Nuclear Density Sampling Data (April 14)

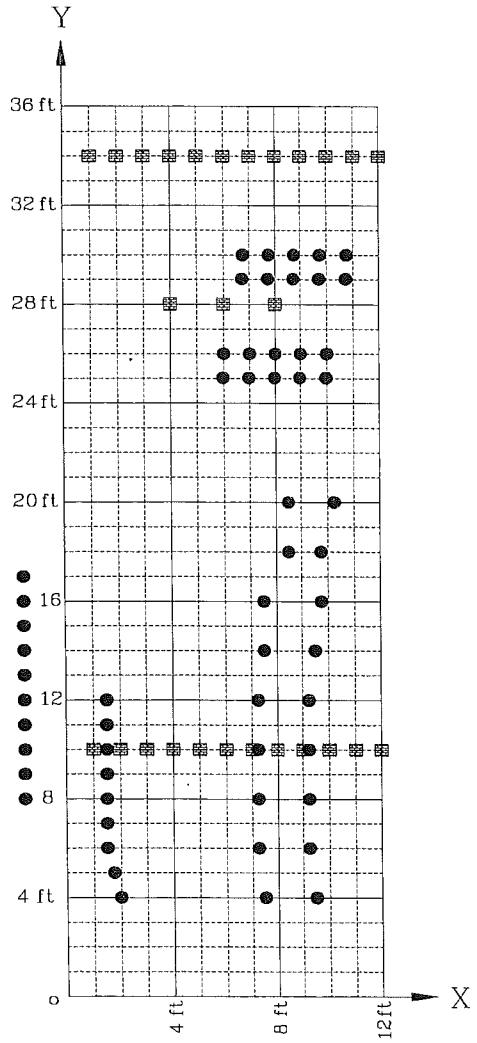
SITE 5 US-12 W. Bound (west of Moscow road), Hillsdale County

Chart Standard	Density	2863
	Moisture	652
Operating Standard	Density	2889
	Moisture	664

Gauge No.	101953
Model	Troxler 3440
Inspector	Mike Mullikin

Transverse		Transverse	
0134	137.2	**0110**	145.0
0234	141.2	**0210**	142.1
0334	145.5	**0310**	142.1
0434	147.9	**0410**	146.6
0534	148.9	**0510**	140.8
0634	146.7	**0610**	142.5
0734	147.6	**0710**	146.6
0834	147.6	**0810**	145.7
0934	149.3	**0910**	146.4
1034	147.1	**1010**	153.8
1134	148.7	**1110**	143.3
1234	139.9	**1210**	144.9
mean	145.6	mean	145.0
std	3.97	std	3.42

Joint	
0428	144.7
0628	150.6
0828	144.3
mean	146.5
std	3.53



Date 6/3/98 Highway

Tested By Joel Davenport Site Site 5

Checked By

Remarks

1	2	3	4	5	6	7	8	9	10
Specimen Number	Course Description	Weight in air (g)	SSD Weight (g)	Weight in water (g)	Volume (SSD) [4-5](cm^3)	Volume (air) [3-5](cm^3)	Specific Gravity SSD [4/6]	Specific Gravity air [3/7]	Remarks
205		2068.2	2075.6	1174.5	901.1	893.7	2.303	2.314	
209		2115.1	2122.7	1193.4	929.3	921.7	2.284	2.295	
210		2049.5	2055.6	1164.4	891.2	885.1	2.307	2.316	
211		1983.8	1988.5	1130.0	858.5	853.8	2.316	2.323	
710		1673.7	1676.9	955.1	721.8	718.6	2.323	2.329	
712		1542.0	1545.6	878.0	667.6	664.0	2.315	2.322	
714		1477.5	1487.5	838.7	648.8	638.8	2.293	2.313	
825		1668.1	1669.3	973.8	695.5	694.3	2.400	2.403	
829		1621.3	1626.8	918.7	708.1	702.6	2.297	2.308	
1025		1623.2	1624.5	941.4	683.1	681.8	2.378	2.381	
1129		1770.0	1773.2	1024.5	748.7	745.5	2.368	2.374	
Control 5		1682.0	1686.2	957.5	728.7	724.5	2.314	2.322	

Date 6/11/98 Highway

Tested By Joel Davenport Site Site 5

Checked By

Remarks Samples 0204 and 0706 were taken from site as surface course only.

1	2	3	4	5	6	7	8	9	10
Specimen Number	Course Description	Weight in air (g)	SSD Weight (g)	Weight in water (g)	Volume (SSD) [4-5](cm^3)	Volume (air) [3-5](cm^3)	Specific Gravity SSD [4/6]	Specific Gravity air [3/7]	Remarks
204		2128.8	2150.3	1188.6	961.7	940.2	2.236	2.264	
206		2140.8	2146.7	1223.9	922.8	916.9	2.326	2.335	
706		1844.7	1872.8	1056.7	816.1	788.0	2.295	2.341	
830		1542.8	1545.6	882.4	663.2	660.4	2.331	2.336	
1029		1753.7	1755.5	1024.1	731.4	729.6	2.400	2.404	
Control 4		1796.0	1800.8	1022.9	777.9	773.1	2.315	2.323	
Control 8		1650.9	1662.9	928.5	734.4	722.4	2.264	2.285	
Control 9		1617.1	1621.9	914.8	707.1	702.3	2.294	2.303	
	6/17/98								
428 (Joint)		1954.9	1958.1	1122.7	835.4	832.2	2.344	2.349	
628 (Joint)		1885.9	1887.9	1091.0	796.9	794.9	2.369	2.372	

Date 6/9/98 Highway

Tested By Joel Davenport Site Site 5

Checked By

Remarks

1	2	3	4	5	6	7	8	9	10
Specimen Number	Course Description	Weight in air (g)	SSD Weight (g)	Weight in water (g)	Volume (SSD) [4-5](cm^3)	Volume (air) [3-5](cm^3)	Specific Gravity SSD [4/6]	Specific Gravity air [3/7]	Remarks
704		1864.4	1887.1	1042.3	844.8	822.1	2.234	2.268	
708		1741.2	1760.1	980.5	779.6	760.7	2.258	2.289	
904		1876.1	1892.4	1054.4	838.0	821.7	2.258	2.283	
906		1693.3	1731.0	959.8	771.2	733.5	2.245	2.309	
908		1532.1	1561.4	870.8	690.6	661.3	2.261	2.317	
910		1529.1	1556.4	862.8	693.6	666.3	2.244	2.295	
912		1374.2	1393.0	766.1	626.9	608.1	2.222	2.260	
914		1353.8	1369.4	766.1	603.3	587.7	2.270	2.304	
	6/10/98								
625		1830.0	1831.5	1056.7	774.8	773.3	2.364	2.366	
725		1731.0	1734.3	994.8	739.5	736.2	2.345	2.351	
729		1439.4	1443.9	814.0	629.9	625.4	2.292	2.302	
828 (Joint)		1796.2	1798.4	1042.3	756.1	753.9	2.379	2.383	
925		1732.3	1733.7	1008.4	725.3	723.9	2.390	2.393	
926		1658.5	1659.6	967.7	691.9	690.8	2.399	2.401	
929		1717.5	1719.6	988.6	731.0	728.9	2.352	2.356	
Control 10		1658.3	1664.4	938.0	726.4	720.3	2.291	2.302	

Sieve Analysis

Weight of bags & soil	1683.4
Weight of soil	1665.7

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 Control 4	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	12.6	0.76	0.76	99.24
	3/8 inch	9.50	2.754	251.5	15.10	15.86	84.14
	No. 4	4.75	2.016	569.7	34.21	50.07	49.93
	No. 8	2.37	1.474	261.6	15.71	65.77	34.23
	No. 16	1.18	1.077	203.0	12.19	77.96	22.04
	No. 30	0.60	0.795	135.6	8.14	86.11	13.89
	No. 50	0.30	0.582	109.8	6.59	92.70	7.30
	No. 100	0.15	0.426	54.5	3.27	95.97	4.03
	No. 200	0.08	0.312	38.1	2.29	98.26	1.74
	Pan			29.0	1.74	100.00	0.00
			Total weight	1665.4	100.00		

Operator	Joel Davenport	Weight of tear & soil	2565.2
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1665.3

Sieve Analysis

Weight of bags & soil	1575.4
Weight of soil	1557.8

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 Control 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	5.5	0.35	0.35	99.65
	3/8 inch	9.50	2.754	208.8	13.40	13.76	86.24
	No. 4	4.75	2.016	524.7	33.68	47.44	52.56
	No. 8	2.37	1.474	270.1	17.34	64.78	35.22
	No. 16	1.18	1.077	156.9	10.07	74.85	25.15
	No. 30	0.60	0.795	127.1	8.16	83.01	16.99
	No. 50	0.30	0.582	120.8	7.75	90.76	9.24
	No. 100	0.15	0.426	64.8	4.16	94.92	5.08
	No. 200	0.08	0.312	40.3	2.59	97.51	2.49
	Pan			38.8	2.49	100.00	0.00
			Total weight	1557.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2457.7
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1557.8

Sieve Analysis

Weight of bags & soil	1549.6
Weight of soil	1532.1

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 Control 8	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	183.5	11.98	11.98	88.02
	No. 4	4.75	2.016	575.9	37.60	49.58	50.42
	No. 8	2.37	1.474	275.3	17.97	67.55	32.45
	No. 16	1.18	1.077	147.4	9.62	77.17	22.83
	No. 30	0.60	0.795	114.4	7.47	84.64	15.36
	No. 50	0.30	0.582	103.3	6.74	91.38	8.62
	No. 100	0.15	0.426	58.8	3.84	95.22	4.78
	No. 200	0.08	0.312	37.7	2.46	97.68	2.32
	Pan			35.5	2.32	100.00	0.00
			Total weight	1531.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2431.7
Date	6/24/98	Weight of tear	899.9
Remarks		Weight of soil	1531.8

Sieve Analysis

Weight of bags & soil	1517.5
Weight of soil	1500.0

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 Control 9	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	4.1	0.27	0.27	99.73
	3/8 inch	9.50	2.754	211.0	14.07	14.34	85.66
	No. 4	4.75	2.016	553.1	36.87	51.21	48.79
	No. 8	2.37	1.474	237.8	15.85	67.07	32.93
	No. 16	1.18	1.077	172.3	11.49	78.55	21.45
	No. 30	0.60	0.795	116.2	7.75	86.30	13.70
	No. 50	0.30	0.582	98.9	6.59	92.89	7.11
	No. 100	0.15	0.426	49.0	3.27	96.16	3.84
	No. 200	0.08	0.312	31.8	2.12	98.28	1.72
	Pan			25.8	1.72	100.00	0.00
			Total weight	1500.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	2399.9
Date	6/24/98	Weight of tear	899.9
Remarks		Weight of soil	1500.0

Sieve Analysis

Weight of bags & soil	1559.8
Weight of soil	1542.1

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 Control 10	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	225.2	14.61	14.61	85.39
	No. 4	4.75	2.016	524.4	34.01	48.62	51.38
	No. 8	2.37	1.474	276.2	17.91	66.53	33.47
	No. 16	1.18	1.077	202.6	13.14	79.67	20.33
	No. 30	0.60	0.795	120.2	7.80	87.47	12.53
	No. 50	0.30	0.582	107.8	6.99	94.46	5.54
	No. 100	0.15	0.426	41.8	2.71	97.17	2.83
	No. 200	0.08	0.312	31.9	2.07	99.24	0.76
	Pan			11.7	0.76	100.00	0.00
			Total weight	1541.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2441.7
Date	6/24/98	Weight of tear	899.9
Remarks		Weight of soil	1541.8

Sieve Analysis

Weight of bags & soil	1997.6
Weight of soil	1979.9

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
204	1/2 inch	12.50	3.116	10.6	0.54	0.54	99.46
	3/8 inch	9.50	2.754	274.2	13.85	14.39	85.61
	No. 4	4.75	2.016	692.3	34.98	49.37	50.63
	No. 8	2.37	1.474	311.8	15.75	65.12	34.88
	No. 16	1.18	1.077	233.7	11.81	76.93	23.07
	No. 30	0.60	0.795	174.2	8.80	85.73	14.27
	No. 50	0.30	0.582	132.1	6.67	92.40	7.60
	No. 100	0.15	0.426	74.0	3.74	96.14	3.86
	No. 200	0.08	0.312	53.2	2.69	98.83	1.17
	Pan			23.2	1.17	100.00	0.00
			Total weight	1979.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2879.2
Date	6/23/98	Weight of tear	899.8
Remarks		Weight of soil	1979.4

Sieve Analysis

Weight of bags & soil	1935.0
Weight of soil	1917.3

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 205	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	11.3	0.59	0.59	99.41
	3/8 inch	9.50	2.754	282.0	14.71	15.30	84.70
	No. 4	4.75	2.016	619.8	32.33	47.62	52.38
	No. 8	2.37	1.474	329.3	17.18	64.80	35.20
	No. 16	1.18	1.077	255.2	13.31	78.11	21.89
	No. 30	0.60	0.795	159.8	8.33	86.44	13.56
	No. 50	0.30	0.582	142.4	7.43	93.87	6.13
	No. 100	0.15	0.426	58.0	3.03	96.90	3.10
	No. 200	0.08	0.312	42.3	2.21	99.10	0.90
	Pan			17.2	0.90	100.00	0.00
			Total weight	1917.30	100.00		

Operator	Joel Davenport	Weight of tear & soil	2817.2
Date	6/10/98	Weight of tear	899.9
Remarks		Weight of soil	1917.3

Sieve Analysis

Weight of bags & soil	1998.7
Weight of soil	1981.0

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 206	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	5.3	0.27	0.27	99.73
	3/8 inch	9.50	2.754	261.9	13.22	13.49	86.51
	No. 4	4.75	2.016	622.9	31.45	44.94	55.06
	No. 8	2.37	1.474	352.7	17.81	62.74	37.26
	No. 16	1.18	1.077	247.3	12.48	75.23	24.77
	No. 30	0.60	0.795	180.8	9.13	84.35	15.65
	No. 50	0.30	0.582	157.7	7.96	92.32	7.68
	No. 100	0.15	0.426	70.3	3.55	95.87	4.13
	No. 200	0.08	0.312	45.1	2.28	98.14	1.86
	Pan			36.8	1.86	100.00	0.00
			Total weight	1980.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2880.7
Date	6/23/98	Weight of tear	899.8
Remarks		Weight of soil	1980.9

Sieve Analysis

Weight of bags & soil	1973.2
Weight of soil	1955.7

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 209	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	264.1	13.50	13.50	86.50
	No. 4	4.75	2.016	635.5	32.49	46.00	54.00
	No. 8	2.37	1.474	357.0	18.25	64.25	35.75
	No. 16	1.18	1.077	222.3	11.37	75.62	24.38
	No. 30	0.60	0.795	183.5	9.38	85.00	15.00
	No. 50	0.30	0.582	133.2	6.81	91.81	8.19
	No. 100	0.15	0.426	75.8	3.88	95.69	4.31
	No. 200	0.08	0.312	48.6	2.49	98.17	1.83
	Pan			35.7	1.83	100.00	0.00
			Total	1955.7	100.00		
			weight				

Operator	Joel Davenport	Weight of tear & soil	2855.6
Date	6/10/98	Weight of tear	899.9
Remarks		Weight of soil	1955.7

Sieve Analysis

Weight of bags & soil	1915.5
Weight of soil	1897.9

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
210	1/2 inch	12.50	3.116	9.8	0.52	0.52	99.48
	3/8 inch	9.50	2.754	264.8	13.95	14.47	85.53
	No. 4	4.75	2.016	624.5	32.90	47.37	52.63
	No. 8	2.37	1.474	336.9	17.75	65.12	34.88
	No. 16	1.18	1.077	237.0	12.49	77.61	22.39
	No. 30	0.60	0.795	189.9	10.01	87.62	12.38
	No. 50	0.30	0.582	117.2	6.18	93.79	6.21
	No. 100	0.15	0.426	60.3	3.18	96.97	3.03
	No. 200	0.08	0.312	40.2	2.12	99.09	0.91
	Pan			17.3	0.91	100.00	0.00
			Total	1897.9	100.00		
			weight				

Operator	Joel Davenport	Weight of tear & soil	2797.8
Date	6/10/98	Weight of tear	899.9
Remarks		Weight of soil	1897.9

Sieve Analysis

Weight of bags & soil	1854.0
Weight of soil	1836.3

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
211	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	258.2	14.06	14.06	85.94
	No. 4	4.75	2.016	625.7	34.07	48.13	51.87
	No. 8	2.37	1.474	293.8	16.00	64.13	35.87
	No. 16	1.18	1.077	210.4	11.46	75.59	24.41
	No. 30	0.60	0.795	177.2	9.65	85.24	14.76
	No. 50	0.30	0.582	140.6	7.66	92.90	7.10
	No. 100	0.15	0.426	61.4	3.34	96.24	3.76
	No. 200	0.08	0.312	41.7	2.27	98.51	1.49
	Pan			27.3	1.49	100.00	0.00
			Total weight	1836.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2736.1
Date	6/10/98	Weight of tear	899.9
Remarks		Weight of soil	1836.2

Sieve Analysis

Weight of bags & soil	1831.6
Weight of soil	1814.0

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
428	1/2 inch	12.50	3.116	4.0	0.22	0.22	99.78
(Joint)	3/8 inch	9.50	2.754	263.1	14.51	14.73	85.27
	No. 4	4.75	2.016	611.4	33.71	48.44	51.56
	No. 8	2.37	1.474	303.5	16.73	65.17	34.83
	No. 16	1.18	1.077	208.1	11.47	76.65	23.35
	No. 30	0.60	0.795	150.7	8.31	84.96	15.04
	No. 50	0.30	0.582	117.2	6.46	91.42	8.58
	No. 100	0.15	0.426	72.8	4.01	95.43	4.57
	No. 200	0.08	0.312	45.6	2.51	97.95	2.05
	Pan			37.2	2.05	100.00	0.00
			Total weight	1813.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2713.5
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1813.6

Sieve Analysis

Weight of bags & soil	1713.8
Weight of soil	1696.2

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 625	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	198.4	11.70	11.70	88.30
	No. 4	4.75	2.016	589.9	34.78	46.48	53.52
	No. 8	2.37	1.474	298.2	17.58	64.06	35.94
	No. 16	1.18	1.077	208.5	12.29	76.36	23.64
	No. 30	0.60	0.795	148.6	8.76	85.12	14.88
	No. 50	0.30	0.582	123.6	7.29	92.41	7.59
	No. 100	0.15	0.426	66.9	3.94	96.35	3.65
	No. 200	0.08	0.312	44.0	2.59	98.94	1.06
	Pan			17.9	1.06	100.00	0.00
			Total weight	1696.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	2595.9
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1696.0

Sieve Analysis

Weight of bags & soil	1750.6
Weight of soil	1732.9

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
628	1/2 inch	12.50	3.116	3.4	0.20	0.20	99.80
(Joint)	3/8 inch	9.50	2.754	188.2	10.86	11.06	88.94
	No. 4	4.75	2.016	533.2	30.78	41.84	58.16
	No. 8	2.37	1.474	357.1	20.61	62.45	37.55
	No. 16	1.18	1.077	211.0	12.18	74.63	25.37
	No. 30	0.60	0.795	142.0	8.20	82.82	17.18
	No. 50	0.30	0.582	127.7	7.37	90.19	9.81
	No. 100	0.15	0.426	73.2	4.23	94.42	5.58
	No. 200	0.08	0.312	52.8	3.05	97.47	2.53
	Pan			43.9	2.53	100.00	0.00
			Total weight	1732.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2632.4
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1732.5

Sieve Analysis

Weight of bags & soil	1758.7
Weight of soil	1741.2

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 704	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	6.7	0.38	0.38	99.62
	3/8 inch	9.50	2.754	301.1	17.30	17.68	82.32
	No. 4	4.75	2.016	610.0	35.04	52.72	47.28
	No. 8	2.37	1.474	271.5	15.60	68.32	31.68
	No. 16	1.18	1.077	171.2	9.83	78.15	21.85
	No. 30	0.60	0.795	133.9	7.69	85.84	14.16
	No. 50	0.30	0.582	120.0	6.89	92.73	7.27
	No. 100	0.15	0.426	57.9	3.33	96.06	3.94
	No. 200	0.08	0.312	36.7	2.11	98.17	1.83
	Pan			31.9	1.83	100.00	0.00
			Total weight	1740.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	2640.7
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1740.8

Sieve Analysis

Weight of bags & soil	1743.5
Weight of soil	1725.9

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 706	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	4.2	0.24	0.24	99.76
	3/8 inch	9.50	2.754	335.2	19.43	19.67	80.33
	No. 4	4.75	2.016	596.4	34.56	54.23	45.77
	No. 8	2.37	1.474	248.9	14.42	68.66	31.34
	No. 16	1.18	1.077	164.6	9.54	78.20	21.80
	No. 30	0.60	0.795	120.7	7.00	85.19	14.81
	No. 50	0.30	0.582	134.6	7.80	92.99	7.01
	No. 100	0.15	0.426	55.3	3.20	96.20	3.80
	No. 200	0.08	0.312	40.7	2.36	98.56	1.44
	Pan			24.9	1.44	100.00	0.00
			Total weight	1725.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2625.3
Date	6/23/98	Weight of tear	899.8
Remarks		Weight of soil	1725.5

Sieve Analysis

Weight of bags & soil	1644.0
Weight of soil	1626.5

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 708	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	5.8	0.36	0.36	99.64
	3/8 inch	9.50	2.754	322.7	19.84	20.20	79.80
	No. 4	4.75	2.016	574.1	35.30	55.50	44.50
	No. 8	2.37	1.474	217.9	13.40	68.90	31.10
	No. 16	1.18	1.077	143.4	8.82	77.72	22.28
	No. 30	0.60	0.795	120.2	7.39	85.11	14.89
	No. 50	0.30	0.582	102.8	6.32	91.43	8.57
	No. 100	0.15	0.426	63.3	3.89	95.32	4.68
	No. 200	0.08	0.312	46.4	2.85	98.17	1.83
	Pan			29.7	1.83	100.00	0.00
			Total weight	1626.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2526.2
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1626.3

Sieve Analysis

Weight of bags & soil	1573.7
Weight of soil	1556.1

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 710	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	9.4	0.60	0.60	99.40
	3/8 inch	9.50	2.754	248.7	15.98	16.59	83.41
	No. 4	4.75	2.016	476.7	30.63	47.22	52.78
	No. 8	2.37	1.474	284.4	18.28	65.50	34.50
	No. 16	1.18	1.077	187.2	12.03	77.53	22.47
	No. 30	0.60	0.795	152.8	9.82	87.35	12.65
	No. 50	0.30	0.582	103.9	6.68	94.02	5.98
	No. 100	0.15	0.426	47.3	3.04	97.06	2.94
	No. 200	0.08	0.312	32.6	2.09	99.16	0.84
	Pan			13.1	0.84	100.00	0.00
			Total weight	1556.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	2456.0
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1556.1

Sieve Analysis

Weight of bags & soil	1451.6
Weight of soil	1434.0

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 712	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	8.7	0.61	0.61	99.39
	3/8 inch	9.50	2.754	183.7	12.81	13.42	86.58
	No. 4	4.75	2.016	488.4	34.06	47.48	52.52
	No. 8	2.37	1.474	264.1	18.42	65.89	34.11
	No. 16	1.18	1.077	160.9	11.22	77.11	22.89
	No. 30	0.60	0.795	137.0	9.55	86.67	13.33
	No. 50	0.30	0.582	101.1	7.05	93.72	6.28
	No. 100	0.15	0.426	44.9	3.13	96.85	3.15
	No. 200	0.08	0.312	31.5	2.20	99.04	0.96
	Pan			13.7	0.96	100.00	0.00
			Total weight	1434.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	2333.9
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1434.0

Sieve Analysis

Weight of bags & soil	1397.0
Weight of soil	1379.5

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 714	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	12.2	0.88	0.88	99.12
	3/8 inch	9.50	2.754	271.6	19.69	20.57	79.43
	No. 4	4.75	2.016	474.2	34.37	54.95	45.05
	No. 8	2.37	1.474	189.6	13.74	68.69	31.31
	No. 16	1.18	1.077	114.5	8.30	76.99	23.01
	No. 30	0.60	0.795	106.1	7.69	84.68	15.32
	No. 50	0.30	0.582	103.9	7.53	92.21	7.79
	No. 100	0.15	0.426	50.8	3.68	95.90	4.10
	No. 200	0.08	0.312	31.6	2.29	98.19	1.81
	Pan			25.0	1.81	100.00	0.00
			Total weight	1379.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2279.4
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1379.5

Sieve Analysis

Weight of bags & soil	1632.2
Weight of soil	1614.6

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 725	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	6.6	0.41	0.41	99.59
	3/8 inch	9.50	2.754	305.3	18.91	19.32	80.68
	No. 4	4.75	2.016	559.7	34.67	53.99	46.01
	No. 8	2.37	1.474	224.0	13.87	67.86	32.14
	No. 16	1.18	1.077	146.4	9.07	76.93	23.07
	No. 30	0.60	0.795	127.4	7.89	84.82	15.18
	No. 50	0.30	0.582	106.1	6.57	91.39	8.61
	No. 100	0.15	0.426	61.9	3.83	95.22	4.78
	No. 200	0.08	0.312	42.6	2.64	97.86	2.14
	Pan			34.5	2.14	100.00	0.00
			Total weight	1614.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2514.3
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1614.4

Sieve Analysis

Weight of bags & soil	1351.0
Weight of soil	1533.4

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
729	1/2 inch	12.50	3.116	2.7	0.20	0.20	99.80
	3/8 inch	9.50	2.754	153.3	11.50	11.70	88.30
	No. 4	4.75	2.016	439.3	32.95	44.66	55.34
	No. 8	2.37	1.474	241.3	18.10	62.76	37.24
	No. 16	1.18	1.077	153.0	11.48	74.23	25.77
	No. 30	0.60	0.795	132.0	9.90	84.13	15.87
	No. 50	0.30	0.582	110.9	8.32	92.45	7.55
	No. 100	0.15	0.426	47.3	3.55	96.00	4.00
	No. 200	0.08	0.312	43.1	3.23	99.23	0.77
	Pan			10.2	0.77	100.00	0.00
			Total weight	1333.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	2233.0
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1333.1

Sieve Analysis

Weight of bags & soil	1562.4
Weight of soil	1544.9

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 825	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	4.2	0.27	0.27	99.73
	3/8 inch	9.50	2.754	200.5	12.98	13.25	86.75
	No. 4	4.75	2.016	524.5	33.95	47.20	52.80
	No. 8	2.37	1.474	255.9	16.56	63.76	36.24
	No. 16	1.18	1.077	167.7	10.86	74.62	25.38
	No. 30	0.60	0.795	137.0	8.87	83.49	16.51
	No. 50	0.30	0.582	120.5	7.80	91.29	8.71
	No. 100	0.15	0.426	59.0	3.82	95.11	4.89
	No. 200	0.08	0.312	38.4	2.49	97.59	2.41
	Pan			37.2	2.41	100.00	0.00
			Total weight	1544.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	2444.8
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1544.9

Sieve Analysis

Weight of bags & soil	1669.2
Weight of soil	1651.7

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
828	1/2 inch	12.50	3.116	9.2	0.56	0.56	99.44
(Joint)	3/8 inch	9.50	2.754	180.8	10.95	11.50	88.50
	No. 4	4.75	2.016	525.5	31.82	43.32	56.68
	No. 8	2.37	1.474	301.5	18.25	61.57	38.43
	No. 16	1.18	1.077	202.7	12.27	73.85	26.15
	No. 30	0.60	0.795	183.4	11.10	84.95	15.05
	No. 50	0.30	0.582	122.6	7.42	92.37	7.63
	No. 100	0.15	0.426	66.3	4.01	96.39	3.61
	No. 200	0.08	0.312	38.8	2.35	98.73	1.27
	Pan			20.9	1.27	100.00	0.00
			Total weight	1651.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	2551.6
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1651.7

Sieve Analysis

Weight of bags & soil	1524.1
Weight of soil	1506.5

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 829	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	13.9	0.92	0.92	99.08
	3/8 inch	9.50	2.754	257.7	17.11	18.03	81.97
	No. 4	4.75	2.016	450.9	29.93	47.96	52.04
	No. 8	2.37	1.474	236.3	15.69	63.64	36.36
	No. 16	1.18	1.077	141.3	9.38	73.02	26.98
	No. 30	0.60	0.795	119.4	7.93	80.95	19.05
	No. 50	0.30	0.582	115.8	7.69	88.64	11.36
	No. 100	0.15	0.426	70.2	4.66	93.30	6.70
	No. 200	0.08	0.312	46.3	3.07	96.37	3.63
	Pan			54.7	3.63	100.00	0.00
			Total weight	1506.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2406.4
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1506.5

Sieve Analysis

Weight of bags & soil	1442.5
Weight of soil	1425.0

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
830	1/2 inch	12.50	3.116	4.1	0.29	0.29	99.71
	3/8 inch	9.50	2.754	197.5	13.86	14.15	85.85
	No. 4	4.75	2.016	462.4	32.45	46.60	53.40
	No. 8	2.37	1.474	271.2	19.03	65.64	34.36
	No. 16	1.18	1.077	132.8	9.32	74.96	25.04
	No. 30	0.60	0.795	125.3	8.79	83.75	16.25
	No. 50	0.30	0.582	117.1	8.22	91.97	8.03
	No. 100	0.15	0.426	52.0	3.65	95.62	4.38
	No. 200	0.08	0.312	44.3	3.11	98.73	1.27
	Pan			18.1	1.27	100.00	0.00
			Total weight	1424.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2324.7
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1424.8

Sieve Analysis

Weight of bags & soil	1762.6
Weight of soil	1745.2

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 904	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	18.9	1.08	1.08	98.92
	3/8 inch	9.50	2.754	259.9	14.89	15.98	84.02
	No. 4	4.75	2.016	630.7	36.15	52.12	47.88
	No. 8	2.37	1.474	256.3	14.69	66.81	33.19
	No. 16	1.18	1.077	176.0	10.09	76.90	23.10
	No. 30	0.60	0.795	167.5	9.60	86.50	13.50
	No. 50	0.30	0.582	118.3	6.78	93.28	6.72
	No. 100	0.15	0.426	55.7	3.19	96.47	3.53
	No. 200	0.08	0.312	38.5	2.21	98.68	1.32
	Pan			23.1	1.32	100.00	0.00
			Total weight	1744.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	2644.8
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1744.9

Sieve Analysis

Weight of bags & soil	1599.8
Weight of soil	1582.5

Weight of empty bags	17.3

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 906	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	5.5	0.35	0.35	99.65
	3/8 inch	9.50	2.754	218.3	13.80	14.14	85.86
	No. 4	4.75	2.016	581.2	36.73	50.88	49.12
	No. 8	2.37	1.474	253.3	16.01	66.88	33.12
	No. 16	1.18	1.077	155.0	9.80	76.68	23.32
	No. 30	0.60	0.795	146.2	9.24	85.92	14.08
	No. 50	0.30	0.582	101.2	6.40	92.31	7.69
	No. 100	0.15	0.426	53.5	3.38	95.70	4.30
	No. 200	0.08	0.312	50.5	3.19	98.89	1.11
	Pan			17.6	1.11	100.00	0.00
			Total weight	1582.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2482.2
Date	6/16/98	Weight of tear	899.9
Remarks		Weight of soil	1582.3

Sieve Analysis

Weight of bags & soil	1458.2
Weight of soil	1440.5

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 908	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	3.8	0.26	0.26	99.74
	3/8 inch	9.50	2.754	317.9	22.07	22.34	77.66
	No. 4	4.75	2.016	531.3	36.89	59.22	40.78
	No. 8	2.37	1.474	185.6	12.89	72.11	27.89
	No. 16	1.18	1.077	113.4	7.87	79.98	20.02
	No. 30	0.60	0.795	99.7	6.92	86.91	13.09
	No. 50	0.30	0.582	86.0	5.97	92.88	7.12
	No. 100	0.15	0.426	44.7	3.10	95.98	4.02
	No. 200	0.08	0.312	37.2	2.58	98.56	1.44
	Pan			20.7	1.44	100.00	0.00
			Total weight	1440.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2340.3
Date	6/17/98	Weight of tear	899.9
Remarks		Weight of soil	1440.4

Sieve Analysis

Weight of bags & soil	1444.0
Weight of soil	1426.4

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 910	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	171.9	12.05	12.05	87.95
	No. 4	4.75	2.016	496.2	34.79	46.84	53.16
	No. 8	2.37	1.474	253.1	17.75	64.59	35.41
	No. 16	1.18	1.077	140.5	9.85	74.44	25.56
	No. 30	0.60	0.795	115.7	8.11	82.55	17.45
	No. 50	0.30	0.582	128.5	9.01	91.56	8.44
	No. 100	0.15	0.426	52.8	3.70	95.26	4.74
	No. 200	0.08	0.312	41.1	2.88	98.14	1.86
	Pan			26.5	1.86	100.00	0.00
			Total weight	1426.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2326.2
Date	6/17/98	Weight of tear	900.0
Remarks		Weight of soil	1426.2

Sieve Analysis

Weight of bags & soil	1300.5
Weight of soil	1283.0

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 912	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	189.9	14.80	14.80	85.20
	No. 4	4.75	2.016	444.1	34.62	49.42	50.58
	No. 8	2.37	1.474	221.9	17.30	66.72	33.28
	No. 16	1.18	1.077	122.8	9.57	76.29	23.71
	No. 30	0.60	0.795	108.5	8.46	84.75	15.25
	No. 50	0.30	0.582	93.1	7.26	92.00	8.00
	No. 100	0.15	0.426	52.6	4.10	96.10	3.90
	No. 200	0.08	0.312	28.4	2.21	98.32	1.68
	Pan			21.6	1.68	100.00	0.00
			Total weight	1282.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	2182.9
Date	6/17/98	Weight of tear	899.9
Remarks		Weight of soil	1283.0

Sieve Analysis

Weight of bags & soil	1285.9
Weight of soil	1268.4

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 914	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	250.8	19.78	19.78	80.22
	No. 4	4.75	2.016	428.0	33.75	53.53	46.47
	No. 8	2.37	1.474	186.7	14.72	68.26	31.74
	No. 16	1.18	1.077	105.8	8.34	76.60	23.40
	No. 30	0.60	0.795	84.6	6.67	83.27	16.73
	No. 50	0.30	0.582	94.2	7.43	90.70	9.30
	No. 100	0.15	0.426	49.6	3.91	94.61	5.39
	No. 200	0.08	0.312	36.8	2.90	97.52	2.48
	Pan			31.5	2.48	100.00	0.00
			Total weight	1268.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	2167.7
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1267.8

Sieve Analysis

Weight of bags & soil	1616.2
Weight of soil	1598.6

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 925	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	5.4	0.34	0.34	99.66
	3/8 inch	9.50	2.754	203.6	12.74	13.08	86.92
	No. 4	4.75	2.016	521.4	32.63	45.71	54.29
	No. 8	2.37	1.474	293.8	18.39	64.09	35.91
	No. 16	1.18	1.077	200.1	12.52	76.61	23.39
	No. 30	0.60	0.795	124.0	7.76	84.37	15.63
	No. 50	0.30	0.582	114.1	7.14	91.51	8.49
	No. 100	0.15	0.426	66.2	4.14	95.66	4.34
	No. 200	0.08	0.312	44.0	2.75	98.41	1.59
	Pan			25.4	1.59	100.00	0.00
			Total weight	1598.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	2498.0
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1598.1

Sieve Analysis

Weight of bags & soil	1550.8
Weight of soil	1533.3

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 926	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	4.3	0.28	0.28	99.72
	3/8 inch	9.50	2.754	196.3	12.80	13.08	86.92
	No. 4	4.75	2.016	500.6	32.65	45.73	54.27
	No. 8	2.37	1.474	283.9	18.52	64.25	35.75
	No. 16	1.18	1.077	198.5	12.95	77.19	22.81
	No. 30	0.60	0.795	137.1	8.94	86.13	13.87
	No. 50	0.30	0.582	105.1	6.85	92.99	7.01
	No. 100	0.15	0.426	48.2	3.14	96.13	3.87
	No. 200	0.08	0.312	36.0	2.35	98.48	1.52
	Pan			23.3	1.52	100.00	0.00
			Total weight	1533.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2432.9
Date	6/23/98	Weight of tear	899.8
Remarks		Weight of soil	1533.1

Sieve Analysis

Weight of bags & soil	1604.0
Weight of soil	1586.5

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 929	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	7.5	0.47	0.47	99.53
	3/8 inch	9.50	2.754	181.4	11.43	11.91	88.09
	No. 4	4.75	2.016	503.6	31.74	43.65	56.35
	No. 8	2.37	1.474	300.0	18.91	62.56	37.44
	No. 16	1.18	1.077	206.9	13.04	75.61	24.39
	No. 30	0.60	0.795	158.6	10.00	85.60	14.40
	No. 50	0.30	0.582	103.4	6.52	92.12	7.88
	No. 100	0.15	0.426	56.3	3.55	95.67	4.33
	No. 200	0.08	0.312	38.9	2.45	98.12	1.88
	Pan			29.8	1.88	100.00	0.00
			Total weight	1586.4	100.00		

Operator	Joel Davenport	Weight of tear & soil	2486.0
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1586.1

Sieve Analysis

Weight of bags & soil	1524.6
Weight of soil	1507.2

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 1025	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	3.6	0.24	0.24	99.76
	3/8 inch	9.50	2.754	194.0	12.87	13.11	86.89
	No. 4	4.75	2.016	489.8	32.50	45.61	54.39
	No. 8	2.37	1.474	273.9	18.18	63.79	36.21
	No. 16	1.18	1.077	167.1	11.09	74.88	25.12
	No. 30	0.60	0.795	138.2	9.17	84.05	15.95
	No. 50	0.30	0.582	108.7	7.21	91.26	8.74
	No. 100	0.15	0.426	57.9	3.84	95.10	4.90
	No. 200	0.08	0.312	36.3	2.41	97.51	2.49
	Pan			37.5	2.49	100.00	0.00
			Total weight	1507.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	2406.9
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1507.0

Sieve Analysis

Weight of bags & soil	1645.2
Weight of soil	1627.6

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 1029	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	10.0	0.61	0.61	99.39
	3/8 inch	9.50	2.754	234.0	14.38	14.99	85.01
	No. 4	4.75	2.016	537.4	33.02	48.01	51.99
	No. 8	2.37	1.474	273.2	16.79	64.79	35.21
	No. 16	1.18	1.077	196.1	12.05	76.84	23.16
	No. 30	0.60	0.795	158.8	9.76	86.60	13.40
	No. 50	0.30	0.582	118.0	7.25	93.85	6.15
	No. 100	0.15	0.426	45.0	2.76	96.61	3.39
	No. 200	0.08	0.312	39.5	2.43	99.04	0.96
	Pan			15.6	0.96	100.00	0.00
			Total weight	1627.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2527.5
Date	6/23/98	Weight of tear	899.9
Remarks		Weight of soil	1627.6

Sieve Analysis

Weight of bags & soil	1654.1
Weight of soil	1636.6

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 5 1129	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	4.1	0.25	0.25	99.75
	3/8 inch	9.50	2.754	256.5	15.67	15.92	84.08
	No. 4	4.75	2.016	584.7	35.73	51.65	48.35
	No. 8	2.37	1.474	239.9	14.66	66.31	33.69
	No. 16	1.18	1.077	170.7	10.43	76.74	23.26
	No. 30	0.60	0.795	168.3	10.28	87.02	12.98
	No. 50	0.30	0.582	116.4	7.11	94.13	5.87
	No. 100	0.15	0.426	46.3	2.83	96.96	3.04
	No. 200	0.08	0.312	33.0	2.02	98.98	1.02
	Pan			16.7	1.02	100.00	0.00
			Total weight	1636.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2536.5
Date	6/11/98	Weight of tear	899.9
Remarks		Weight of soil	1636.6

Site 6

Segregation Survey

West of Knowles

Date of Survey: Dec. 3, 1997

Weather:

Surveyor: _____ (your name)

Control Section Number: _____ Route: Sterling Direction: WB

Region: UNIV. Mile Post: from _____ to _____

Section Number: _____ Test Site Number: 6 ADT: _____

Definition of Segregation:

Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation

Heavy: stone against stone, little or no matrix (fine)

Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat

Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified

1. Raveling

☐ Low ☐ Moderate ☐ High

Low: aggregate or binder has started to wear away, but not progressed significantly

Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate

High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate

2. Cracking

☐ Low ☐ Moderate ☐ High

Low: a crack with a mean width ≤ 0.25 in.

Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking

High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking

3. Rut Depth

4. Flushing

☐ Low ☐ Moderate ☐ High

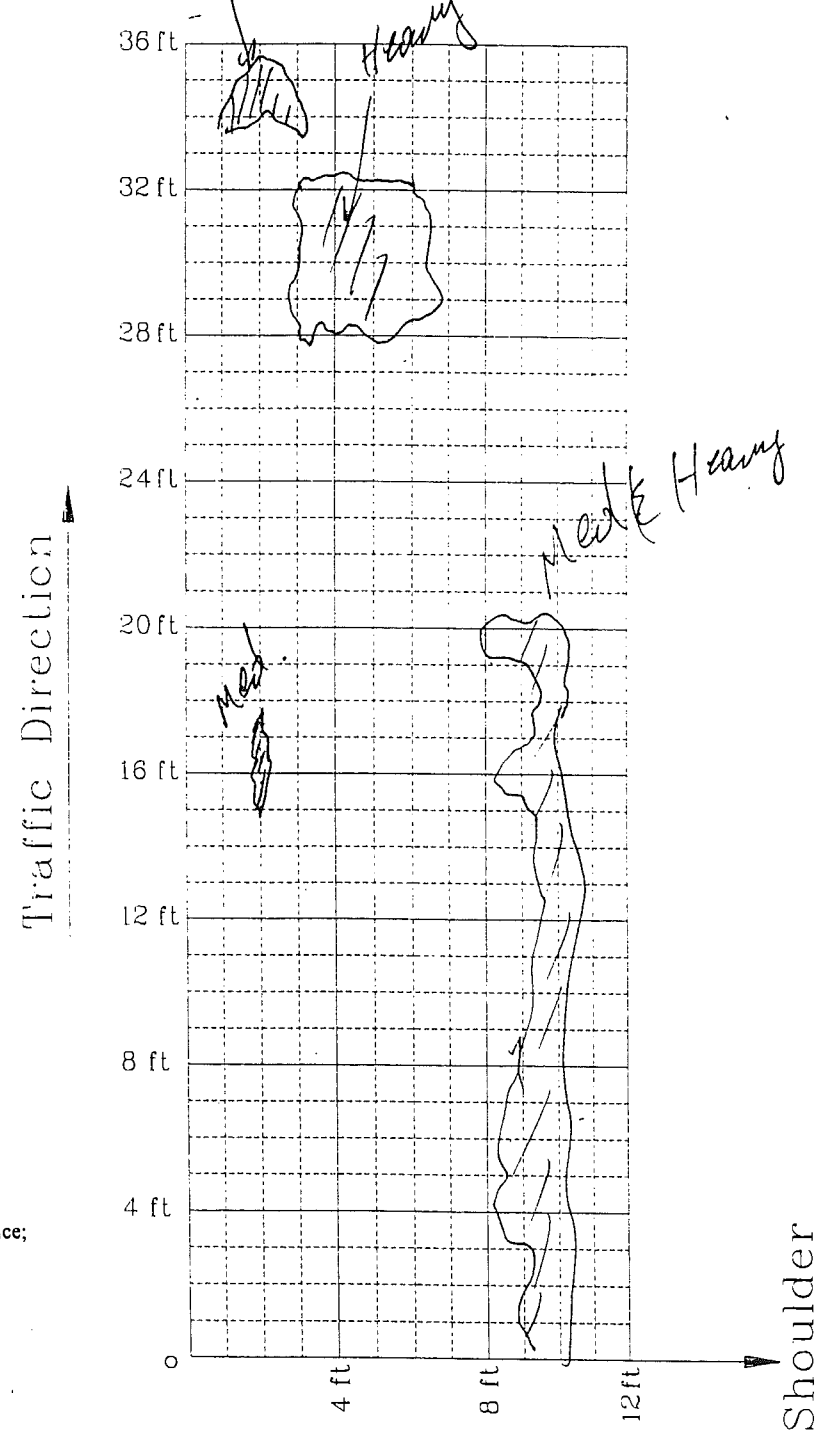
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt

Moderate: an area of pavement surface that is losing surface texture due to excess asphalt

High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: _____ Direction: West bound
Region: _____ Mile Post: from STIRLING-BD W. of KNOLLES
Section Number: _____ Test Site Number: 6 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

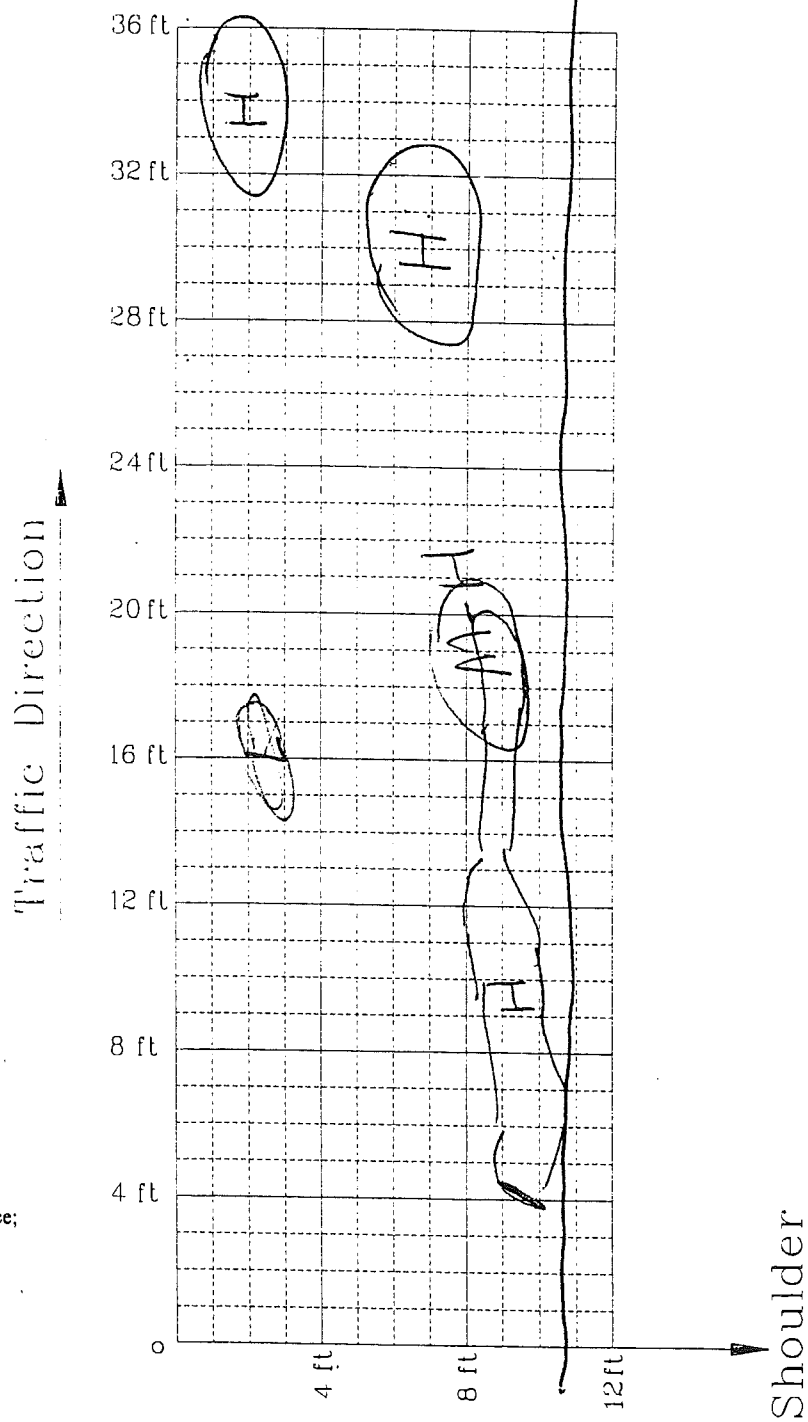
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: ____ (your name)
Control Section Number: ____ Route: Sterling Rd Direction: W.B.
Region: University Mile Post: from ____ to ____.
Section Number: 1 Test Site Number: 6 ADT: ____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous
Systematic
Random

end of road, problem repeats down road

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☒ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☒ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☒ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
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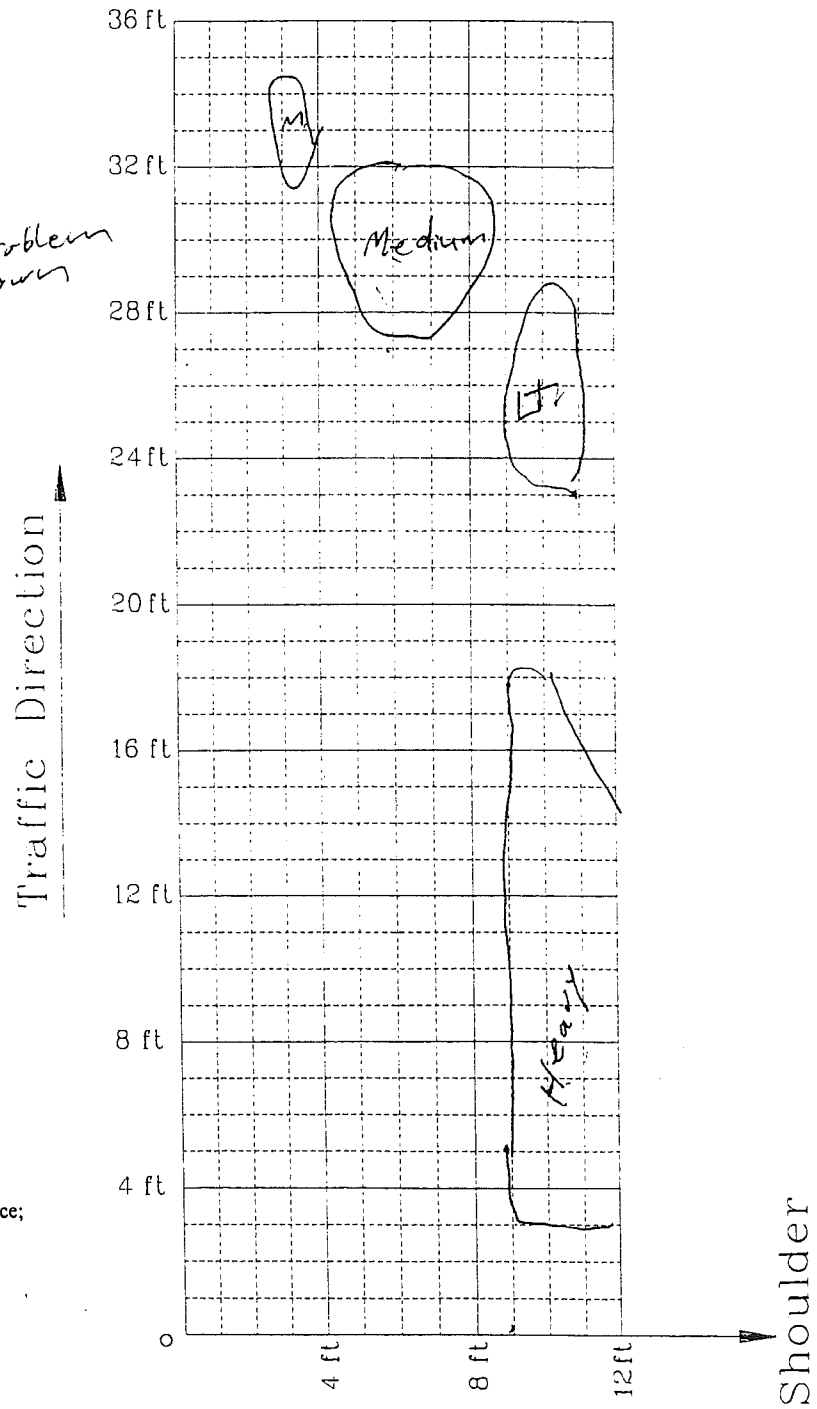
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: West
Region: Ulmr. Mile Post: from W. of Knowles
Section Number: _____ Test Site Number: 6 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

end of load

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
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High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
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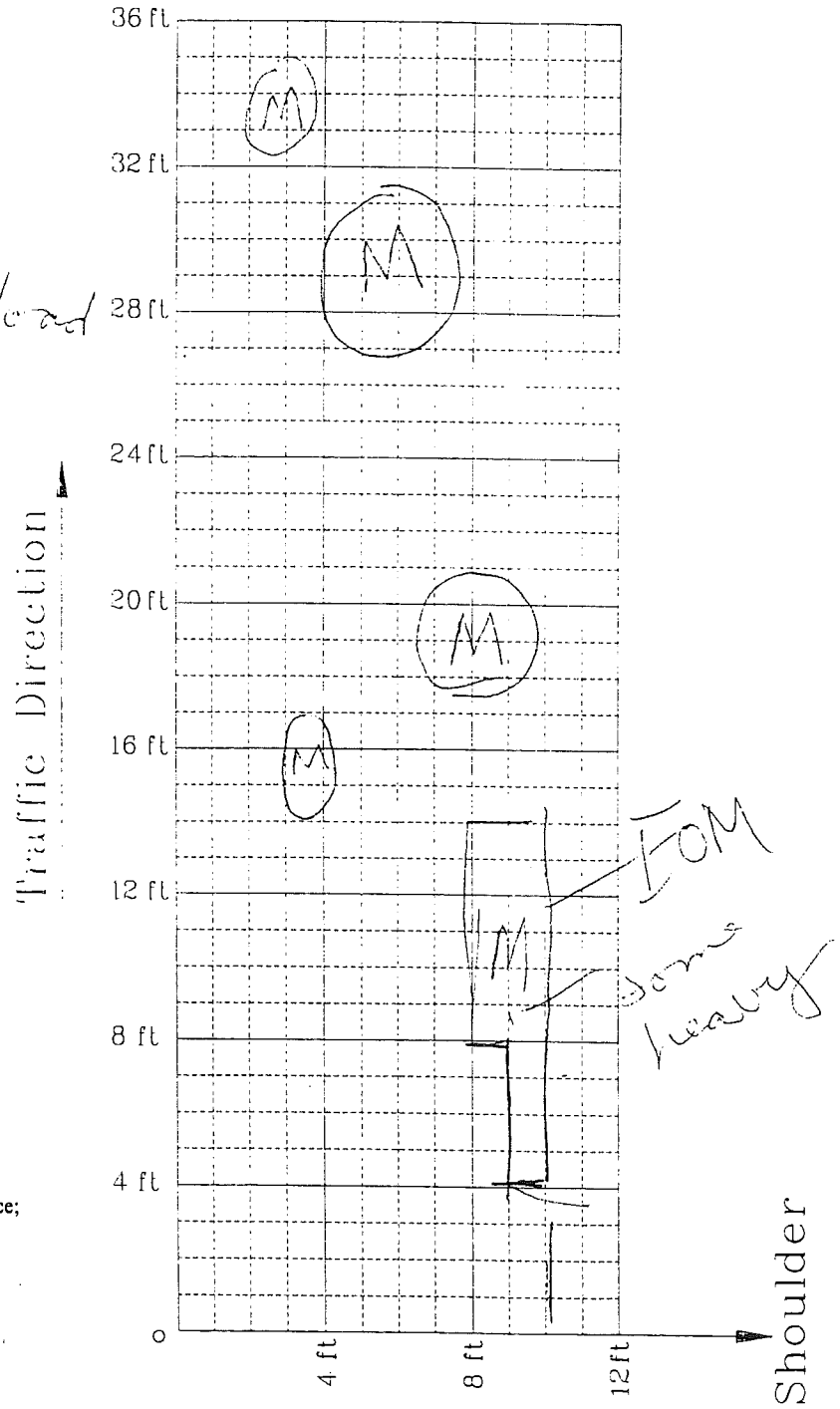
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Some spots may ravel

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997

Surveyor: ____ (your name) west of Kowlon Rd standing Rd Weather:

Control Section Number: ____ Route: ____ Direction: west bd.

Region: University ____ Mile Post: from ____ to ____.

Section Number: ____ Test Site Number: 6 ____ ADT: ____.

Definition of Segregation:

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Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation

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Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat

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Distress to be Identified

1. Raveling

☐ Low ☐ Moderate ☐ High

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☐ Low ☐ Moderate ☐ High

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3. Rut Depth

4. Flushing

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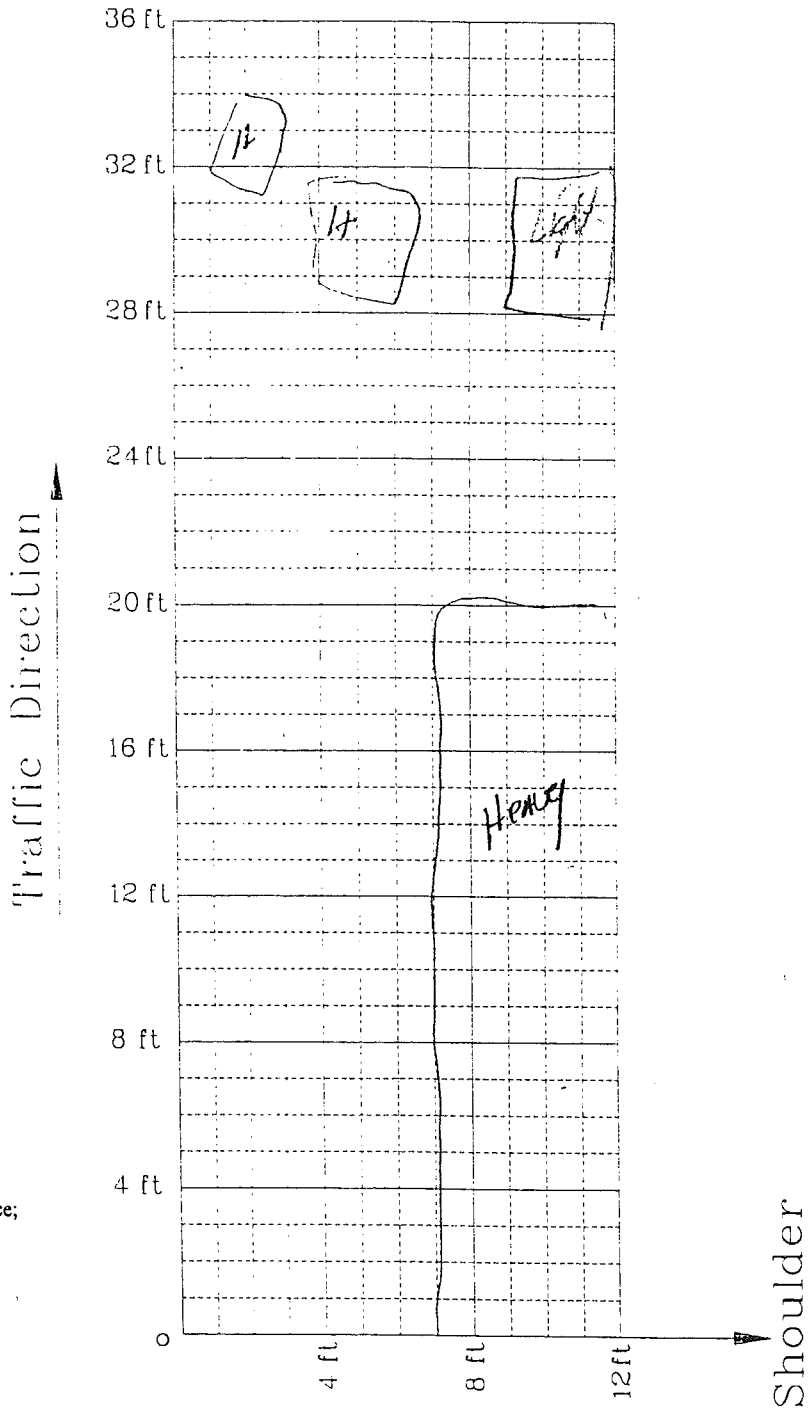
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling RCL Direction: West
Region: Univ. Mile Post: from West of to Genoulee
Section Number: _____ Test Site Number: 6 ADT: _____

Definition of Segregation:
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Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
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Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
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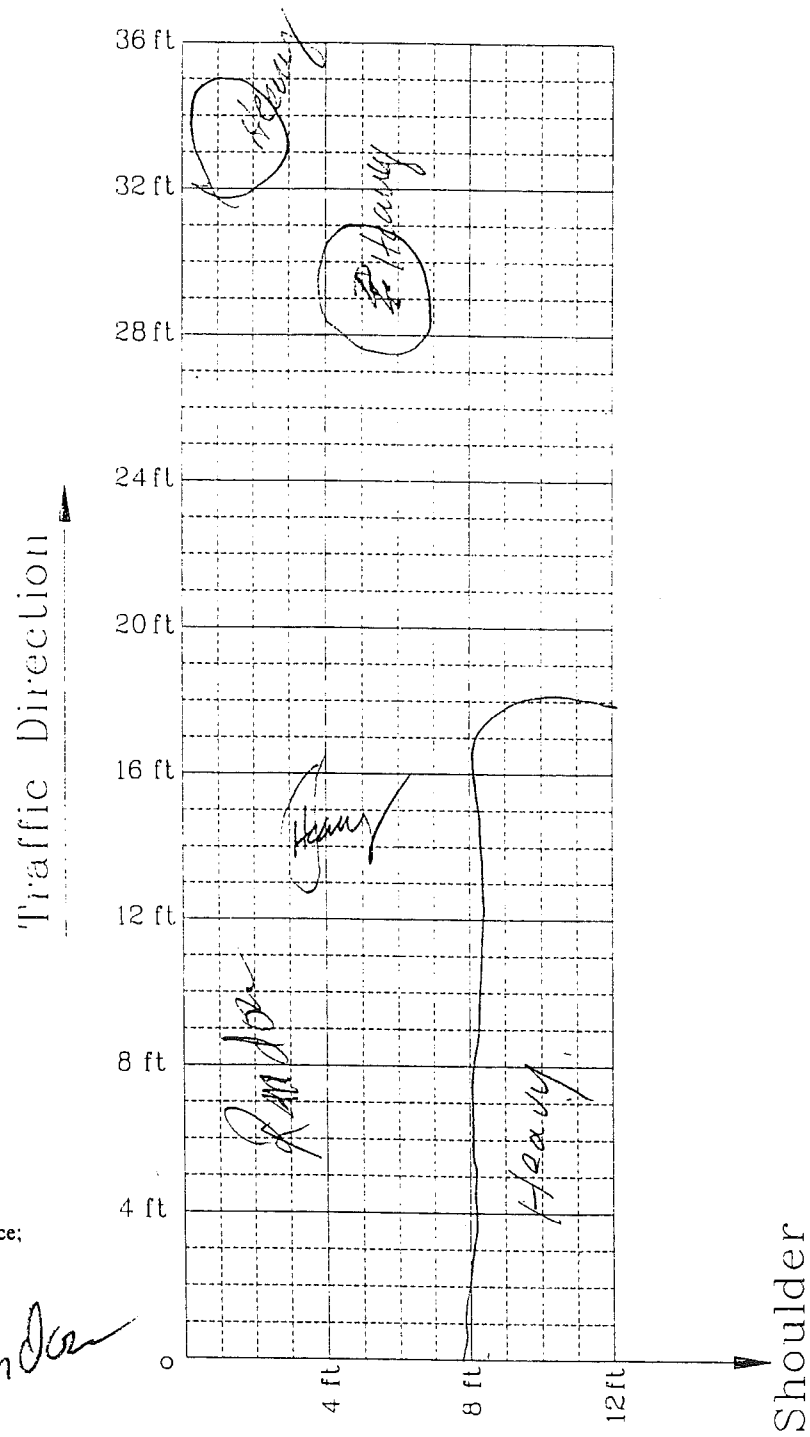
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☑ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☑ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

End of load seg Random

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather: Wet, nasty Bone Chilling

Surveyor: _____ (your name)
Control Section Number: _____ Route: STERLING Rd. Direction: West Bd.
Region: UNIVERSITY - BL JACKSON Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 6 ADT: _____
West of Knowles.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
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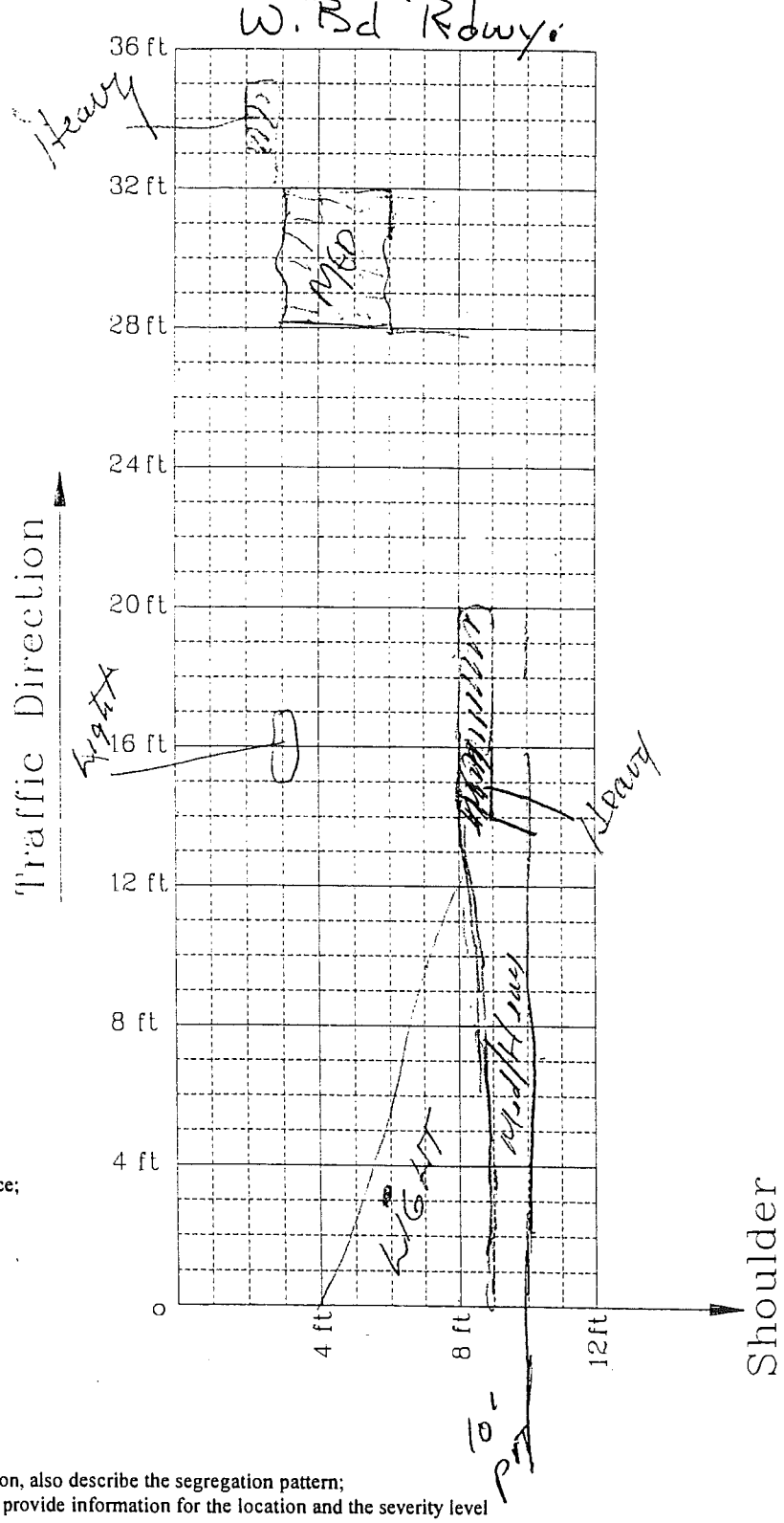
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather: light RAIN 30's

Surveyor: _____ (your name) W. of Knowles
Control Section Number: _____ Route: Sterling Rd Direction: NB/WB
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 40 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

X Random
long

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
X Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
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☐ Low ☐ Moderate ☐ High
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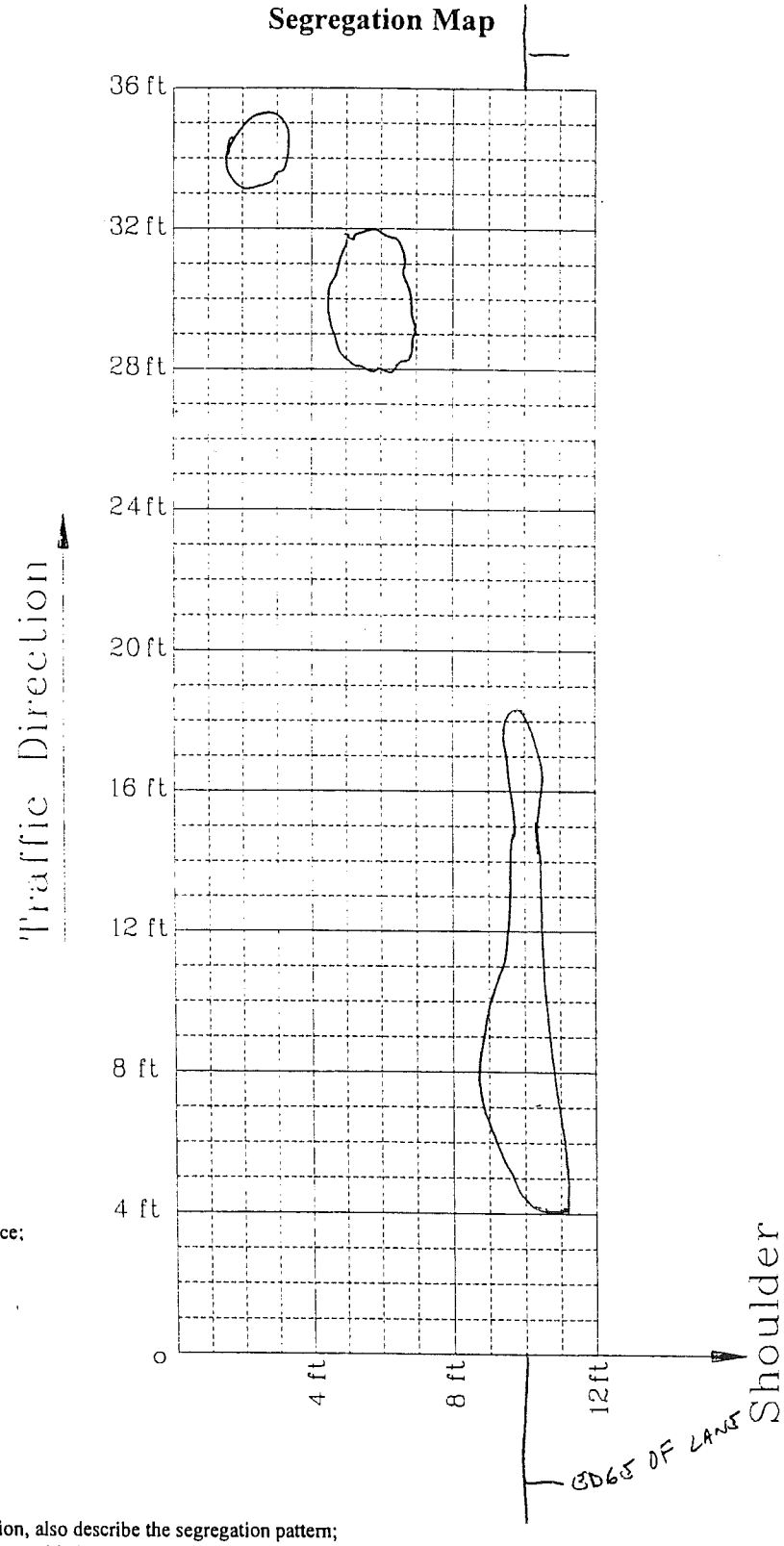
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

36 ft

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: _____ Direction: West Bd. 1.
Region: _____ Mile Post: from West of Kenw to Ft
Section Number: _____ Test Site Number: 6 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
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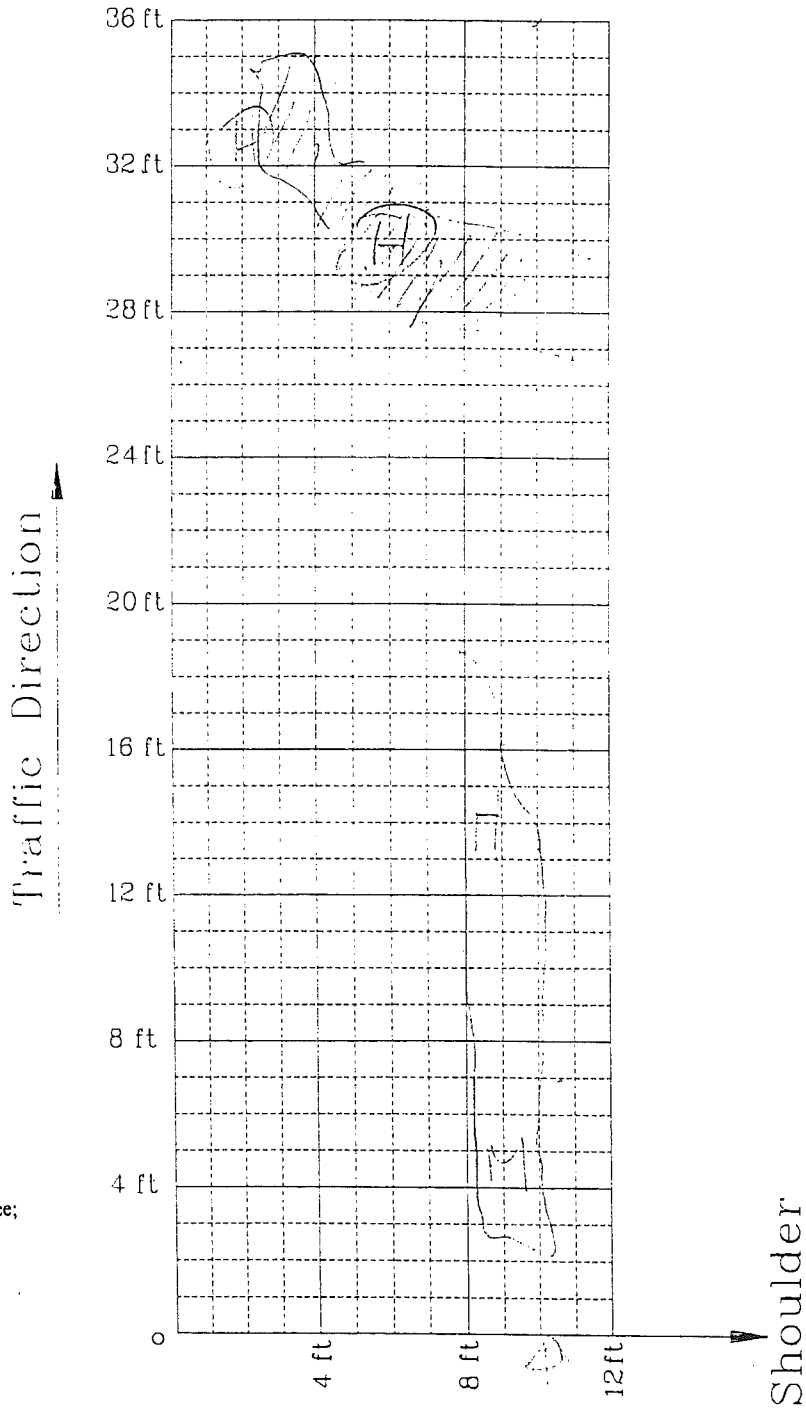
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



10

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Nuclear Density Sampling Data (Jan. 30, 1998)

SITE 6 Sterling Road W. Bound (300′ west of Knowles road), Hillsdale County

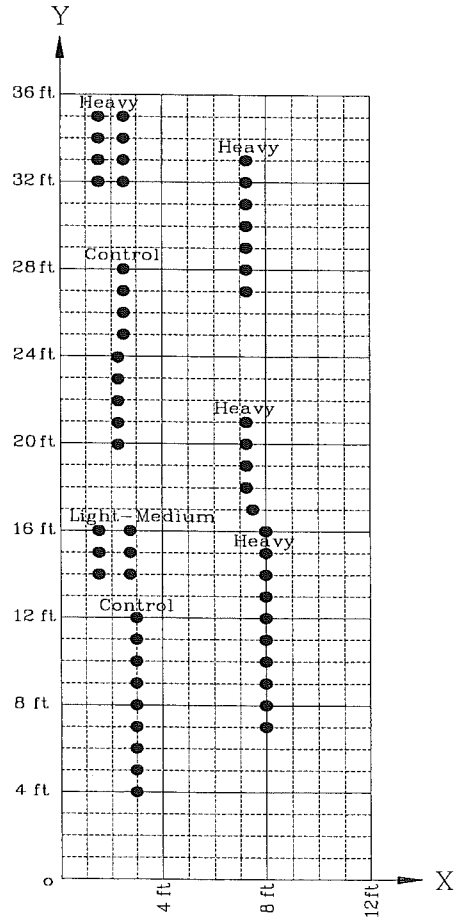
Chart Standard	Density	2853
	Moisture	660
Operating Standard	Density	2847
	Moisture	673

Gauge No.	99398
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1				Sample 2		Sample 6	
Heavy		mean	141.7	Heavy		Heavy	
		std	3.54				
0135	144.2	0235	138.8	0732	144.4	0721	145.4
0134	140.2	0234	135.1	0731	143.0	0720	142.8
0133	145.2	0233	142.1	0730	143.6	0719	140.4
0132	145.4	0232	142.7	0729	140.3	0718	141.1
				0728	142.3	0717	139.8
				0727	143.3	0816	136.2
				mean	142.8	mean	141.0
				std	1.41	std	3.08

Sample 4			
M-L		mean	144.1
		std	1.70
0116	145.4	0216	141.4
0115	144.2	0215	142.8
0114	145.2	0214	145.7

Sample 3		Sample 5		Sample 7	
Control		Control		Heavy	
0228	147.1	0312	147.1	0815	139.9
0227	145.4	0311	147.5	0814	138.0
0226	147.0	0310	146.9	0813	135.5
0225	146.5	0309	145.3	0812	140.0
0224	146.8	0308	147.8	0811	140.6
0223	147.4	0307	147.1	0810	140.8
0222	146.8	0306	146.8	0809	137.7
0221	147.1	0305	147.9	0808	140.3
0220	148.0	0304	147.9	mean	139.1
mean	146.9	mean	147.1	std	1.86
std	0.71	std	0.81		



Site 7

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: ____ (your name)
Control Section Number: ____ Route: Sterling Direction: EB
Region: ____ Mile Post: from ____ to ____
Section Number: ____ Test Site Number: 7 ADT: ____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

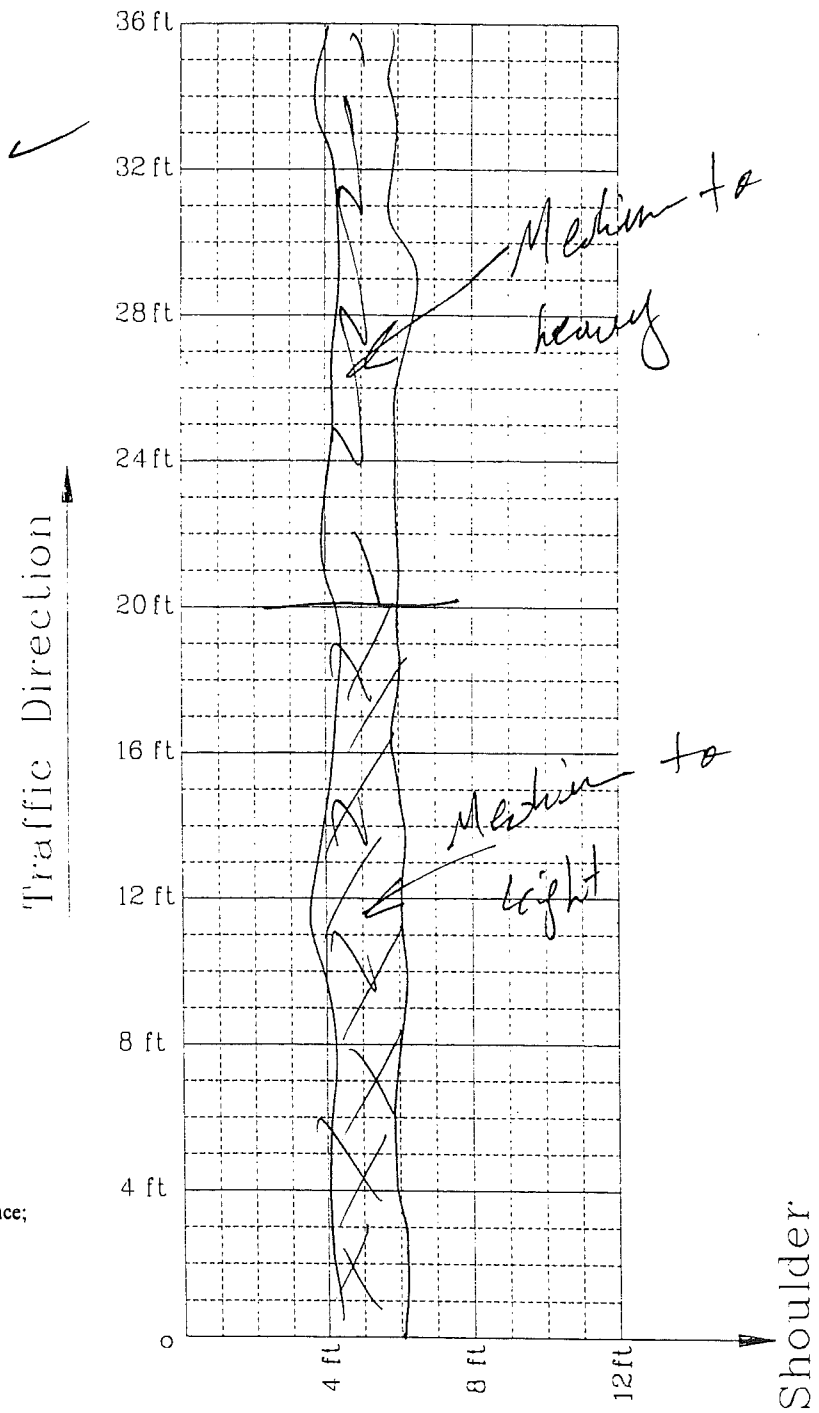
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: _____ Direction: East.
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 7 ADT: _____.

