



Project Summary Memo
Via email

Date: 13 July 2021

To: Aaron Hughes, Land Management Agent
KPB Land Management Division

From: Cody McLane, PE

Project: KPB Sterling / Soldotna Parcels Soils Profile

Re: Parcel 06301111 Summary

In the summer of 2021 the Kenai Peninsula Borough (KPB) contracted with McLane Consulting Inc. (MCI) to conduct a soils investigation of parcel 06301111, located on Watkins Avenue (Sterling Highway to Robinson Loop Road to Oomingnak Street) in the Sterling area, Alaska. The intent of the soils investigation was to provide basic soils data for the respective parcel.

On June 29th and 30th MCI Engineer Cody McLane logged test holes at locations provided by the KPB (see soils profile for WGS84 positional locations). Test holes were excavated utilizing a John Deere 50D excavator utilizing benching technique to reach required depth of 12 to 13 feet. A stake with the test hole number was left at each location. A total of (5) test holes were excavated and logged, with the dominant strata sampled for additional testing by sieve analysis in test holes 1, 3 and 4.

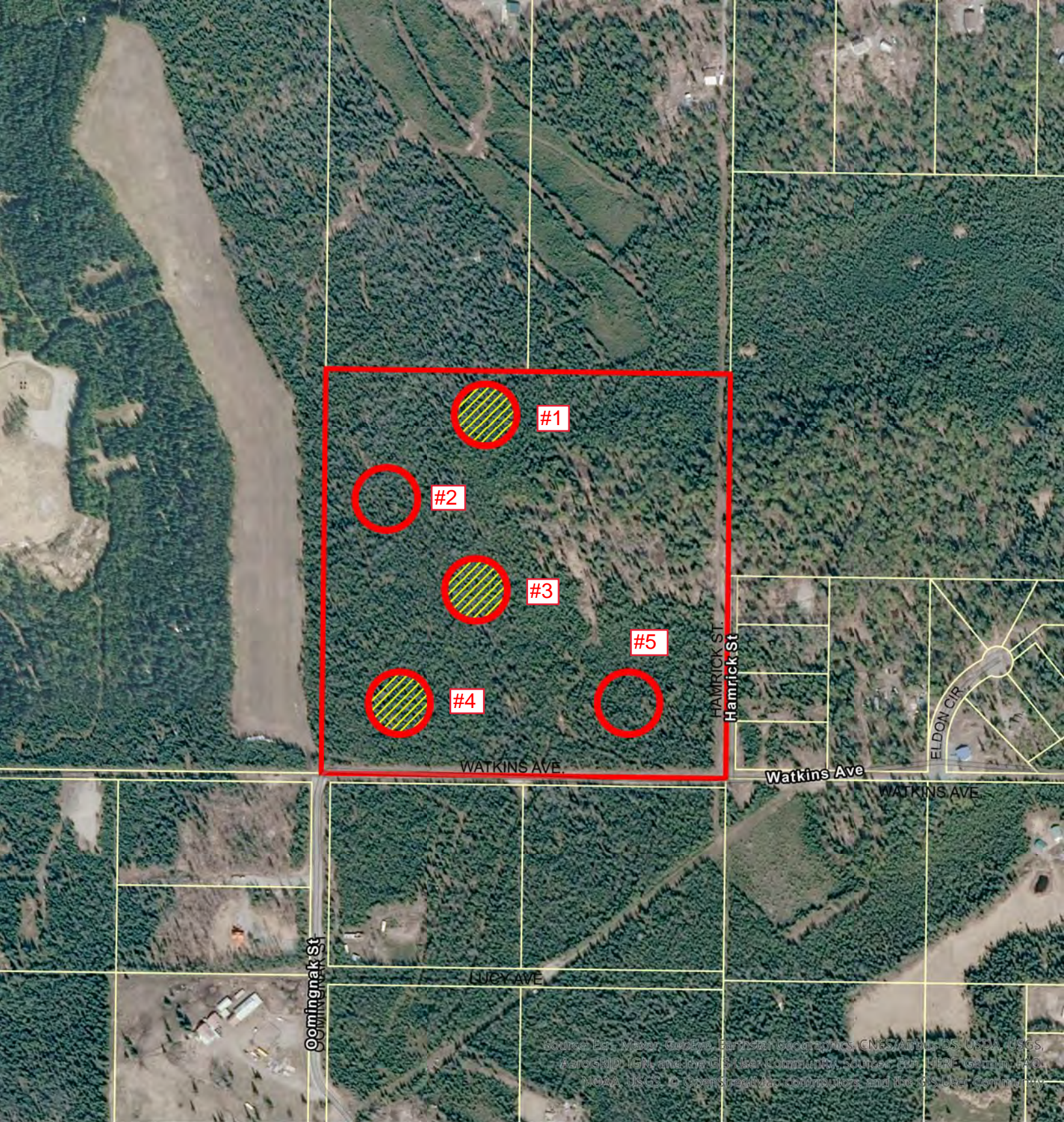
Soils of parcel 06301111 were found to be a mix of drained and well drained sands overlain by several feet of silt loam, which is typical of the general area. Trace amounts of gravel were found at depth in test holes 1 and 5. No ground water was encountered in any of the test holes. Test hole profiles, pictures, sieve analysis results and GIS parcel map with general test holes locations are attached to the end of this memo.

