

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

Note: If samples are submitted leave sieve analysis section blank

Form #157 Report No. **191399**

Sheet No. **1 of 13**

Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 390.25 to 391.25															
MP 390.245 NB																	
0" to 9 1/2"	1A	PCCP															
9 1/2" to 20"	1B	HMA															
20" to 30"	1C	Slightly Clayey Sand-Sample	0.00				100	99	95	65	24	22	5	A-2-4(0)		9360	
30" to 4'	1D	Clay, Sample	0.00				100	99	96	81	55	37	22	A-6(9)		6815	
MP 390.45 NB																	
0" to 9 3/4"	2A	PCCP															
9 3/4" to 21"	2B	HMA															
21" to 32"	2C	Sand-Sim to 6C												A-2-4(0)		25317	
32" to 4'	2D	Clayey Silt-Sim to 4E												A-6(2)		6815	
MP 390.65 NB																	
0" to 10 3/4"	3A	PCCP															
10 3/4" to 21"	3B	HMA															
21" to 36"	3C	Sand-Sim to 6C												A-2-4(0)		25317	
36" to 4'	3D	Clay-Sim to 5D												A-6(6)		6815	

Remarks:

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

Form #157 Report No. **191399**

Sheet No. **2 of 13**

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Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 390.25 to 391.25															
MP 390.85 NB																	
0" to 10 1/4"	4A	PCCP															
10 1/4" to 20"	4B	HMA															
20" to 30"	4C	Sand-Sim to 6C												A-2-4(0)		25317	
30" to 38"	4D	Clayey Silt-Sample	0.06				100	99	97	81	38	26	14	A-6(1)	1.22	6815	
38" to 4'	4E	Clayey Silt-Sample	0.04					100	99	88	41	28	14	A-6(2)	2.79	6815	
MP 391.054																	
0" to 10 1/2"	5A	PCCP															
10 1/2" to 21 1/2"	5B	HMA															
21 1/2" to 36"	5C	Sand-Sim to 6C												A-2-4(0)		25317	
36" to 4'	5D	Clay-Sample	0.04			100	99	99	96	81	54	32	18	A-6(6)	3.04	6815	
MP 391.247																	
0" to 9 3/4"	6A	PCCP															
9 3/4" to 19"	6B	HMA															
19" to 36"	6C	Sand-Sample	0.03				100	99	97	68	21	NV	NP	A-2-4(0)	1.12	25317	
36" to 4'	6D	Clay-Sample	0.07				100	98	92	67	44	32	17	A-6(3)	3.96	6815	

Remarks:

2019

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

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Form #157 Report No. **191399**

Sheet No. **3 of 13**

Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 407.32 to 407.93															
MP 407.32 NB																	
0" to 12 1/2"	7A	PCCP															
12 1/2" to 15"	7B	Clay-Sim to 7D												A-6(10)		6095	
15" to 36"	7C	Sandy Clay-Sample	0.05			100	99	97	92	50	19	23	8	A-2-4(0)	1.06	9360	
36" to 4'	7D	Clay-Sample	0.03			100	99	98	94	71	54	39	25	A-6(10)	2.79	6095	
MP 407.52 NB																	
0" to 13"	8A	PCCP															
13" to 27"	8B	HMA															
27" to 4'	8C	Sandy Clay-Sim to 10D												A-2-6(2)		7844	
MP 407.73 NB																	
0" to 10 3/4"	9A	PCCP															
10 3/4" to 27"	9B	HMA															
27" to 36"	9C	Sandy Silt-Sim to 10C												A-2-6(0)		9222	
36" to 4'	9D	Clay-Sample	0.04			100	99	96	86	52	35	33	19	A-2-6(2)	1.62	7247	

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2019

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

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Form #157 Report No. **191399**

Sheet No. **4 of 13**

Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 407.32 to 407.93															
MP 407.938 NB																	
0" to 10 1/2"	10A	PCCP															
10 1/2" to 27"	10B	HMA															
27" to 36"	10C	Sandy Silt-Sample	0.05			100	98	93	78	45	24	30	14	A-2-6(0)	1.09	9222	
36" to 4'	10D	Sandy Clay-Sample	0.03			100	99	97	88	55	35	31	18	A-2-6(2)	1.87	7844	
		MP 408.60 to 409.60															
MP 408.60 NB																	
0" to 11 1/2"	11A	PCCP															
11 1/2" to 21"	11B	HMA															
21" to 40"	11C	Sand-Sim to 16C												A-2-4(0)		22953	
40" to 4'	11D	Clay-Sim to 16D												A-6(5)		6815	
MP 408.80 NB																	
0" to 12"	12A	PCCP															
12" to 21"	12B	HMA															
21" to 40"	12C	Sand-Sim to 16C												A-2-4(0)		22953	
40" to 4'	12D	Clay-Sim to 16D												A-6(5)		6815	

Remarks:

2019

**COLORADO DEPARTMENT OF TRANSPORTATION**  
**PRELIMINARY SOIL SURVEY**

Form #157 Report No. **191399**

Sheet No. **5 of 13**

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Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 408.60 to 409.60															
MP 409.00 NB																	
0" to 10 3/4"	13A	PCCP															
10 3/4" to 20 1/2"	13B	HMA															
20 1/2" to 42"	13C	Sand-Sim to 16C														A-2-4(0)	22953
42" to 4'	13D	Clay-Sim to 16D														A-6(5)	6815
MP 409.20 NB																	
0" to 10 1/2"	14A	PCCP															
10 1/2" to 20"	14B	HMA															
20" to 42"	14C	Sand-Sim to 16C														A-2-4(0)	22953
42" to 4'	14D	Clay-Sim to 16D														A-6(5)	6815
MP 409.40 NB																	
0" to 11"	15A	PCCP															
11" to 22"	15B	HMA															
22" to 36"	15C	Sand-Sim to 16C														A-2-4(0)	22953
36" to 4'	15D	Clay-Sim to 16D														A-6(5)	6815

Remarks:

2019

**COLORADO DEPARTMENT OF TRANSPORTATION**  
**PRELIMINARY SOIL SURVEY**

Form #157 Report No. **191399**

Sheet No. **6 of 13**

Note: If samples are submitted leave sieve analysis section blank

Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 408.60 to 409.60															
MP 409.60 NB																	
0" to 10 1/2"	16A	PCCP															
10 1/2" to 19 1/2"	16B	HMA															
19 1/2" to 36"	16C	Sand-Sample	0.03			100	99	98	94	59	17	NV	NP	A-2-4(0)	0.79	22953	
36" to 4'	16D	Clay-Sample	0.05			100	99	99	96	75	51	32	18	A-6(5)	2.99	6815	
		MP 410.0 to 411.0															
MP 410.00 SB																	
0" to 11 1/2"	17A	PCCP															
11 1/2" to 21"	17B	HMA															
21" to 4'	17C	Clayey Coarse Sand-Sample	0.04			100	98	88	38	22	33	20		A-2-6(0)	1.07	7950	
MP 410.20 SB																	
0" to 11 1/4"	18A	PCCP															
11 1/4" to 16 1/2"	18B	HMA															
16 1/2" to 23"	18C	Clayey Sand-Sample	0.08			100	99	96	86	47	26	30	17	A-2-6(0)	1.07	7501	
23" to 36"	18D	Fine Sand-Sample	0.03					100	98	65	17	NV	NP	A-2-4(0)	0.57	22953	
36" to 4'	18E	Clay-Sample	0.04			100	99	98	93	63	34	29	16	A-2-6(1)	1.64	7377	

Remarks:

2019

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

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Form #157 Report No. **191399**

Sheet No. **7 of 13**

Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 410.00 to 411.00															
MP 410.40 SB																	
0" to 11 1/2"	19A	PCCP															
11 1/2" to 17"	19B	HMA															
17" to 4'	19C	Fine Sand-Sim to 18D													A-2-4(0)		22953
MP 410.60 SB																	
0" to 11 1/4"	20A	PCCP															
11 1/4" to 16 3/4"	20B	HMA															
16 3/4" to 42"	20C	Fine Sand-Sim to 18D													A-2-4(0)		22953
42" to 4'	20D	Clay-Sim to 18E													A-2-6(1)		7377
MP 410.80 SB																	
0" to 11 3/4"	21A	PCCP															
11 3/4" to 17 1/2"	21B	HMA															
17 1/2" to 42"	21C	Fine Sand-Sim to 18D													A-2-4(0)		22953
42" to 4'	21D	Clay-Sample	0.77						100	96	78	66	46	29	A-7-6(17)	3.97	6095

Remarks:

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

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Form #157 Report No. **191399**

Sheet No. **8 of 13**

Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 410.00 to 411.00															
MP 411.00 SB																	
0" to 11 3/4"	22A	PCCP															
11 3/4" to 18"	22B	HMA															
18" to 42"	22C	Fine Sand-Sim to 18D													A-2-4(0)		22953
42" to 4'	22D	Clay-Sim to 21D													A-7-6(17)		6095
		MP 414.66 to 415.26															
MP 414.66 SB																	
0" to 11 3/4"	23A	PCCP															
11 3/4" to 20"	23B	HMA															
20" to 25"	23C	Coarse Sand-Sim to 24C													A-1-b(0)		22953
25" to 38"	23D	Clay-Sample	0.29				100	98	92	57	41	38	24		A-6(5)	1.92	6296
38" to 4'	23E	Sandy Clay-Sample	0.66			100	99	96	88	49	34	41	26		A-2-7(3)	2.54	6482
MP 414.86 SB																	
0" to 10 1/2"	24A	PCCP															
10 1/2" to 22"	24B	HMA															
22" to 38"	24C	Coarse Sand-Sample	0.09			100	99	92	83	31	12	NV	NP		A-1-b(0)	0.54	22953
38" to 4'	24D	Clay-Sim to 23D													A-6(5)		6296

Remarks:

2019



**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

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Form #157 Report No. **191399**