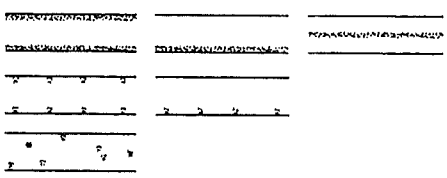
Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random



Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
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Distress to be Identified
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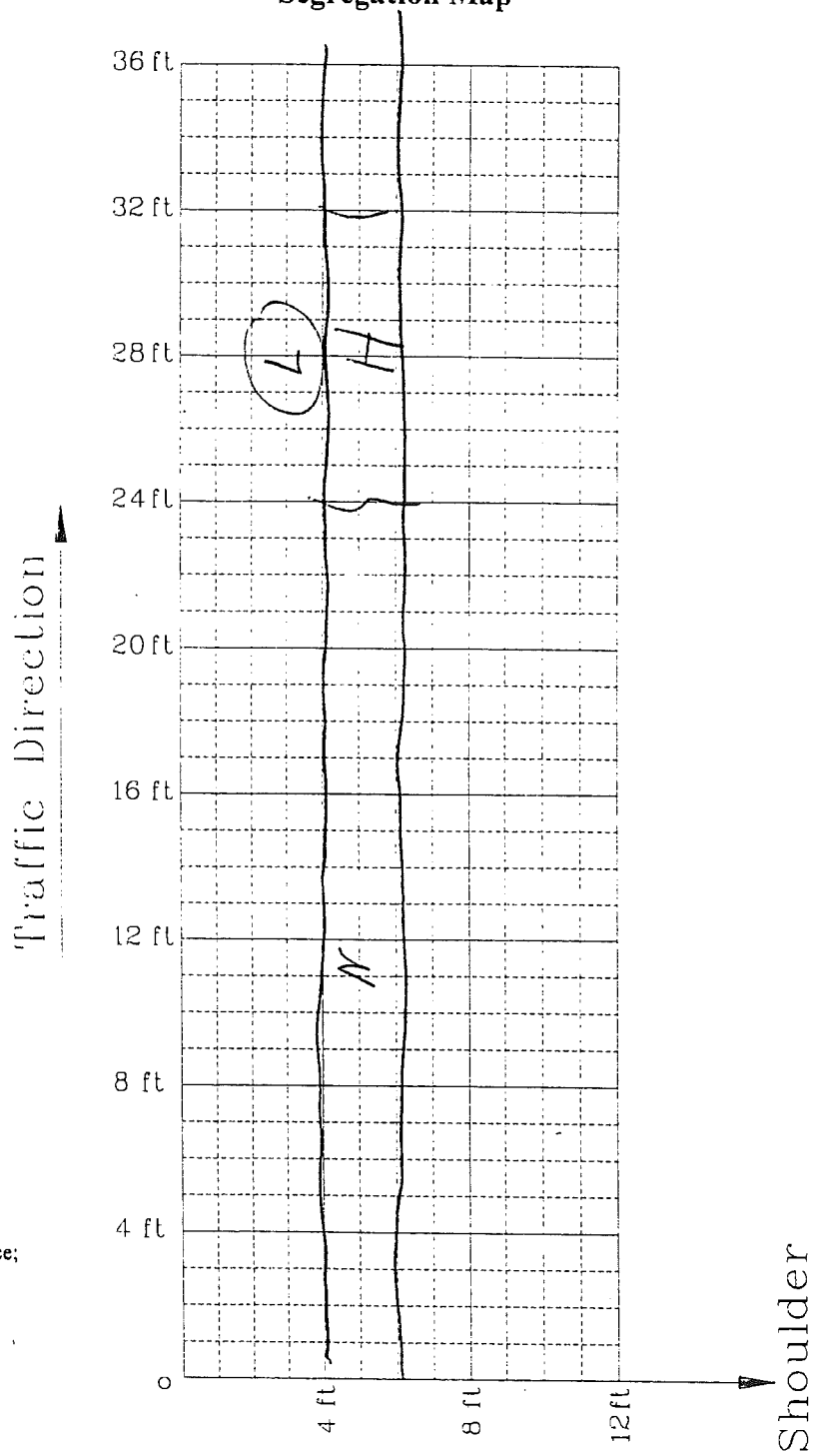
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: EB. Adjacent to site 6
Region: University Mile Post: from _____ to _____
Section Number: 1 Test Site Number: 7 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
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☒ Low ☐ Moderate ☐ High
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2. Cracking
☒ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
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3. Rut Depth
4. Flushing
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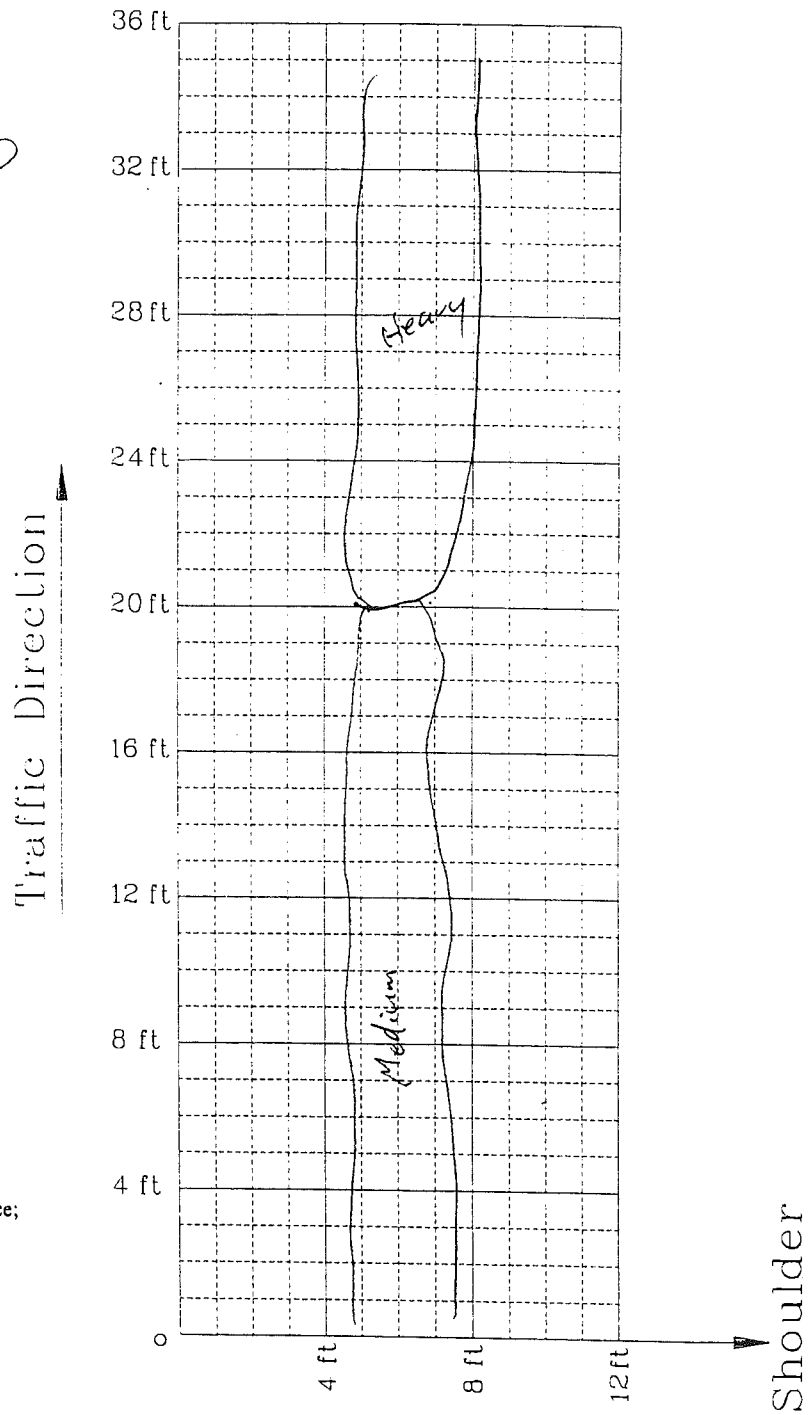
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: East
Region: Univ. Mile Post: from W. of Knoles to _____
Section Number: _____ Test Site Number: 7 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
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Distress to be Identified
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2. Cracking
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3. Rut Depth
4. Flushing
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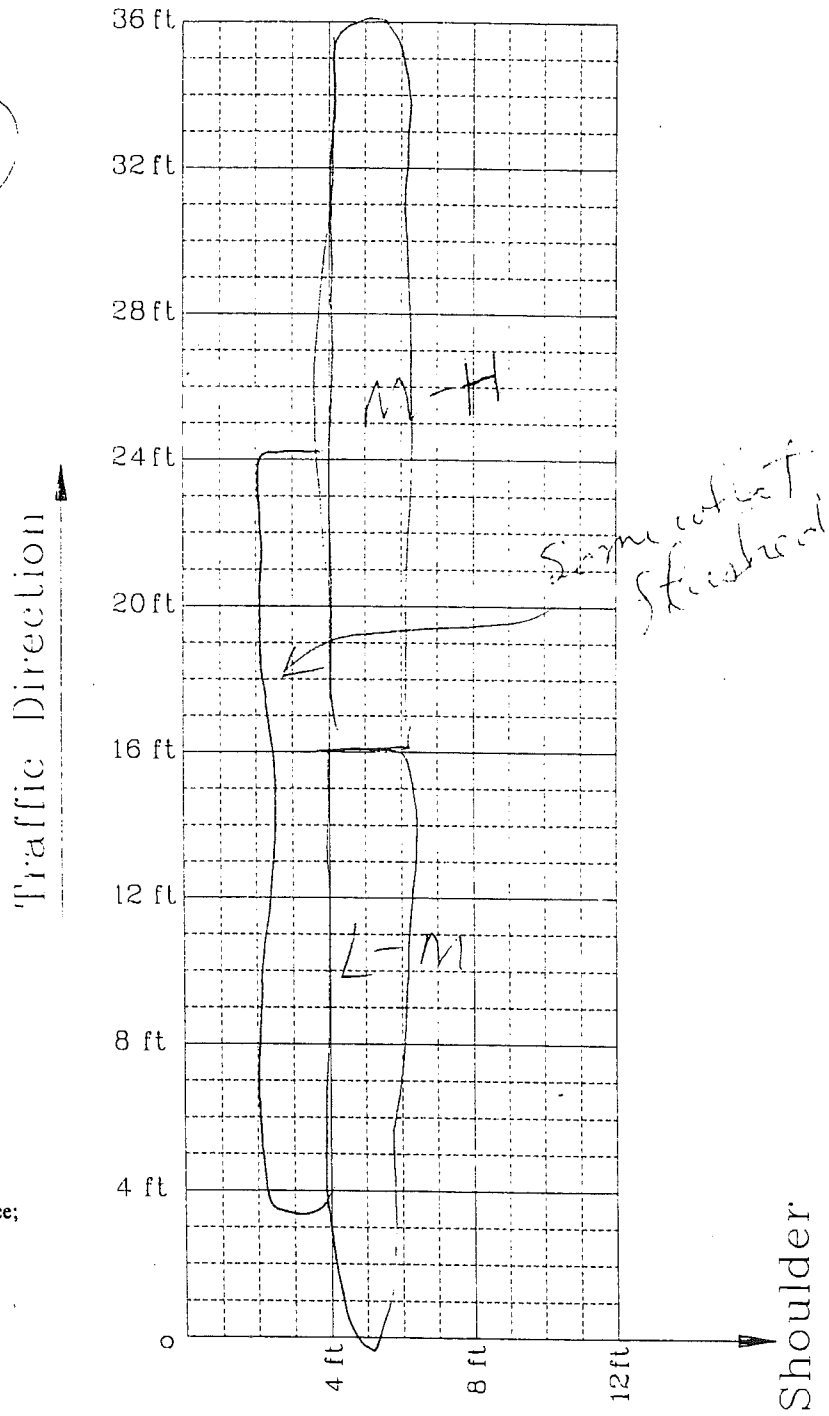
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997

Weather: EAST BY

Surveyor: ____ (your name) Sterling Rd

Control Section Number: ____ Route: 300' West of Kraeter Rd Direction: ____.

Region: ____ Mile Post: from ____ to ____.

Section Number: ____ Test Site Number: 7 ADT: ____.

Definition of Segregation:

Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation

Heavy: stone against stone, little or no matrix (fine)

Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat

Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified

1. Raveling

☐ Low ☐ Moderate ☐ High

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3. Rut Depth

4. Flushing

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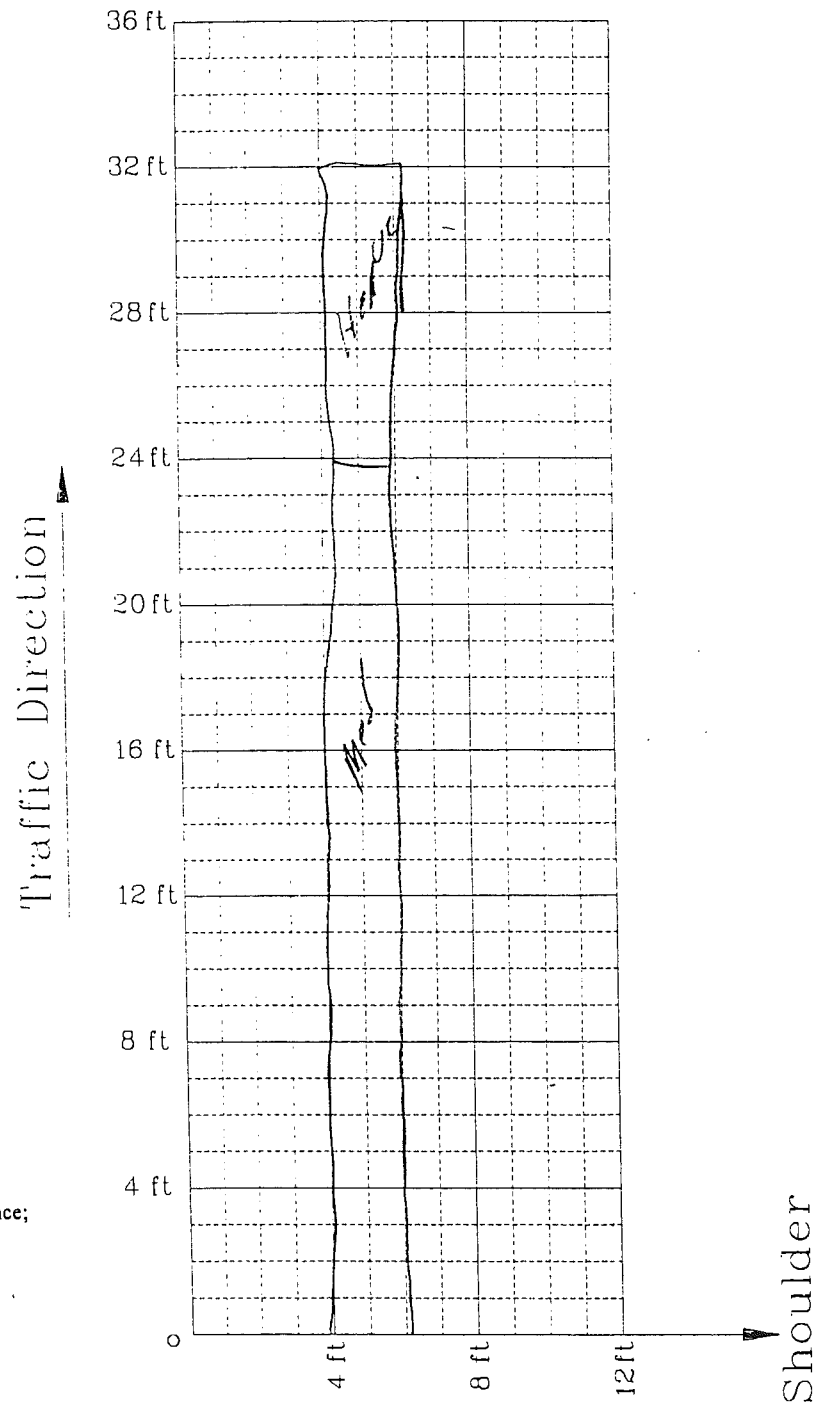
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: 1 Route: Sterling Direction: East
Region: Uhlig Mile Post: from westof to Knowles
Section Number: _____ Test Site Number: 7 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
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High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth = 0
4. Flushing
☐ Low ☑ Moderate ☐ High
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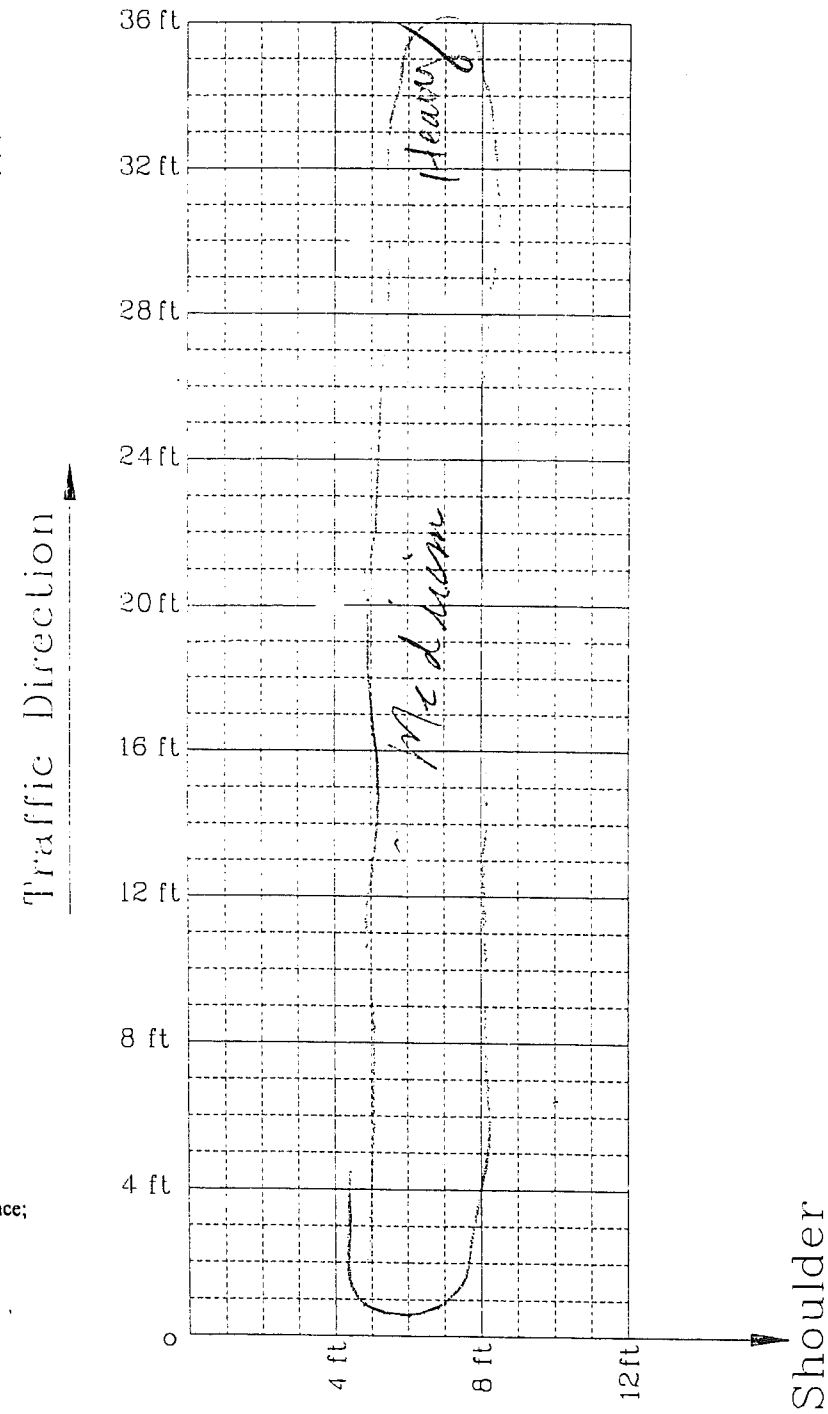
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather: Wet, Nasty, Cold,

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: East Bd.
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 7 ADT: ?
West,

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
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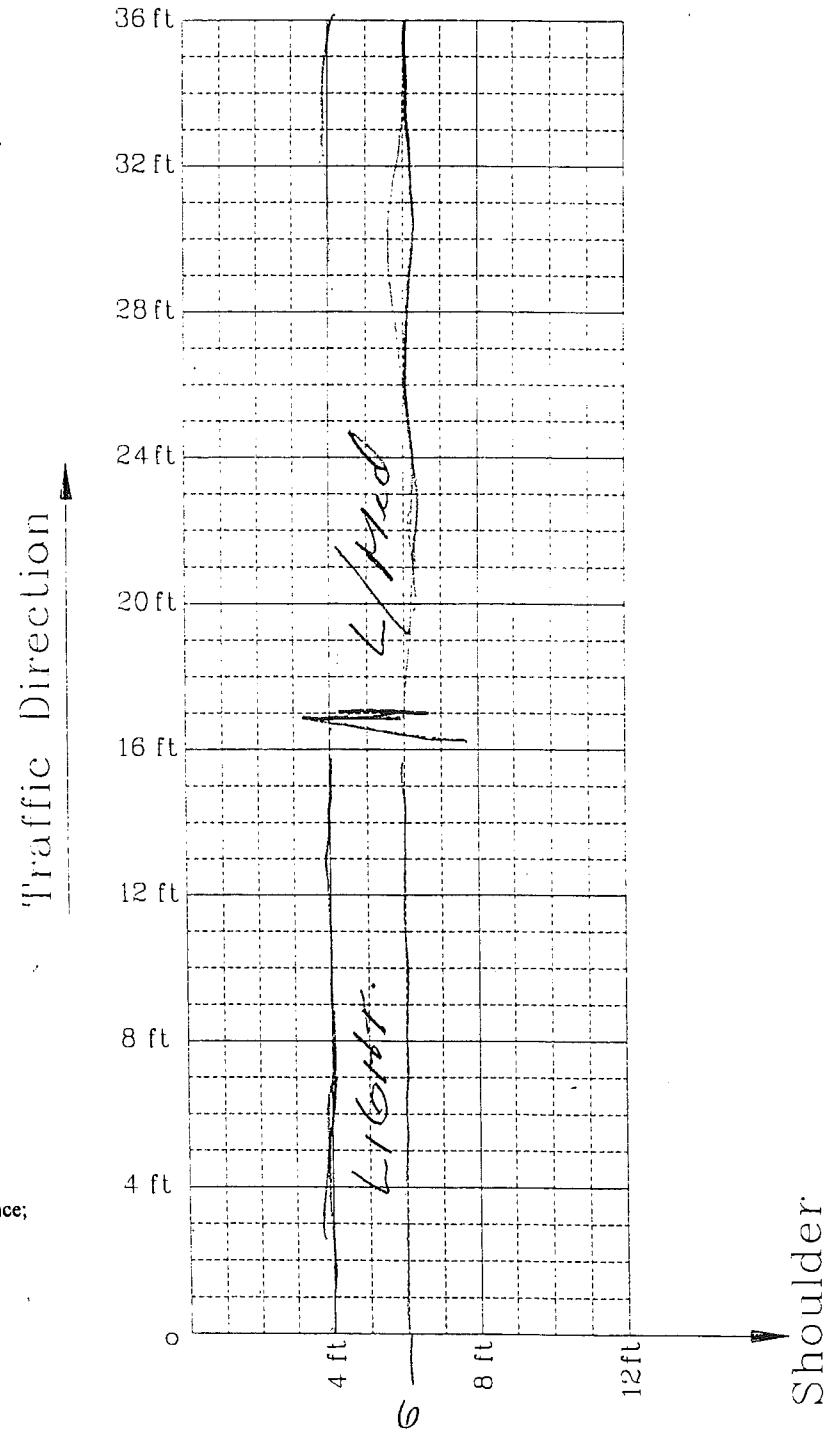
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather: Light Rain

Surveyor: _____ (your name)
Control Section Number: Hillsdale Co. Route: Sterling Rd Direction: EB/SB
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: #7 ADT: _____

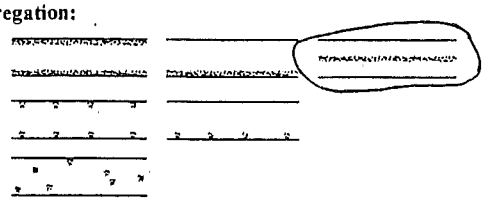
Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

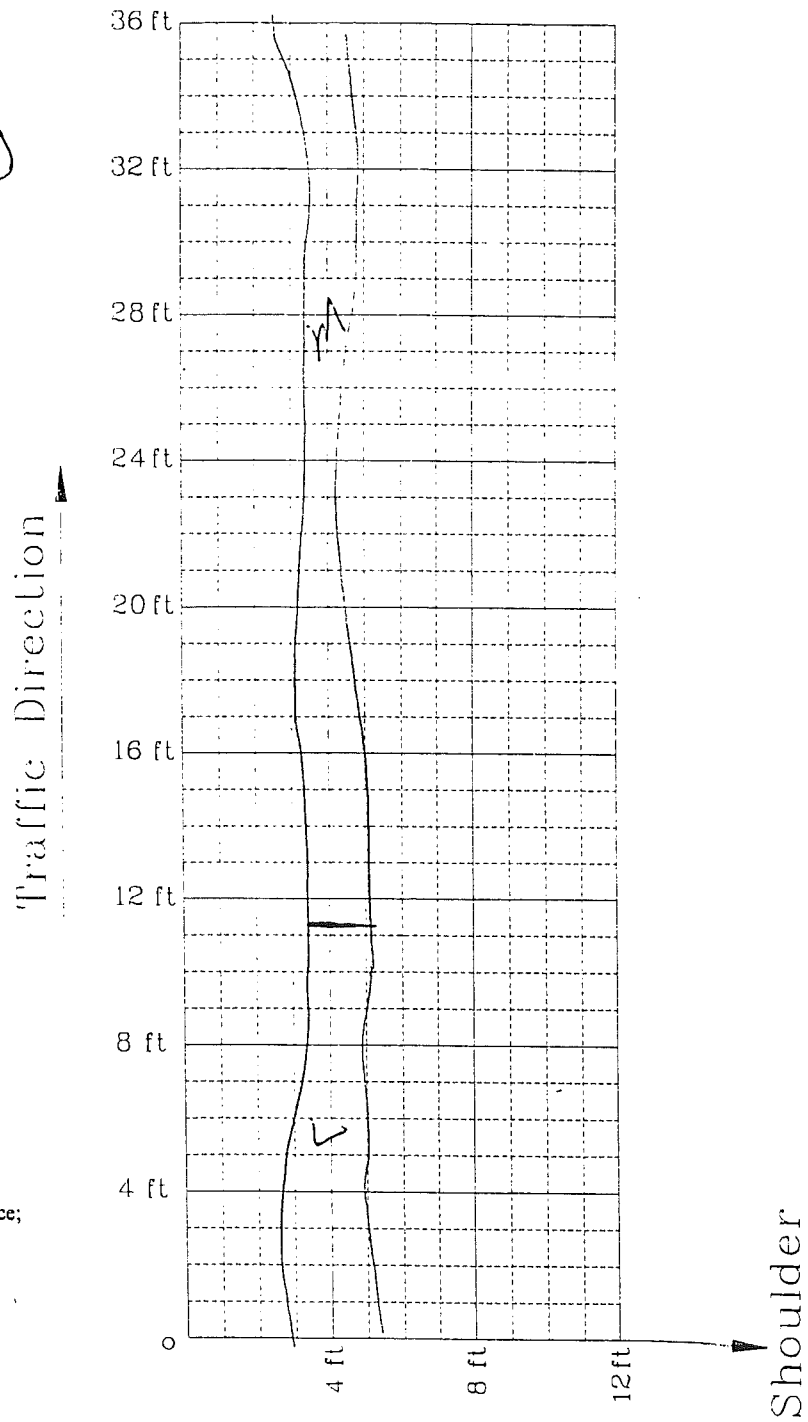


Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
X Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

36°F

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: _____ Direction: _____.
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: _____ ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
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2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
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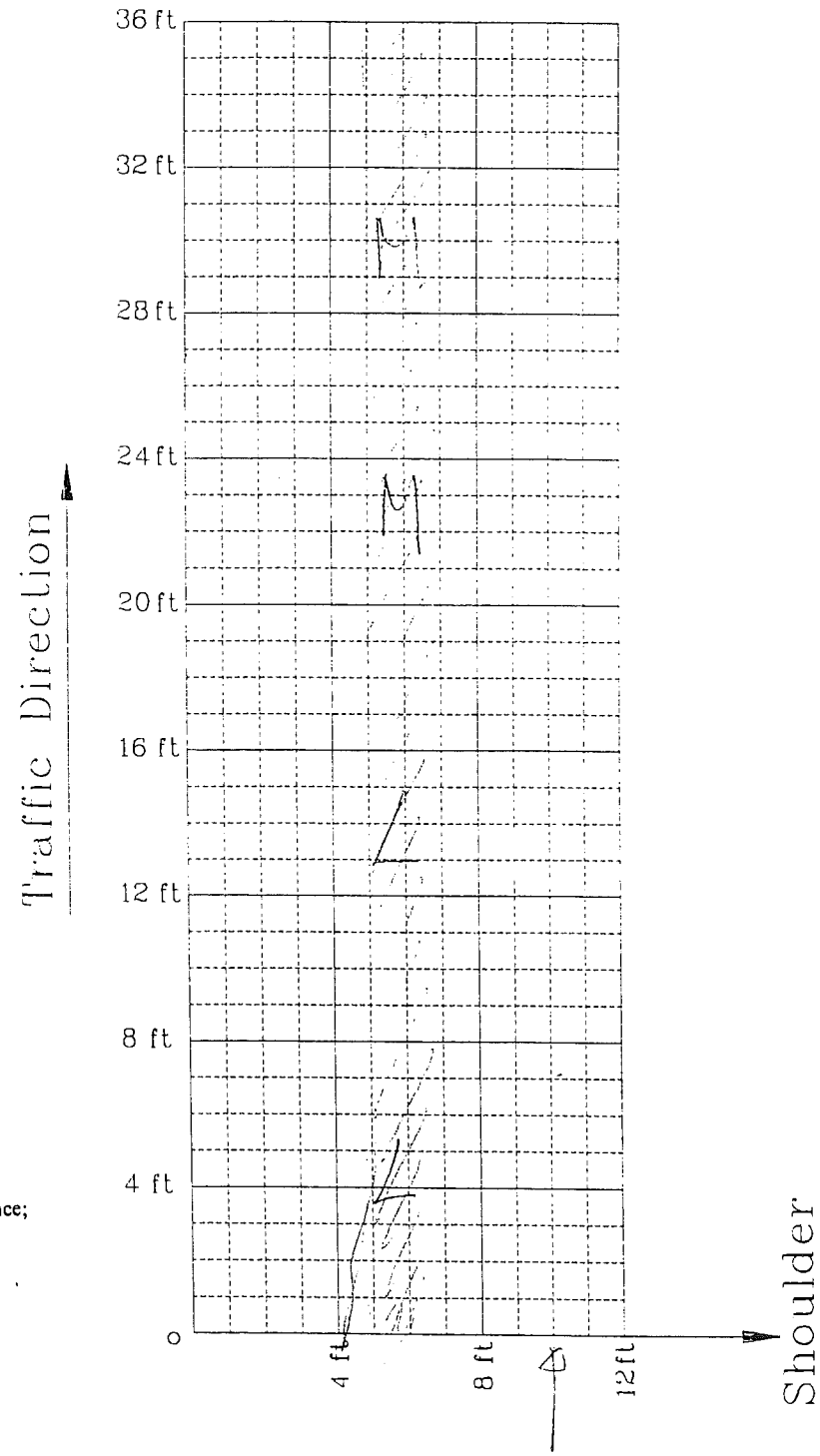
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Nuclear Density Sampling Data (Jan. 30, 1998)

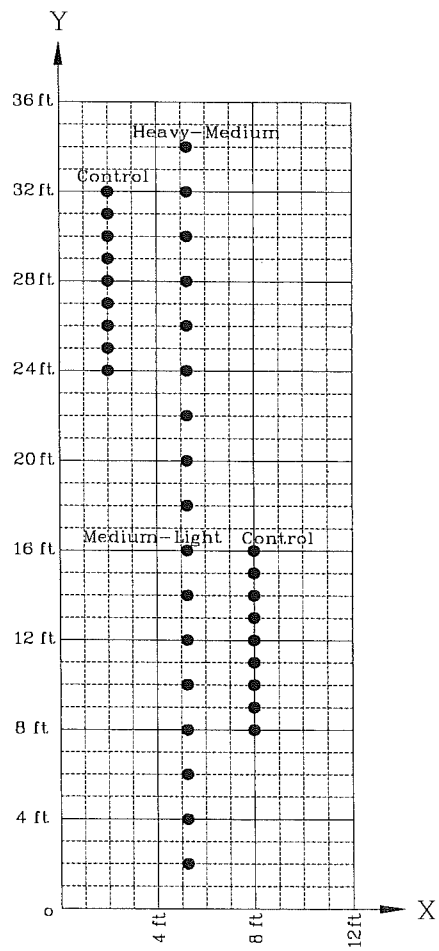
SITE 7 Sterling Road E. Bound (300′ west of Knowles road), Hillsdale County

Chart Standard	Density	2853
	Moisture	660
Operating Standar	Density	2847
	Moisture	673

Gauge No.	99398
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1		Sample 2		Sample 4	
Control		M-H		Control	
0232	143.0	0534	135.7	0816	146.4
0231	146.9	0532	131.6	0815	146.4
0230	146.5	0530	130.1	0814	146.2
0229	146.9	0528	134.2	0813	147.3
0228	146.4	0526	133.7	0812	144.8
0227	147.3	0524	132.8	0811	146.1
0226	145.0	0522	130.9	0810	145.0
0225	146.9	0520	134.1	0809	146.4
0224	144.6	0518	136.3	0808	145.7
mean	145.9	mean	133.3	mean	146.0
std	1.43	std	2.11	std	0.77

Sample 3	
M-L	
0516	135.9
0514	136.2
0512	137.8
0510	137.0
0508	139.4
0506	138.6
0504	140.1
0502	138.7
mean	138.0
std	1.51



Site 8

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling West of Knowles Direction: ~~WB~~ EB
Region: Unit. Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 8 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

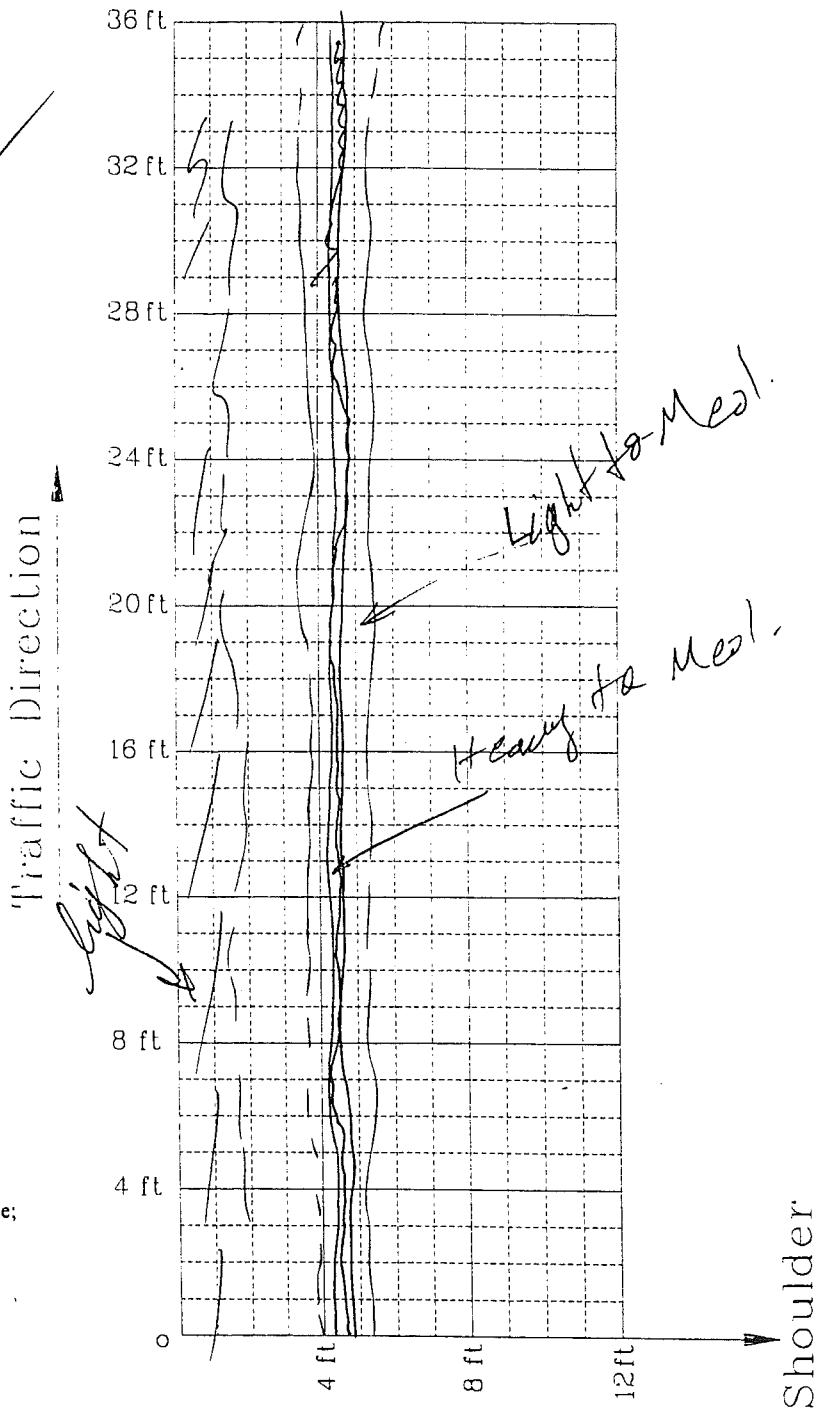
Continuous ✓
Systematic
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: _____ Direction: E. bound
Region: _____ Mile Post: from STIRLING to W. of KNOWLES
Section Number: _____ Test Site Number: 8 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
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2. Cracking
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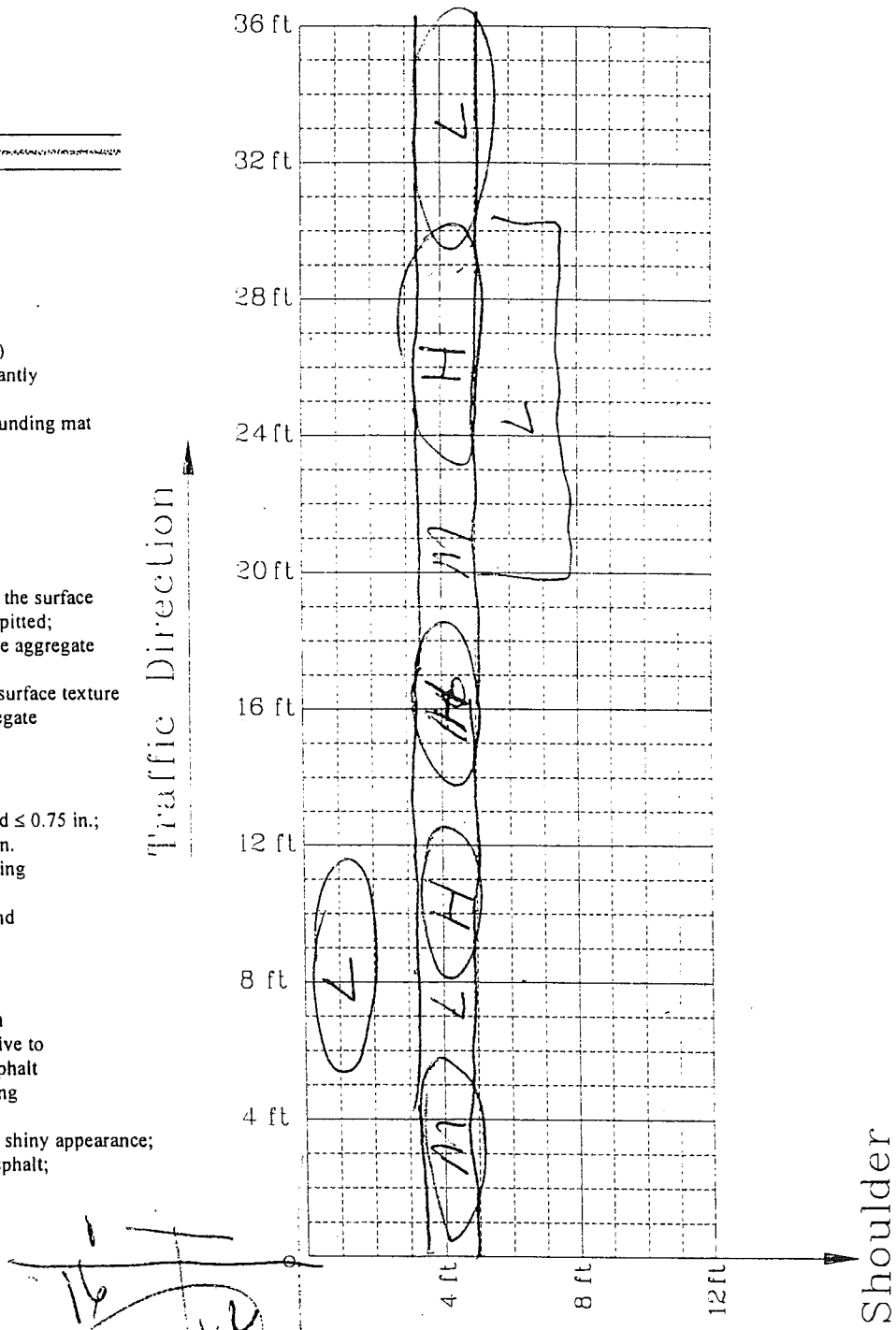
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: of site 7 East.
Region: Univ _____ Mile Post: from 2000' West to _____.
Section Number: _____ Test Site Number: 8 _____ ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
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2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
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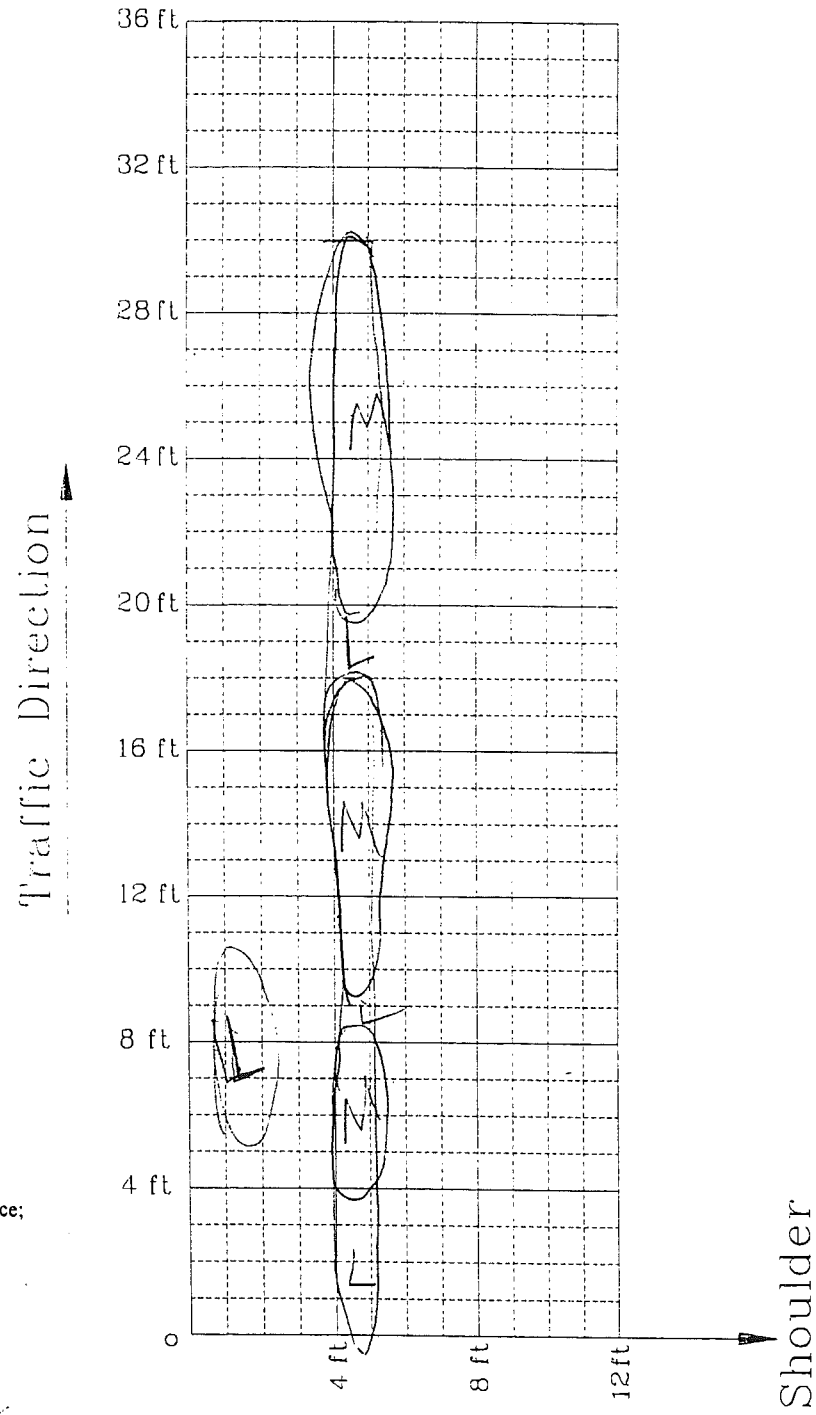
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Some spots heavy