Please feel free to contact me if you have any questions or comments.

Sincerely,
Cody R. McLane, P.E.
Principal
McLane Consulting, Inc.





7/13/2021

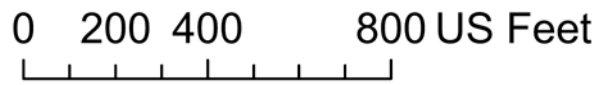


Site Map: 063-011-11



Legend

-  Proposed Test Hole
-  Proposed Test Hole With Sieve Analysis





Project: **SW1/4 NE1/4 Sec 4, T05N, R09W SM Soils Investigation (Parcel# 06301111)**
 Field Tech: Cody McLane
 Equipment: John Deere 50D Excavator
 Work Date: June 29 & 30, 2021
 Conditions: 6/29/2021: Sunny 65° F, 6/30/2021: Sunny, 65° F

LOG OF ON-SITE SOILS

Test Hole Number	Depth	USCS	Description / Date
#1	Location: Woods		29-Jun-21
	Latitude: 60°33'21.414" N		
	Longitude: 150°51'55.362" W		
	0.0 - 0.4	PT-OL	ROOT MAT & organics
	0.6 - 1.8	ML	Brown to tan-grey SILT loam
	1.8 - 2.8	ML	Grey SILT w/ sand
	2.8 - 4.0	SM	Silty, fine grain SAND
	4.0 - 6.0	ML	Grey SILT w/ sand & gravel
6.0 - 13.0	SP	Medium fine grain SAND w/ gravel	
* Sample taken at 7.5 - 8.5'			
* No ground water encountered			
#2	Location: Woods		29-Jun-21
	Latitude: 60°33'19.134" N		
	Longitude: 150°51'59.010" W		
	0.0 - 0.6	PT-OL	ROOT MAT & organics
	0.6 - 2.7	ML	Brown to tan-grey SILT loam, sand fraction bottom 0.3'
	2.7 - 9.0	SP-SM	Medium fine grain SAND w/ silt
9.0 - 12.9	SM	Silty, fine grain SAND	
* No ground water encountered			
#3	Location: Woods		29-Jun-21
	Latitude: 60°33'15.024" N		
	Longitude: 150°51'57.138" W		
	0.0 - 0.6	PT-OL	ROOT MAT & organics
	0.6 - 2.8	ML	Brown to tan-grey SILT loam, sand fraction bottom 0.3'
	2.8 - 5.9	SP-SM	Medium fine grain SAND w/ silt
5.9 - 8.6	ML	Grey SILT w/ sand	
8.6 - 13.0	SP	Medium fine grain SAND w/ silt	
* Sample taken at 9.5 - 10.5'			
* No ground water encountered.			