Sheet No. **9 of 13**

Project No. **SH 40H, MP 390.25 to 435.13**

Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 414.66 to 415.26															
MP 415.06 SB																	
0" to 10 1/2"	25A	PCCP															
10 1/2" to 17"	25B	HMA															
17" to 20"	25C	Clay-Sim to 25F												A-7-6(11)		5631	
20" to 34"	25D	Coarse Sand-Sample	0.05			100	99	91	74	30	14	25	13	A-2-6(0)	0.63	23715	
34" to 40"	25E	Fine Sand-Sample	0.04			100	99	95	81	35	13	21	8	A-2-4(0)	0.75	25317	
40" to 4'	25F	Clay-Sample	0.56			100	99	93	87	61	50	47	32	A-7-6(11)	2.52	5631	
MP 415.26 SB																	
0" to 12"	26A	PCCP															
12" to 20"	26B	HMA															
20" to 26 1/2"	26C	Sand-Sim to 25D												A-2-6(0)		23715	
26 1/2" to 36"	26D	Clay-Sim to 25F												A-7-6(11)		5631	
36" to 4'	26E	Coarse Clayey Sand-Sample	0.19			100	99	98	87	43	25	31	19	A-2-6(0)	1.13	7501	

Remarks:

**COLORADO DEPARTMENT OF TRANSPORTATION**  
**PRELIMINARY SOIL SURVEY**

Form #157 Report No. **191399**

Sheet No. **10 of 13**

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Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 417.60 to 418.20															
MP 417.60 NB																	
0" to 10"	27A	PCCP															
10" to 20"	27B	HMA															
20" to 36"	27C	Sand-Sim to 30C													A-1-b(0)		23715
36" to 4'	27D	Clay-Sim to 29D													A-6(7)		7111
MP 417.80 NB																	
0" to 11"	28A	PCCP															
11" to 22"	28B	HMA															
22" to 30"	28C	Sand-Sim to 30C													A-1-b(0)		23715
30" to 4'	28D	Clay-Sample	0.13				100	99	98	90	55	40	37	23	A-6(4)	1.63	
MP 418.00 NB																	
0" to 11"	29A	PCCP															
11" to 20"	29B	HMA															
20" to 38"	29C	Sand-Sim to 30C													A-1-b(0)		23715
38" to 4'	29D	Clay-Sample	0.92				100	98	97	89	59	45	40	25	A-6(7)	2.46	7111

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2019

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

Form #157 Report No. **191399**

Sheet No. **11 of 13**

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Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 417.60 to 418.20															
MP 418.20 NB																	
0" to 11 1/2"	30A	PCCP															
11 1/2" to 13 1/2"	30B	HMA															
13 1/2" to 36"	30C	Sand-Sample	0.03			100	99	93	84	34	14	19	6	A-1-b(0)	0.54	23715	
36" to 4'	30D	Clay-Sample	1.12			100	99	98	94	66	53	43	27	A-7-6(10)	3.29	5631	
		MP 434.13 to 435.13															
MP 434.13 NB																	
0" to 9"	31A	PCCP															
9" to 17"	31B	HMA															
17" to 36"	31C	Sand-Sim to 36C												A-1-b(0)		14058	
36" to 4'	31D	Sandy Clay-Sim to 33D												A-6(3)		8152	
MP 434.33 NB																	
0" to 9 1/2"	32A	PCCP															
9 1/2" to 18"	32B	HMA															
18" to 42"	32C	Sand-Sim to 36C												A-1-b(0)		14058	
42" to 4'	32D	Silt-Sample	0.04					100	97	80	66	31	14	A-6(7)	1.99	8152	

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2019

**COLORADO DEPARTMENT OF TRANSPORTATION  
PRELIMINARY SOIL SURVEY**

Form #157 Report No. **191399**

Sheet No. **12 of 13**

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Station and Log	Test No.	Description	Sulfates	Max Size	Percent passing								Liquid limit	Plastic Index	Classification & Group Index	Mois- ture %	M <sub>R</sub> P.S.I.
					3"	1"	3/4"	3/8"	#4	#10	#40	#200					
		MP 434.13 to 435.13															
MP 434.53 NB																	
0" to 9 3/4"	33A	PCCP															
9 3/4" to 21"	33B	HMA															
21" to 38"	33C	Sand-Sim to 36C															14058
38" to 4'	33D	Sandy Clay-Sample	0.05				100	99	98	94	68	48	28	14	A-6(3)	1.26	8152
MP 434.73 NB																	
0" to 9 1/4"	34A	PCCP															
9 1/4" to 16"	34B	HMA															
16" to 38"	34C	Sand-Sim to 36C															14058
38" to 4'	34D	Slightly Clayey Sand-Sample	0.03				100	99	97	70	32	22	10	A-2-4(0)	1.05	6482	
MP 434.93 NB																	
0" to 9 3/4"	35A	PCCP															
9 3/4" to 17"	35B	HMA															
17" to 33"	35C	Sand-Sim to 36C															14058
33" to 4'	35D	Saturated Clay-Sample	0.04				100	99	97	93	62	36	25	14	A-6(1)	1.35	8152

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2019

