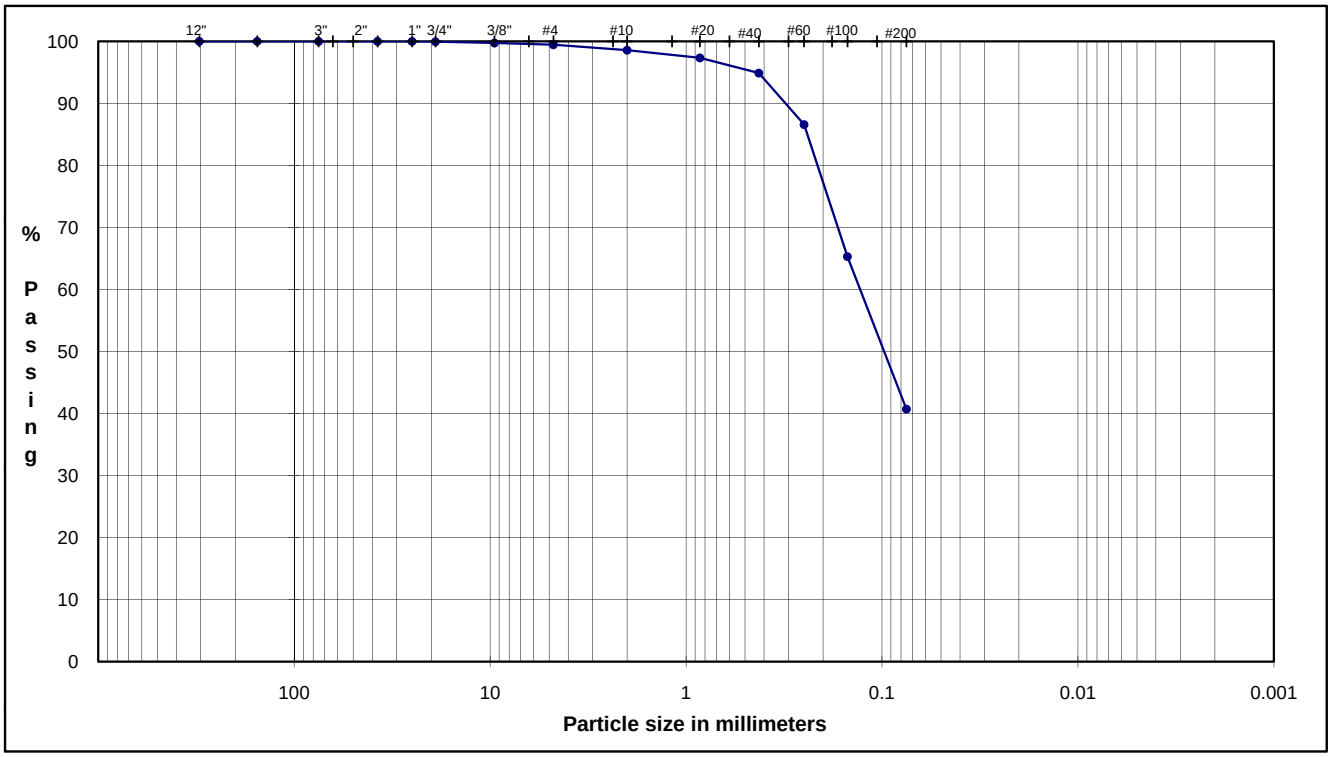
USCS: SM

TECH	TES
DATE	1/15/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

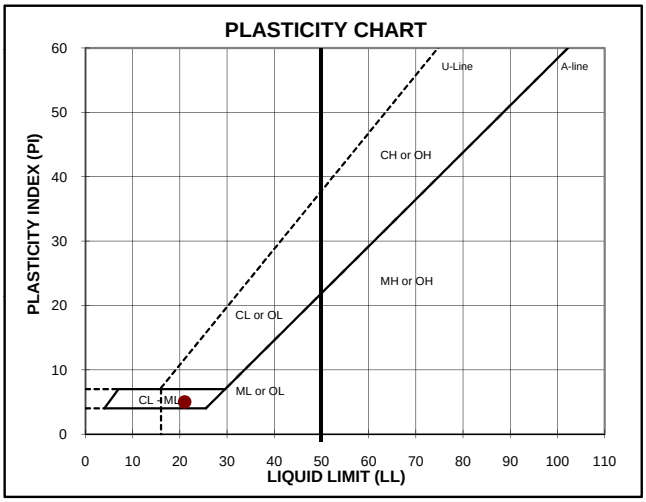
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-4** Depth (ft) **2-5**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**100.0**	Coarse Gravel	**0.05**
0.375"	9.5	**99.7**		
#4	4.8	**99.5**	Fine Gravel	**0.48**
#10	2.0	**98.6**	Coarse Sand	**0.89**
#20	0.9	**97.3**		
#40	0.4	**94.9**	Medium Sand	**3.68**
#60	0.3	**86.6**		
#100	0.2	**65.3**		
#200	0.1	**40.7**	Fine Sand	**54.20**
			Fines	**40.70**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**21**	**16**	**5**	--