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: East
Region: Univ Mile Post: from West of to Knowles
Section Number: _____ Test Site Number: 8 ADT: _____
2000 ft west of 7

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☑ Moderate ☐ High
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Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
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2. Cracking
☐ Low ☑ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
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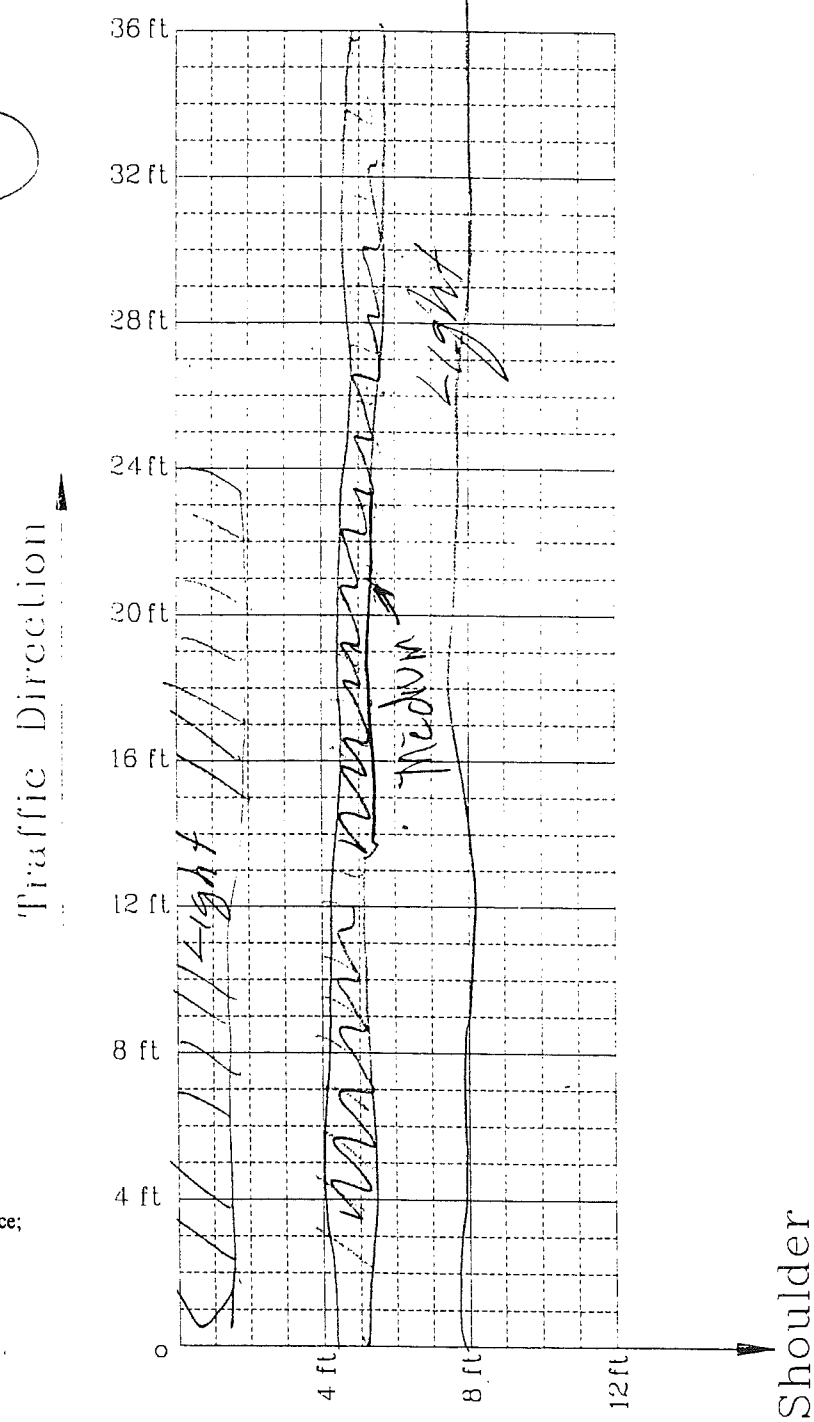
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth Rut
4. Flushing
☑ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: ___ (your name) Sterling 2000
Control Section Number: ___ Route: west of Kenda Direction: West Bd.
Region: UNIVERSITY Mile Post: from ___ to ___.
Section Number: ___ Test Site Number: 8 ADT: ___.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
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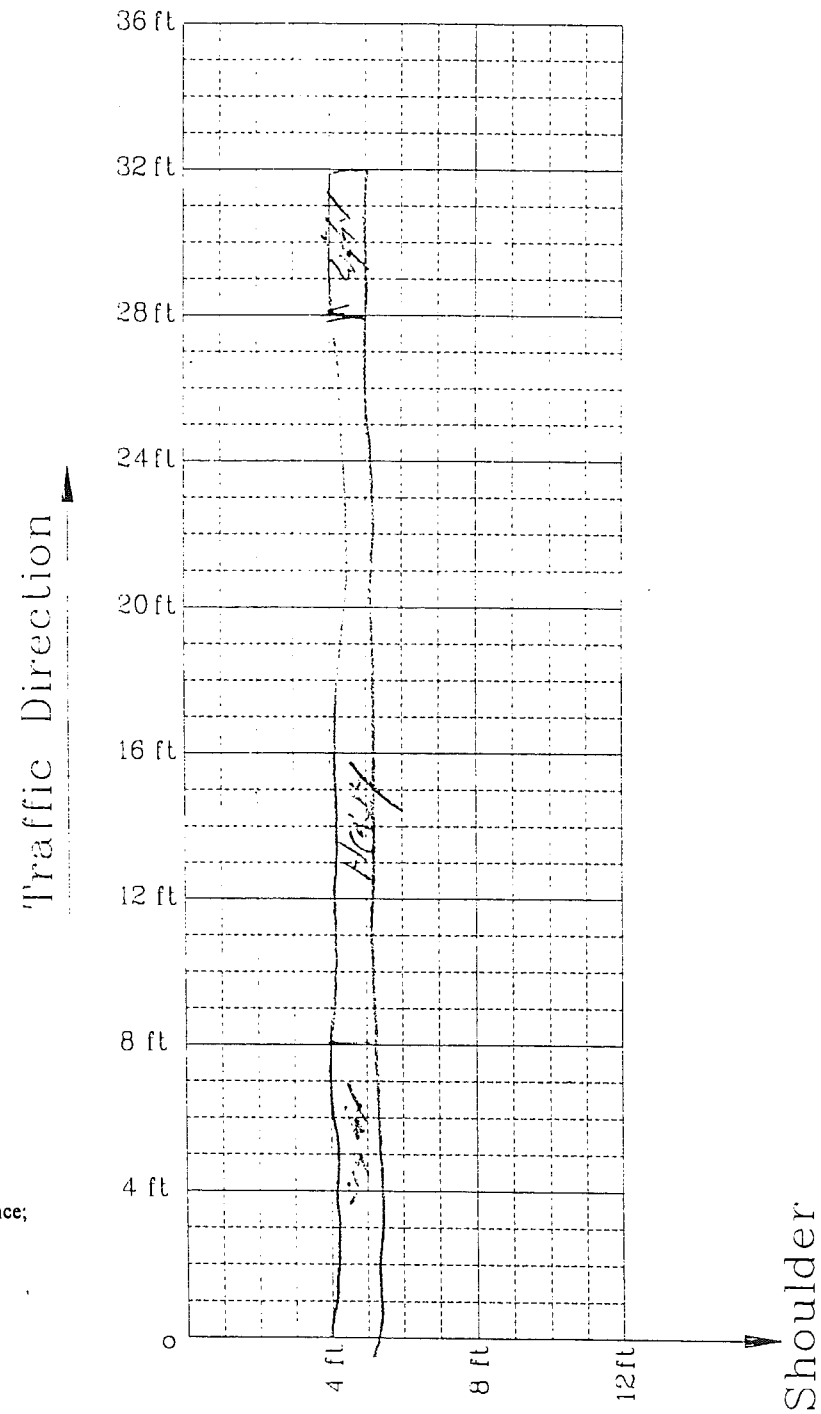
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: E.B. West of Sites 6 & 7.
Region: University Mile Post: from _____ to _____.
Section Number: 1 Test Site Number: 8 ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
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Distress to be Identified
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4. Flushing
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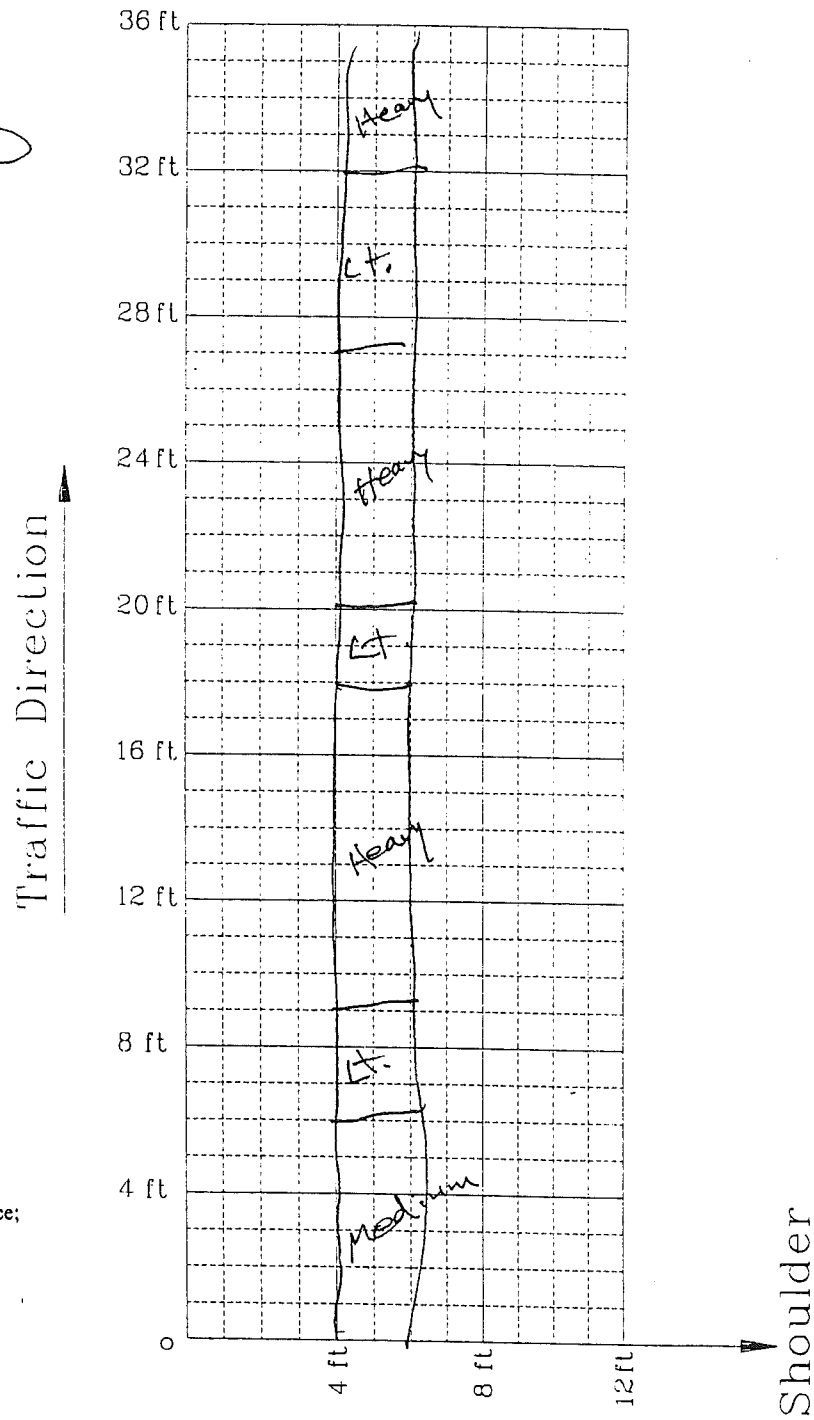
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather: Wet, Nasty, Chilly Putrid

Surveyor: _____ (your name)
Control Section Number: _____ Route: Sterling Direction: East Bound.
Region: Jackson — Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 8 ADT: _____.

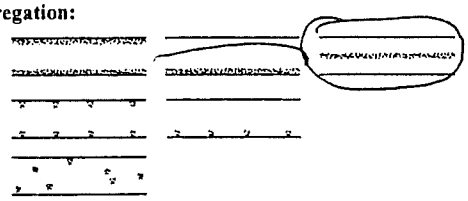
Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random



Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
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Distress to be Identified
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4. Flushing
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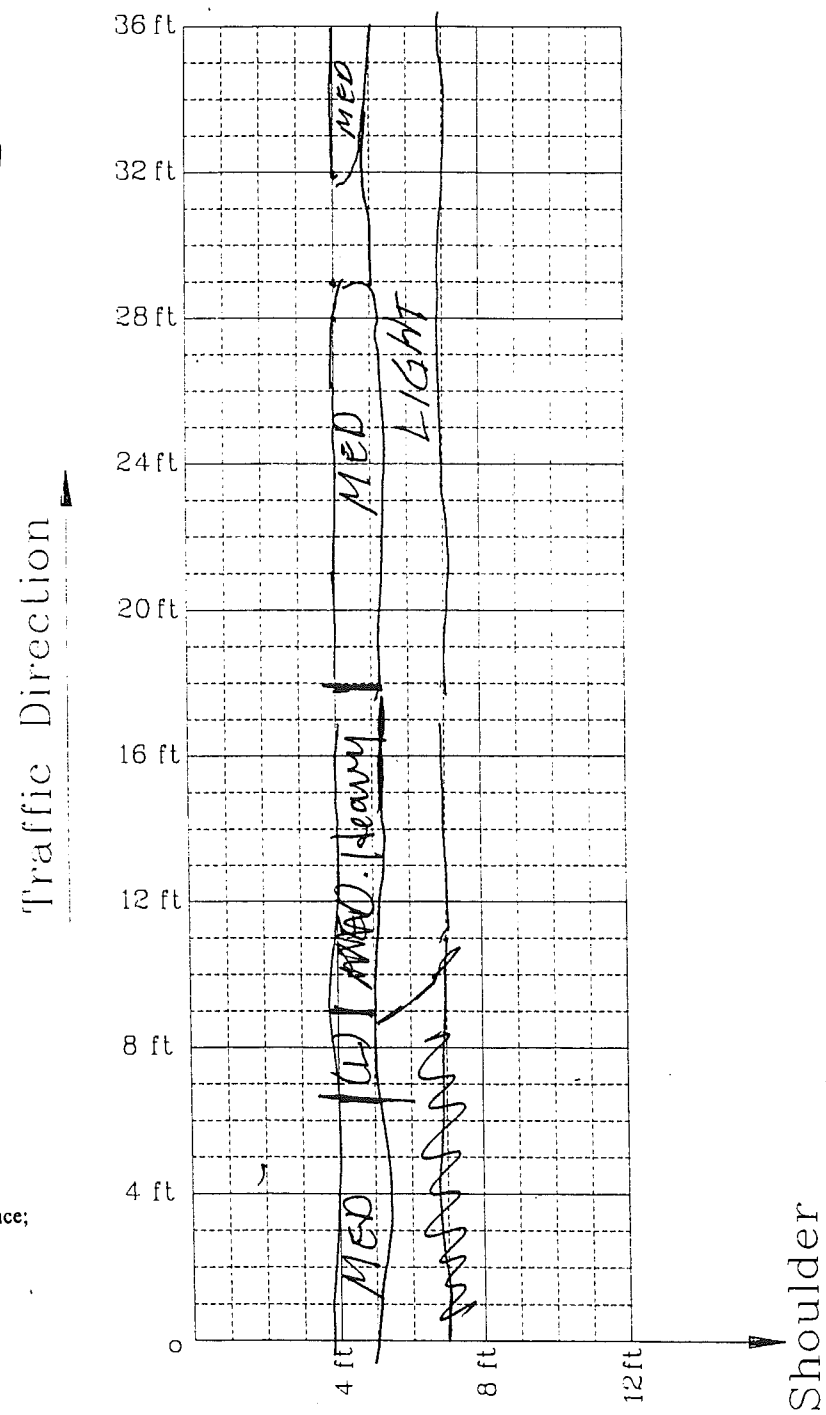
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 3, 1997
Weather: Chilly Rainy 30's

Surveyor: _____ (your name)
Control Section Number: Hillsdale Co. Route: Sterling Direction: EB / SB
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: # 8 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random
MINOR

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
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4. Flushing
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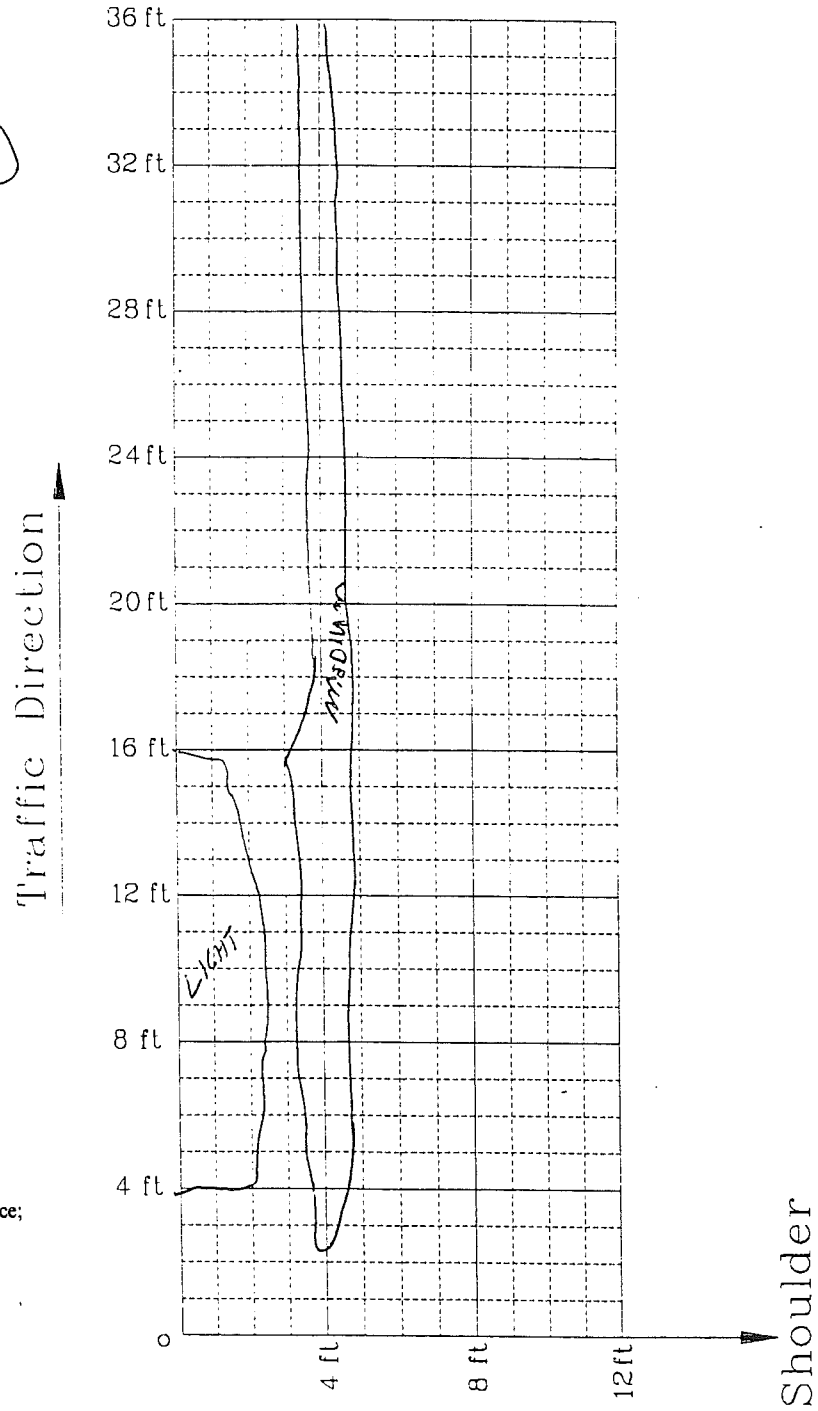
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

4~5 month

Segregation Survey

Date of Survey: Dec. 3, 1997

Weather: East bound

Surveyor: _____ (your name)

Control Section Number: _____ Route: _____ Direction: ~~West~~ EB.

Region: _____ Mile Post: from _____ to _____.

Section Number: _____ Test Site Number: 8 ADT: _____.

Definition of Segregation:

Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation

Heavy: stone against stone, little or no matrix (fine)

Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat

Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified

1. Raveling

☐ Low ☐ Moderate ☐ High

Low: aggregate or binder has started to wear away, but not progressed significantly

Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate

High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate

2. Cracking

☐ Low ☐ Moderate ☐ High

Low: a crack with a mean width ≤ 0.25 in.

Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking

High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking

3. Rut Depth

4. Flushing

☐ Low ☐ Moderate ☐ High

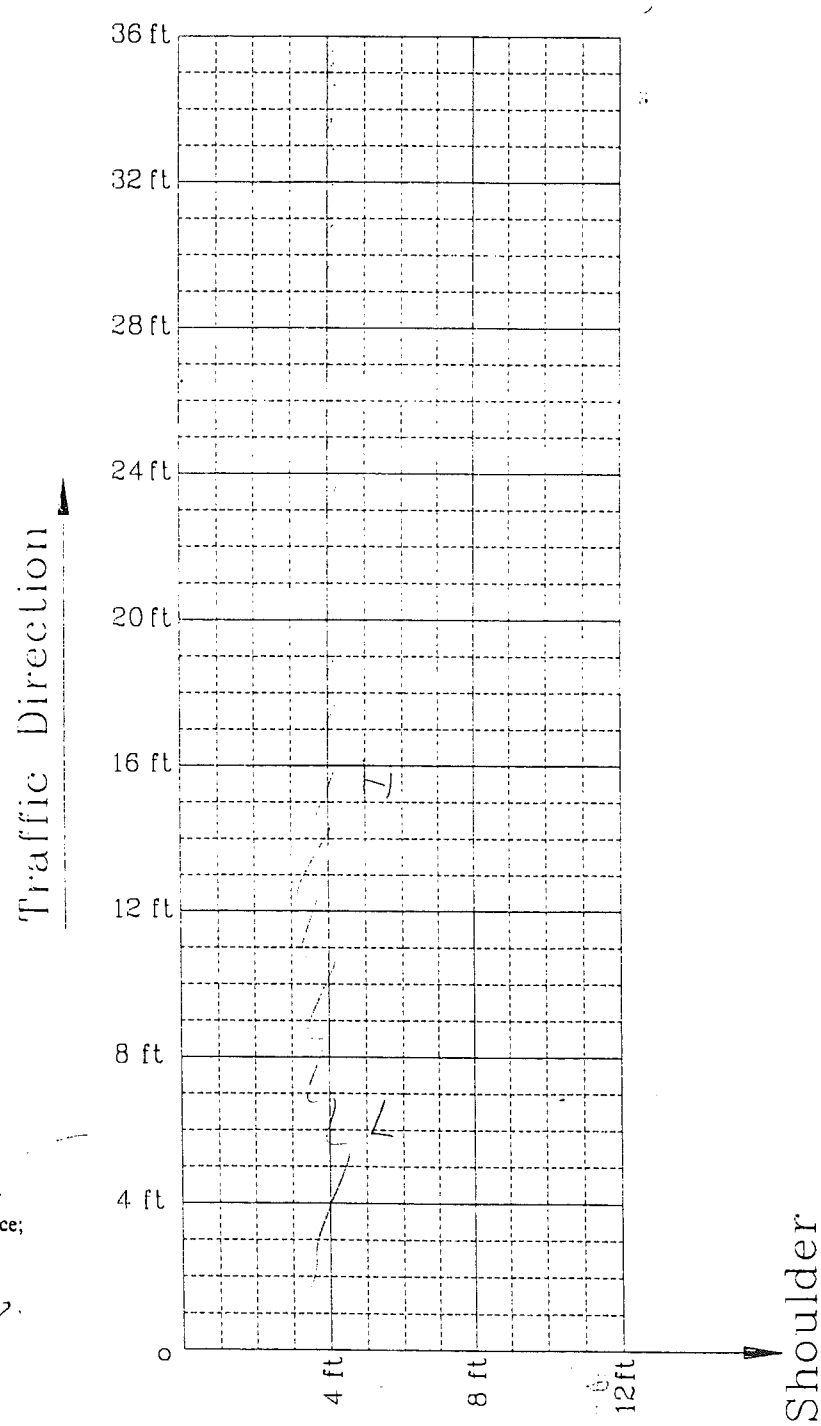
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt

Moderate: an area of pavement surface that is losing surface texture due to excess asphalt

High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Nuclear Density Sampling Data (Jan. 30, 1998)

SITE 8 Sterling Road E. Bound (2000′ west of Knowles road), Hillsdale County

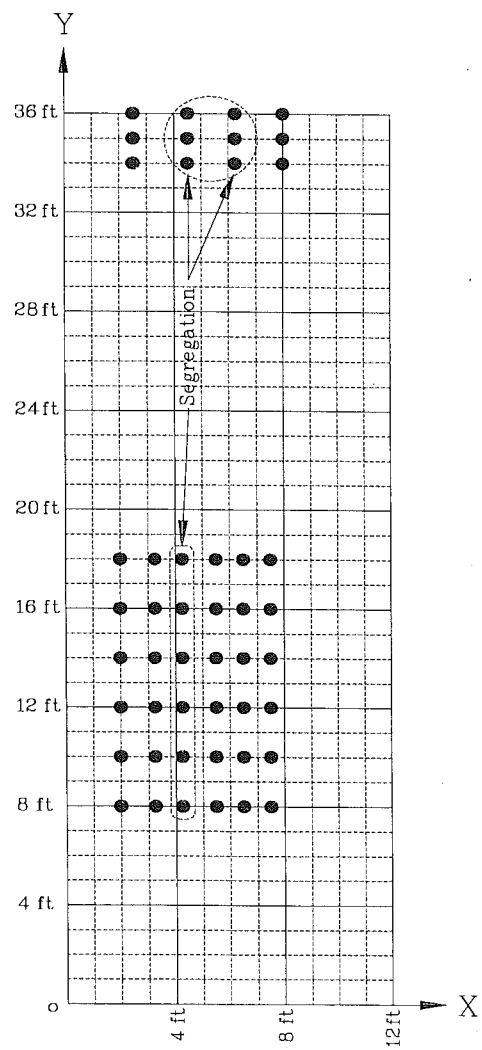
Chart Standard	Density	2853
	Moisture	660
Operating Standard	Density	2847
	Moisture	673

Gauge No.	99398
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1		Segregation Sample 2		Segregation Sample 3		Sample 4	
0236	148.9	**0436**	137.8	**0636**	143.0	**0836**	148.6
0235	148.6	**0435**	139.1	**0635**	141.7	**0835**	145.8
0234	146.1	**0434**	140.9	**0634**	142.2	**0834**	147.1
mean	147.9	mean	139.3	mean	142.3	mean	147.2
std	1.54	std	1.56	std	0.66	std	1.40

Sample 5		Sample 6		Segregation Sample 7	
0218	144.6	**0318**	149.2	**0418**	142.6
0216	144.3	**0316**	150.4	**0416**	141.4
0214	146.8	**0314**	149.8	**0414**	136.8
0212	146.5	**0312**	148.5	**0412**	139.4
0210	144.0	**0310**	148.5	**0410**	140.4
0208	142.6	**0308**	148.2	**0408**	146.2
mean	144.8	mean	149.1	mean	141.1
std	1.59	std	0.86	std	3.17

Sample 8		Sample 9		Sample 10	
0518	145.5	**0618**	144.1	**0718**	147.5
0516	144.9	**0616**	146.1	**0716**	147.7
0514	145.4	**0614**	145.2	**0714**	147.9
0512	143.6	**0612**	143.6	**0712**	148.9
0510	145.3	**0610**	146.2	**0710**	146.9
0508	145.3	**0608**	144.4	**0708**	147.9
mean	145.0	mean	144.9	mean	147.8
std	0.72	std	1.08	std	0.65



Site 9

Paved 1996

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Cond Rd. Direction: NB
Region: _____ Mile Post: from West of Delta elementary
Section Number: _____ Test Site Number: 9 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

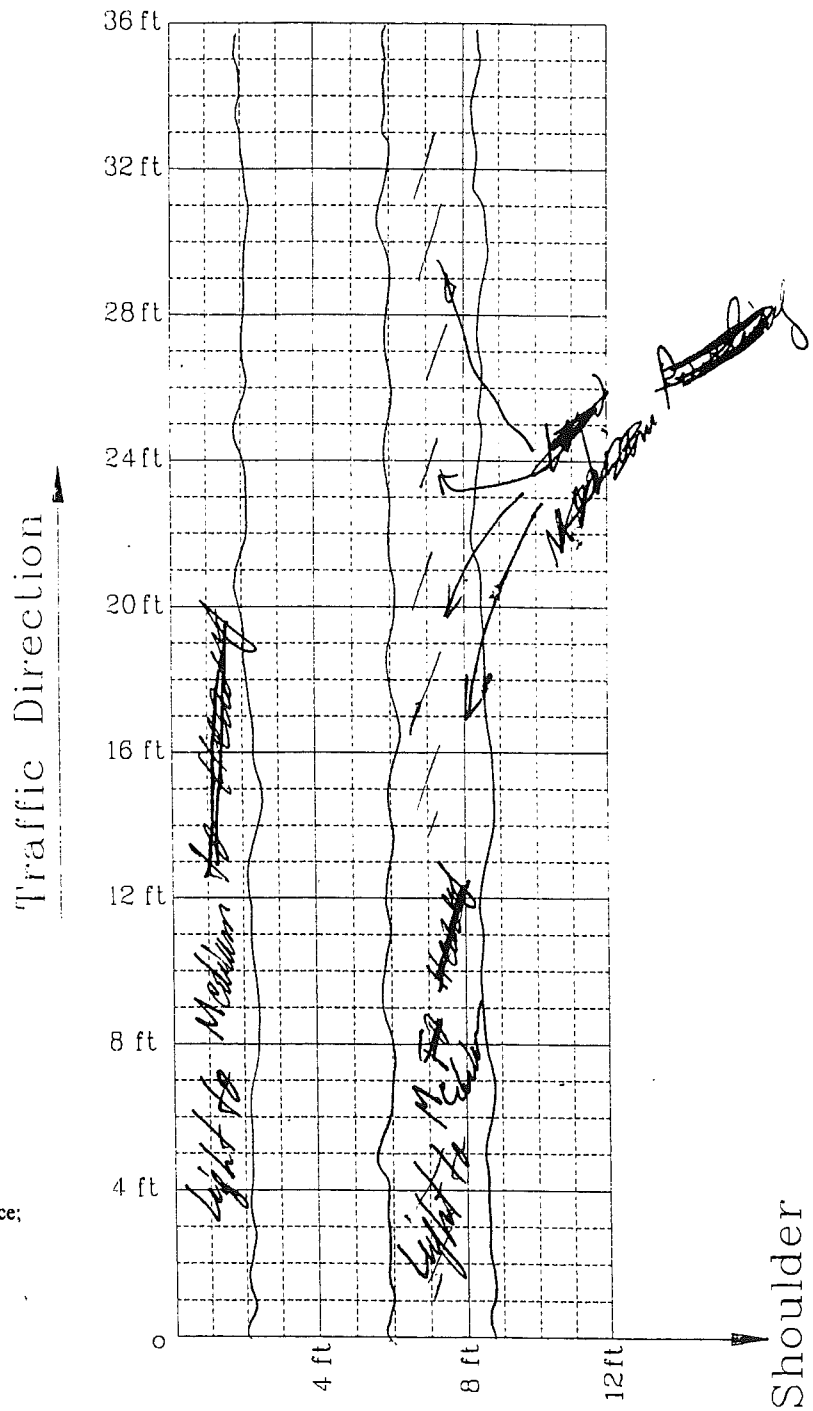
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: FRONT OF Route: CANAL Direction: NORTH
Region: SCHOOL Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 9 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

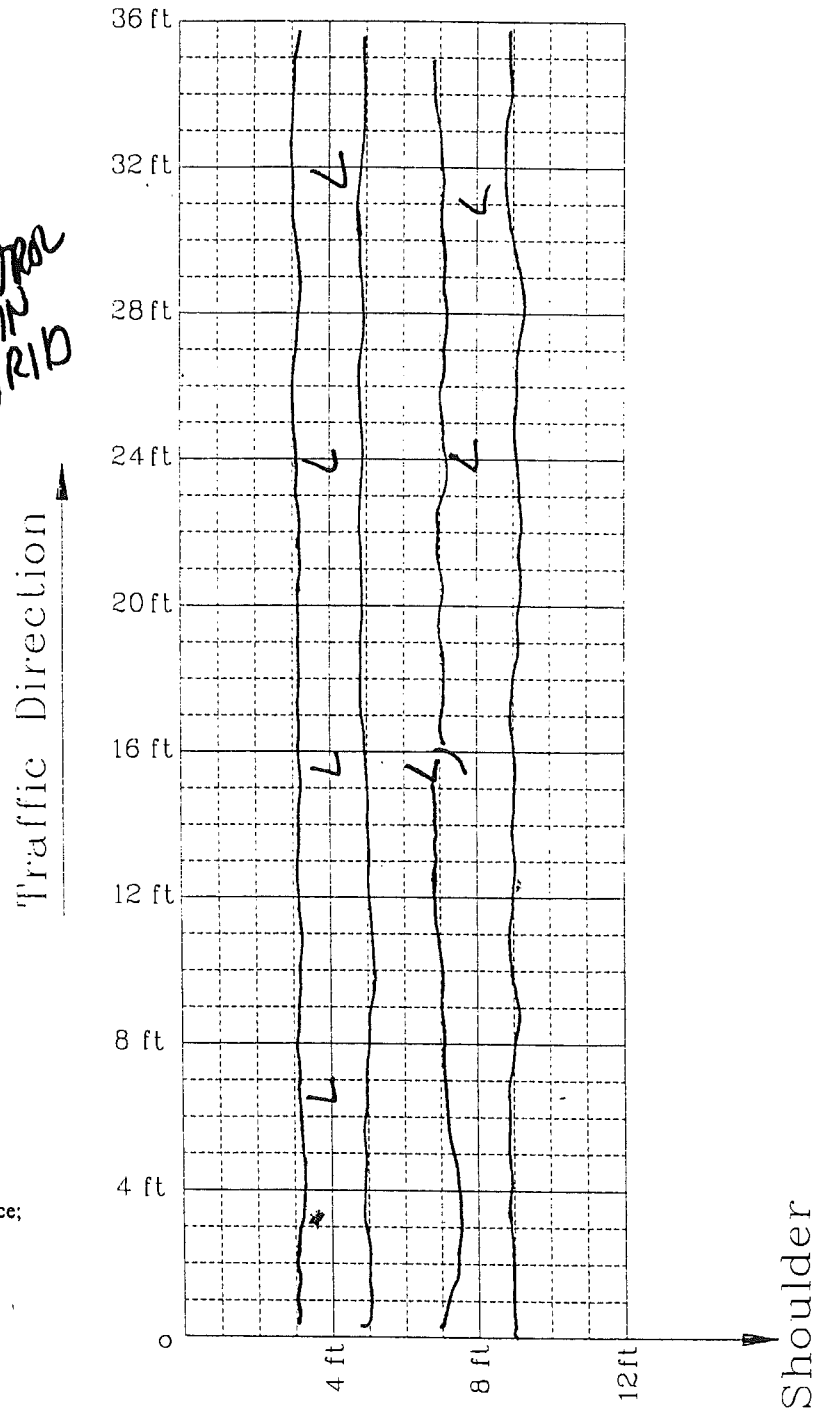
CONTROL IN GRID

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name) Canal Rd
Control Section Number: _____ Route: _____ Direction: NB
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 9 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

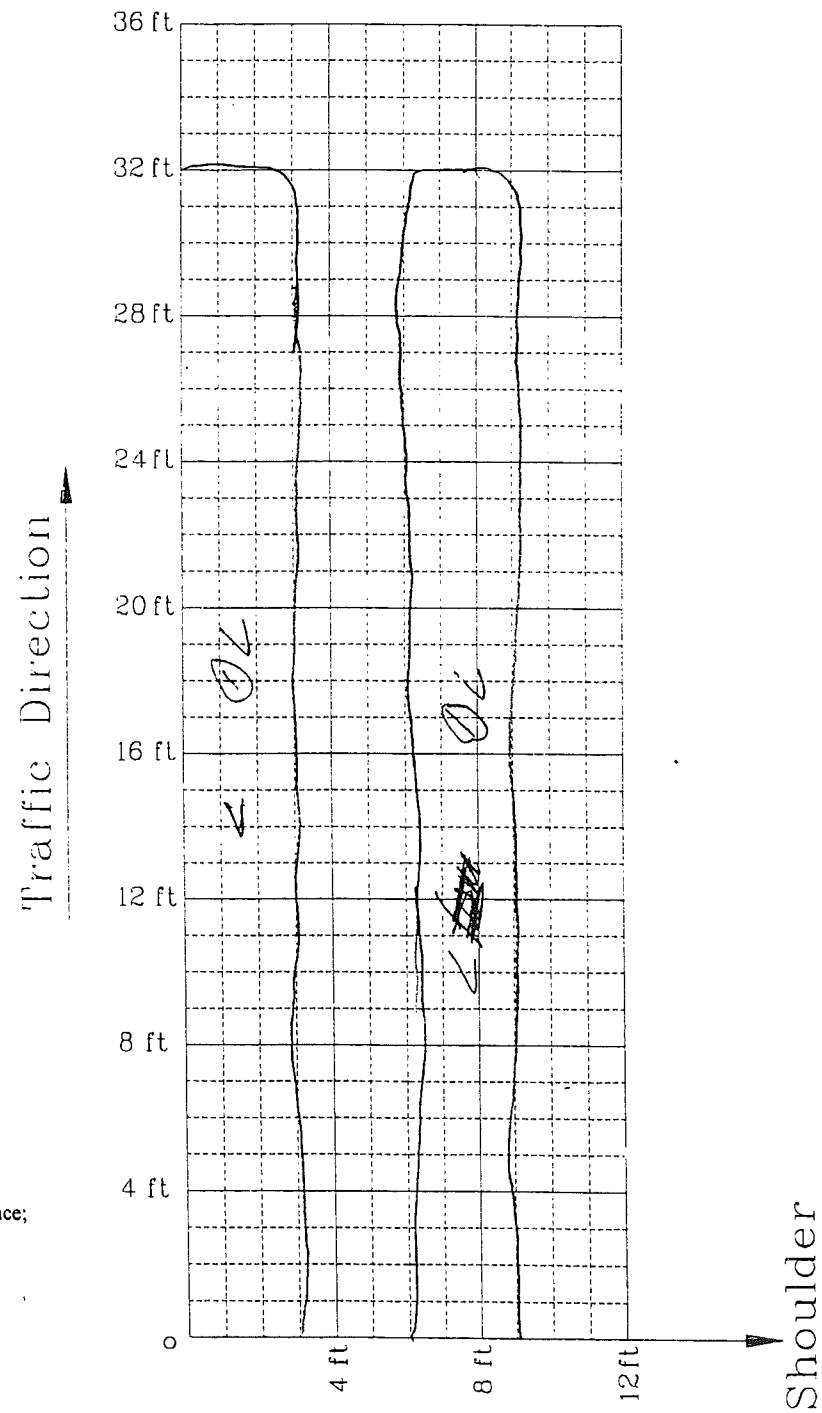
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Canal NB Direction: North.
Region: University Mile Post: from _____ to _____.
Section Number: Delta Center School. Test Site Number: 9 ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