Project: **SW1/4 NE1/4 Sec 4, T05N, R09W SM Soils Investigation (Parcel# 06301111)**
 Field Tech: Cody McLane
 Equipment: John Deere 50D Excavator
 Work Date: June 29 & 30, 2021
 Conditions: 6/29/2021: Sunny 65° F, 6/30/2021: Sunny, 65° F

LOG OF ON-SITE SOILS

Test Hole Number	Depth	USCS	Description / Date
#4	Location:	Woods	30-Jun-21
	Latitude:	60°33'12.414" N	
	Longitude:	150°51'59.898" W	
	0.0 - 0.5	PT-OL	ROOT MAT & organics
	0.5 - 2.6	ML	Brown to tan-grey SILT loam, sand fraction bottom 0.3'
	2.6 - 7.0	SP-SM	Medium fine grain SAND w/ silt
	7.0 - 9.7	SM	Silty, fine grain SAND
	9.7 - 12.9	SP	Clean SAND
* Sample taken at 8.0 - 9.0'			
* Sample taken at 10.0 - 11.0'			
* No ground water encountered			
#5	Location:	Woods	30-Jun-21
	Latitude:	60°33'12.006" N	
	Longitude:	150°51'43.164" W	
	0.0 - 0.5	PT-OL	ROOT MAT & organics
	0.5 - 1.7	ML	Brown to tan-grey SILT loam, sand fraction bottom 0.3'
	1.7 - 12.5	SP	Clean, coarse grain SAND w/ gravel
	* No ground water encountered		

- Notes:
1. Groundwater not encountered in any test holes.
 2. No permafrost encountered or anticipated in this area.
 3. Grab samples were visually classified under the Unified Soils Classification System by Cody McLane PE.
 4. Test hole locations based on WGS84 datum and listed in degrees-minutes-seconds.