DESCRIPTION: Light reddish brown silty, clayey sand

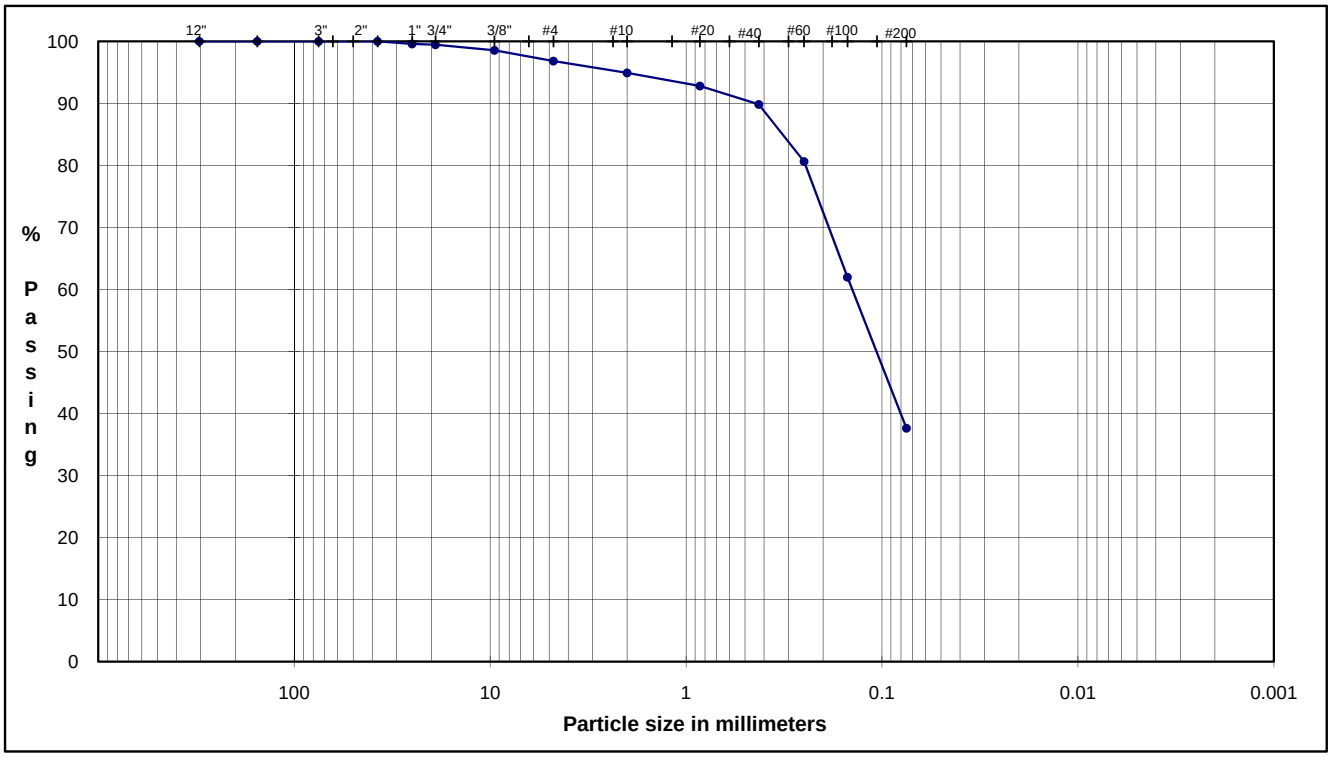
USCS: SC-SM

TECH	TES
DATE	12/20/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

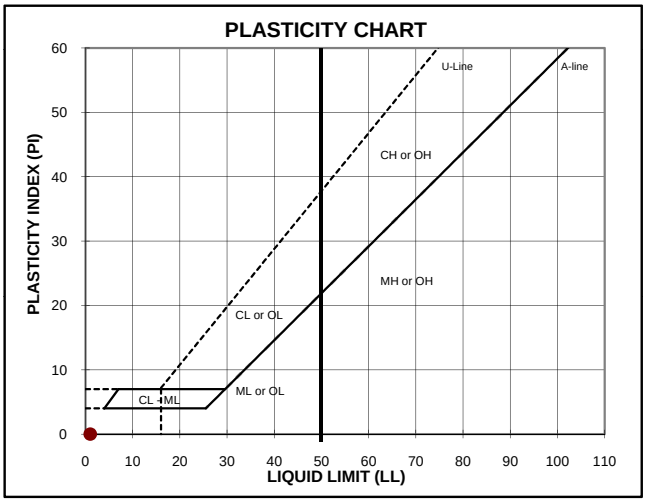
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-4** Depth (ft) **5-10**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**99.6**		
0.75"	19.0	**99.5**	Coarse Gravel	**0.53**
0.375"	9.5	**98.5**		
#4	4.8	**96.8**	Fine Gravel	**2.63**
#10	2.0	**94.9**	Coarse Sand	**1.91**
#20	0.9	**92.8**		
#40	0.4	**89.8**	Medium Sand	**5.09**
#60	0.3	**80.6**		
#100	0.2	**62.0**		
#200	0.1	**37.6**	Fine Sand	**52.20**
			Fines	**37.63**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Yellowish red silty sand

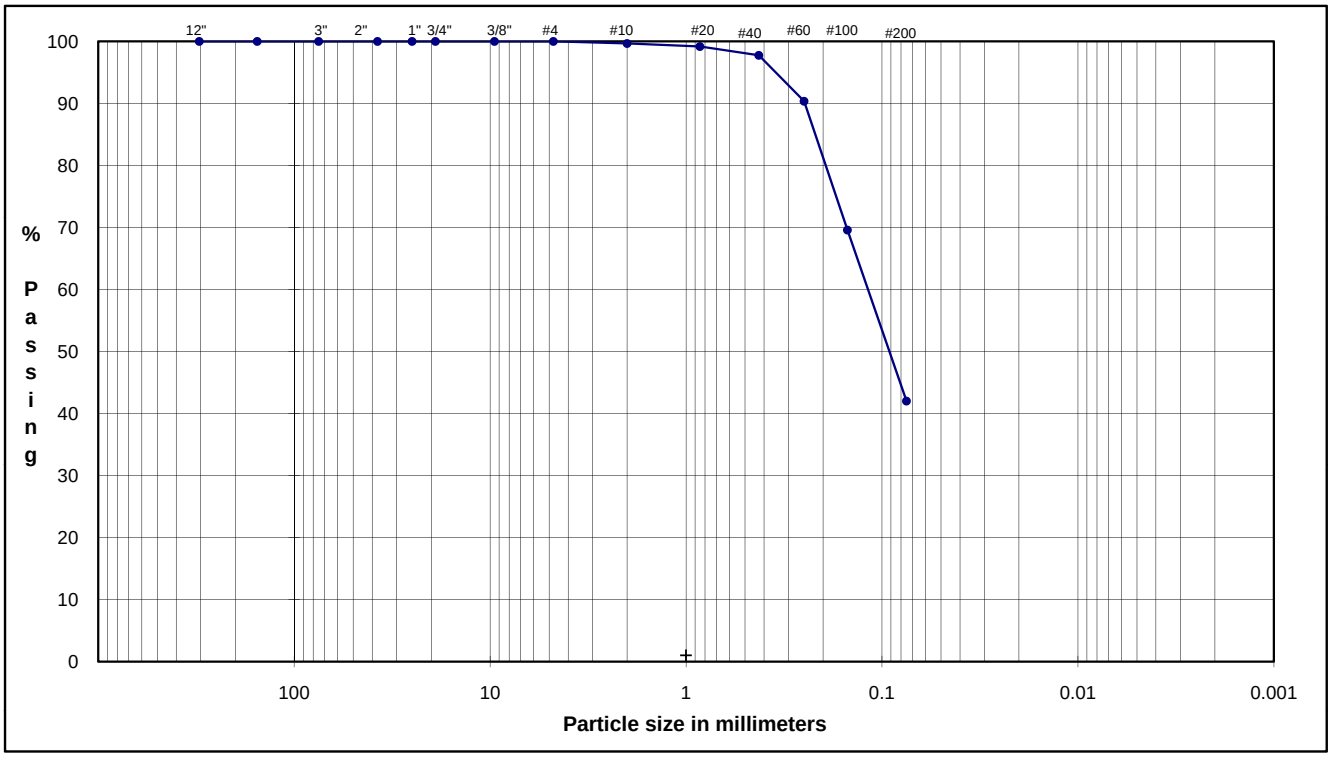
USCS: SM

TECH	TES
DATE	12/19/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

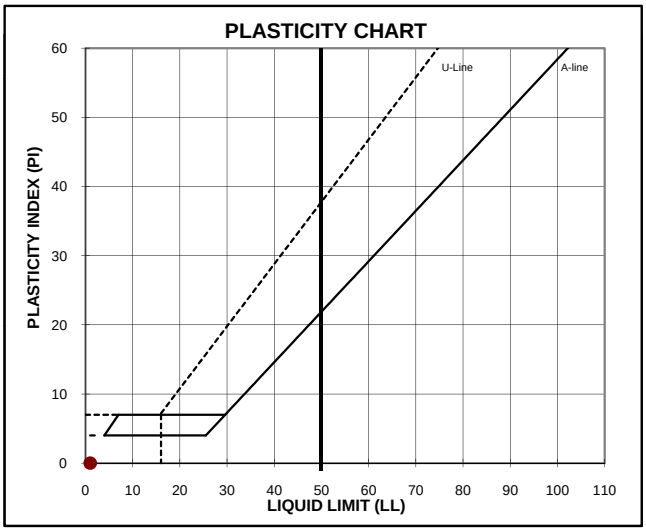
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-05** Depth (ft): **0-9.5**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.7**	Coarse Sand	**0.33**
#20	0.85	**99.2**		
#40	0.43	**97.8**	Medium Sand	**1.91**
#60	0.25	**90.3**		
#100	0.15	**69.6**		
#200	0.08	**42.0**	Fine Sand	**55.75**
			Fines	**42.01**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG (assumed)
--	NP	NP	NP	-