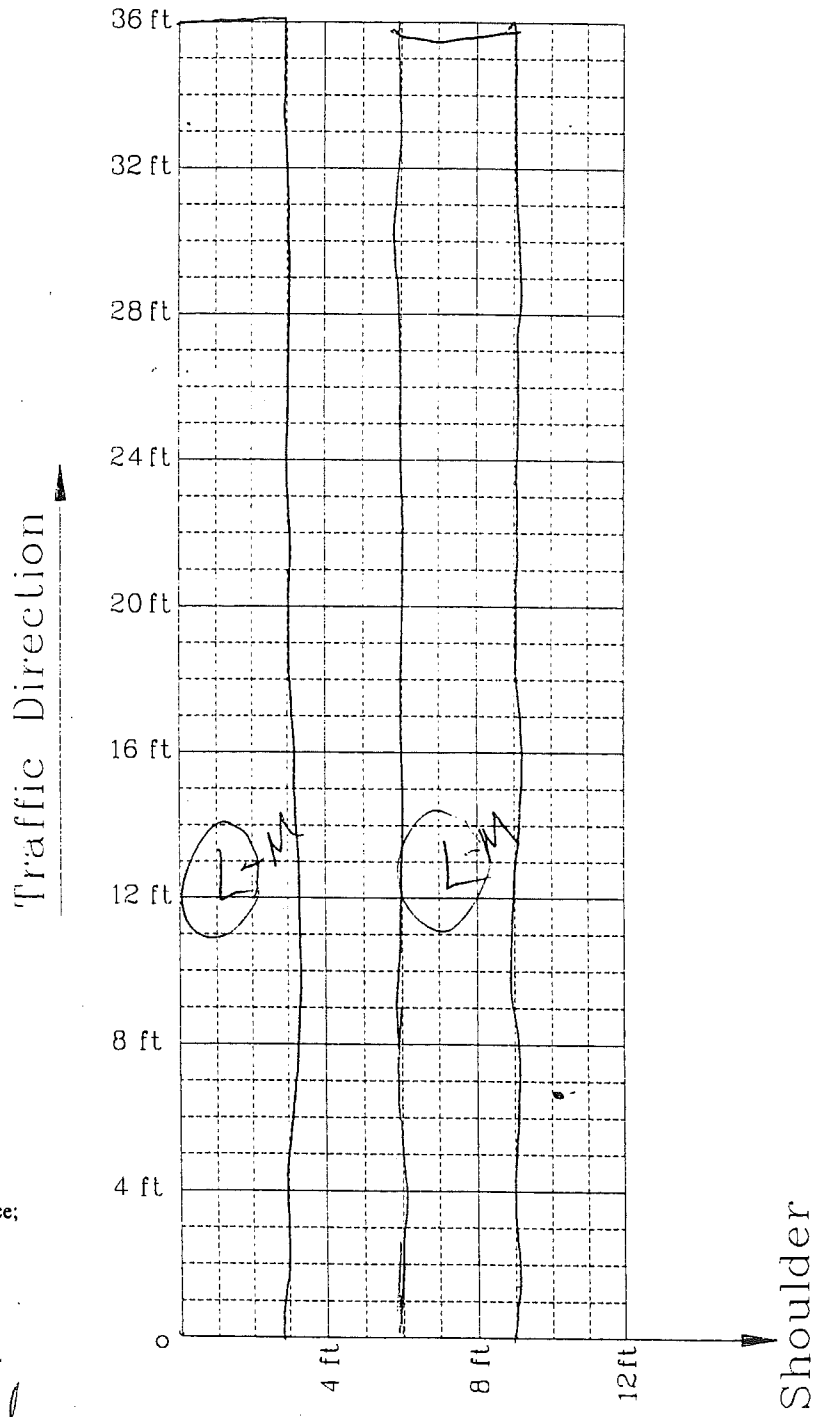
Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☑ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate

* **2. Cracking**
☑ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking

3. Rut Depth
4. Flushing
☐ Low ☑ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

Segregation Map



COMMENTS

* Several spots where stones have popped out

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: Canal Rd Direction: N
Region: 8 University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 9 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

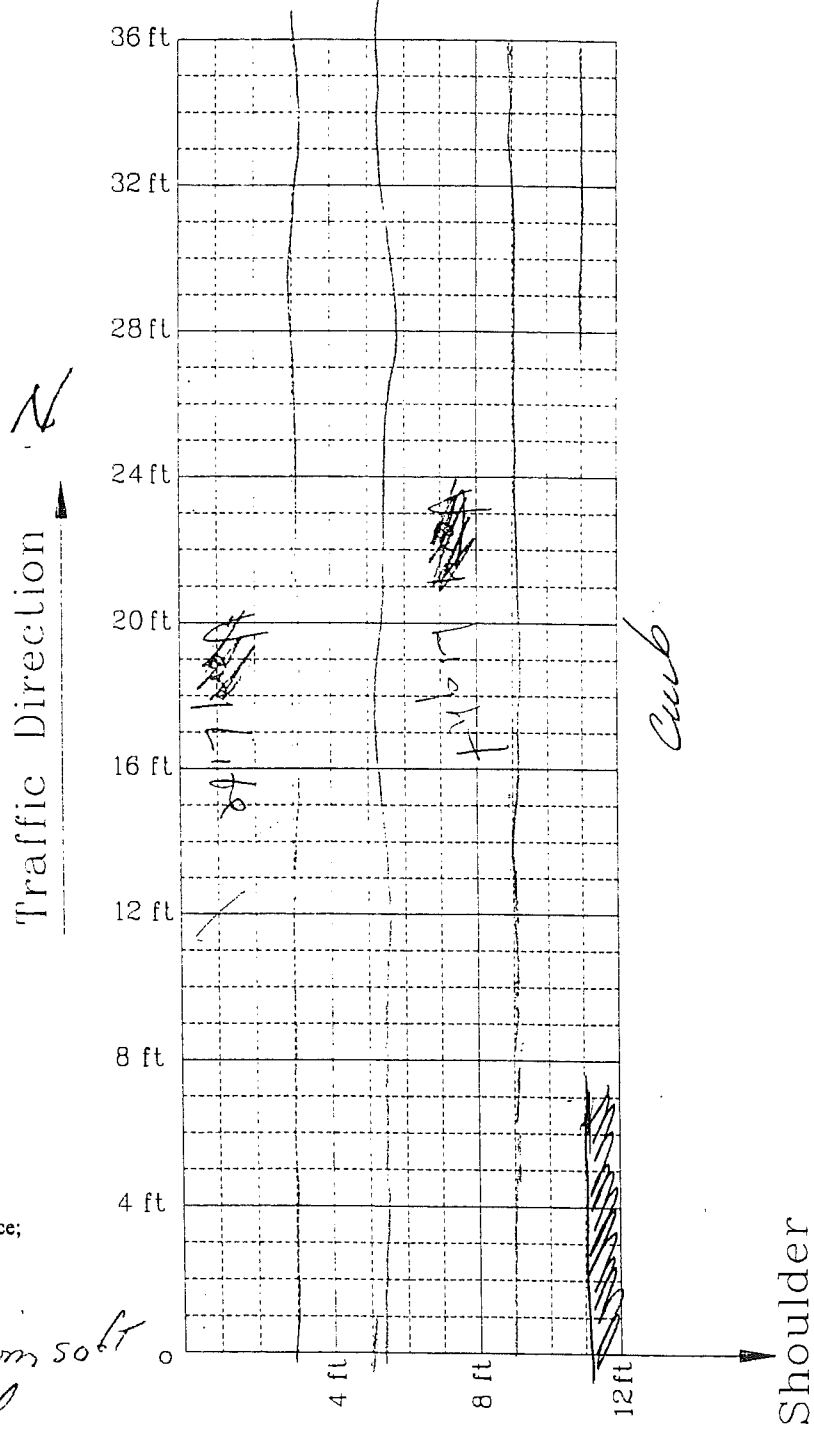
Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking Not Yet.
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth None Yet.
4. Flushing
☐ Low ☐ Moderate ☐ High NO
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

Segregation Map



COMMENTS
11' pavt. Popouts from soft stone have been pealed
Full depth on gravel.

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: OVERCAST 30's

Surveyor: _____ (your name)
Control Section Number: GATON CO. Route: CANAL Direction: NB RT LANE
Region: UNIVERSITY Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 79 ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling NONE
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
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☐ Low ☐ Moderate ☐ High
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High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
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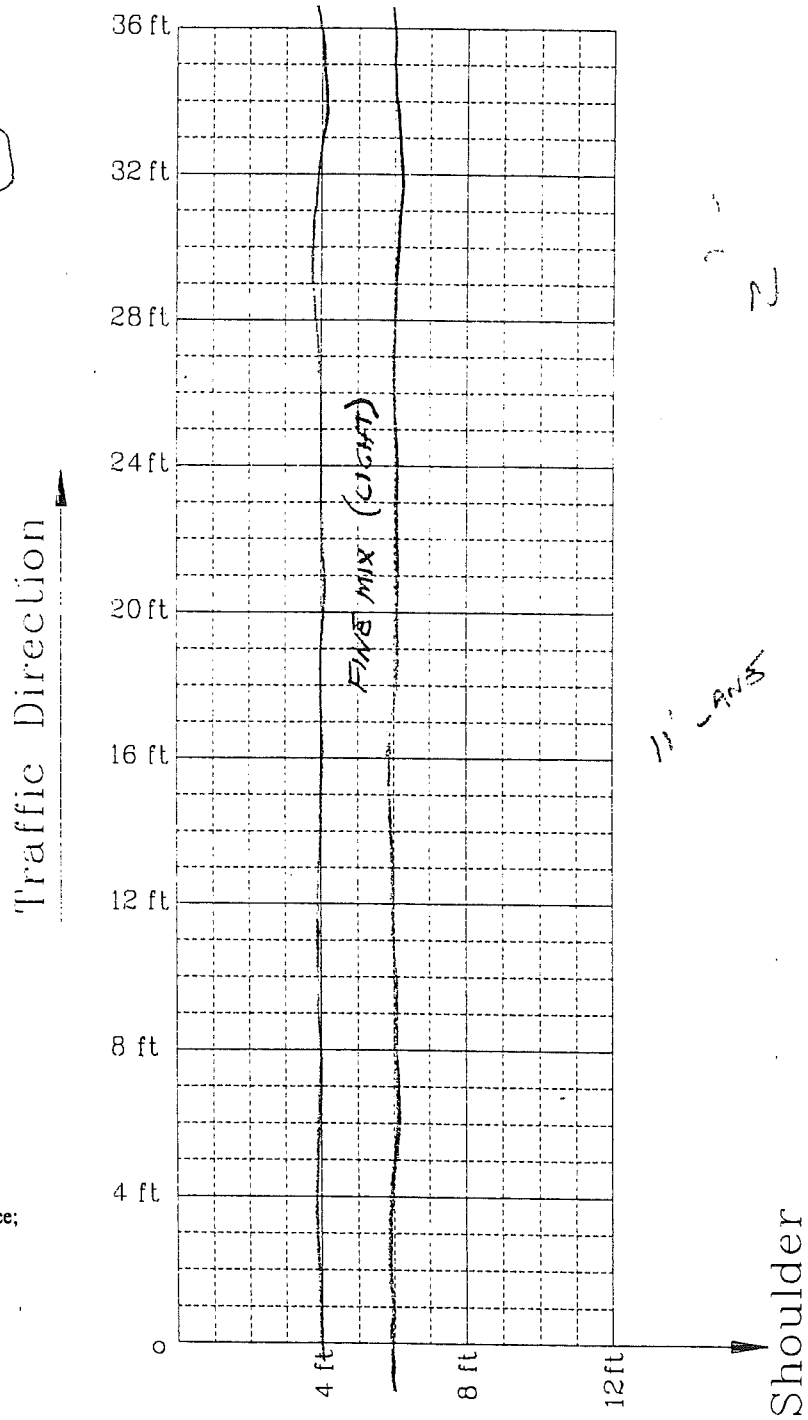
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS MAKE A GASS FOR NONS
NOT VERY DISTINGUISHABLE
Noticeable stone pupouts

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

33° F

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: CANAL Direction: NB
Region: _____ Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 9 ADT: _____
Out Pax

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
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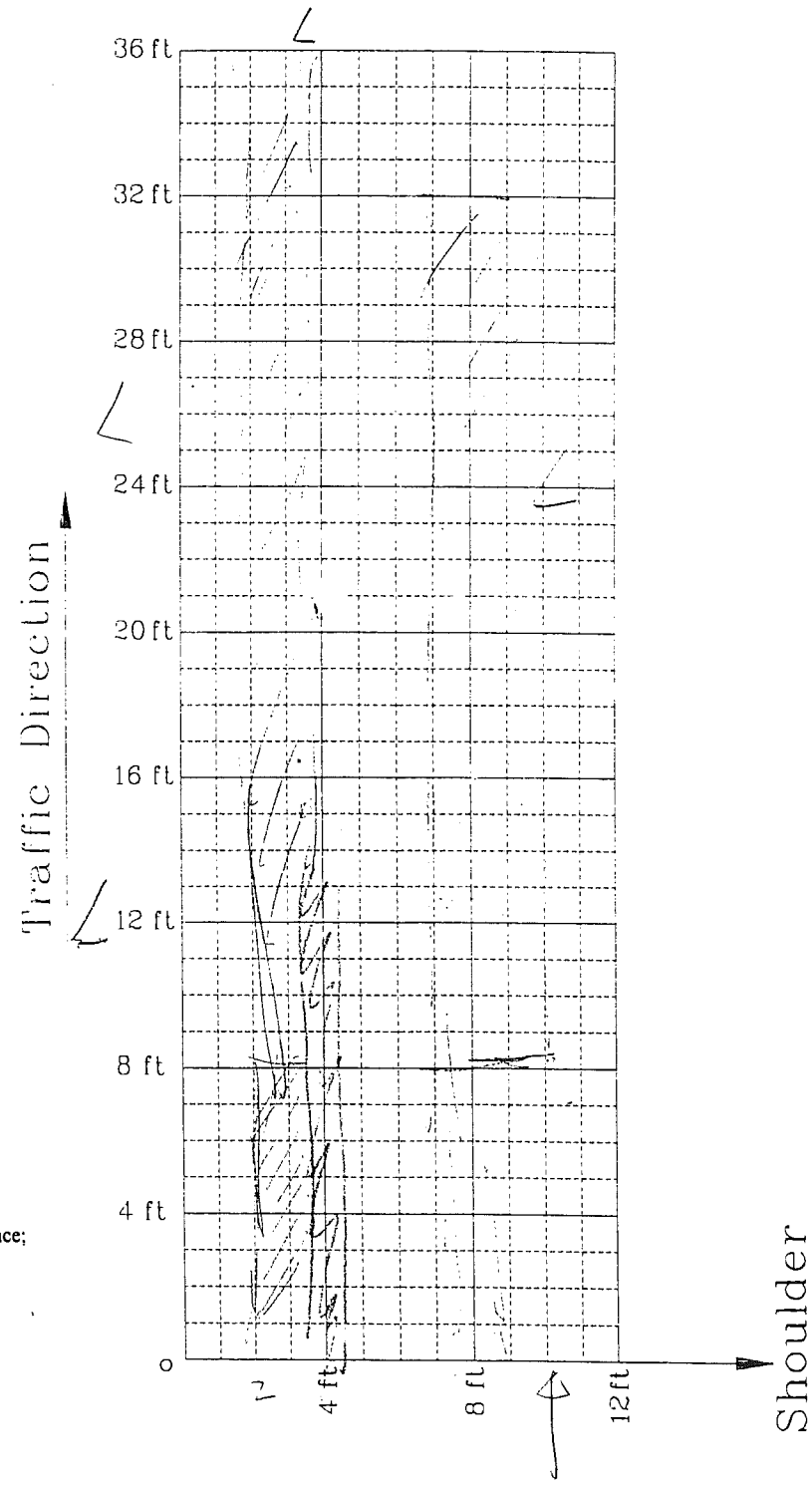
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Nuclear Density Sampling Data (Feb. 13, 1998)

SITE 9 Canal Road N. Bound (in front of Delta Center School), Eaton County

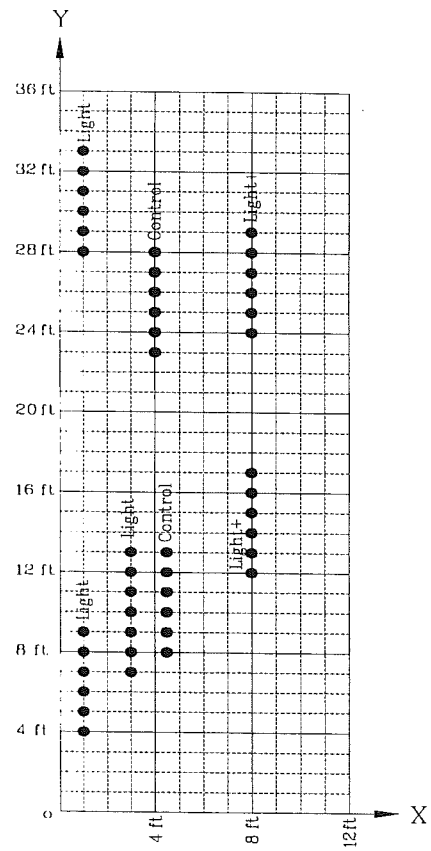
Chart Standard	Density	2617
	Moisture	705
Operating Standard	Density	2608
	Moisture	708

Gauge No.	102420
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1		Sample 2		Sample 3	
Light		Control		Light +	
0133	145.6	0428	144.4	0829	142.5
0132	144.9	0427	146.2	0828	142.6
0131	145.4	0426	143.0	0827	142.8
0130	144.2	0425	148.6	0826	143.3
0129	145.7	0424	140.5	0825	142.3
0128	144.2	0423	140.1	0824	141.7
mean	145.0	mean	143.8	mean	142.5
std	0.68	std	3.30	std	0.53

Sample 4		Sample 5	
Light		Light	
0109	143.0	0313	138.6
0108	141.3	0312	141.2
0107	142.3	0311	142.0
0106	142.5	0310	142.6
0105	144.4	0309	142.2
0104	143.9	0308	143.4
mean	142.9	0307	140.0
std	1.13	mean	141.4
		std	1.65

Sample 6		Sample 7	
Control		Light +	
0413	139.2	0817	142.7
0412	139.5	0816	141.7
0411	142.7	0815	142.3
0410	140.9	0814	142.8
0409	140.0	0813	142.3
0408	142.1	0812	143.0
mean	140.7	mean	142.5
std	1.43	std	0.47



Site 10

Truffic Lane

Paved 1996

Segregation Survey

Date of Survey: Dec. 9, 1997

Weather:

Surveyor: _____ (your name)

Control Section Number: _____ Route: Canal Rd. Direction: SB

Region: Fo Mile Post: from Across from to AAA Michigan

Section Number: _____ Test Site Number: 10 ADT: _____

South of West Shore Rd.

Definition of Segregation:

Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation

Heavy: stone against stone, little or no matrix (fine)

Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat

Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified

1. Raveling

☑ Low ☐ Moderate ☐ High

Low: aggregate or binder has started to wear away, but not progressed significantly

Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate

High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate

2. Cracking

☐ Low ☐ Moderate ☐ High

Low: a crack with a mean width ≤ 0.25 in.

Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking

High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking

3. Rut Depth

4. Flushing

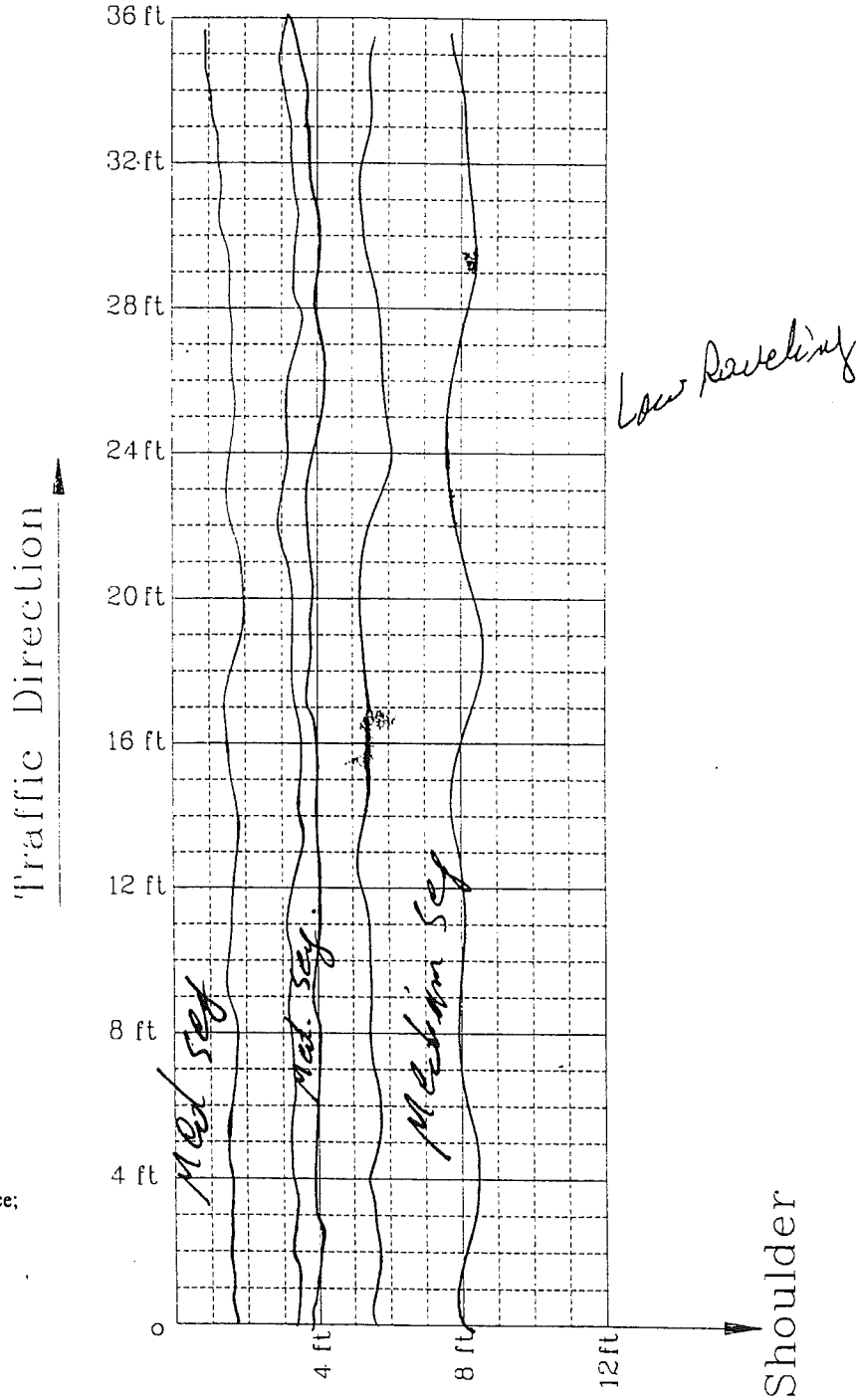
☐ Low ☐ Moderate ☐ High

Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt

Moderate: an area of pavement surface that is losing surface texture due to excess asphalt

High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

Segregation Map



COMMENTS

The raveling may be caused by soft aggregate

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: CANAL Direction: SOUTH
Region: IN FRONT OF DAA Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 10 ADT: _____
PORTO 96 SOUTH OF WEST SHORE

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

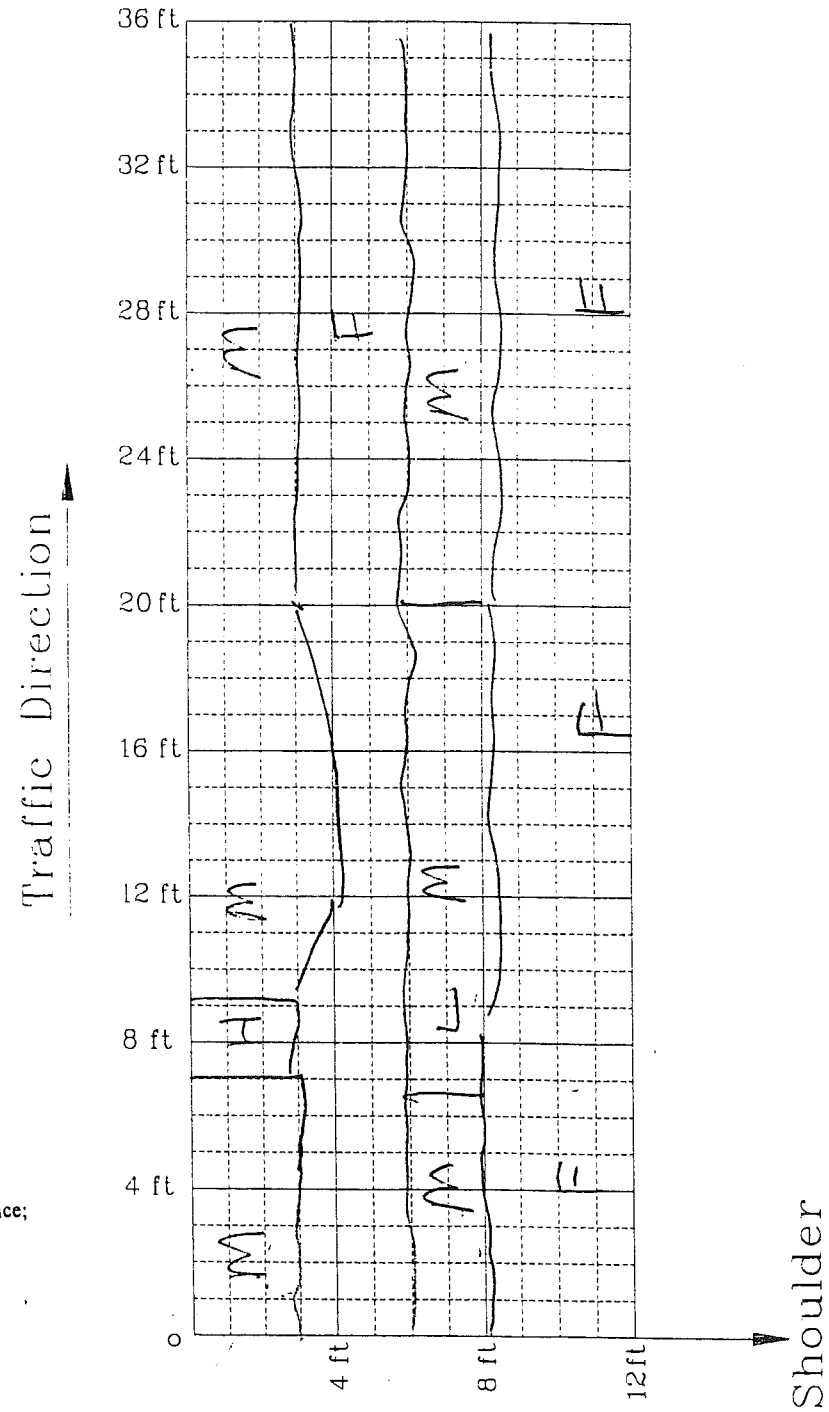
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

1' Lane

Segregation Survey

Date of Survey: Dec. 9, 1997

Weather:

Surveyor: _____ (your name) Carol Rd

Control Section Number: _____ Route: south of west 3 lane Direction: South

Region: University _____ Mile Post: from _____ to _____

Section Number: _____ Test Site Number: 10 _____ ADT: _____

Definition of Segregation:

Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation

Heavy: stone against stone, little or no matrix (fine)

Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat

Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified

1. Raveling

☐ Low ☐ Moderate ☐ High

Low: aggregate or binder has started to wear away, but not progressed significantly

Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate

High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate

2. Cracking

☐ Low ☐ Moderate ☐ High

Low: a crack with a mean width ≤ 0.25 in.

Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking

High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking

3. Rut Depth

4. Flushing

☐ Low ☐ Moderate ☐ High

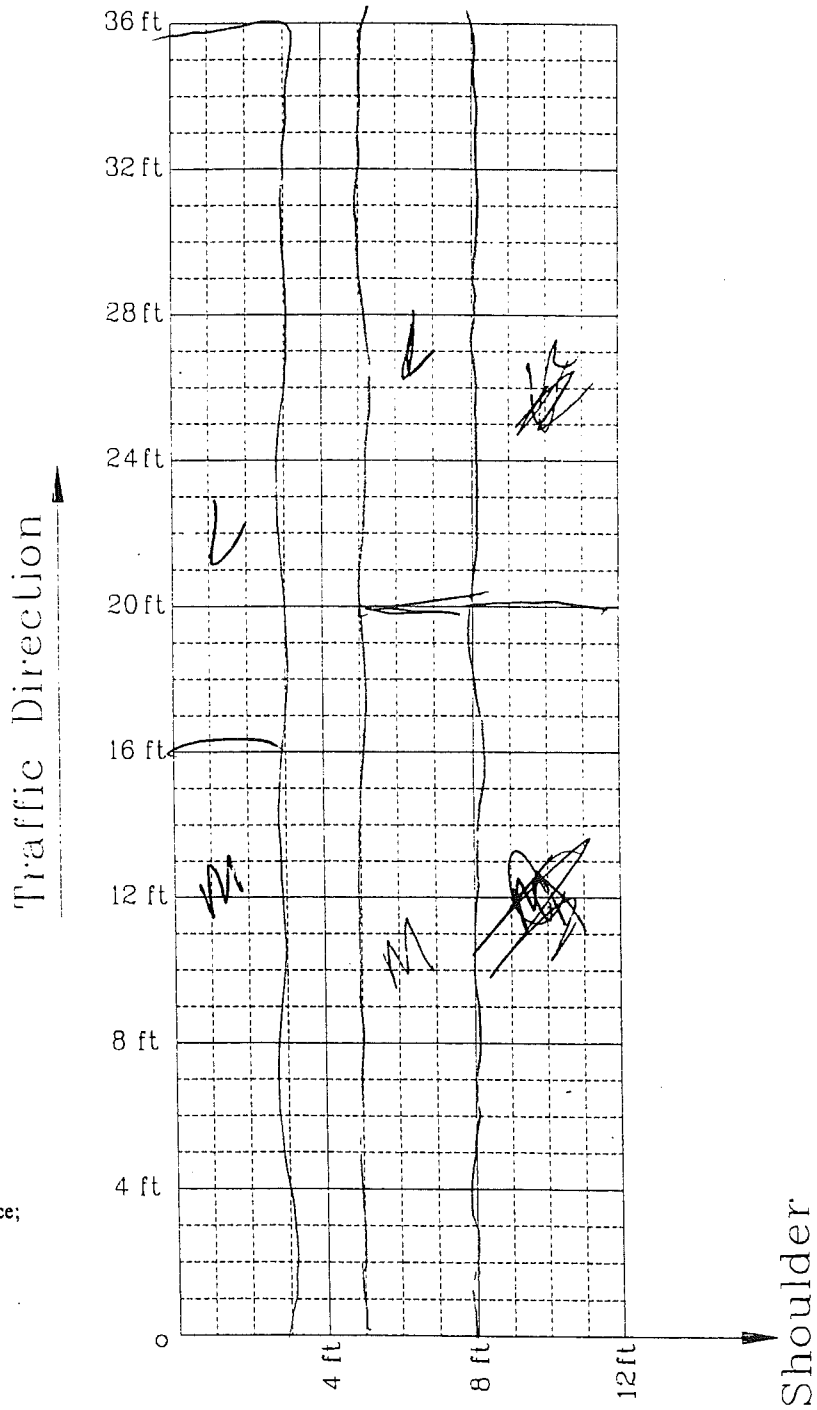
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt

Moderate: an area of pavement surface that is losing surface texture due to excess asphalt

High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: CANAL Direction: South.
Region: Unw _____ Mile Post: from Westshore to _____.
Section Number: _____ Test Site Number: 10 ADT: _____.

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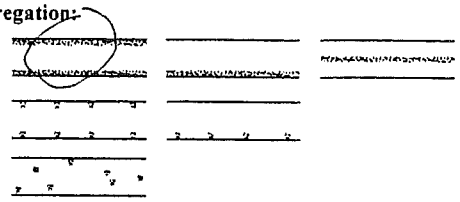
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random



Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
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Distress to be Identified

1. Raveling *

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2. Cracking 0

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3. Rut Depth 0

4. Flushing 0

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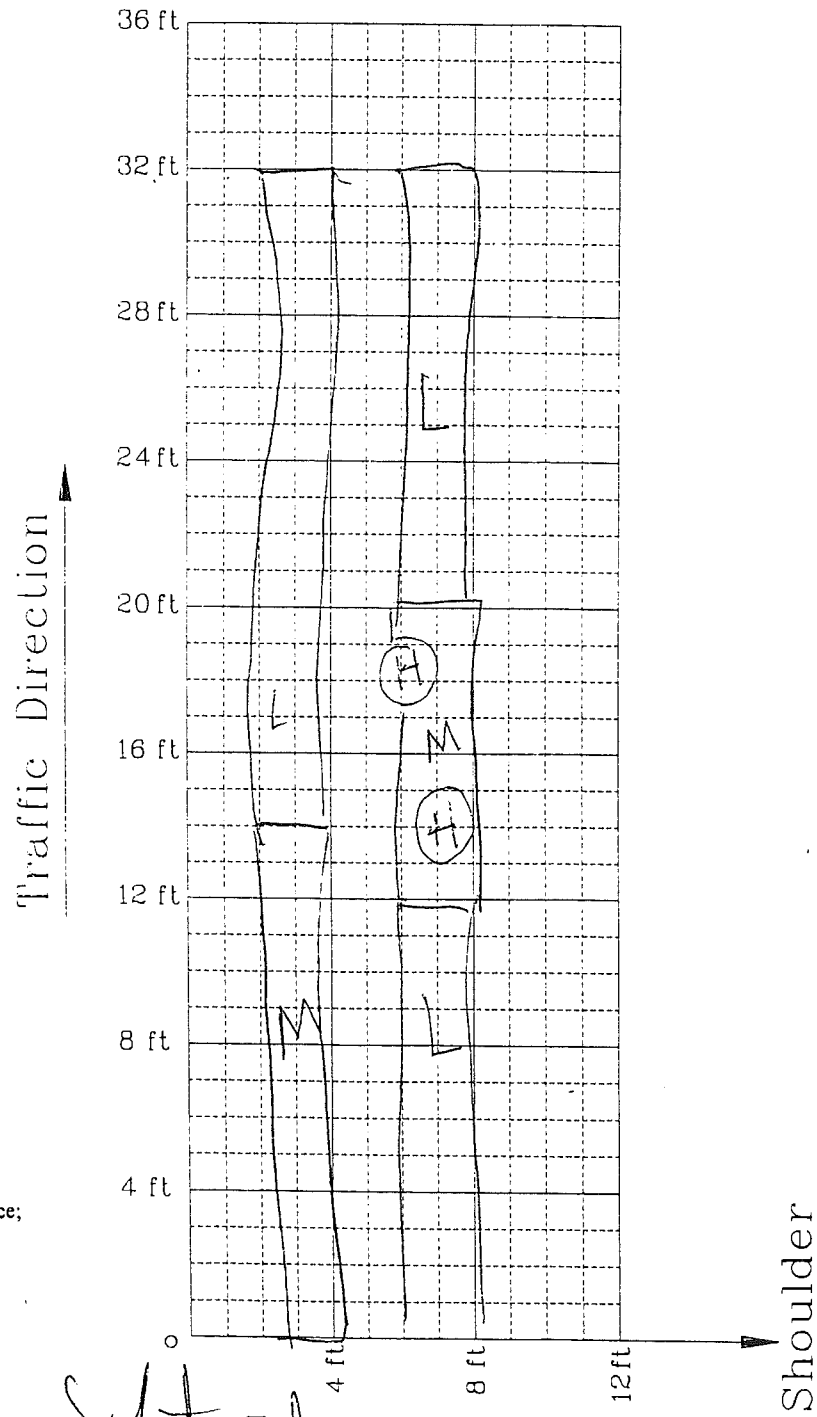
Segregation Map



COMMENTS

* Popouts due to Soft Stone

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: 32°F, Snowy.

Surveyor: _____ (your name)
Control Section Number: _____ Route: Canal Rd Direction: SB
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 10 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
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3. Rut Depth None
4. Flushing None.
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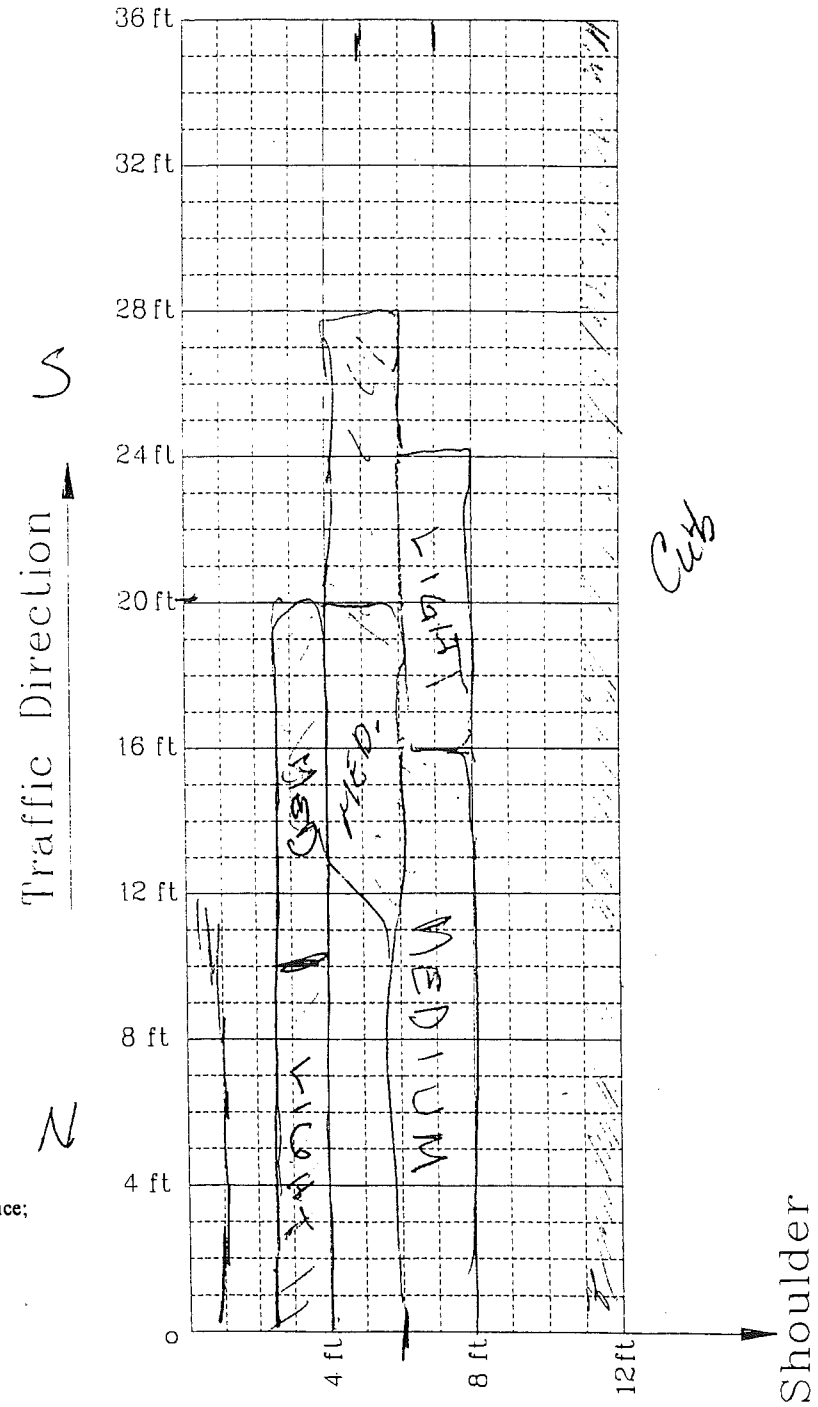
COMMENTS 5 @ 11' with Lt 9 lane.
"Popouts have been sealed."

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: Overcast w/ light snow

Surveyor: _____ (your name)
Control Section Number: 1 Route: Canal Direction: SB Rt lane.
Region: University Mile Post: from _____ to _____.
Section Number: 0 Test Site Number: #10 ADT: _____.