Test Hole #1



Test Hole #2





Test Hole #3



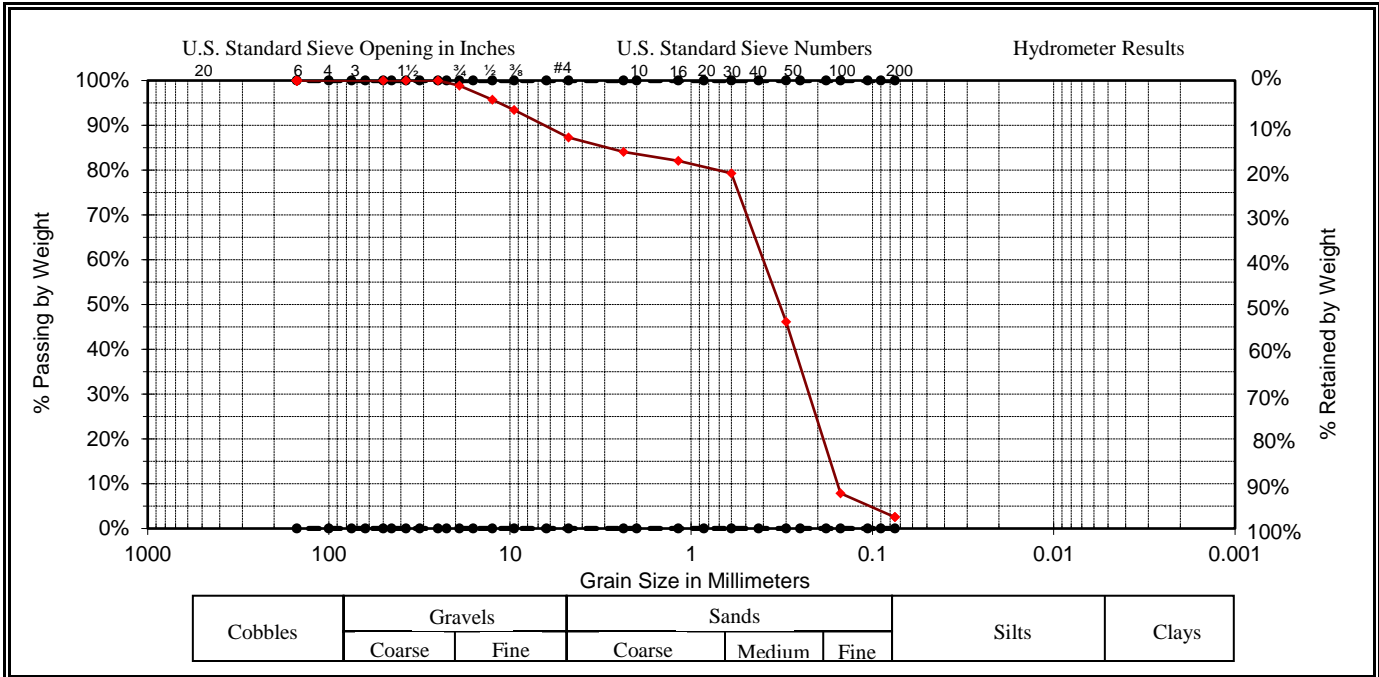


Test Hole #4



Test Hole #5





Cobbles	Gravels		Sands			Silts	Clays
	Coarse	Fine	Coarse	Medium	Fine		

Date : 06/29/21 D₁₀ = 0.16 **USCS Classification** % Sand

Sample #: D₃₀ = 0.24 **SP, Poorly graded Sand** 84.7%

Sample ID: D₆₀ = 0.43 **Specifications** % Gravel

Source: C_c = 0.83 **No Specs** 12.8%

Project: KPB C_u = 2.69 Sample Meets Specs % Silt & Clay

Location: Parcel 06301111 Liquid Limit= n/a n/a 2.5%

Boring #: TH 1 Plastic Limit= n/a Fineness Modulus

Depth: 7.5-8.5' Plasticity Index= n/a 2.21

Coarse Section					Fines Section						
Sieve Size		Actual Cumulative Percent Passing	Interpolated Cumulative Percent Passing	Specs Max	Specs Min	Sieve Size		Actual Cumulative Percent Passing	Interpolated Cumulative Percent Passing	Specs Max	Specs Min
US	Metric	Percent Passing	Percent Passing			US	Metric	Percent Passing	Percent Passing		
6.00"	150.00		100.0%			#4	4.750	87.2%	87.2%		
4.00"	100.00		100.0%			#8	2.360	84.0%	84.0%		
3.00"	75.00		100.0%			#10	2.000		83.4%		
2.50"	63.00		100.0%			#16	1.180	82.1%	82.1%		
2.00"	50.00	100.0%	100.0%			#20	0.850		80.5%		
1.75"	45.00		100.0%			#30	0.600	79.3%	79.3%		
1.50"	37.50	100.0%	100.0%			#40	0.425		60.0%		
1.25"	31.50		100.0%			#50	0.300	46.1%	46.1%		
1.00"	25.00	100.0%	100.0%			#60	0.250		33.4%		
7/8"	22.40		99.5%			#80	0.180		15.5%		
3/4"	19.00	98.9%	98.9%			#100	0.150	7.9%	7.9%		
5/8"	16.00		97.4%			#140	0.106		4.7%		
1/2"	12.50	95.7%	95.7%			#170	0.090		3.6%		
3/8"	9.50	93.4%	93.4%			#200	0.075	2.5%	2.5%		
1/4"	6.30		89.3%			#270	0.053				
#4	4.75	87.2%	87.2%								

Copyright Spears Engineering & Technical Services PS, 1996-2005