DESCRIPTION: Strong brown silty sand

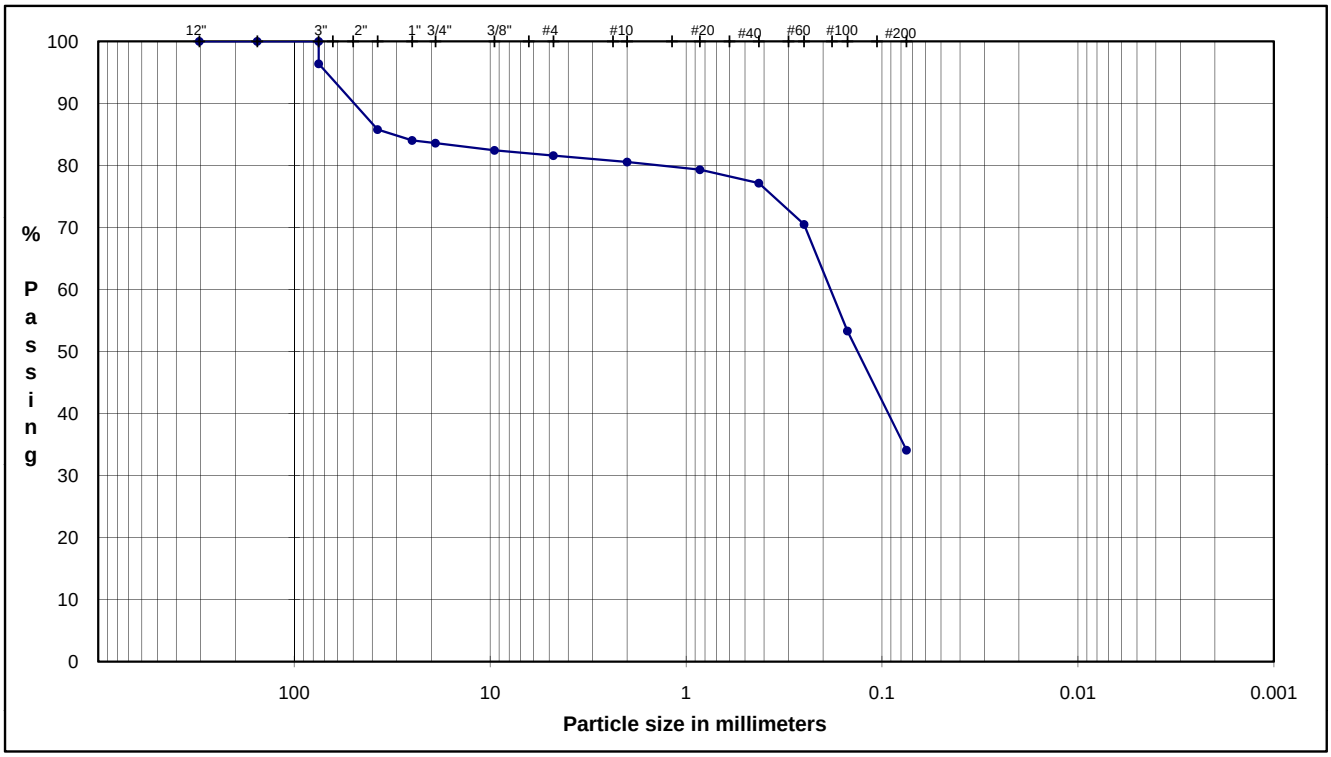
USCS: SM

TECH	TES
DATE	11/28/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

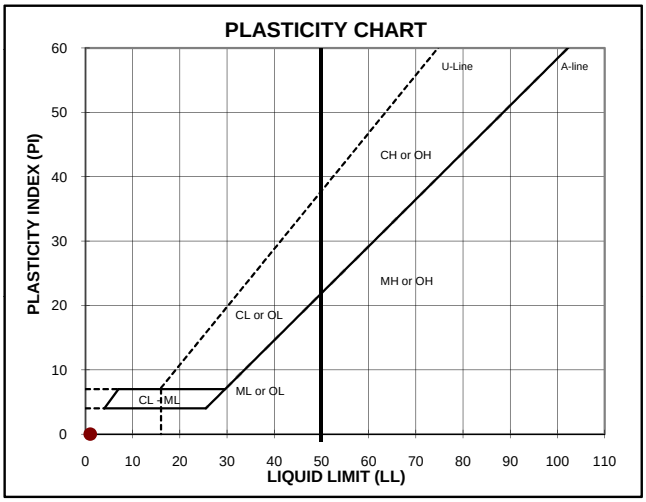
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-06** Depth (ft) **3-6'**
TYPE: **Bulk**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**96.4**		
1.5"	37.5	**85.8**		
1.0"	25.0	**84.0**		
0.75"	19.0	**83.6**	Coarse Gravel	**16.41**
0.375"	9.5	**82.4**		
#4	4.8	**81.6**	Fine Gravel	**2.01**
#10	2.0	**80.5**	Coarse Sand	**1.03**
#20	0.9	**79.3**		
#40	0.4	**77.1**	Medium Sand	**3.41**
#60	0.3	**70.5**		
#100	0.2	**53.3**		
#200	0.1	**34.1**	Fine Sand	**43.04**
			Fines	**34.10**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Reddish brown silty sand with gravel

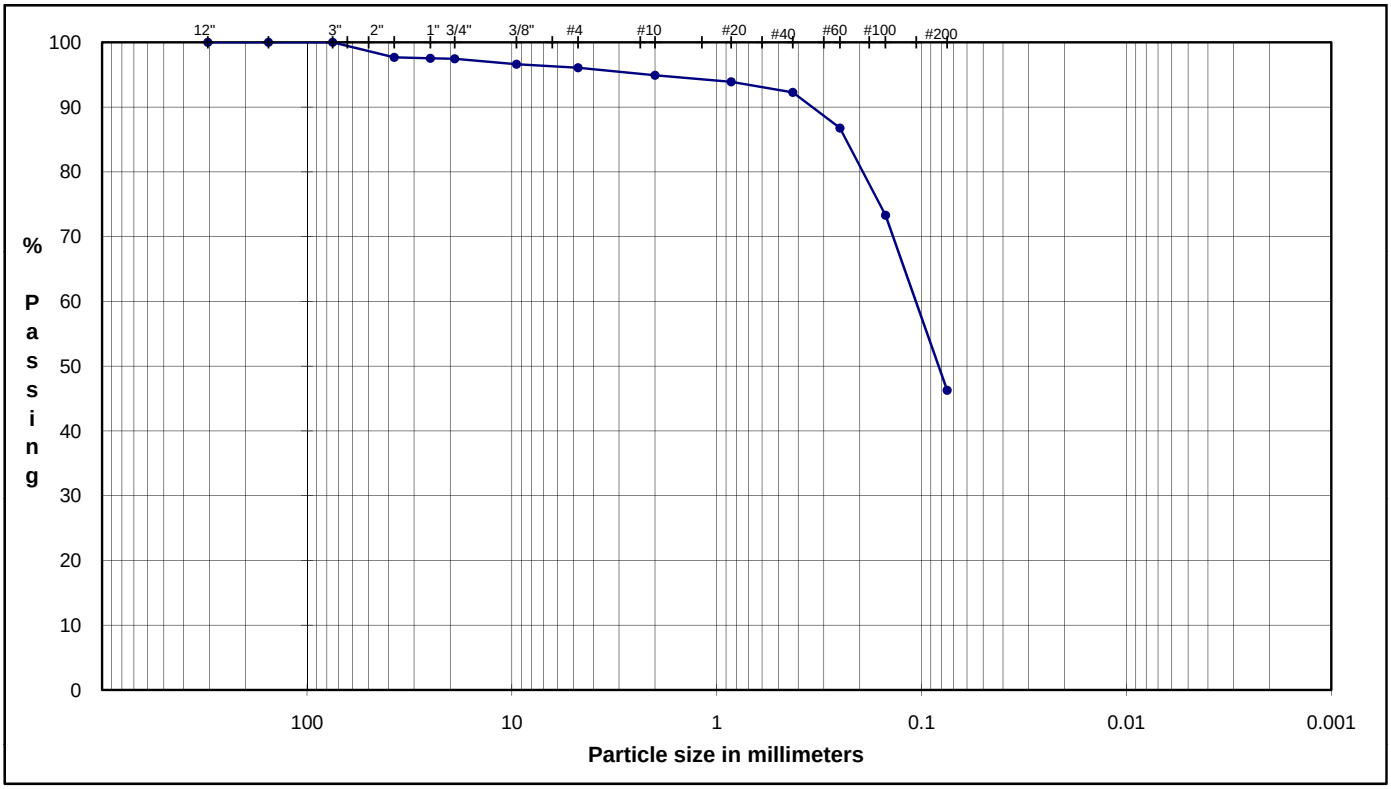
USCS: SM

TECH	MKS
DATE	1/16/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

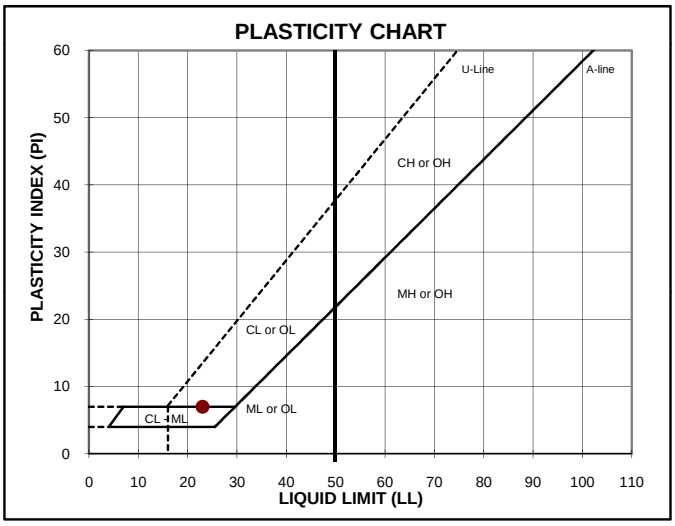
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-06** Depth (ft) **6-10**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**97.7**		
1.0"	25.0	**97.5**		
0.75"	19.0	**97.5**	Coarse Gravel	**2.55**
0.375"	9.5	**96.6**		
#4	4.8	**96.1**	Fine Gravel	**1.38**
#10	2.0	**94.9**	Coarse Sand	**1.15**
#20	0.9	**93.9**		
#40	0.4	**92.3**	Medium Sand	**2.66**
#60	0.3	**86.8**		
#100	0.2	**73.3**		
#200	0.1	**46.3**	Fine Sand	**45.99**
			Fines	**46.26**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**23**	**16**	**7**	--