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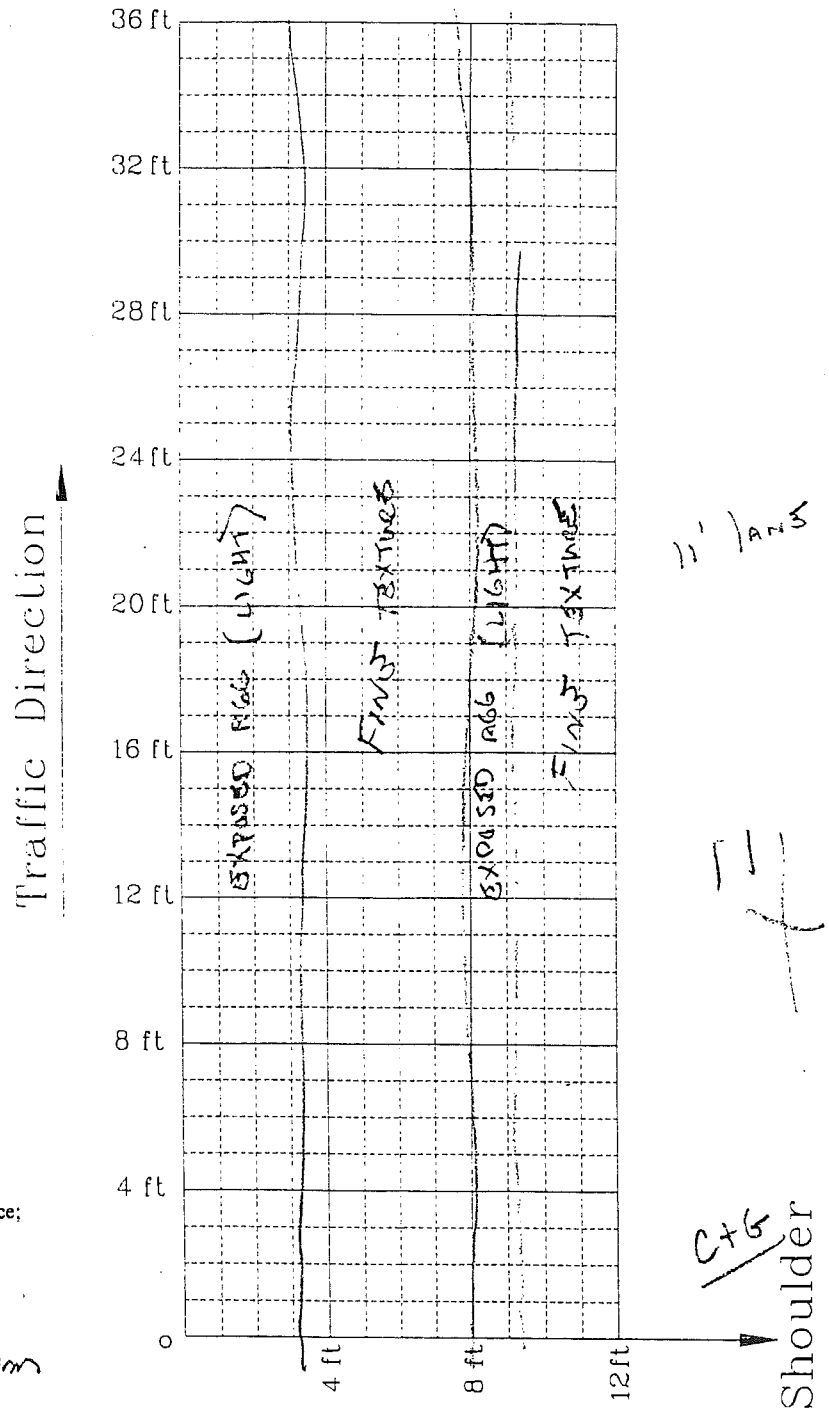
Segregation Map



COMMENTS
Exposed Agg mostly visible from 8'-16'
Stone popping - freeze/thaw action

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

32° F

Segregation Survey

Date of Survey: Dec. 9, 1997

Weather:

Surveyor: _____ (your name) in front of AMA michigan

Control Section Number: _____ Route: _____ Direction: South

Region: _____ Mile Post: from _____ to South of West shore

Section Number: _____ Test Site Number: 16 ADT: _____

Definition of Segregation:

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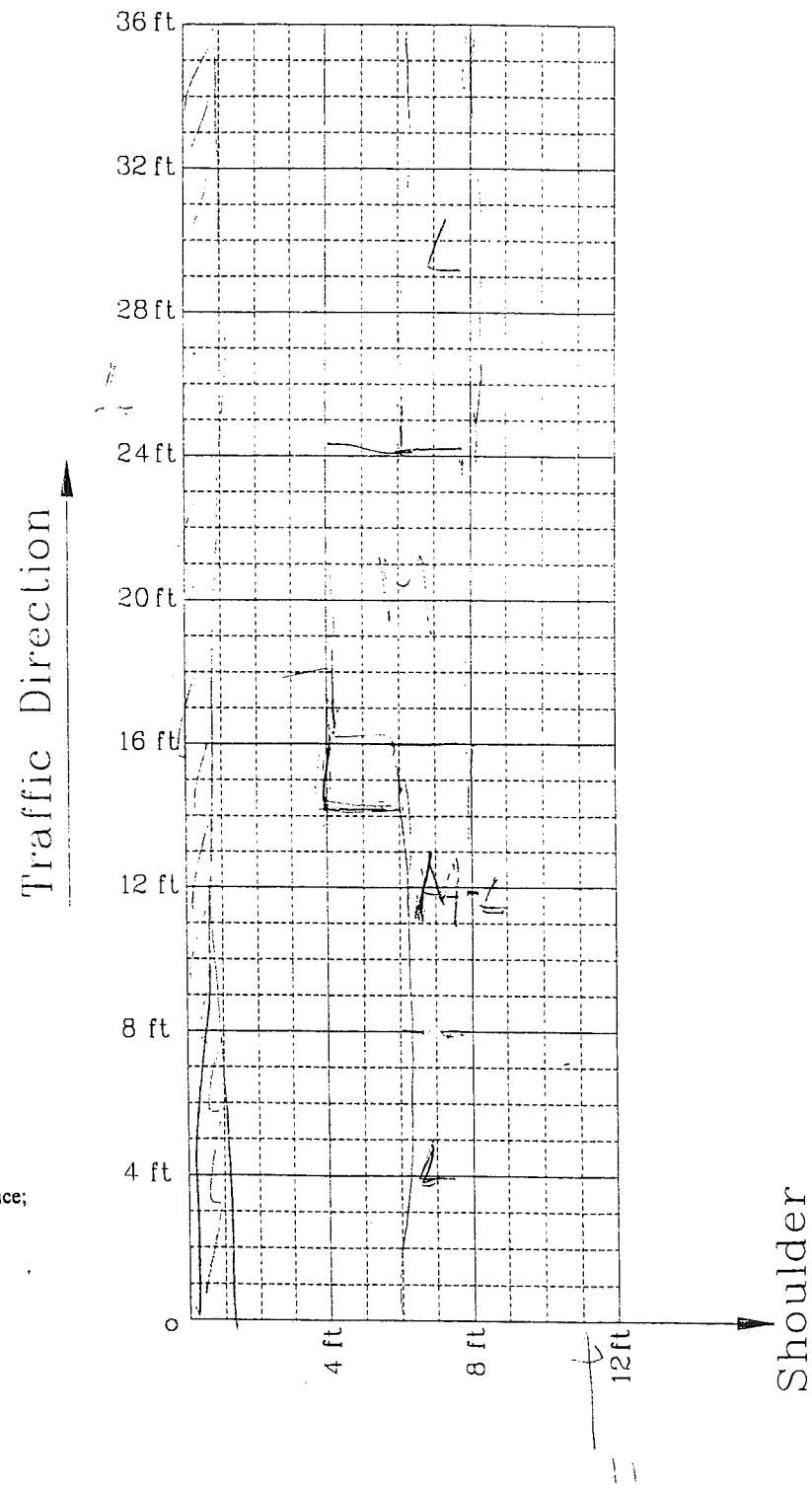
COMMENTS

Segregation Map



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Nuclear Density Sampling Data (Feb. 13, 1998)

Site 10 Canal Road S. Bound (150' South of Westshire Road) Eaton County

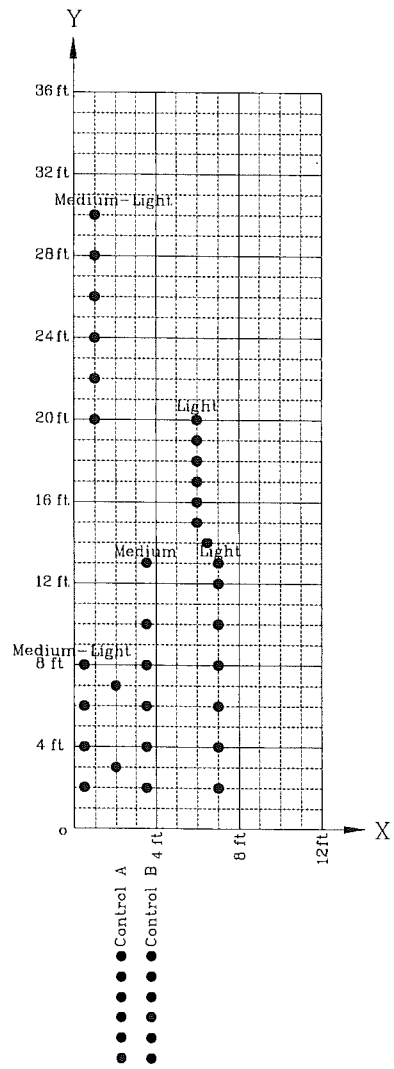
Chart Standard	Density	2617
	Moisture	705
Operating Standard	Density	2608
	Moisture	708

Gauge No.	102420
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1		Sample 2	
M-L		Light	
0130	144.6	0620	142.6
0128	145.8	0619	139.6
0126	144.6	0618	141.4
0124	144.7	0617	139.9
0122	143.8	0616	140.4
0120	142.6	0615	138.3
mean	144.4	0614	140.1
std	1.07	mean	140.3
		std	1.37

Sample 3		Sample 4		Sample 5	
M-L		Medium		Light	
0008	144.3	0313	135.6	0713	138.4
0006	142.4	0310	141.6	0712	138.9
0004	141.9	0308	142.2	0710	137.5
0002	142.8	0306	141.5	0708	143.1
0207	143.3	0304	142.9	0706	144.5
0203	144.0	0302	143.4	0704	143.5
mean	143.1	mean	141.2	0702	142.6
std	0.93	std	2.84	mean	141.7
				std	2.80

Control A		Control B	
A-6	147.1	B-6	149.5
A-5	146.7	B-5	148.1
A-4	146.3	B-4	147.1
A-3	147.3	B-3	148.2
A-2	146.8	B-2	147.5
A-1	145.9	B-1	148.3
mean	146.7	mean	148.1
std	0.52	std	0.82



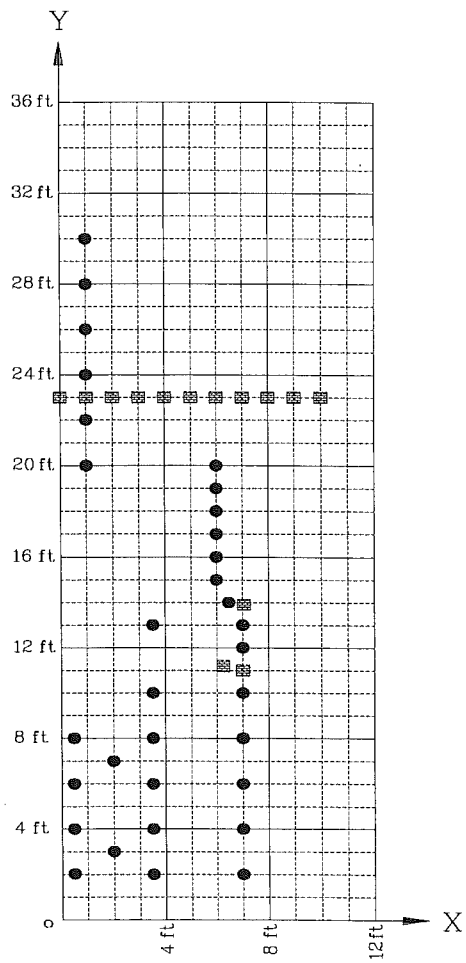
Nuclear Density Sampling Data (April 16, 1998)

Site 10 Canal Road S. Bound (150' South of Westshire Road) Eaton County

Chart Standard	Density	2863
	Moisture	652
Operating Standard	Density	2882
	Moisture	658

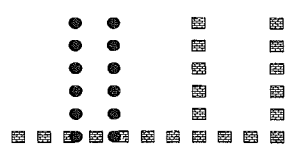
Gauge No.	101953
Model	Troxler 3440
Inspector	Mike Mullkin

Transverse		Transverse	
0023	137.0	**Tran 0**	133.8
0123	142.3	**Tran 1**	146.0
0223	145.8	**Tran 2**	144.2
0323	144.4	**Tran 3**	147.0
0423	141.9	**Tran 4**	157.8
0523	138.4	**Tran 5**	156.2
0623	144.1	**Tran 6**	152.4
0723	145.2	**Tran 7**	145.5
0823	144.5	**Tran 8**	143.7
0923	145.0	**Tran 9**	145.1
1023	138.1	**Tran 10**	137.4



Control C		Control D	
C-6	145.7	**D-6**	137.7
C-5	147.2	**D-5**	139.2
C-4	147.7	**D-4**	139.1
C-3	145.9	**D-3**	139.4
C-2	147.0	**D-2**	138.6
C-1	145.5	**D-1**	137.4
mean	146.5	**mean**	138.6
std	0.91	**std**	0.84

Loose Agg.	
Agg 1	142.6
Agg 2	141.5
Agg 3	128.5



Date 6/17/98 Highway

Tested By Joel Davenport Site Site 10

Checked By

Remarks

1	2	3	4	5	6	7	8	9	10
Specimen Number	Course Description	Weight in air (g)	SSD Weight (g)	Weight in water (g)	Volume (SSD) [4-5](cm^3)	Volume (air) [3-5](cm^3)	Specific Gravity SSD [4/6]	Specific Gravity air [3/7]	Remarks
23		1634.4	1640.5	913.1	727.4	721.3	2.255	2.266	
124		1632.9	1635.0	938.1	696.9	694.8	2.346	2.350	
310		1605.2	1607.6	916.9	690.7	688.3	2.327	2.332	
618		1868.7	1874.1	1059.9	814.2	808.8	2.302	2.310	
702		2060.2	2064.0	1181.3	882.7	878.9	2.338	2.344	
Loose 3		1800.7	1816.5	1018.9	797.6	781.8	2.277	2.303	
	6/18/98								
2		1632.1	1634.8	935.3	699.5	696.8	2.337	2.342	
122		1568.7	1571.1	894.5	676.6	674.2	2.322	2.327	
207		1558.4	1560.4	894.4	666.0	664.0	2.343	2.347	
223		1591.9	1593.7	913.6	680.1	678.3	2.343	2.347	
423		1902.7	1909.5	1070.7	838.8	832.0	2.276	2.287	
616		1774.3	1783.2	995.3	787.9	779.0	2.263	2.278	
Control D-3		2156.4	2159.5	1224.1	935.4	932.3	2.309	2.313	
Loose 2		1888.5	1893.6	1066.5	827.1	822.0	2.289	2.297	

Date 6/25/98 Highway

Tested By Joel Davenport Site Site 10

Checked By

Remarks

1	2	3	4	5	6	7	8	9	10
Specimen Number	Course Description	Weight in air (g)	SSD Weight (g)	Weight in water (g)	Volume (SSD) [4-5](cm^3)	Volume (air) [3-5](cm^3)	Specific Gravity SSD [4/6]	Specific Gravity air [3/7]	Remarks
6		1537.2	1540.4	875.7	664.7	661.5	2.317	2.324	
126		1642.5	1644.7	941.8	702.9	700.7	2.340	2.344	
306		1635.3	1638.8	926.1	712.7	709.2	2.299	2.306	
308		1577.7	1580.4	899.2	681.2	678.5	2.320	2.325	
617		1843.9	1852.2	1041.5	810.7	802.4	2.285	2.298	
708		1943.9	1948.8	1108.4	840.4	835.5	2.319	2.327	
712		1780.5	1799.7	1013.9	785.8	766.6	2.290	2.323	
823		1898.6	1900.2	1104.1	796.1	794.5	2.387	2.390	
Control C-1		2168.1	2169.7	1267.4	902.3	900.7	2.405	2.407	
Control C-3		2168.1	2169.3	1267.8	901.5	900.3	2.406	2.408	
Control C-5		2221.2	2222.3	1305.0	917.3	916.2	2.423	2.424	
Control D-1		2103.5	2107.0	1192.1	914.9	911.4	2.303	2.308	
Control D-5		2301.6	2306.0	1303.0	1003.0	998.6	2.299	2.305	
Loose 1		1939.8	1945.8	1109.3	836.5	830.5	2.326	2.336	
Tran. 2		2016.4	2017.7	1177.1	840.6	839.3	2.400	2.402	
Tran. 5		2202.0	2202.7	1287.8	914.9	914.2	2.408	2.409	

Sieve Analysis

Weight of bags & soil	1525.6
Weight of soil	1508.2

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0002	3/4 inch	19.00	3.762	20.4	1.35	1.35	98.65
	1/2 inch	12.50	3.116	21.6	1.43	2.78	97.22
	3/8 inch	9.50	2.754	127.4	8.45	11.23	88.77
	No. 4	4.75	2.016	501.5	33.25	44.49	55.51
	No. 8	2.37	1.474	223.0	14.79	59.27	40.73
	No. 16	1.18	1.077	142.2	9.43	68.70	31.30
	No. 30	0.60	0.795	136.1	9.02	77.73	22.27
	No. 50	0.30	0.582	140.8	9.34	87.06	12.94
	No. 100	0.15	0.426	106.1	7.04	94.10	5.90
	No. 200	0.08	0.312	52.9	3.51	97.61	2.39
	Pan			36.1	2.39	100.00	0.00
			Total weight	1508.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	2407.9
Date	6/30/98	Weight of tear	899.8
Remarks		Weight of soil	1508.1

Sieve Analysis

Weight of bags & soil	1441.2
Weight of soil	1423.8

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0006	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	8.3	0.58	0.58	99.42
	3/8 inch	9.50	2.754	152.4	10.70	11.29	88.71
	No. 4	4.75	2.016	471.8	33.14	44.42	55.58
	No. 8	2.37	1.474	227.3	15.96	60.39	39.61
	No. 16	1.18	1.077	137.2	9.64	70.02	29.98
	No. 30	0.60	0.795	129.1	9.07	79.09	20.91
	No. 50	0.30	0.582	142.5	10.01	89.10	10.90
	No. 100	0.15	0.426	90.3	6.34	95.44	4.56
	No. 200	0.08	0.312	41.7	2.93	98.37	1.63
	Pan			23.2	1.63	100.00	0.00
			Total	1423.8	100.00		
			weight				

Operator	Joel Davenport	Weight of tear & soil	2323.7
Date	6/30/98	Weight of tear	899.9
Remarks		Weight of soil	1423.8

Sieve Analysis

Weight of bags & soil	1533.2
Weight of soil	1515.7

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0023	1/2 inch	12.50	3.116	18.7	1.23	1.23	98.77
	3/8 inch	9.50	2.754	166.9	11.01	12.25	87.75
	No. 4	4.75	2.016	484.6	31.97	44.22	55.78
	No. 8	2.37	1.474	229.4	15.13	59.35	40.65
	No. 16	1.18	1.077	134.0	8.84	68.19	31.81
	No. 30	0.60	0.795	131.8	8.70	76.89	23.11
	No. 50	0.30	0.582	135.9	8.97	85.85	14.15
	No. 100	0.15	0.426	122.4	8.08	93.93	6.07
	No. 200	0.08	0.312	58.8	3.88	97.81	2.19
	Pan			33.2	2.19	100.00	0.00
			Total	1515.7	100.00		
			weight				

Operator	Joel Davenport	Weight of tear & soil	2415.4
Date	6/30/98	Weight of tear	899.9
Remarks		Weight of soil	1515.5

Sieve Analysis

Weight of bags & soil	1465.2
Weight of soil	1447.7

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0122	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	38.6	2.67	2.67	97.33
	3/8 inch	9.50	2.754	100.4	6.94	9.60	90.40
	No. 4	4.75	2.016	480.7	33.21	42.81	57.19
	No. 8	2.37	1.474	216.5	14.96	57.77	42.23
	No. 16	1.18	1.077	128.1	8.85	66.62	33.38
	No. 30	0.60	0.795	102.7	7.10	73.72	26.28
	No. 50	0.30	0.582	146.4	10.11	83.83	16.17
	No. 100	0.15	0.426	127.5	8.81	92.64	7.36
	No. 200	0.08	0.312	58.3	4.03	96.67	3.33
	Pan			48.2	3.33	100.00	0.00
			Total weight	1447.4	100.00		

Operator	Joel Davenport	Weight of tear & soil	2347.3
Date	6/30/98	Weight of tear	899.8
Remarks		Weight of soil	1447.5

Sieve Analysis

Weight of bags & soil	1523.7
Weight of soil	1506.0

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0124	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	39.7	2.64	2.64	97.36
	3/8 inch	9.50	2.754	142.7	9.48	12.12	87.88
	No. 4	4.75	2.016	471.3	31.31	43.42	56.58
	No. 8	2.37	1.474	233.1	15.48	58.91	41.09
	No. 16	1.18	1.077	140.3	9.32	68.23	31.77
	No. 30	0.60	0.795	127.0	8.44	76.66	23.34
	No. 50	0.30	0.582	147.3	9.78	86.45	13.55
	No. 100	0.15	0.426	111.4	7.40	93.85	6.15
	No. 200	0.08	0.312	57.9	3.85	97.69	2.31
	Pan			34.7	2.31	100.00	0.00
			Total weight	1505.4	100.00		

Operator	Joel Davenport	Weight of tear & soil	2405.3
Date	6/30/98	Weight of tear	899.9
Remarks		Weight of soil	1505.4

Sieve Analysis

Weight of bags & soil	1533.4
Weight of soil	1515.9

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0126	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	34.7	2.29	2.29	97.71
	3/8 inch	9.50	2.754	143.5	9.47	11.76	88.24
	No. 4	4.75	2.016	478.2	31.55	43.30	56.70
	No. 8	2.37	1.474	224.9	14.84	58.14	41.86
	No. 16	1.18	1.077	146.7	9.68	67.82	32.18
	No. 30	0.60	0.795	139.5	9.20	77.02	22.98
	No. 50	0.30	0.582	136.7	9.02	86.04	13.96
	No. 100	0.15	0.426	122.4	8.07	94.12	5.88
	No. 200	0.08	0.312	50.5	3.33	97.45	2.55
	Pan			38.7	2.55	100.00	0.00
			Total weight	1515.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2415.6
Date	6/30/98	Weight of tear	899.8
Remarks		Weight of soil	1515.8

Sieve Analysis

Weight of bags & soil	1459.2
Weight of soil	1441.6

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0207	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	36.1	2.50	2.50	97.50
	3/8 inch	9.50	2.754	119.8	8.31	10.82	89.18
	No. 4	4.75	2.016	441.2	30.61	41.43	58.57
	No. 8	2.37	1.474	239.4	16.61	58.04	41.96
	No. 16	1.18	1.077	158.1	10.97	69.01	30.99
	No. 30	0.60	0.795	129.3	8.97	77.98	22.02
	No. 50	0.30	0.582	145.9	10.12	88.11	11.89
	No. 100	0.15	0.426	97.8	6.79	94.89	5.11
	No. 200	0.08	0.312	56.4	3.91	98.81	1.19
	Pan			17.2	1.19	100.00	0.00
			Total weight	1441.2	100.00		

Operator	Joel Davenport	Weight of tear & soil	2341.1
Date	7/1/98	Weight of tear	899.9
Remarks		Weight of soil	1441.2

Sieve Analysis

Weight of bags & soil	1491.6
Weight of soil	1474.0

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0223	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	51.5	3.50	3.50	96.50
	3/8 inch	9.50	2.754	124.8	8.47	11.96	88.04
	No. 4	4.75	2.016	466.5	31.66	43.62	56.38
	No. 8	2.37	1.474	222.8	15.12	58.74	41.26
	No. 16	1.18	1.077	138.4	9.39	68.14	31.86
	No. 30	0.60	0.795	120.0	8.14	76.28	23.72
	No. 50	0.30	0.582	142.3	9.66	85.94	14.06
	No. 100	0.15	0.426	126.8	8.61	94.54	5.46
	No. 200	0.08	0.312	53.0	3.60	98.14	1.86
	Pan			27.4	1.86	100.00	0.00
			Total weight	1473.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2373.5
Date	7/1/98	Weight of tear	899.9
Remarks		Weight of soil	1473.6

Sieve Analysis

Weight of bags & soil	1530.6
Weight of soil	1512.9

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0306	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	33.6	2.22	2.22	97.78
	3/8 inch	9.50	2.754	157.1	10.38	12.61	87.39
	No. 4	4.75	2.016	504.0	33.32	45.92	54.08
	No. 8	2.37	1.474	209.1	13.82	59.74	40.26
	No. 16	1.18	1.077	150.0	9.92	69.66	30.34
	No. 30	0.60	0.795	171.2	11.32	80.98	19.02
	No. 50	0.30	0.582	145.3	9.60	90.58	9.42
	No. 100	0.15	0.426	84.4	5.58	96.16	3.84
	No. 200	0.08	0.312	41.8	2.76	98.92	1.08
	Pan			16.3	1.08	100.00	0.00
			Total weight	1512.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2412.8
Date	7/1/98	Weight of tear	899.9
Remarks		Weight of soil	1512.9

Sieve Analysis

Weight of bags & soil	1484.8
Weight of soil	1467.3

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0308	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	15.6	1.06	1.06	98.94
	3/8 inch	9.50	2.754	159.7	10.89	11.95	88.05
	No. 4	4.75	2.016	500.9	34.15	46.10	53.90
	No. 8	2.37	1.474	208.3	14.20	60.31	39.69
	No. 16	1.18	1.077	131.8	8.99	69.29	30.71
	No. 30	0.60	0.795	124.8	8.51	77.80	22.20
	No. 50	0.30	0.582	146.7	10.00	87.80	12.20
	No. 100	0.15	0.426	104.7	7.14	94.94	5.06
	No. 200	0.08	0.312	48.0	3.27	98.21	1.79
	Pan			26.2	1.79	100.00	0.00
			Total weight	1466.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	2366.7
Date	7/1/98	Weight of tear	899.9
Remarks		Weight of soil	1466.8

Sieve Analysis

Weight of bags & soil	1498.2
Weight of soil	1480.8

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0310	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	31.9	2.16	2.16	97.84
	3/8 inch	9.50	2.754	124.1	8.38	10.54	89.46
	No. 4	4.75	2.016	504.7	34.10	44.64	55.36
	No. 8	2.37	1.474	213.8	14.44	59.08	40.92
	No. 16	1.18	1.077	141.9	9.59	68.67	31.33
	No. 30	0.60	0.795	140.4	9.49	78.16	21.84
	No. 50	0.30	0.582	142.2	9.61	87.76	12.24
	No. 100	0.15	0.426	104.1	7.03	94.80	5.20
	No. 200	0.08	0.312	44.7	3.02	97.82	2.18
	Pan			32.3	2.18	100.00	0.00
			Total weight	1480.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	2380.0
Date	7/6/98	Weight of tear	899.9
Remarks		Weight of soil	1480.1

Sieve Analysis

Weight of bags & soil	1780.2
Weight of soil	1762.8

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0423	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	40.6	2.30	2.30	97.70
	3/8 inch	9.50	2.754	184.3	10.46	12.76	87.24
	No. 4	4.75	2.016	620.8	35.23	47.99	52.01
	No. 8	2.37	1.474	239.0	13.56	61.55	38.45
	No. 16	1.18	1.077	152.9	8.68	70.23	29.77
	No. 30	0.60	0.795	155.6	8.83	79.06	20.94
	No. 50	0.30	0.582	177.1	10.05	89.11	10.89
	No. 100	0.15	0.426	113.0	6.41	95.52	4.48
	No. 200	0.08	0.312	53.1	3.01	98.53	1.47
	Pan			25.9	1.47	100.00	0.00
			Total weight	1762.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2662.2
Date	7/6/98	Weight of tear	899.9
Remarks		Weight of soil	1762.3

Sieve Analysis

Weight of bags & soil	1665.2
Weight of soil	1647.7

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0616	3/4 inch	19.00	3.762	11.9	0.72	0.72	99.28
	1/2 inch	12.50	3.116	32.1	1.95	2.67	97.33
	3/8 inch	9.50	2.754	231.7	14.06	16.73	83.27
	No. 4	4.75	2.016	582.0	35.33	52.06	47.94
	No. 8	2.37	1.474	188.2	11.42	63.48	36.52
	No. 16	1.18	1.077	117.5	7.13	70.62	29.38
	No. 30	0.60	0.795	141.1	8.56	79.18	20.82
	No. 50	0.30	0.582	136.3	8.27	87.45	12.55
	No. 100	0.15	0.426	120.9	7.34	94.79	5.21
	No. 200	0.08	0.312	52.3	3.17	97.97	2.03
	Pan			33.5	2.03	100.00	0.00
			Total weight	1647.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2547.2
Date	7/6/98	Weight of tear	899.9
Remarks		Weight of soil	1647.3

Sieve Analysis

Weight of bags & soil	1730.5
Weight of soil	1713.0

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0617	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	45.7	2.67	2.67	97.33
	3/8 inch	9.50	2.754	230.6	13.47	16.13	83.87
	No. 4	4.75	2.016	528.5	30.86	47.00	53.00
	No. 8	2.37	1.474	248.0	14.48	61.48	38.52
	No. 16	1.18	1.077	135.0	7.88	69.36	30.64
	No. 30	0.60	0.795	114.5	6.69	76.05	23.95
	No. 50	0.30	0.582	150.1	8.76	84.81	15.19
	No. 100	0.15	0.426	144.8	8.46	93.27	6.73
	No. 200	0.08	0.312	65.0	3.80	97.06	2.94
	Pan			50.3	2.94	100.00	0.00
			Total weight	1712.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2612.4
Date	7/6/98	Weight of tear	899.9
Remarks		Weight of soil	1712.5

Sieve Analysis

Weight of bags & soil	1754.3
Weight of soil	1736.8

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening		Field data - total weight =			
		(mm)	.45 power	Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0618	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	93.2	5.37	5.37	94.63
	3/8 inch	9.50	2.754	238.5	13.73	19.10	80.90
	No. 4	4.75	2.016	528.6	30.44	49.54	50.46
	No. 8	2.37	1.474	232.1	13.36	62.90	37.10
	No. 16	1.18	1.077	131.7	7.58	70.48	29.52
	No. 30	0.60	0.795	103.2	5.94	76.43	23.57
	No. 50	0.30	0.582	143.4	8.26	84.68	15.32
	No. 100	0.15	0.426	144.3	8.31	92.99	7.01
	No. 200	0.08	0.312	63.0	3.63	96.62	3.38
	Pan			58.7	3.38	100.00	0.00
			Total weight	1736.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	2636.7
Date	7/7/98	Weight of tear	899.9
Remarks		Weight of soil	1736.8

Sieve Analysis

Weight of bags & soil	1925.9
Weight of soil	1908.4

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0702	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	85.5	4.48	4.48	95.52
	3/8 inch	9.50	2.754	240.0	12.58	17.06	82.94
	No. 4	4.75	2.016	634.9	33.28	50.34	49.66
	No. 8	2.37	1.474	228.9	12.00	62.34	37.66
	No. 16	1.18	1.077	166.4	8.72	71.06	28.94
	No. 30	0.60	0.795	186.2	9.76	80.82	19.18
	No. 50	0.30	0.582	161.7	8.48	89.29	10.71
	No. 100	0.15	0.426	118.3	6.20	95.49	4.51
	No. 200	0.08	0.312	52.2	2.74	98.23	1.77
	Pan			33.8	1.77	100.00	0.00
			Total weight	1907.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	2807.5
Date	7/7/98	Weight of tear	899.8
Remarks		Weight of soil	1907.7

Sieve Analysis

Weight of bags & soil	1823.0
Weight of soil	1805.6

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0708	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	81.5	4.51	4.51	95.49
	3/8 inch	9.50	2.754	272.3	15.08	19.60	80.40
	No. 4	4.75	2.016	587.7	32.55	52.15	47.85
	No. 8	2.37	1.474	224.9	12.46	64.61	35.39
	No. 16	1.18	1.077	155.2	8.60	73.21	26.79
	No. 30	0.60	0.795	134.6	7.46	80.66	19.34
	No. 50	0.30	0.582	151.0	8.36	89.03	10.97
	No. 100	0.15	0.426	112.5	6.23	95.26	4.74
	No. 200	0.08	0.312	49.0	2.71	97.97	2.03
	Pan			36.6	2.03	100.00	0.00
			Total weight	1805.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2705.1
Date	7/7/98	Weight of tear	899.8
Remarks		Weight of soil	1805.3

Sieve Analysis

Weight of bags & soil	1683.2
Weight of soil	1665.6

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0712	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	88.2	5.30	5.30	94.70
	3/8 inch	9.50	2.754	244.9	14.71	20.00	80.00
	No. 4	4.75	2.016	557.9	33.51	53.51	46.49
	No. 8	2.37	1.474	194.0	11.65	65.16	34.84
	No. 16	1.18	1.077	110.0	6.61	71.77	28.23
	No. 30	0.60	0.795	110.7	6.65	78.42	21.58
	No. 50	0.30	0.582	156.6	9.40	87.82	12.18
	No. 100	0.15	0.426	119.8	7.19	95.02	4.98
	No. 200	0.08	0.312	50.3	3.02	98.04	1.96
	Pan			32.7	1.96	100.00	0.00
			Total weight	1665.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	2564.9
Date	7/7/98	Weight of tear	899.8
Remarks		Weight of soil	1665.1

Sieve Analysis

Weight of bags & soil	1773.8
Weight of soil	1756.1

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 0823	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	17.5	1.00	1.00	99.00
	3/8 inch	9.50	2.754	174.3	9.93	10.93	89.07
	No. 4	4.75	2.016	619.0	35.26	46.19	53.81
	No. 8	2.37	1.474	241.9	13.78	59.97	40.03
	No. 16	1.18	1.077	181.6	10.34	70.31	29.69
	No. 30	0.60	0.795	168.7	9.61	79.92	20.08
	No. 50	0.30	0.582	142.9	8.14	88.06	11.94
	No. 100	0.15	0.426	120.4	6.86	94.92	5.08
	No. 200	0.08	0.312	62.0	3.53	98.45	1.55
	Pan			27.2	1.55	100.00	0.00
			Total weight	1755.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2655.3
Date	7/7/98	Weight of tear	899.8
Remarks		Weight of soil	1755.5

Sieve Analysis

Weight of bags & soil	2026.3
Weight of soil	2008.8

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Control C-1	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	36.9	1.84	1.84	98.16
	3/8 inch	9.50	2.754	163.7	8.15	9.99	90.01
	No. 4	4.75	2.016	692.7	34.49	44.47	55.53
	No. 8	2.37	1.474	276.9	13.79	58.26	41.74
	No. 16	1.18	1.077	208.9	10.40	68.66	31.34
	No. 30	0.60	0.795	233.2	11.61	80.27	19.73
	No. 50	0.30	0.582	198.7	9.89	90.16	9.84
	No. 100	0.15	0.426	114.3	5.69	95.85	4.15
	No. 200	0.08	0.312	59.2	2.95	98.80	1.20
	Pan			24.1	1.20	100.00	0.00
			Total weight	2008.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2908.2
Date	7/7/98	Weight of tear	899.8
Remarks		Weight of soil	2008.4

Sieve Analysis

Weight of bags & soil	2024.7
Weight of soil	2007.2

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Control C-3	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	48.6	2.42	2.42	97.58
	3/8 inch	9.50	2.754	188.2	9.38	11.80	88.20
	No. 4	4.75	2.016	645.1	32.14	43.94	56.06
	No. 8	2.37	1.474	272.3	13.57	57.51	42.49
	No. 16	1.18	1.077	191.7	9.55	67.06	32.94
	No. 30	0.60	0.795	214.2	10.67	77.74	22.26
	No. 50	0.30	0.582	209.4	10.43	88.17	11.83
	No. 100	0.15	0.426	156.3	7.79	95.96	4.04
	No. 200	0.08	0.312	60.4	3.01	98.97	1.03
	Pan			20.7	1.03	100.00	0.00
			Total weight	2006.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	2906.7
Date	7/7/98	Weight of tear	899.8
Remarks		Weight of soil	2006.9

Sieve Analysis

Weight of bags & soil	2079.9
Weight of soil	2062.3

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Control C-5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	58.2	2.82	2.82	97.18
	3/8 inch	9.50	2.754	220.8	10.71	13.53	86.47
	No. 4	4.75	2.016	655.1	31.77	45.31	54.69
	No. 8	2.37	1.474	268.1	13.00	58.31	41.69
	No. 16	1.18	1.077	194.0	9.41	67.72	32.28
	No. 30	0.60	0.795	226.2	10.97	78.69	21.31
	No. 50	0.30	0.582	234.1	11.35	90.04	9.96
	No. 100	0.15	0.426	126.9	6.15	96.20	3.80
	No. 200	0.08	0.312	57.7	2.80	99.00	1.00
	Pan			20.7	1.00	100.00	0.00
			Total weight	2061.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2961.7
Date	7/7/98	Weight of tear	899.8
Remarks		Weight of soil	2061.9

Sieve Analysis

Weight of bags & soil	1967.7
Weight of soil	1950.2

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
Control D-1	1/2 inch	12.50	3.116	34.5	1.77	1.77	98.23
	3/8 inch	9.50	2.754	161.4	8.28	10.05	89.95
	No. 4	4.75	2.016	655.5	33.62	43.66	56.34
	No. 8	2.37	1.474	273.4	14.02	57.68	42.32
	No. 16	1.18	1.077	196.5	10.08	67.76	32.24
	No. 30	0.60	0.795	226.5	11.62	79.37	20.63
	No. 50	0.30	0.582	175.4	8.99	88.37	11.63
	No. 100	0.15	0.426	134.3	6.89	95.26	4.74
	No. 200	0.08	0.312	53.9	2.76	98.02	1.98
	Pan			38.6	1.98	100.00	0.00
			Total weight	1950.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	2849.8
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	1950.0

Sieve Analysis

Weight of bags & soil	2010.9
Weight of soil	1993.3

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Control D-3	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	20.6	1.03	1.03	98.97
	3/8 inch	9.50	2.754	157.4	7.90	8.93	91.07
	No. 4	4.75	2.016	714.2	35.84	44.78	55.22
	No. 8	2.37	1.474	276.4	13.87	58.65	41.35
	No. 16	1.18	1.077	200.0	10.04	68.68	31.32
	No. 30	0.60	0.795	217.0	10.89	79.57	20.43
	No. 50	0.30	0.582	190.5	9.56	89.13	10.87
	No. 100	0.15	0.426	129.3	6.49	95.62	4.38
	No. 200	0.08	0.312	58.0	2.91	98.53	1.47
	Pan			29.2	1.47	100.00	0.00
			Total weight	1992.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2892.2
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	1992.4

Sieve Analysis

Weight of bags & soil	2149.0
Weight of soil	2131.4

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Control D-5	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	27.3	1.28	1.28	98.72
	3/8 inch	9.50	2.754	171.3	8.04	9.32	90.68
	No. 4	4.75	2.016	761.4	35.73	45.05	54.95
	No. 8	2.37	1.474	259.1	12.16	57.21	42.79
	No. 16	1.18	1.077	204.5	9.60	66.80	33.20
	No. 30	0.60	0.795	234.2	10.99	77.79	22.21
	No. 50	0.30	0.582	232.7	10.92	88.71	11.29
	No. 100	0.15	0.426	150.5	7.06	95.77	4.23
	No. 200	0.08	0.312	62.2	2.92	98.69	1.31
	Pan			27.9	1.31	100.00	0.00
			Total weight	2131.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	3030.8
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	2131.0

Sieve Analysis

Weight of bags & soil	1886.8
Weight of soil	1869.3

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Tran. 2	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	24.2	1.30	1.30	98.70
	3/8 inch	9.50	2.754	177.9	9.52	10.82	89.18
	No. 4	4.75	2.016	609.5	32.62	43.43	56.57
	No. 8	2.37	1.474	274.7	14.70	58.13	41.87
	No. 16	1.18	1.077	223.6	11.97	70.10	29.90
	No. 30	0.60	0.795	203.9	10.91	81.01	18.99
	No. 50	0.30	0.582	165.3	8.85	89.86	10.14
	No. 100	0.15	0.426	120.7	6.46	96.32	3.68
	No. 200	0.08	0.312	45.9	2.46	98.77	1.23
	Pan			22.9	1.23	100.00	0.00
			Total weight	1868.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2768.4
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	1868.6

Sieve Analysis

Weight of bags & soil	2061.5
Weight of soil	2044.1

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
Tran. 5	1/2 inch	12.50	3.116	26.8	1.31	1.31	98.69
	3/8 inch	9.50	2.754	200.9	9.83	11.14	88.86
	No. 4	4.75	2.016	696.3	34.07	45.21	54.79
	No. 8	2.37	1.474	273.4	13.38	58.59	41.41
	No. 16	1.18	1.077	191.4	9.37	67.96	32.04
	No. 30	0.60	0.795	215.7	10.55	78.51	21.49
	No. 50	0.30	0.582	240.8	11.78	90.29	9.71
	No. 100	0.15	0.426	117.5	5.75	96.04	3.96
	No. 200	0.08	0.312	51.6	2.52	98.57	1.43
	Pan			29.3	1.43	100.00	0.00
			Total weight	2043.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	2943.5
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	2043.7

Sieve Analysis

Weight of bags & soil	1819.7
Weight of soil	1802.0

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Loose 1	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	65.0	3.61	3.61	96.39
	3/8 inch	9.50	2.754	280.7	15.58	19.19	80.81
	No. 4	4.75	2.016	579.6	32.17	51.36	48.64
	No. 8	2.37	1.474	220.3	12.23	63.59	36.41
	No. 16	1.18	1.077	141.2	7.84	71.43	28.57
	No. 30	0.60	0.795	151.2	8.39	79.82	20.18
	No. 50	0.30	0.582	175.5	9.74	89.56	10.44
	No. 100	0.15	0.426	116.1	6.44	96.00	4.00
	No. 200	0.08	0.312	49.3	2.74	98.74	1.26
	Pan			22.7	1.26	100.00	0.00
			Total weight	1801.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2701.5
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	1801.7

Sieve Analysis

Weight of bags & soil	1777.3
Weight of soil	1759.9

Weight of empty bags	17.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Loose 2	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	35.4	2.01	2.01	97.99
	3/8 inch	9.50	2.754	232.7	13.22	15.24	84.76
	No. 4	4.75	2.016	640.5	36.40	51.64	48.36
	No. 8	2.37	1.474	202.9	11.53	63.17	36.83
	No. 16	1.18	1.077	133.1	7.56	70.73	29.27
	No. 30	0.60	0.795	162.0	9.21	79.94	20.06
	No. 50	0.30	0.582	177.1	10.06	90.00	10.00
	No. 100	0.15	0.426	104.5	5.94	95.94	4.06
	No. 200	0.08	0.312	51.5	2.93	98.87	1.13
	Pan			19.9	1.13	100.00	0.00
			Total weight	1759.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2659.5
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	1759.7

Sieve Analysis

Weight of bags & soil	1703.2
Weight of soil	1685.5

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 10 Loose 3	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	59.7	3.54	3.54	96.46
	3/8 inch	9.50	2.754	230.4	13.68	17.22	82.78
	No. 4	4.75	2.016	592.7	35.18	52.40	47.60
	No. 8	2.37	1.474	194.1	11.52	63.92	36.08
	No. 16	1.18	1.077	111.1	6.59	70.52	29.48
	No. 30	0.60	0.795	109.6	6.51	77.02	22.98
	No. 50	0.30	0.582	144.6	8.58	85.61	14.39
	No. 100	0.15	0.426	131.1	7.78	93.39	6.61
	No. 200	0.08	0.312	61.8	3.67	97.06	2.94
	Pan			49.6	2.94	100.00	0.00
			Total weight	1684.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	2584.5
Date	7/9/98	Weight of tear	899.8
Remarks		Weight of soil	1684.7

Site 11

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: 1200'

Surveyor: _____ (your name)
Control Section Number: _____ Route: M100 Direction: NB south of M43
Region: _____ Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 11 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

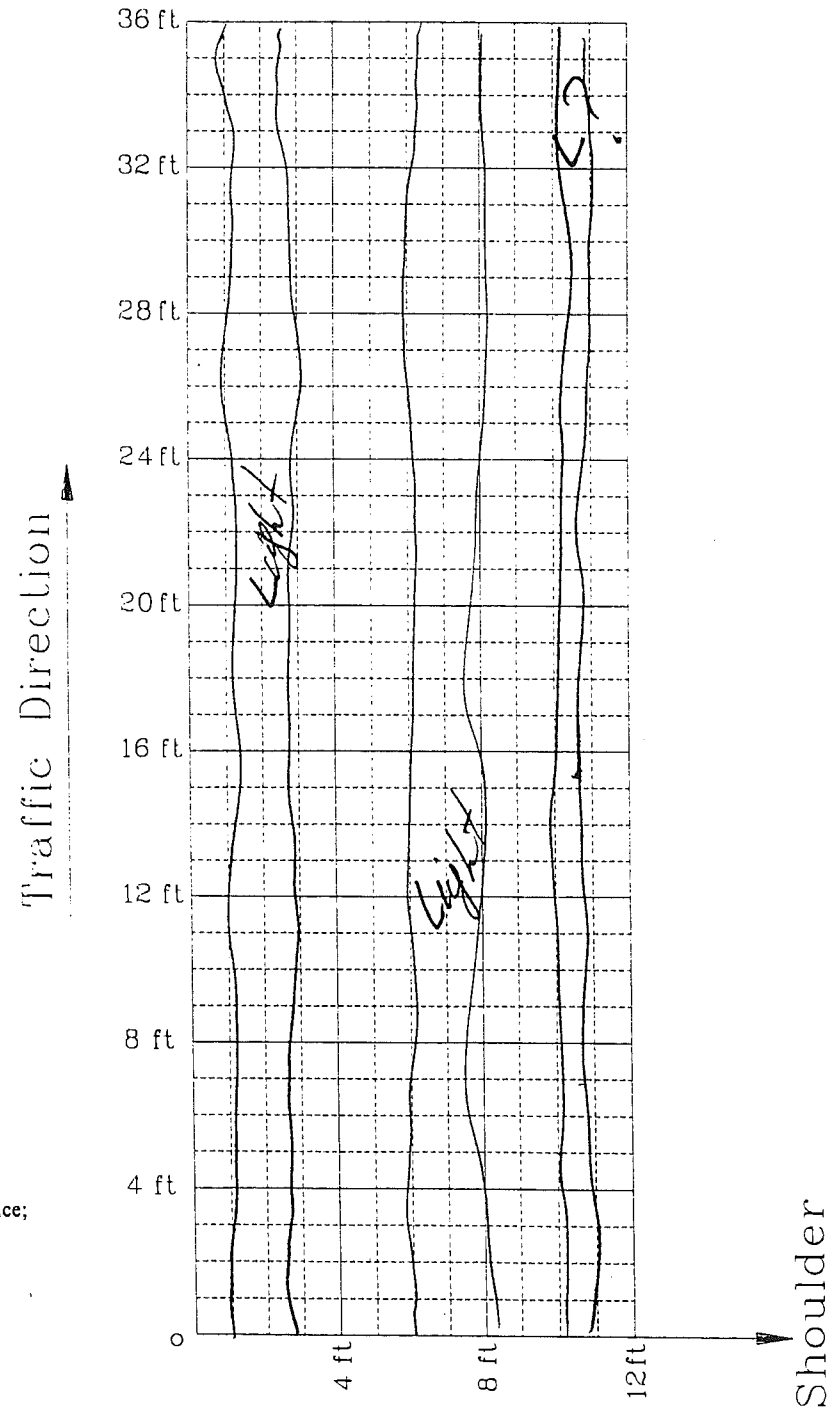
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-100 Direction: NORTH.
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 11 ADT: _____.