DESCRIPTION: Yellowish red silty, clayey sand

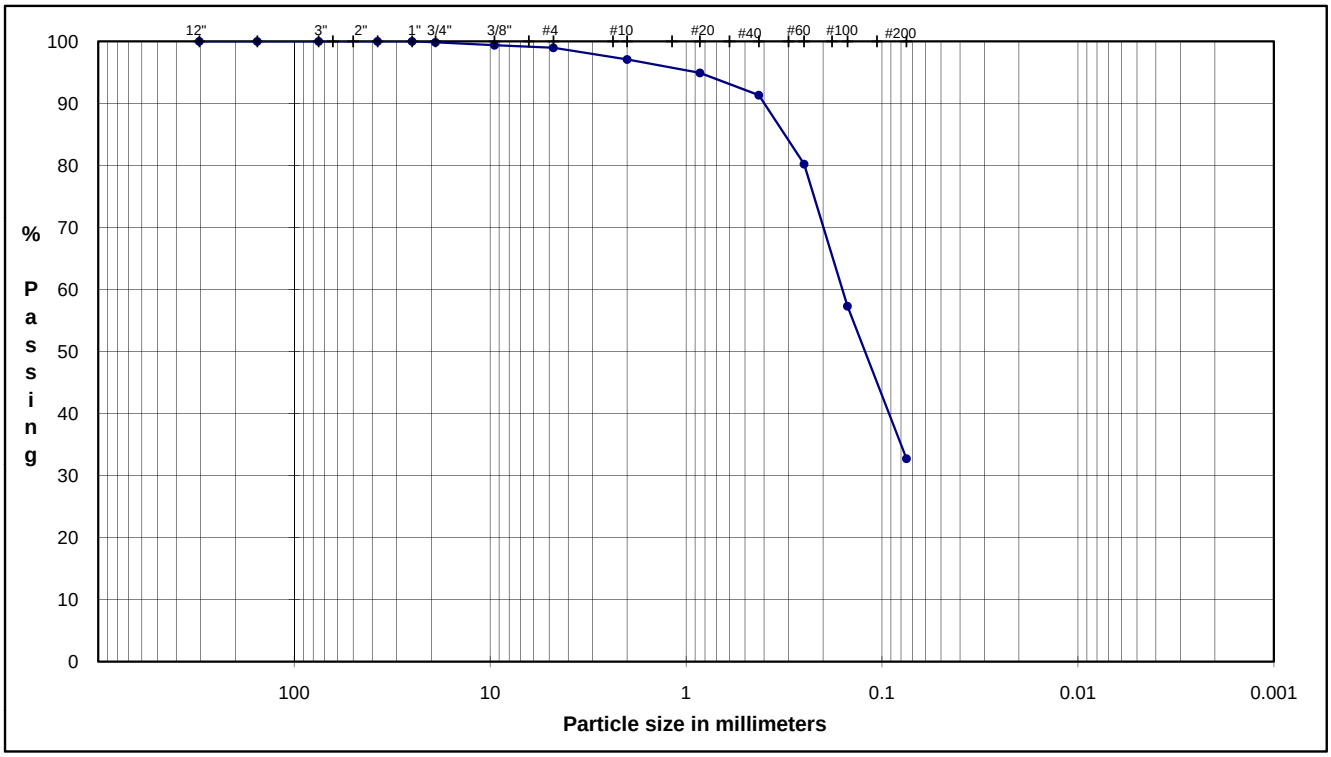
USCS: SC-SM

TECH TES
DATE 1/15/08
REVIEW MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

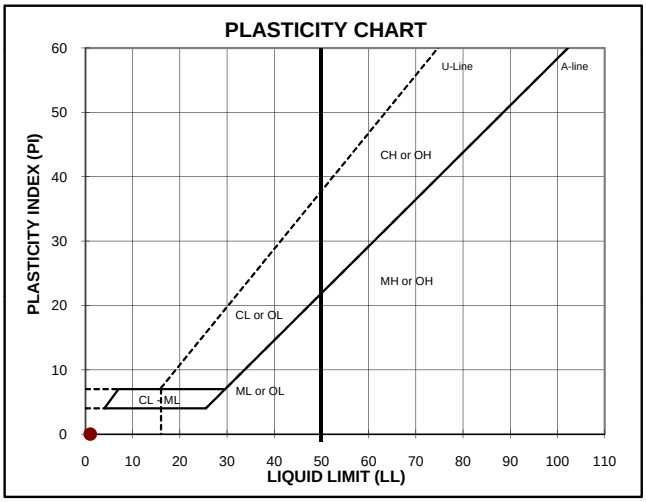
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-07** Depth (ft) **1.5-9**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**100.0**		
0.75"	19.0	**99.8**	Coarse Gravel	**0.15**
0.375"	9.5	**99.4**		
#4	4.8	**99.0**	Fine Gravel	**0.88**
#10	2.0	**97.1**	Coarse Sand	**1.87**
#20	0.9	**94.9**		
#40	0.4	**91.3**	Medium Sand	**5.75**
#60	0.3	**80.2**		
#100	0.2	**57.3**		
#200	0.1	**32.7**	Fine Sand	**58.63**
			Fines	**32.72**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Brown silty sand

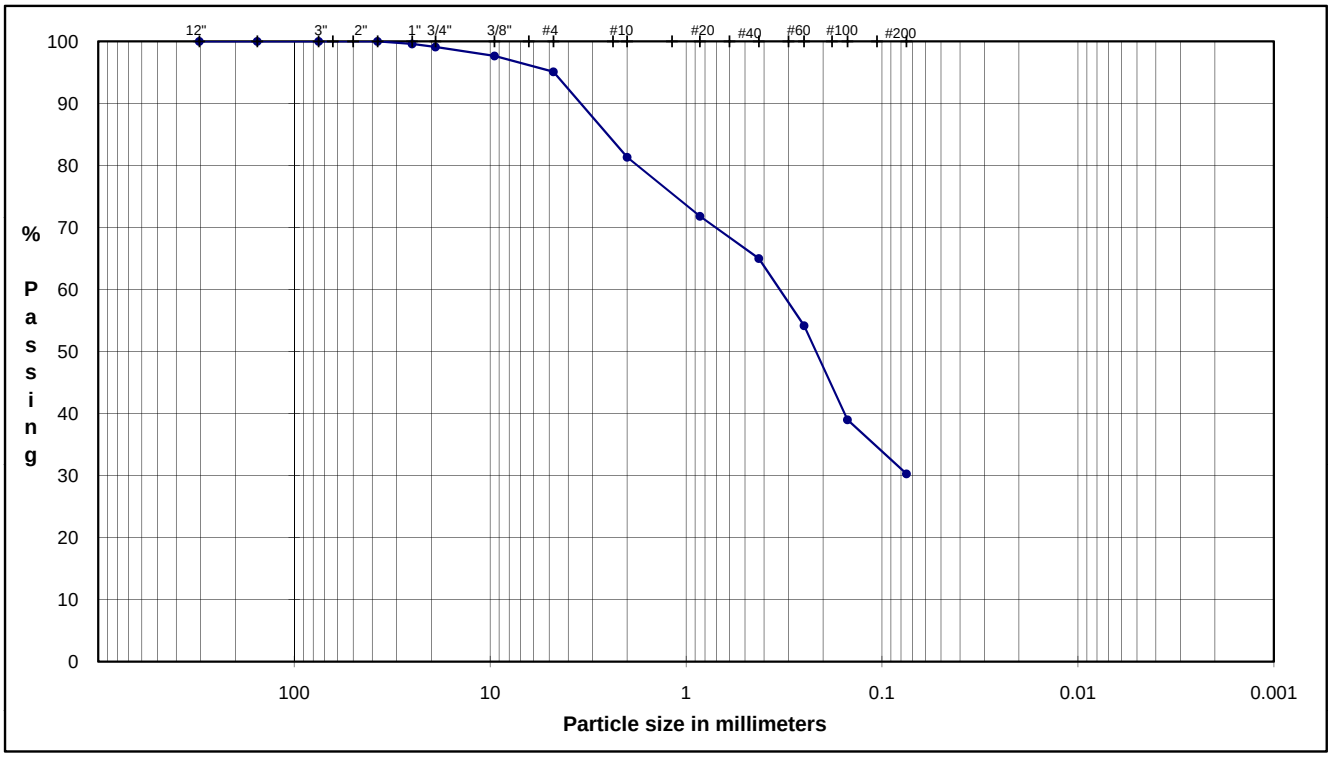
USCS: SM

TECH	TES
DATE	11/28/07
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

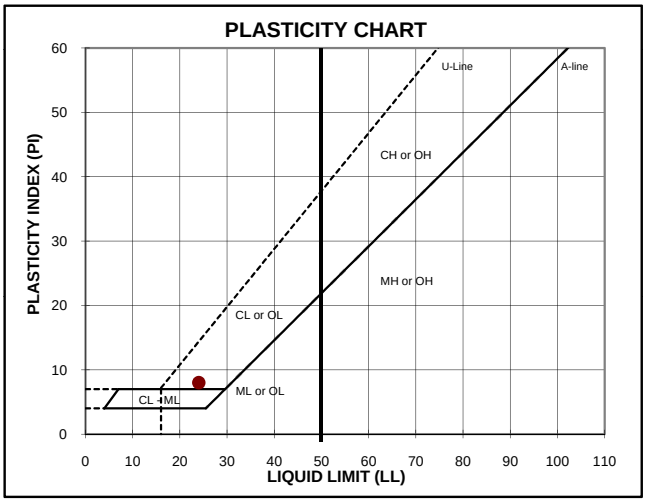
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-08** Depth (ft) **1-2.5**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**99.6**		
0.75"	19.0	**99.1**	Coarse Gravel	**0.89**
0.375"	9.5	**97.6**		
#4	4.8	**95.1**	Fine Gravel	**4.02**
#10	2.0	**81.3**	Coarse Sand	**13.75**
#20	0.9	**71.8**		
#40	0.4	**65.0**	Medium Sand	**16.34**
#60	0.3	**54.2**		
#100	0.2	**39.0**		
#200	0.1	**30.3**	Fine Sand	**34.72**
			Fines	**30.28**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**24**	**16**	**8**	--

DESCRIPTION: Pink clayey sand

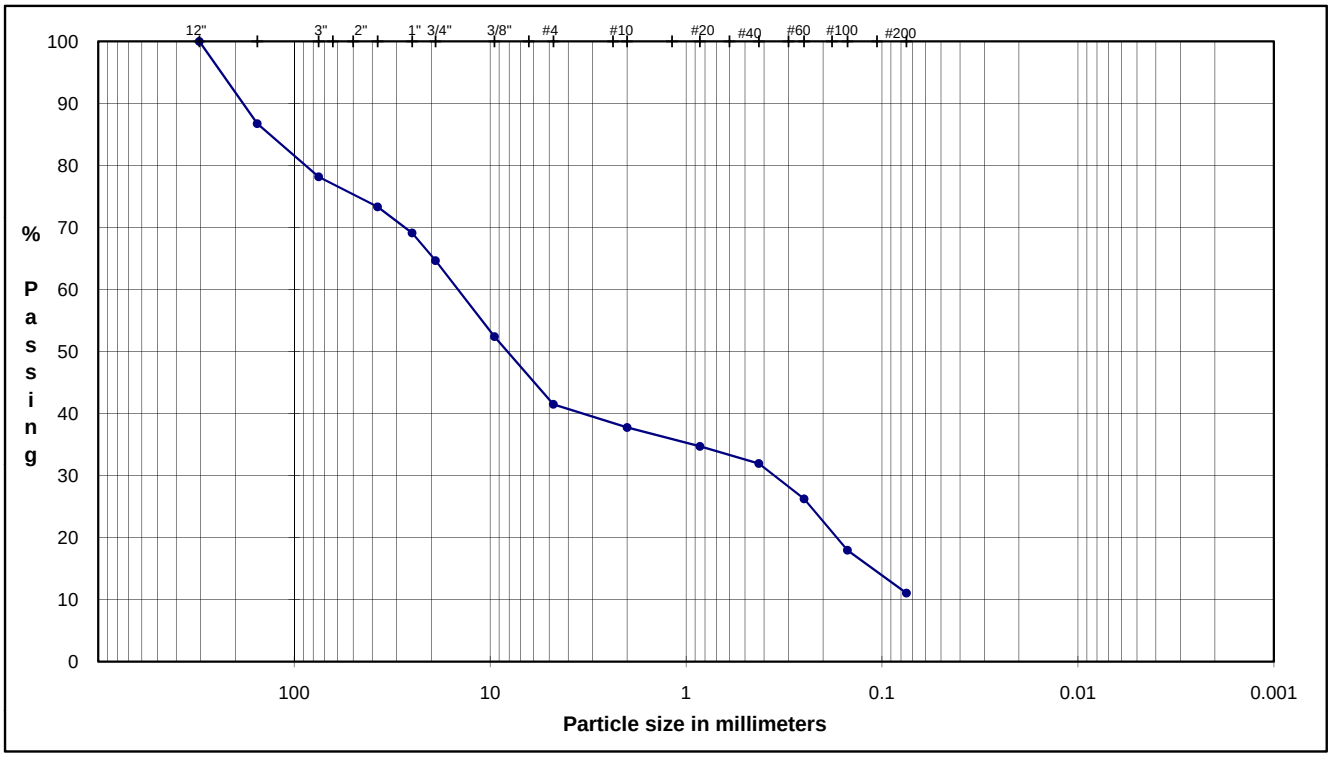
USCS: SC

TECH	TES
DATE	1/15/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

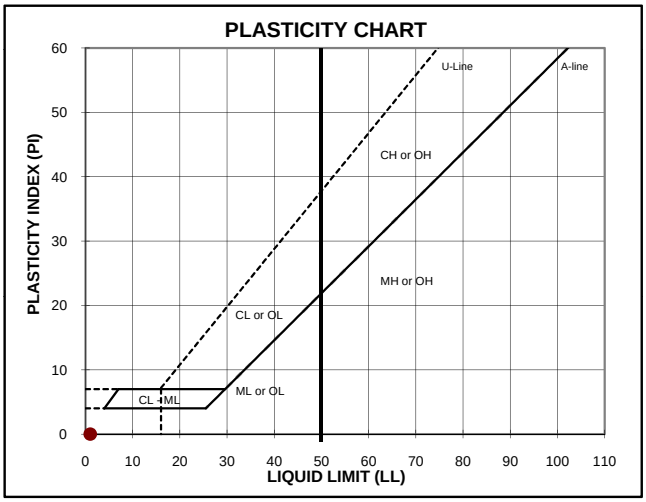
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-8** Depth (ft) **2.5-10.5**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**86.7**	Cobbles	**21.84**
3.0"	75.0	**78.2**		
3.0"	75.0	**78.2**		
1.5"	37.5	**73.3**		
1.0"	25.0	**69.1**		
0.75"	19.0	**64.7**	Coarse Gravel	**13.51**
0.375"	9.5	**52.4**		
#4	4.8	**41.5**	Fine Gravel	**23.17**
#10	2.0	**37.8**	Coarse Sand	**3.73**
#20	0.9	**34.7**		
#40	0.4	**31.9**	Medium Sand	**5.82**
#60	0.3	**26.2**		
#100	0.2	**18.0**		
#200	0.1	**11.0**	Fine Sand	**20.89**
			Fines	**11.05**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Light brown well-graded gravel with silty and sand