1/4 MI S. OF 43 2401 S. OF SIGN.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

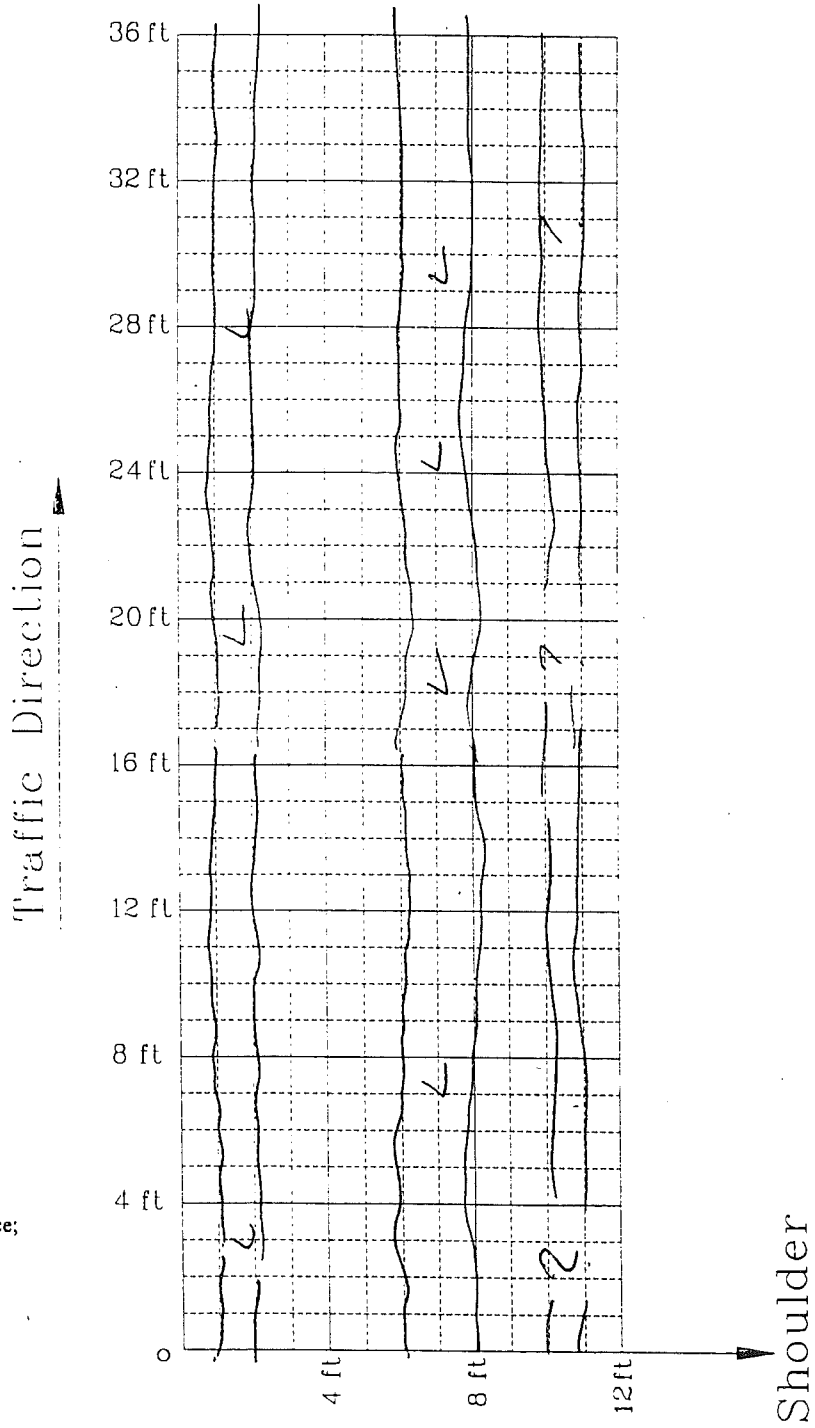
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low-severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name) NBA
Control Section Number: _____ Route: _____ Direction: NBA
Region: University Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 11 ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
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Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
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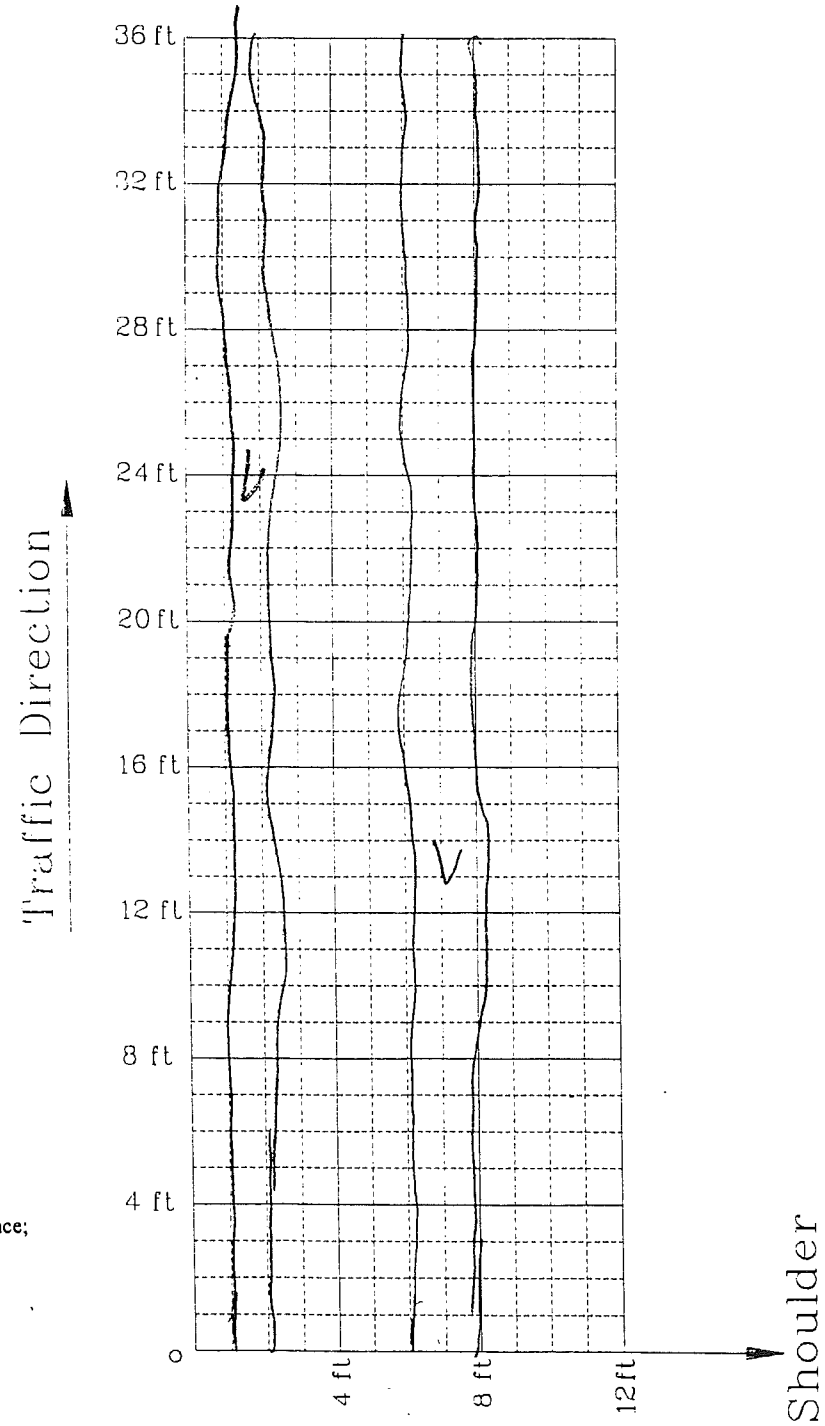
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-100 Direction: N
Region: University Mile Post: from oak tree to _____
Section Number: _____ Test Site Number: 11 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
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Distress to be Identified:
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
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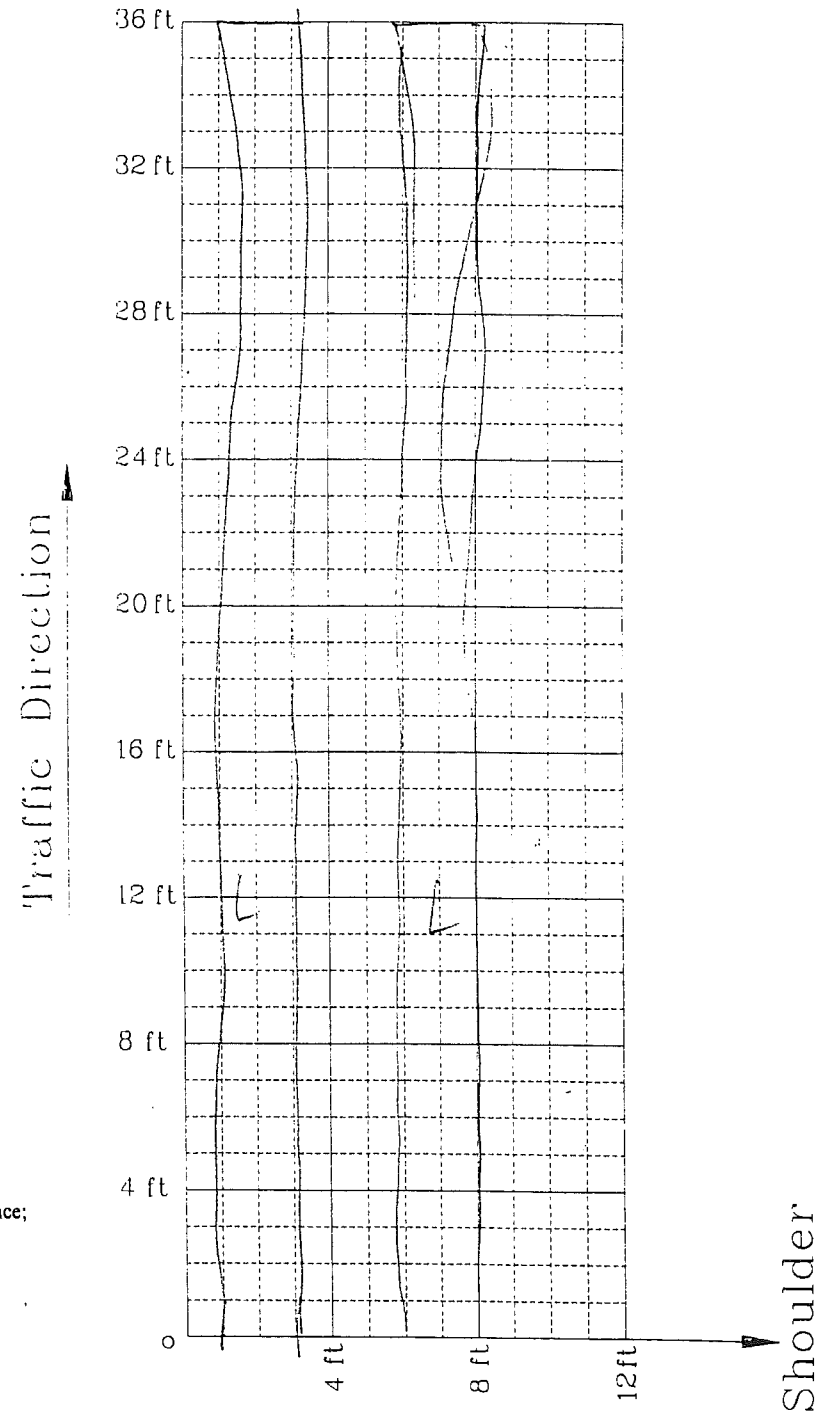
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: Cool, DAMP OVERCAST

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-100 Direction: _____.
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 11 ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified

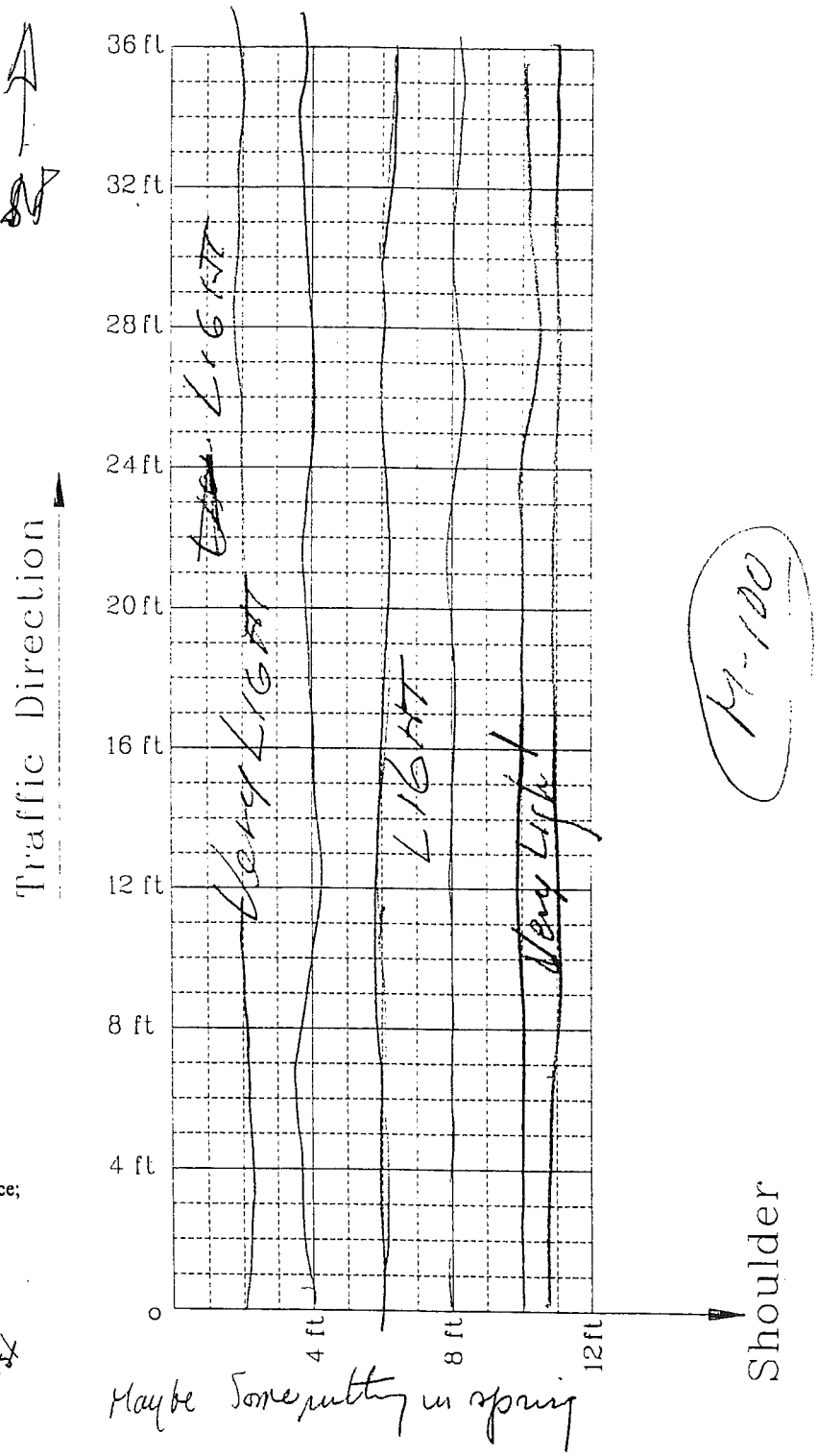
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate

NO **2. Cracking**
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low-severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking

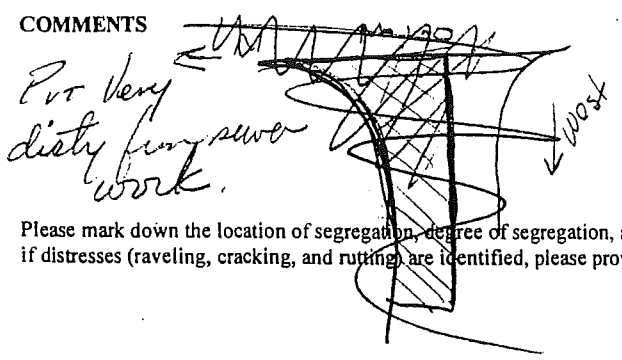
3. Rut Depth

NO — **4. Flushing**
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

Segregation Map



COMMENTS



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

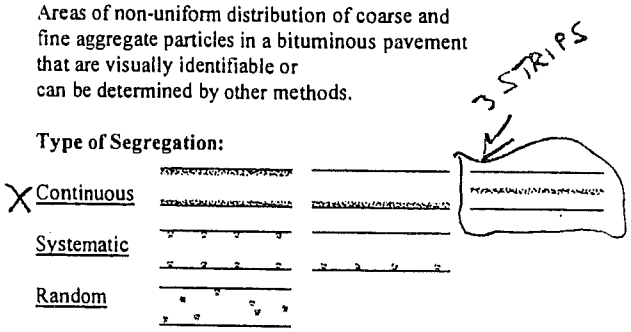
Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: Overcast Light Snow

Surveyor: _____ (your name) S. A. MAB
Control Section Number: 23 - - 1 Route: M-100 Direction: NB
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: #11 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:



Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
✓ Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
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Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
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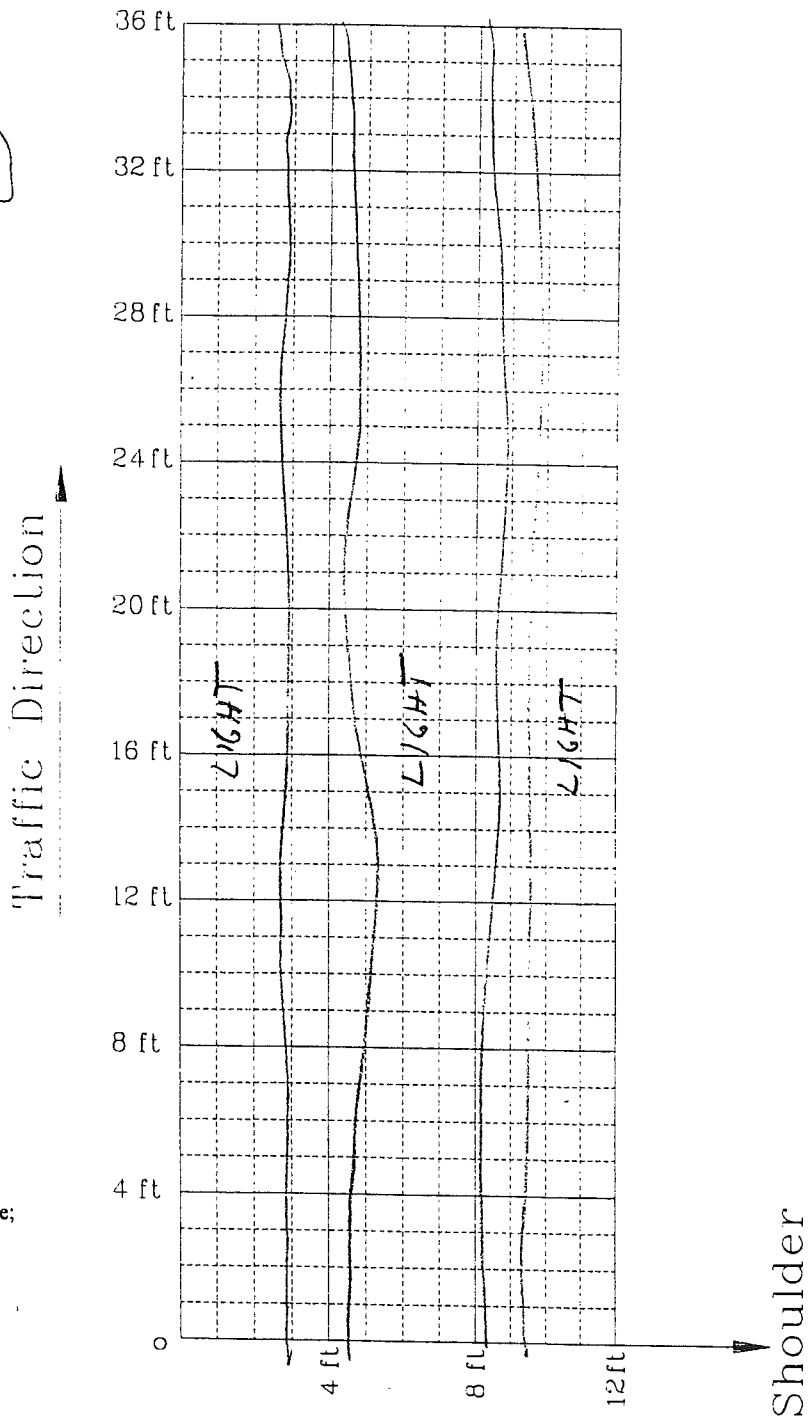
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS
Very light
Surface muddy
WP causing knurding?

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

35°F

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-100 Direction: North bound
Region: _____ Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 1 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
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Distress to be Identified
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3. Rut Depth
4. Flushing
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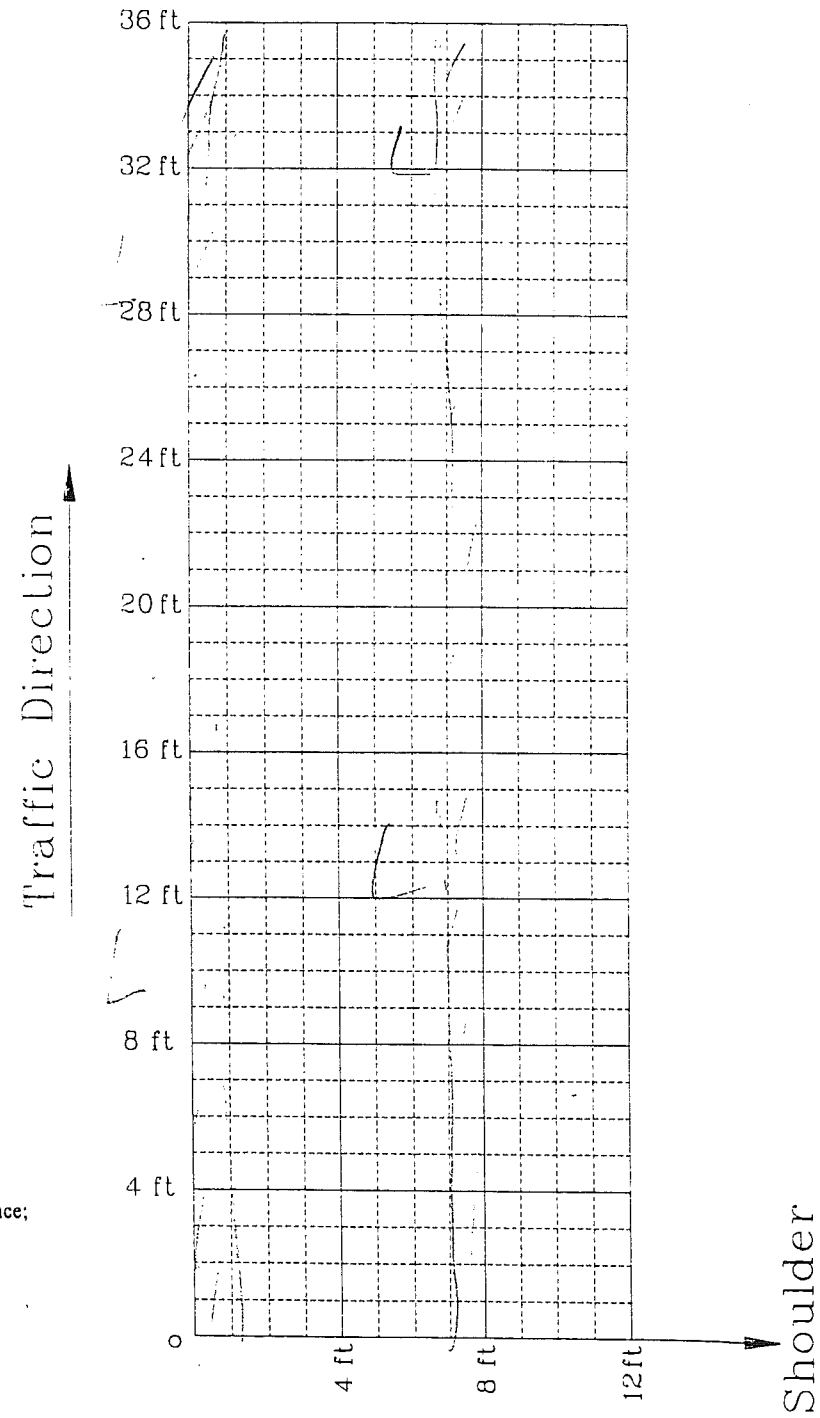
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Nuclear Density Sampling Data (Feb. 13, 1998)

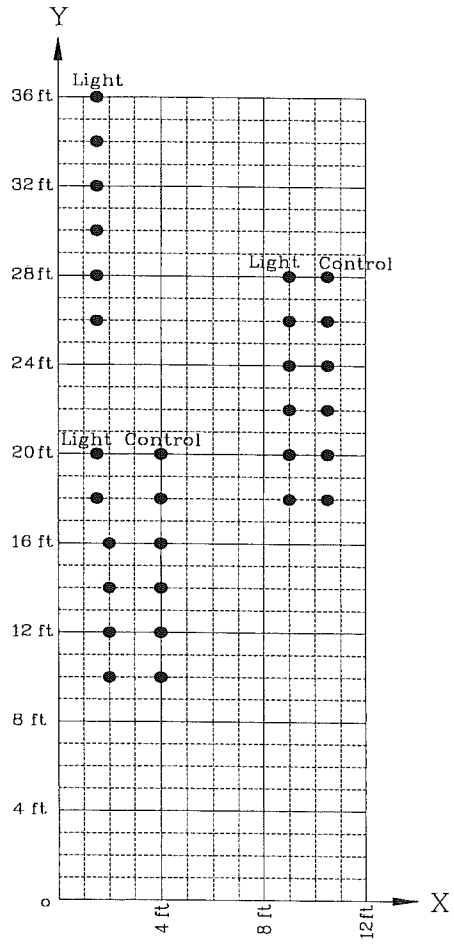
Site 11 M-100 N. Bound (South of M-43), Eaton County

Chart Standard	Density	2617
	Moisture	705
Operating Standard	Density	2608
	Moisture	708

Gauge No.	102420
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1		Sample 2		Sample 3	
Light		Light		Control	
0136	145.1	0928	143.7	1028	142.4
0134	146.2	0926	144.6	1026	142.9
0132	144.4	0924	145.5	1024	142.8
0130	144.8	0922	144.9	1022	143.1
0128	144.3	0920	145.3	1020	139.8
0126	143.4	0918	145.9	1018	141.4
mean	144.7	mean	145.0	mean	142.1
std	0.93	std	0.78	std	1.26

Sample 4		Sample 5	
Light		Control	
0120	144.5	0420	146.2
0118	143.8	0418	145.4
0216	146.7	0416	146.7
0214	144.1	0414	144.2
0212	146.0	0412	145.2
0210	144.4	0410	144.2
mean	144.9	mean	145.3
std	1.16	std	1.02



Site 13

North of Ramsd Lake Road Paved 1997

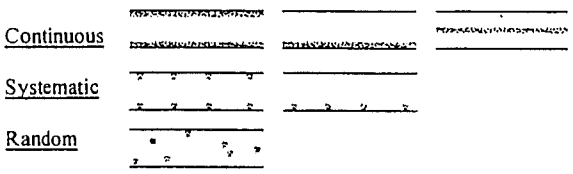
Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M50 Direction: NB
Region: _____ Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 13 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:



Degree of Segregation
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Distress to be Identified
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2. Cracking
☐ Low ☐ Moderate ☐ High
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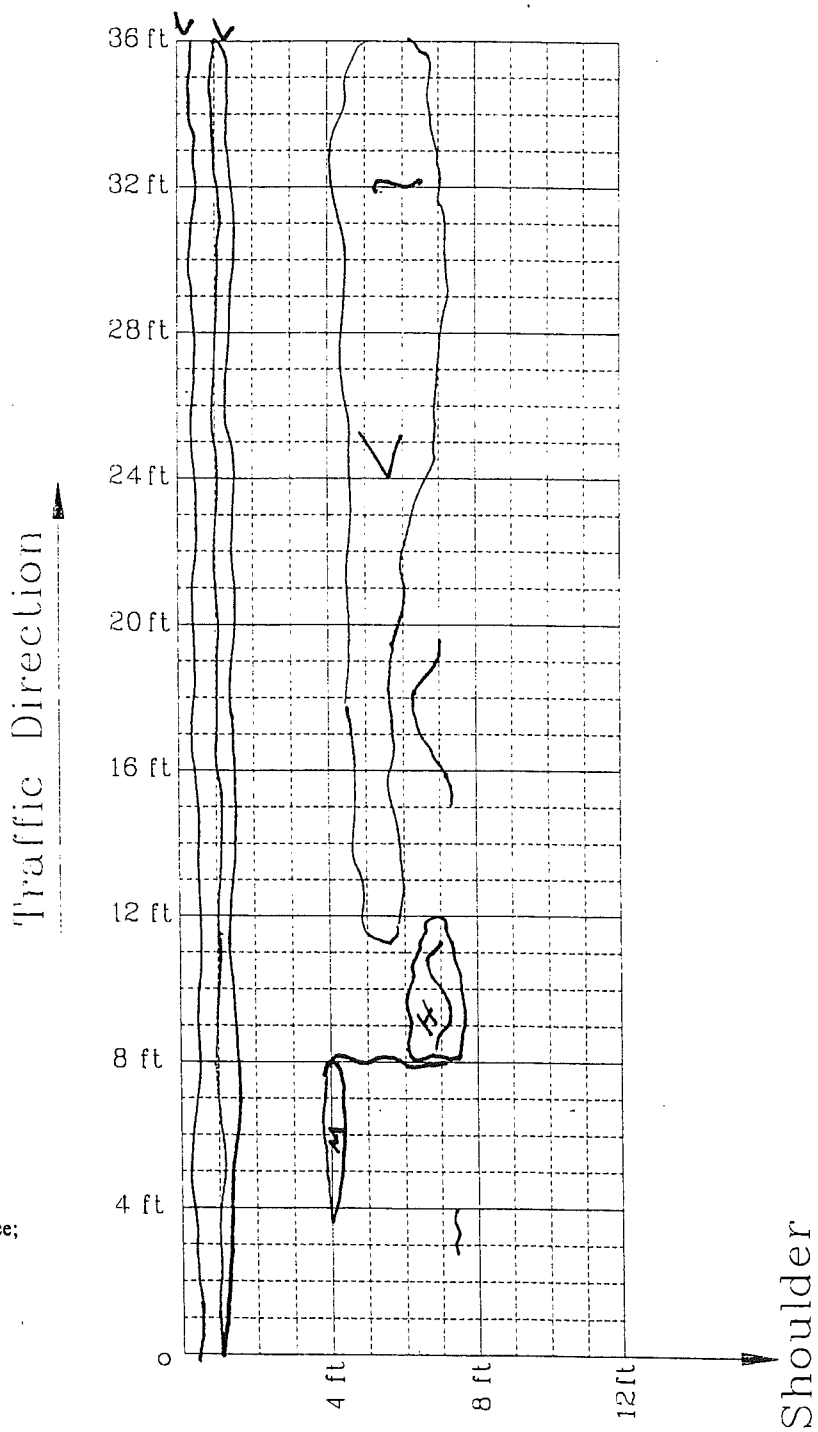
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

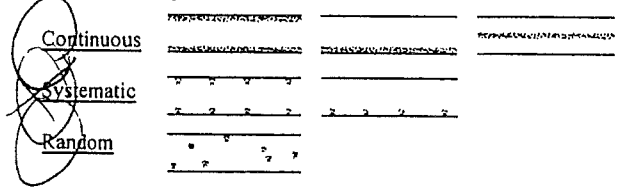
Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M50 Direction: NORTH
Region: _____ Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 13 ADT: _____
NORTH OF ROUND LAKE RD-

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:



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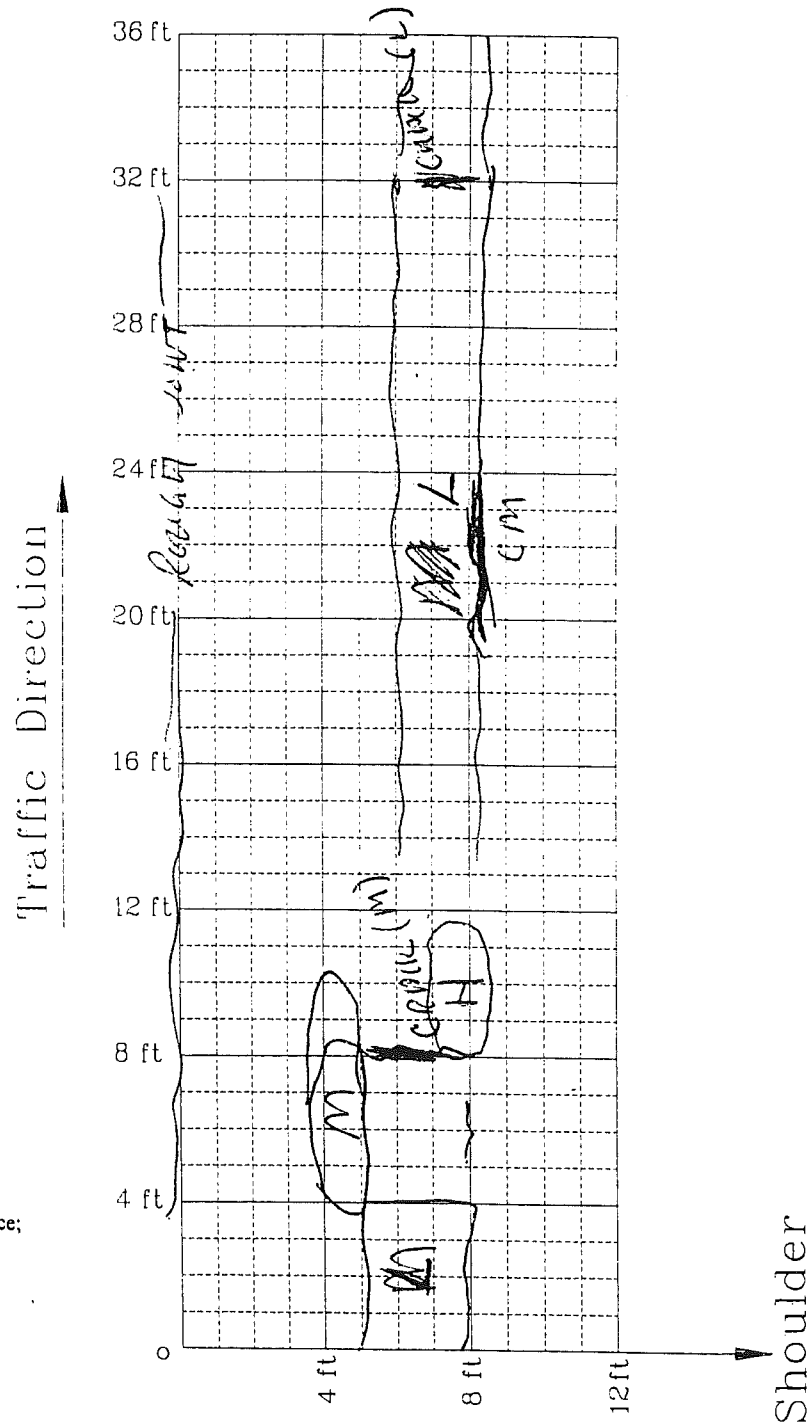
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