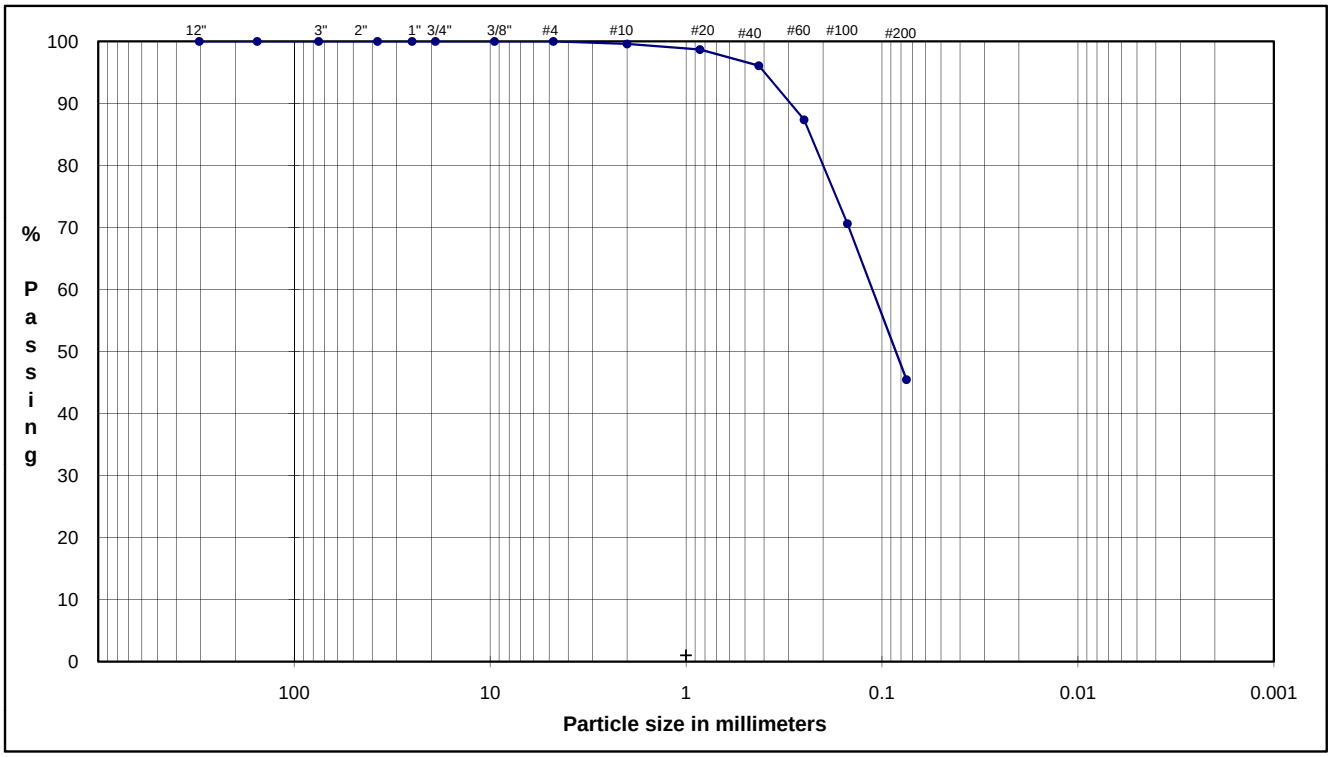
USCS: GW-GM

TECH TES
DATE 12/19/07
REVIEW CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

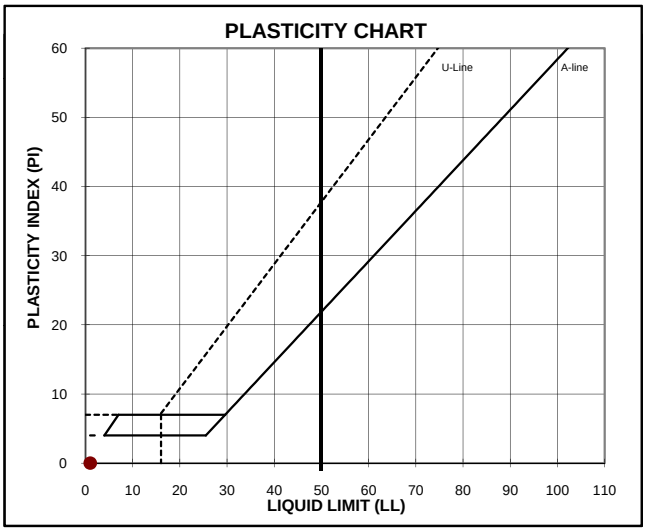
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-09** Depth (ft): **1-11**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.6**	Coarse Sand	**0.40**
#20	0.85	**98.7**		
#40	0.43	**96.1**	Medium Sand	**3.52**
#60	0.25	**87.4**		
#100	0.15	**70.6**		
#200	0.08	**45.4**	Fine Sand	**50.63**
			Fines	**45.45**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG (assumed)
--	NP	NP	NP	-

DESCRIPTION: Reddish brown silty sand

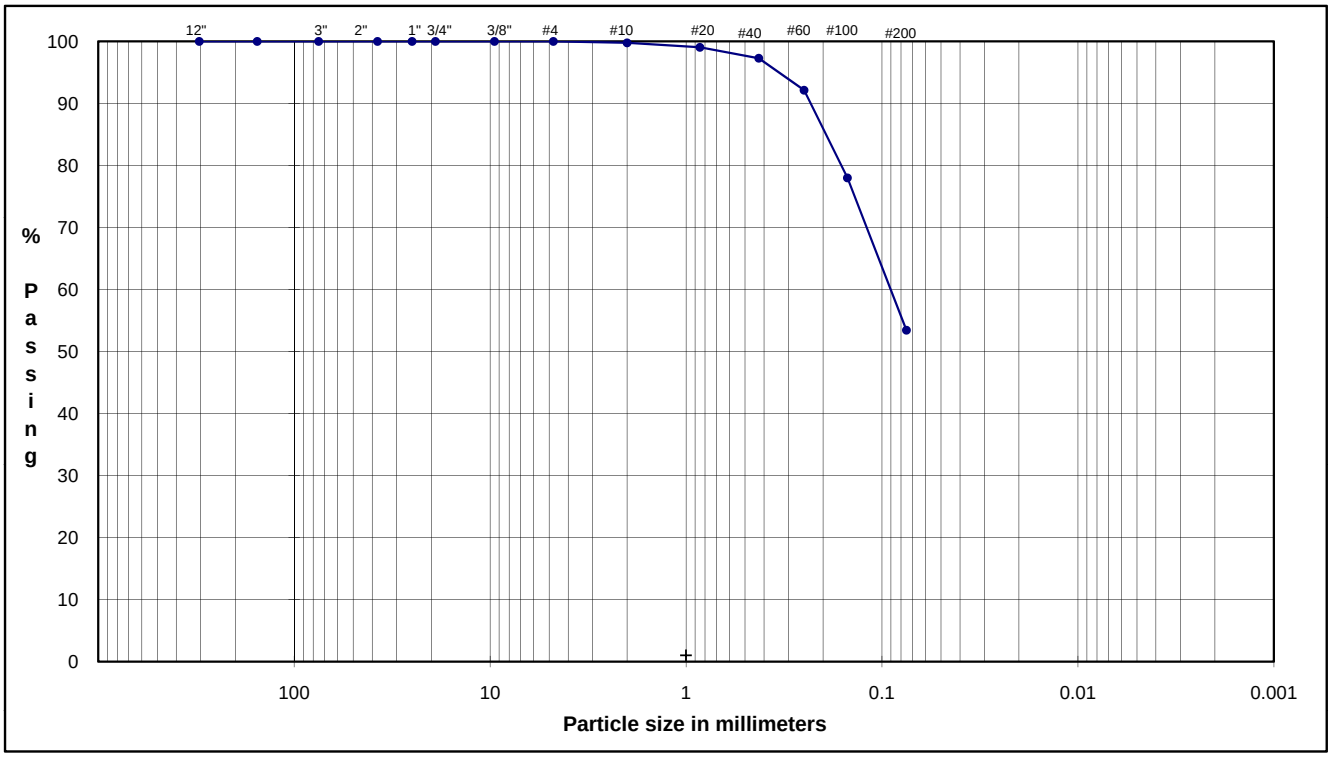
USCS: SM

TECH	DCS
DATE	11/19/07
REVIEW	CA

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

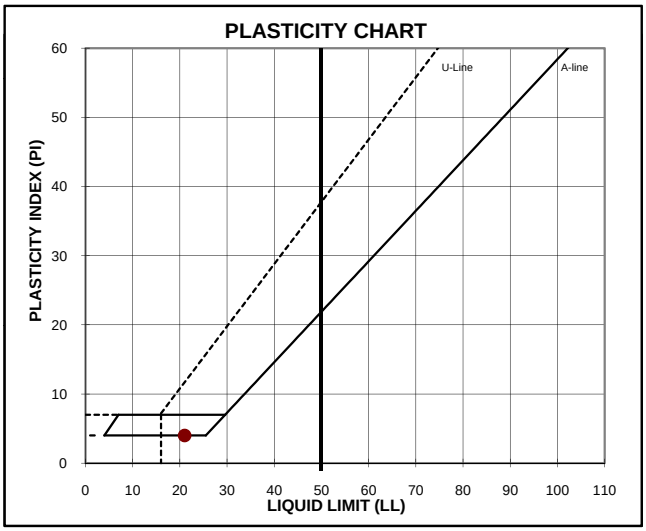
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-10** Depth (ft): **1-4**
TYPE: **Pail**



COBBLES	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay
	GRAVEL		SAND			FINES

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.80	**100.0**		
6.0"	154.20	**100.0**	Cobbles	**0.00**
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
3.0"	75.00	**100.0**		
1.5"	37.50	**100.0**		
1.0"	25.00	**100.0**	Coarse Gravel	**0.00**
0.75"	19.00	**100.0**		
0.375"	9.50	**100.0**		
#4	4.75	**100.0**	Fine Gravel	**0.00**
#10	2.00	**99.8**	Coarse Sand	**0.23**
#20	0.85	**99.0**		
#40	0.43	**97.3**	Medium Sand	**2.49**
#60	0.25	**92.1**		
#100	0.15	**78.0**		
#200	0.08	**53.4**	Fine Sand	**43.86**
			Fines	**53.42**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**21**	**17**	**4**	**-**

DESCRIPTION: Brown sandy silty clay

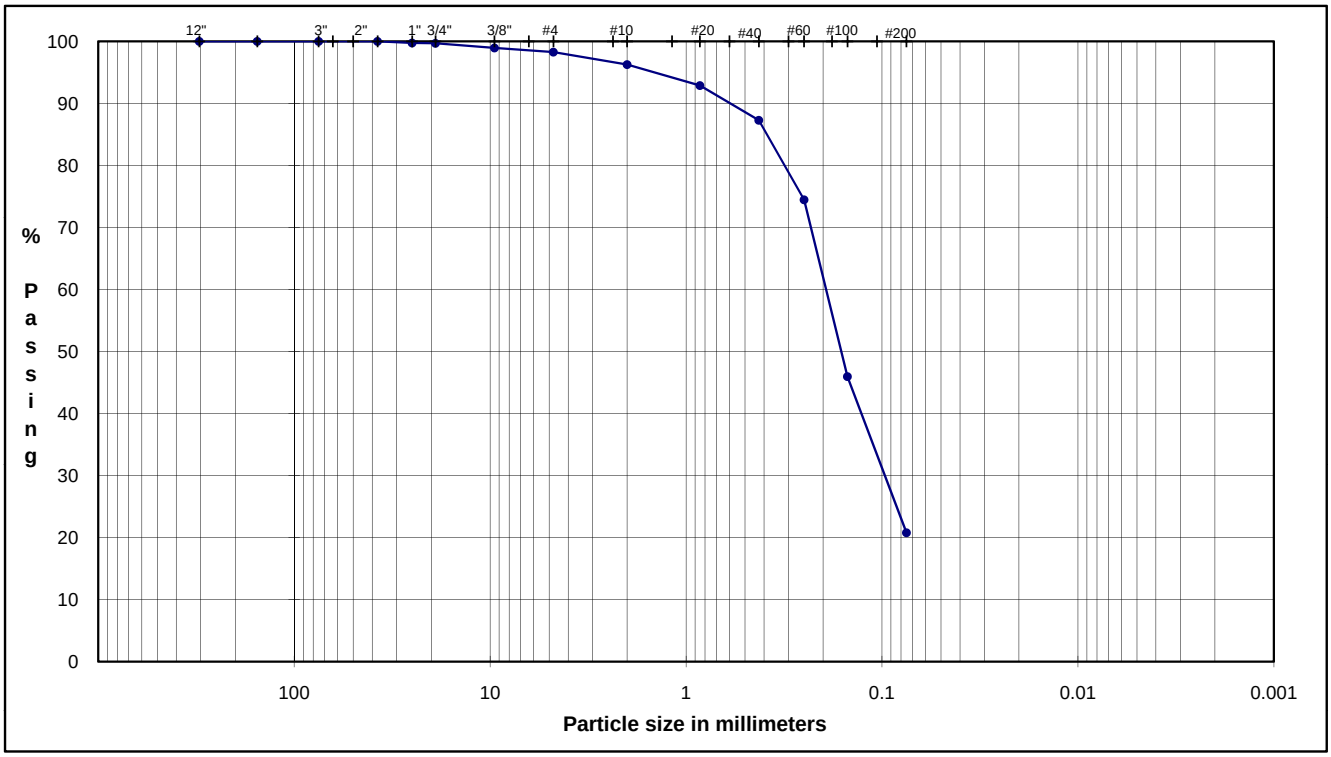
USCS: CL-ML

TECH	TES
DATE	1/15/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

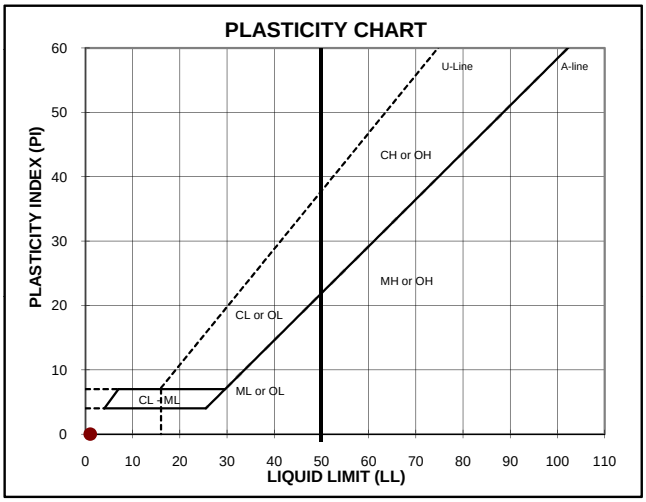
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-10** Depth (ft) **5.5-10**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**99.7**		
0.75"	19.0	**99.7**	Coarse Gravel	**0.30**
0.375"	9.5	**98.9**		
#4	4.8	**98.3**	Fine Gravel	**1.42**
#10	2.0	**96.2**	Coarse Sand	**2.03**
#20	0.9	**92.9**		
#40	0.4	**87.3**	Medium Sand	**8.97**
#60	0.3	**74.5**		
#100	0.2	**45.9**		
#200	0.1	**20.8**	Fine Sand	**66.51**
			Fines	**20.77**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Yellowish brown silty sand

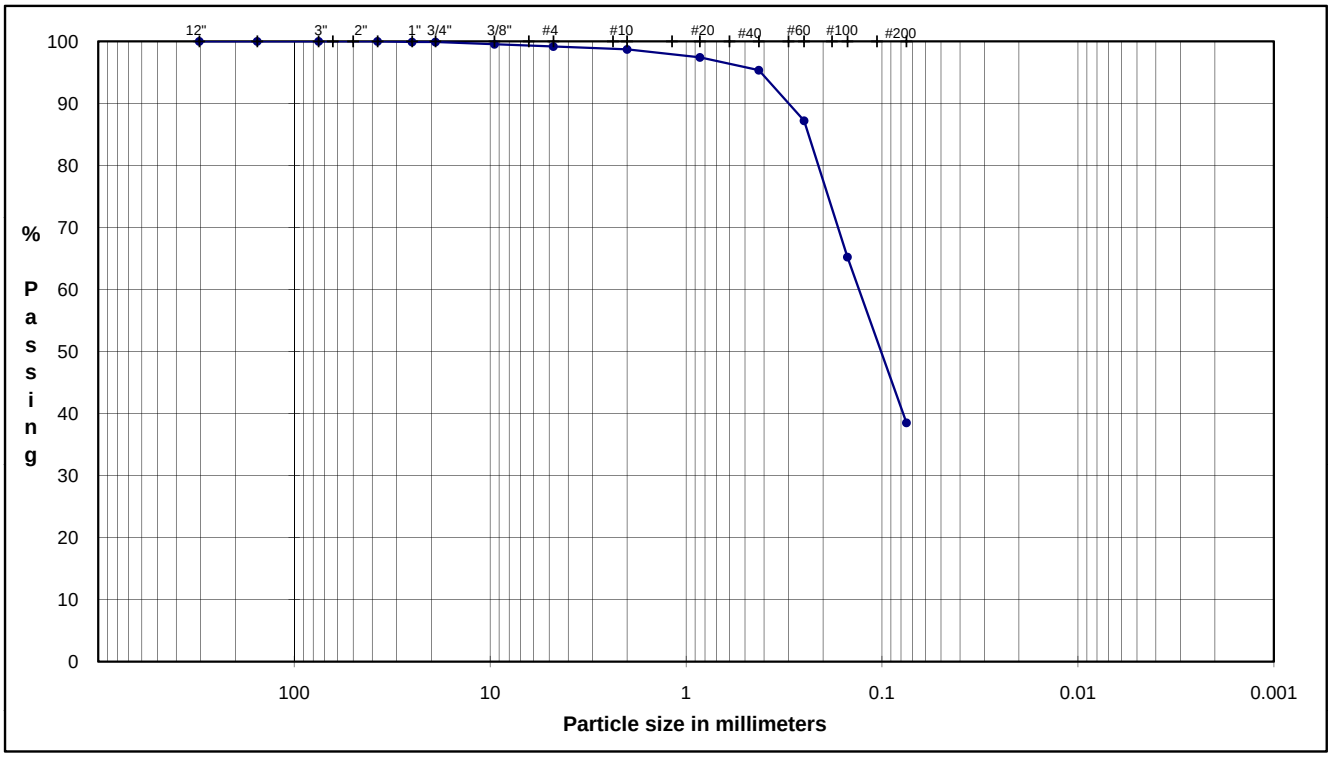
USCS: SM

TECH	TES
DATE	1/15/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

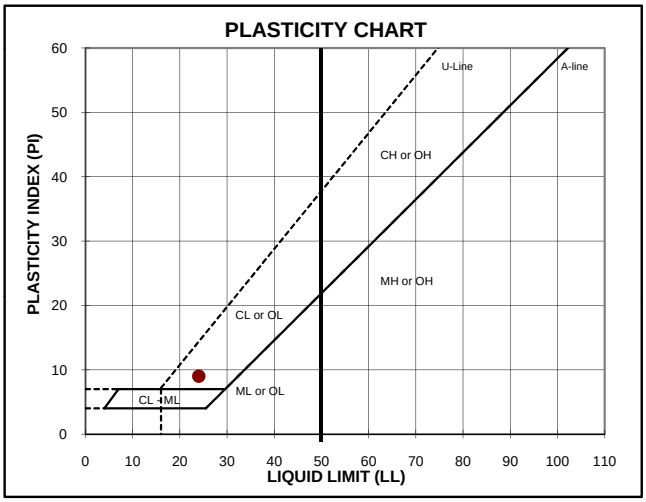
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-11** Depth (ft) **0-3**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**100.0**		
1.0"	25.0	**99.9**		
0.75"	19.0	**99.9**	Coarse Gravel	**0.10**
0.375"	9.5	**99.5**		
#4	4.8	**99.2**	Fine Gravel	**0.72**
#10	2.0	**98.7**	Coarse Sand	**0.47**
#20	0.9	**97.4**		
#40	0.4	**95.4**	Medium Sand	**3.35**
#60	0.3	**87.2**		
#100	0.2	**65.2**		
#200	0.1	**38.5**	Fine Sand	**56.88**
			Fines	**38.49**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	**24**	**15**	**9**	--

DESCRIPTION: Yellowish red clayey sand

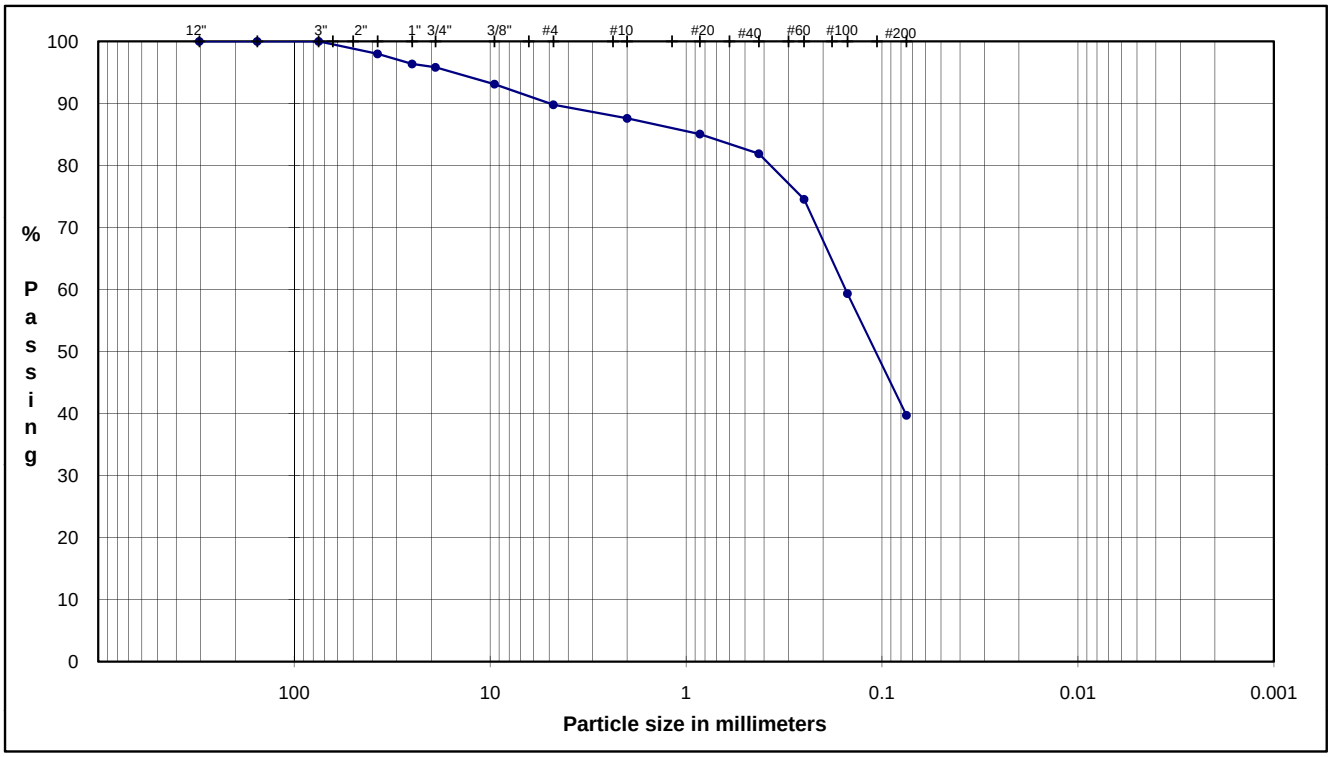
USCS: SC

TECH	DS
DATE	1/21/08
REVIEW	MB

PARTICLE SIZE DISTRIBUTION & ATTERBERG LIMITS

ASTM D421, D422, D4318

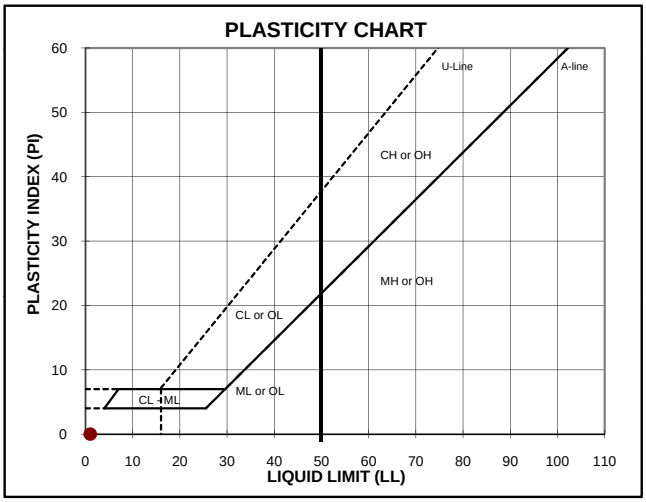
PROJECT NAME: **Energy Fuels/Geotech Pinon Ridge**
SAMPLE ID: **GA-TP-11** Depth (ft) **3-10.5**
TYPE: **Pail**



COBBLES	GRAVEL		SAND			FINES
	Coarse	Fine	Coarse	Medium	Fine	Silt or Clay

U.S. Standard Sieves Sizes and Numbers

	Particle Size (mm)	% Passing	Particle Size Classification	Percentage
12.0"	304.8	**100.0**		
6.0"	154.2	**100.0**	Cobbles	**0.00**
3.0"	75.0	**100.0**		
3.0"	75.0	**100.0**		
1.5"	37.5	**98.0**		
1.0"	25.0	**96.4**		
0.75"	19.0	**95.8**	Coarse Gravel	**4.17**
0.375"	9.5	**93.1**		
#4	4.8	**89.8**	Fine Gravel	**6.04**
#10	2.0	**87.6**	Coarse Sand	**2.18**
#20	0.9	**85.1**		
#40	0.4	**81.9**	Medium Sand	**5.71**
#60	0.3	**74.5**		
#100	0.2	**59.3**		
#200	0.1	**39.7**	Fine Sand	**42.19**
			Fines	**39.71**



ATTERBERG LIMITS

M_c	LL	PL	PI	SG
--	NP	NP	NP	--

DESCRIPTION: Light brown silty sand

USCS: SM

TECH	DS
DATE	1/21/08
REVIEW	MB