North of Ramsd Lake Road Paved 1997

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M50 Direction: NB
Region: _____ Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 13 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
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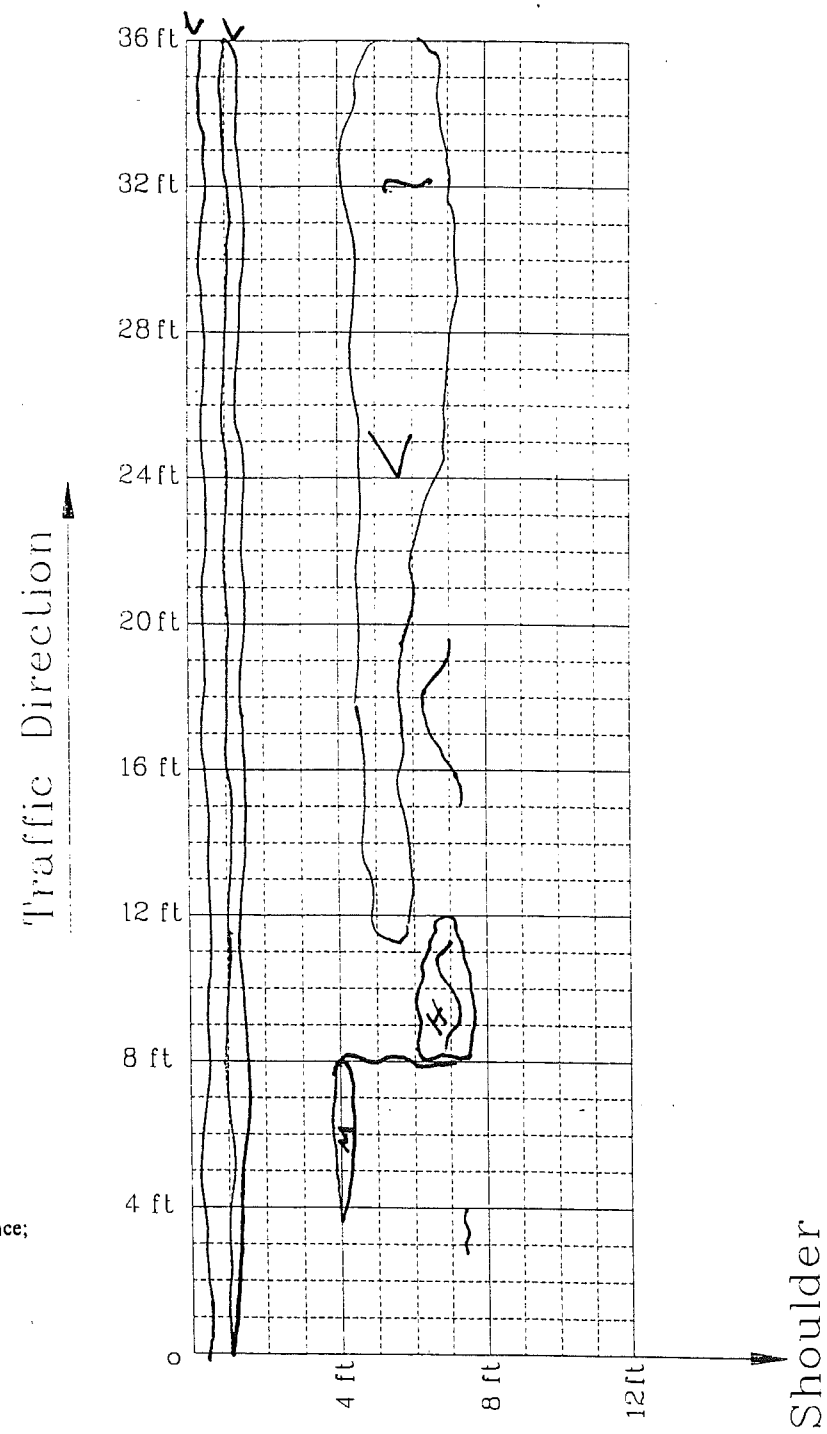
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M50 Direction: NORTH
Region: _____ Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 13 ADT: _____
NORTH OF ROUND LAKE RD-

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

- Continuous
- Systematic
- Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
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3. Rut Depth

4. Flushing
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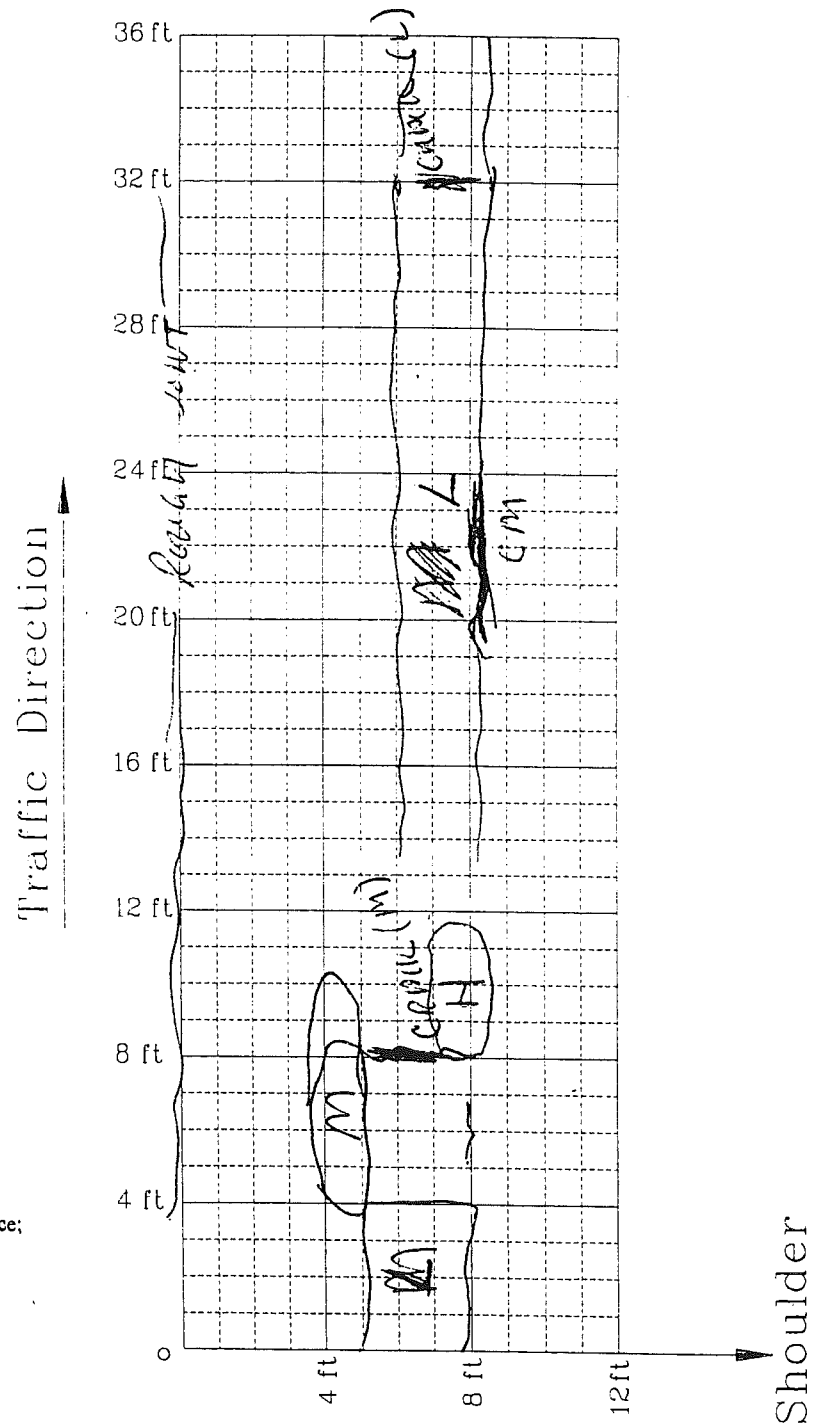
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name) NW
Control Section Number: _____ Route: M-50 Direction: NBL
Region: University
Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 13 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
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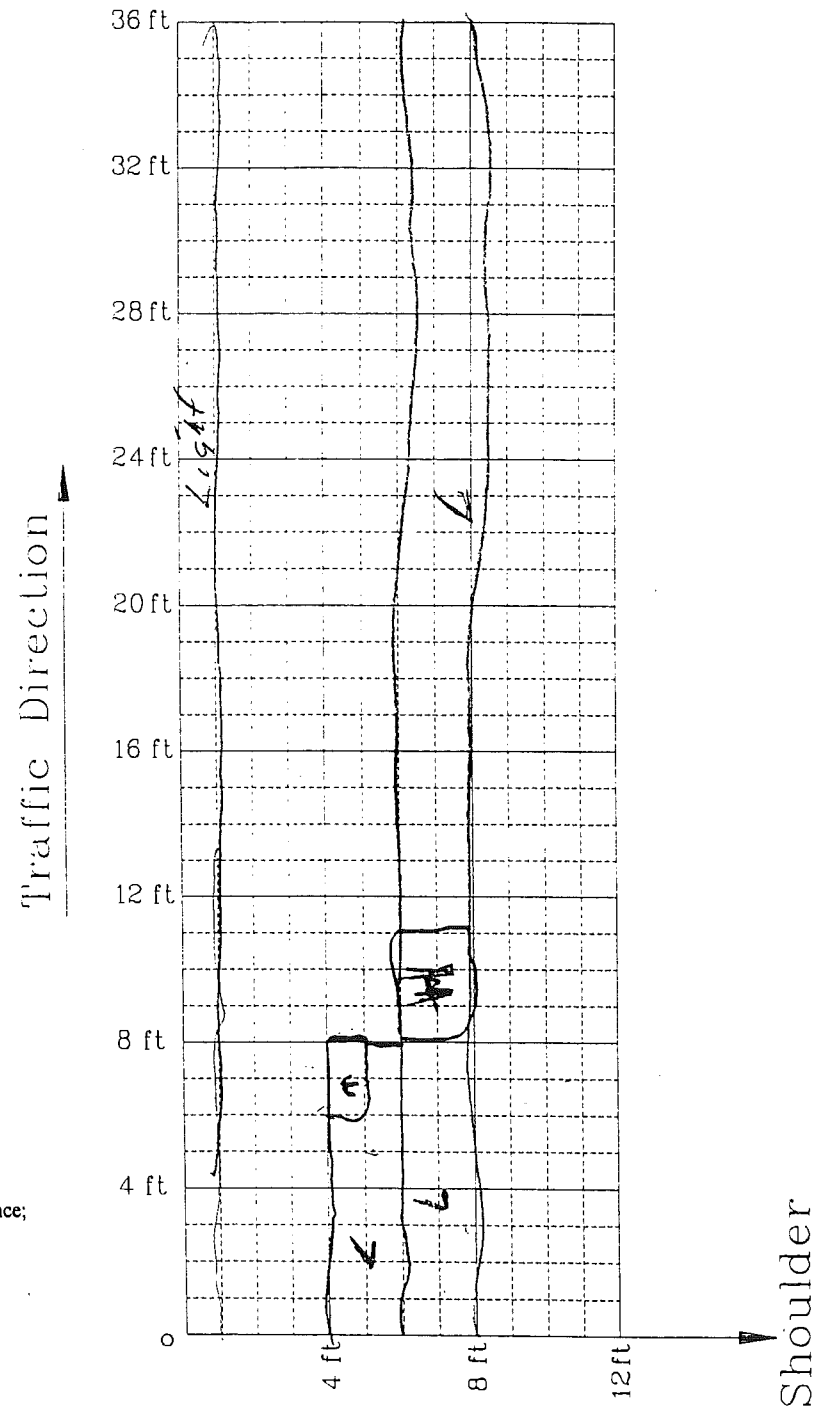
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-50 Direction: N
Region: University Mile Post: from N of Round Lake to _____
Section Number: _____ Test Site Number: 13 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
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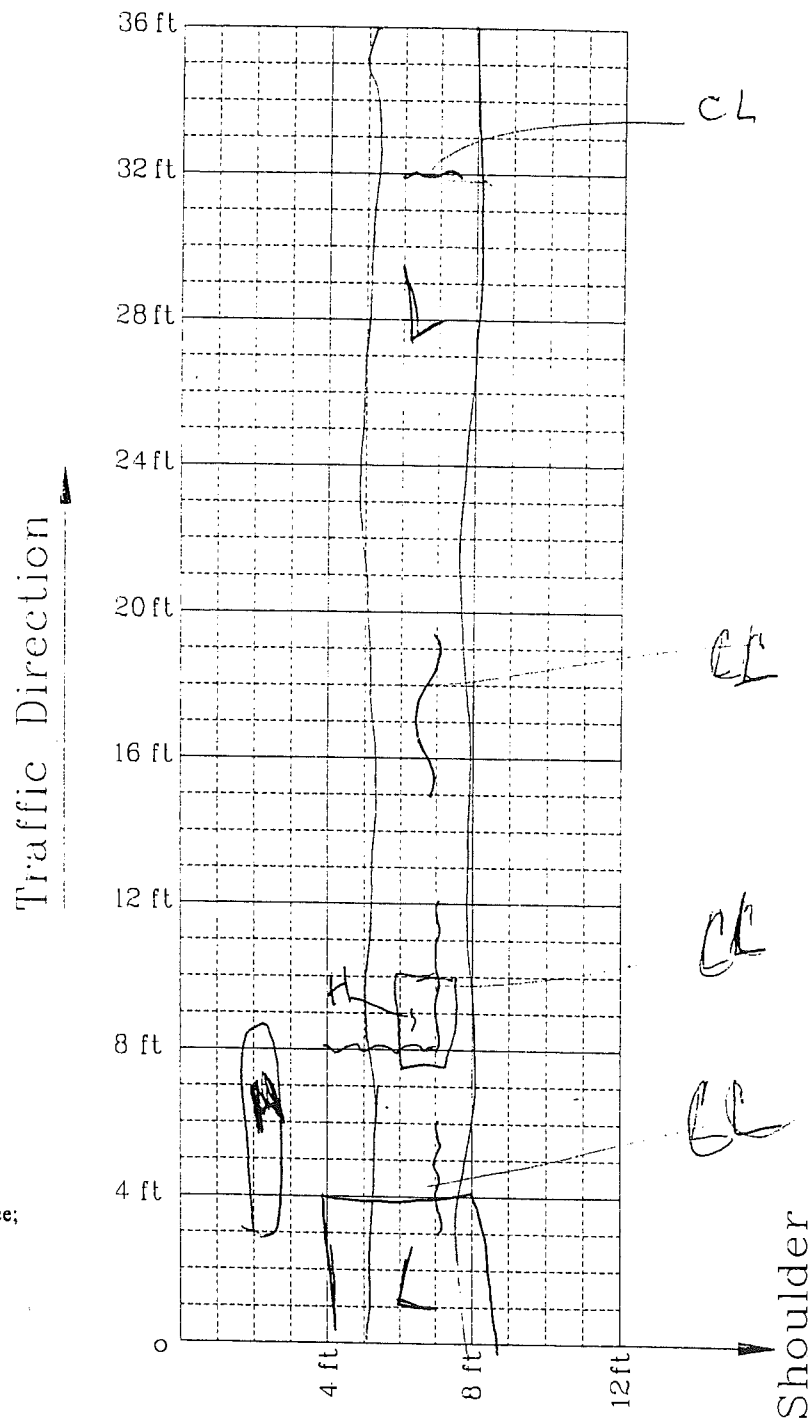
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: Damp ≈ 36°F Snow Flurries

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-50 Direction: _____
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 13 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous
Systematic
Random

Degree of Segregation
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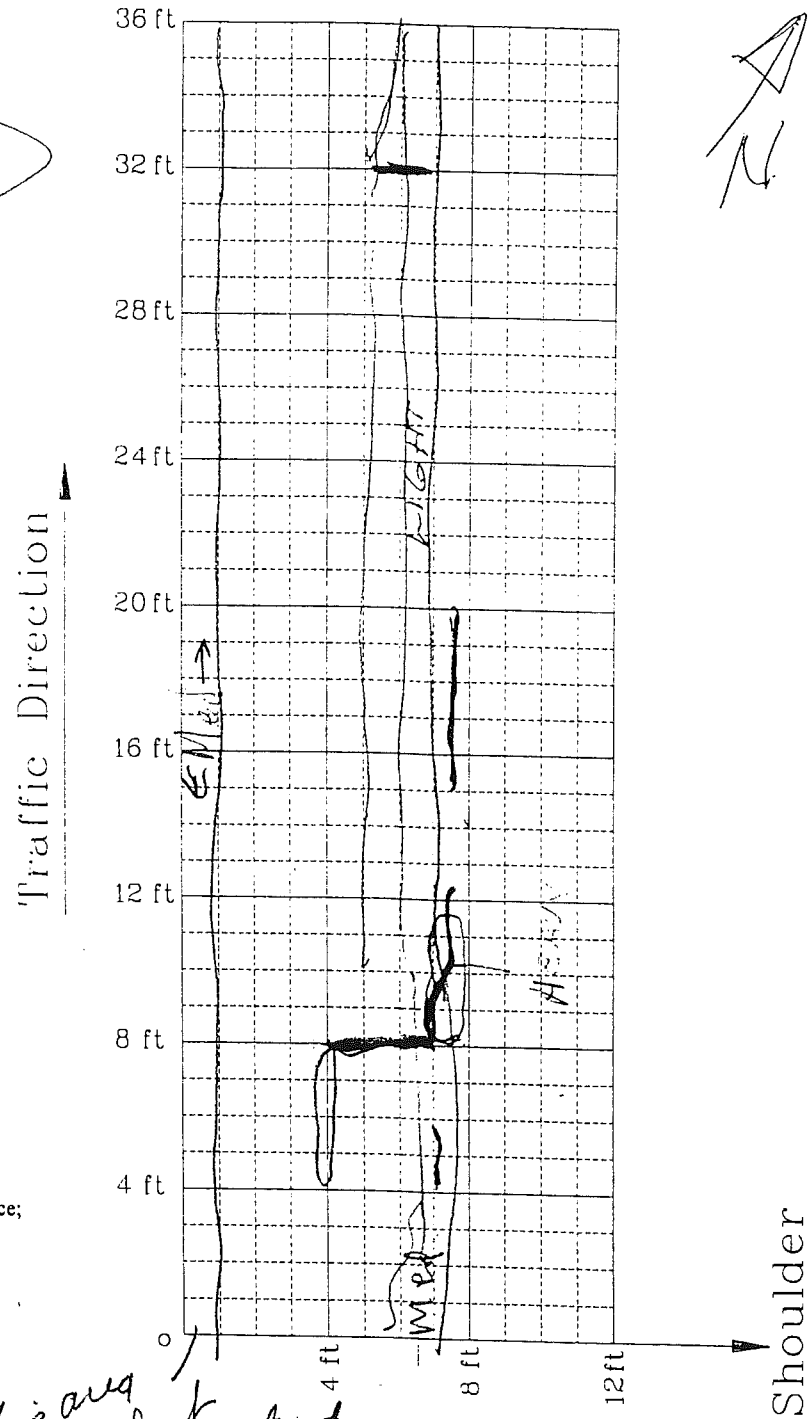
COMMENTS

Segregation Map



This area is sued out of adjustment

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: Overcast Light Snow

Surveyor: _____ (your name)
Control Section Number: 23!-- Route: M-50 N of Round Lake Direction: WB (NB)
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: #13 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

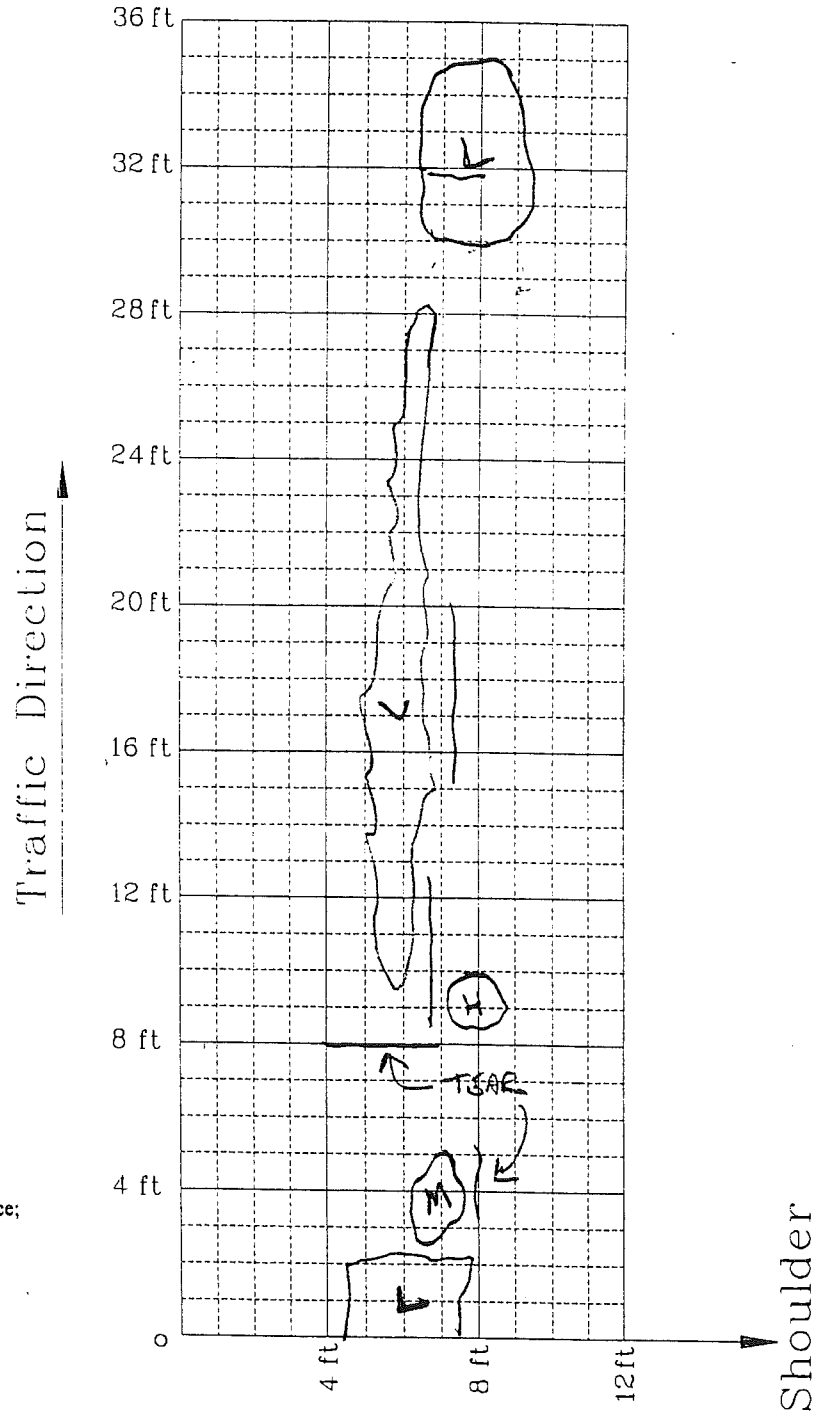
X Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified SPOTTY
1. Raveling
X Low X Moderate X High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
TEARS X Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low-severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

35° F

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-50 Direction: North Bound.
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 13 ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

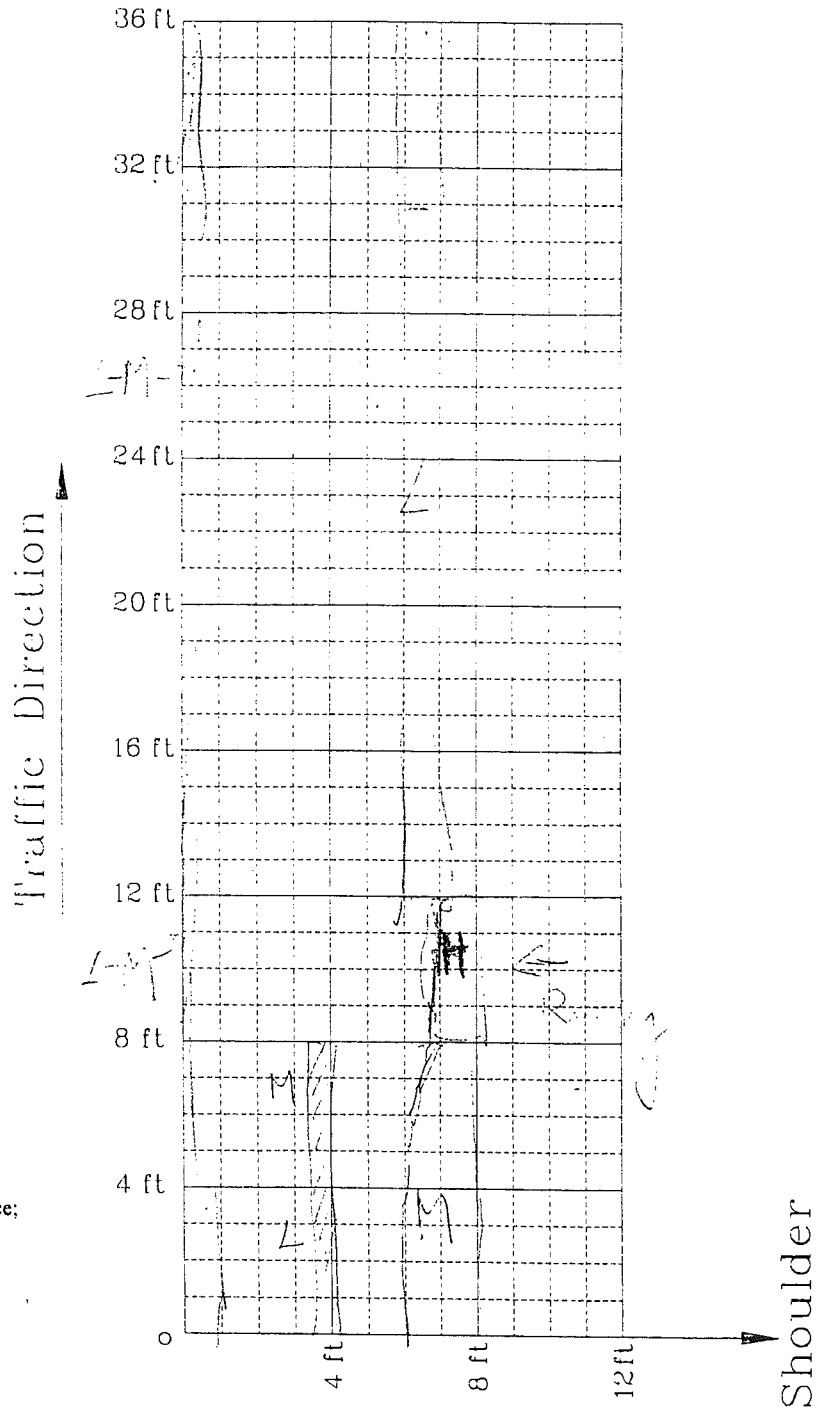
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☑ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted: loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☑ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low-severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Nuclear Density Sampling Data (Feb. 13, 1998)

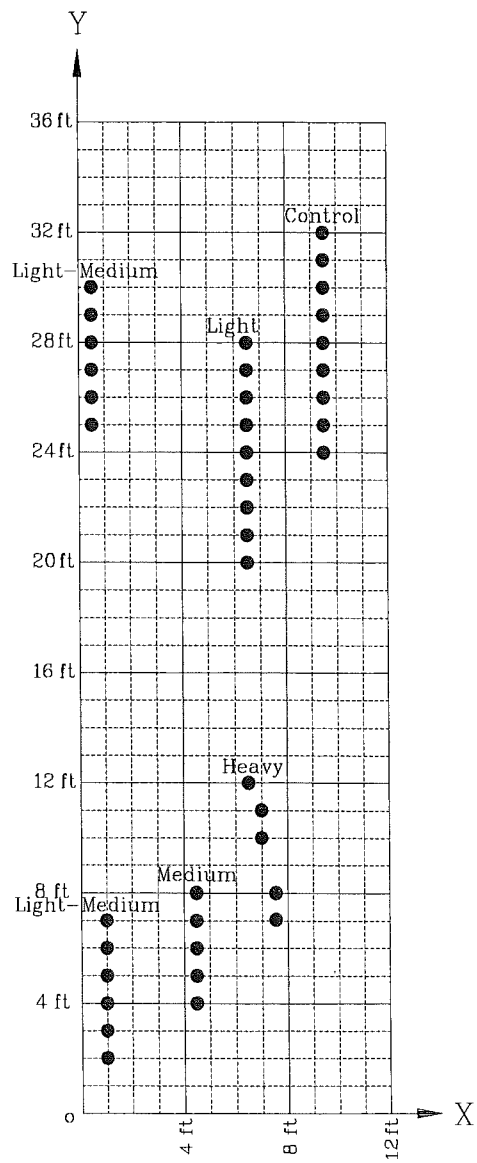
SITE 13 M-50 N. Bound (350′ north of Round Lake Road), Eaton County

Chart Standard	Density	2617
	Moisture	705
Operating Standard	Density	2608
	Moisture	708

Gauge No.	102420
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1		Sample 2		Sample 3	
L-M		Light		Control	
0030	138.7	0628	138.6	932	140.2
0029	139.2	0627	134.1	931	141.4
0028	139.9	0626	136.7	930	142.9
0027	139.4	0625	138.8	929	142.0
0026	138.6	0624	137.4	928	142.6
0025	137.8	0623	136.8	927	143.9
mean	138.9	0622	136.1	926	142.8
std	0.73	0621	136.7	925	141.6
		0620	136.9	924	143.1
		mean	136.9	mean	142.3
		std	1.38	std	1.10

Sample 4		Sample 5		Sample 6	
L-M		Medium		Heavy	
0107	141.1	0408	132.9	0712	137.4
0106	139.4	0407	128.8	0711	137.6
0105	140.0	0406	135.6	0710	136.2
0104	139.7	0405	137.5	0708	133.8
0103	138.9	0404	140.3	0707	134.8
0102	140.4	mean	135.0	mean	136.0
mean	139.9	std	4.40	std	1.65
std	0.77				



Nuclear Density Sampling Data (April 16, 1998)

SITE 13 M-50 N. Bound (350′ north of Round Lake Road), Eaton County

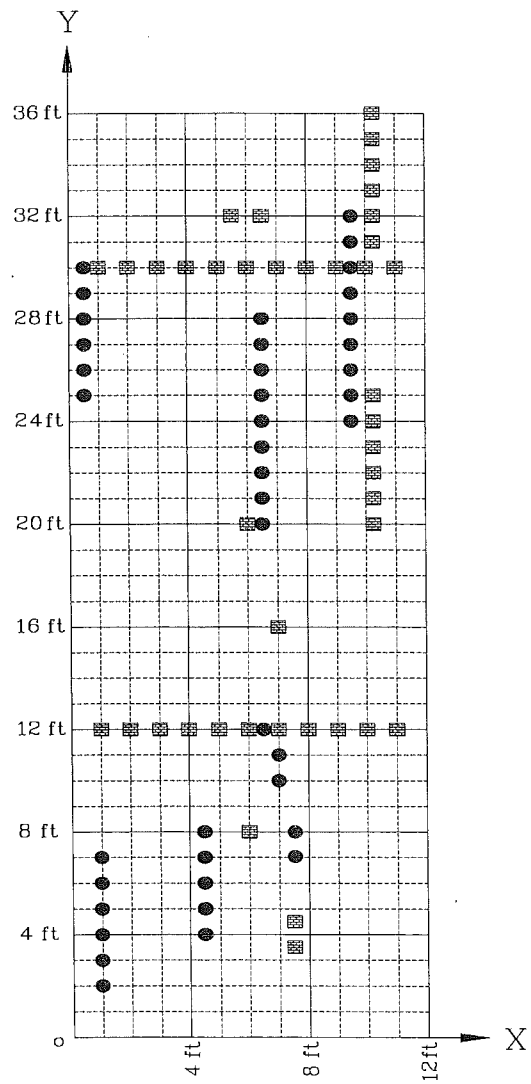
Chart Standard	Density	2863
	Moisture	652
Operating Standard	Density	2882
	Moisture	658

Gauge No.	101953
Model	Troxler 3440
Inspector	Mike Mullikin

Transverse		Transverse	
0112	142.4	**0130**	139.3
0212	143.9	**0230**	146.1
0312	144.4	**0330**	145.2
0412	143.9	**0430**	144.0
0512	139.2	**0530**	143.0
0612	138.8	**0630**	141.0
0712	141.0	**0730**	144.6
0812	141.5	**0830**	145.4
0912	145.3	**0930**	141.4
1012	146.1	**1030**	142.9
1112	138.7	**1130**	143.5

Tran. Crack		Control	
0532	137.8	**1036**	140.2
0632	135.7	**1035**	141.0
0608	133.6	**1034**	139.9
		1033	139.6
		1032	139.4
		1031	141.8
		mean	140.3
		std	0.92

Long. Crack		Control	
0705	141.5	**1025**	141.8
0704	139.7	**1024**	143.2
0620	142.2	**1023**	144.4
0716	138.6	**1022**	145.3
		1021	144.4
		1020	142.0
		mean	143.5
		std	1.42



Date 7/1/98 Highway

Tested By Joel Davenport Site Site 13

Checked By

Remarks

1	2	3	4	5	6	7	8	9	10
Specimen Number	Course Description	Weight in air (g)	SSD Weight (g)	Weight in water (g)	Volume (SSD) [4-5](cm^3)	Volume (air) [3-5](cm^3)	Specific Gravity SSD [4/6]	Specific Gravity air [3/7]	Remarks
0028		1454.2	1455.6	820.0	635.6	634.2	2.290	2.293	
0104		1438.3	1439.3	820.7	618.6	617.6	2.327	2.329	
0620		615.7	617.0	330.1	286.9	285.6	2.151	2.156	
0621		633.9	635.7	346.2	289.5	287.7	2.196	2.203	
0720		875.6	876.7	493.2	383.5	382.4	2.286	2.290	
0929		1619.1	1620.2	934.8	685.4	684.3	2.364	2.366	
0930		1549.6	1550.5	893.2	657.3	656.4	2.359	2.361	
1022		1558.7	1559.9	900.6	659.3	658.1	2.366	2.368	
	7/8/98								
0106		1489.9	1491.3	843.6	647.7	646.3	2.302	2.305	
0624		663.6	664.8	365.0	299.8	298.6	2.217	2.222	
0626		654.9	656.3	362.0	294.3	292.9	2.230	2.236	
0630		1470.4	1472.0	817.7	654.3	652.7	2.250	2.253	
0707		692.8	694.8	383.8	311.0	309.0	2.234	2.242	
0710		641.9	644.3	358.0	286.3	283.9	2.250	2.261	
0930		1374.4	1375.3	793.3	582.0	581.1	2.363	2.365	
1023		1457.6	1458.5	844.0	614.5	613.6	2.373	2.375	

Date 7/9/98 Highway

Tested By Joel Davenport Site Site 13

Checked By

Remarks Sample 0705 has a very deep crack and is nearly broken in half.

1	2	3	4	5	6	7	8	9	10
Specimen Number	Course Description	Weight in air (g)	SSD Weight (g)	Weight in water (g)	Volume (SSD) [4-5](cm^3)	Volume (air) [3-5](cm^3)	Specific Gravity SSD [4/6]	Specific Gravity air [3/7]	Remarks
0406		833.8	835.7	469.9	365.8	363.9	2.285	2.291	
0625		681.9	683.4	377.2	306.2	304.7	2.232	2.238	
0705		747.4	749.8	421.1	328.7	326.3	2.281	2.291	
1021		1478.5	1479.5	855.5	624.0	623.0	2.371	2.373	
	7/17/98								
0026		1437.3	1439.1	799.1	640.0	638.2	2.249	2.252	
0102		1476.2	1477.4	833.7	643.7	642.5	2.295	2.298	
0405		814.2	815.8	460.1	355.7	354.1	2.294	2.299	
0622		555.5	557.2	303.0	254.2	252.5	2.192	2.200	

Sieve Analysis

Weight of bags & soil	1359.4
Weight of soil	1327.9

Weight of empty bags	31.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0102	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	61.7	4.65	4.65	95.35
	3/8 inch	9.50	2.754	81.5	6.14	10.79	89.21
	No. 4	4.75	2.016	266.0	20.04	30.83	69.17
	No. 8	2.37	1.474	186.4	14.04	44.87	55.13
	No. 16	1.18	1.077	153.3	11.55	56.42	43.58
	No. 30	0.60	0.795	159.8	12.04	68.46	31.54
	No. 50	0.30	0.582	228.0	17.18	85.63	14.37
	No. 100	0.15	0.426	123.5	9.30	94.94	5.06
	No. 200	0.08	0.312	45.4	3.42	98.36	1.64
	Pan			21.8	1.64	100.00	0.00
			Total weight	1327.4	100.00		

Operator	Joel Davenport	Weight of tear & soil	3126.7
Date	7/30/98	Weight of tear	1799.4
Remarks		Weight of soil	1327.3

Sieve Analysis

Weight of bags & soil	703.0
Weight of soil	687.2

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0102 (heavy)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	32.5	4.73	4.73	95.27
	3/8 inch	9.50	2.754	43.3	6.31	11.04	88.96
	No. 4	4.75	2.016	140.0	20.39	31.43	68.57
	No. 8	2.37	1.474	95.0	13.83	45.26	54.74
	No. 16	1.18	1.077	82.3	11.98	57.24	42.76
	No. 30	0.60	0.795	86.4	12.58	69.83	30.17
	No. 50	0.30	0.582	118.1	17.20	87.02	12.98
	No. 100	0.15	0.426	57.8	8.42	95.44	4.56
	No. 200	0.08	0.312	21.7	3.16	98.60	1.40
	Pan			9.6	1.40	100.00	0.00
			Total weight	686.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1586.4
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	686.7

Sieve Analysis

Weight of bags & soil	656.4
Weight of soil	640.7

Weight of empty bags	15.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0102 (light)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	29.2	4.56	4.56	95.44
	3/8 inch	9.50	2.754	38.2	5.96	10.52	89.48
	No. 4	4.75	2.016	126.0	19.67	30.19	69.81
	No. 8	2.37	1.474	91.4	14.27	44.45	55.55
	No. 16	1.18	1.077	71.0	11.08	55.53	44.47
	No. 30	0.60	0.795	73.4	11.46	66.99	33.01
	No. 50	0.30	0.582	109.9	17.15	84.14	15.86
	No. 100	0.15	0.426	65.7	10.25	94.40	5.60
	No. 200	0.08	0.312	23.7	3.70	98.10	1.90
	Pan			12.2	1.90	100.00	0.00
			Total weight	640.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1540.3
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	640.6

Sieve Analysis

Weight of bags & soil	1327.7
Weight of soil	1292.5

Weight of empty bags	35.2

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0104	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	49.8	3.85	3.85	96.15
	3/8 inch	9.50	2.754	59.4	4.60	8.45	91.55
	No. 4	4.75	2.016	259.4	20.08	28.53	71.47
	No. 8	2.37	1.474	190.1	14.71	43.24	56.76
	No. 16	1.18	1.077	147.0	11.38	54.62	45.38
	No. 30	0.60	0.795	156.8	12.14	66.75	33.25
	No. 50	0.30	0.582	247.3	19.14	85.89	14.11
	No. 100	0.15	0.426	119.8	9.27	95.16	4.84
	No. 200	0.08	0.312	40.3	3.12	98.28	1.72
	Pan			22.2	1.72	100.00	0.00
			Total weight	1292.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	3091.4
Date	7/17/98	Weight of tear	1799.6
Remarks		Weight of soil	1291.8

Sieve Analysis

Weight of bags & soil	661.0
Weight of soil	643.4

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0104	1/2 inch	12.50	3.116	26.5	4.12	4.12	95.88
(heavy)	3/8 inch	9.50	2.754	36.0	5.60	9.72	90.28
	No. 4	4.75	2.016	124.0	19.28	28.99	71.01
	No. 8	2.37	1.474	94.2	14.64	43.63	56.37
	No. 16	1.18	1.077	74.4	11.57	55.20	44.80
	No. 30	0.60	0.795	75.8	11.78	66.98	33.02
	No. 50	0.30	0.582	127.9	19.88	86.86	13.14
	No. 100	0.15	0.426	56.7	8.81	95.68	4.32
	No. 200	0.08	0.312	19.9	3.09	98.77	1.23
	Pan			7.9	1.23	100.00	0.00
			Total	643.3	100.00		
			weight				

Operator	Joel Davenport	Weight of tear & soil	1542.9
Date	7/17/98	Weight of tear	899.8
Remarks		Weight of soil	643.1

Sieve Analysis

Weight of bags & soil	666.7
Weight of soil	649.1

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0104	1/2 inch	12.50	3.116	23.3	3.59	3.59	96.41
(light)	3/8 inch	9.50	2.754	23.4	3.61	7.20	92.80
	No. 4	4.75	2.016	135.4	20.87	28.07	71.93
	No. 8	2.37	1.474	95.9	14.78	42.85	57.15
	No. 16	1.18	1.077	72.6	11.19	54.04	45.96
	No. 30	0.60	0.795	81.0	12.48	66.52	33.48
	No. 50	0.30	0.582	119.4	18.40	84.93	15.07
	No. 100	0.15	0.426	63.1	9.73	94.65	5.35
	No. 200	0.08	0.312	20.4	3.14	97.80	2.20
	Pan			14.3	2.20	100.00	0.00
			Total	648.8	100.00		
			weight				

Operator	Joel Davenport	Weight of tear & soil	1548.5
Date	7/17/98	Weight of tear	899.8
Remarks		Weight of soil	648.7

Sieve Analysis

Weight of bags & soil	1396.5
Weight of soil	1380.8

Weight of empty bags	15.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0106	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	68.2	4.94	4.94	95.06
	3/8 inch	9.50	2.754	71.3	5.17	10.11	89.89
	No. 4	4.75	2.016	270.8	19.62	29.73	70.27
	No. 8	2.37	1.474	198.9	14.41	44.14	55.86
	No. 16	1.18	1.077	186.7	13.53	57.67	42.33
	No. 30	0.60	0.795	239.9	17.38	75.05	24.95
	No. 50	0.30	0.582	189.9	13.76	88.81	11.19
	No. 100	0.15	0.426	105.3	7.63	96.44	3.56
	No. 200	0.08	0.312	29.5	2.14	98.57	1.43
	Pan			19.7	1.43	100.00	0.00
			Total weight	1380.2	100.00		

Operator	Joel Davenport	Weight of tear & soil	2279.9
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	1380.2

Sieve Analysis

Weight of bags & soil	1349.9
Weight of soil	1334.1

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0026	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	115.7	8.68	8.68	91.32
	3/8 inch	9.50	2.754	61.2	4.59	13.26	86.74
	No. 4	4.75	2.016	252.0	18.89	32.16	67.84
	No. 8	2.37	1.474	181.4	13.60	45.76	54.24
	No. 16	1.18	1.077	181.2	13.59	59.35	40.65
	No. 30	0.60	0.795	219.7	16.47	75.82	24.18
	No. 50	0.30	0.582	189.1	14.18	90.00	10.00
	No. 100	0.15	0.426	87.7	6.58	96.57	3.43
	No. 200	0.08	0.312	32.4	2.43	99.00	1.00
	Pan			13.3	1.00	100.00	0.00
			Total weight	1333.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	2233.4
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	1333.7

Sieve Analysis

Weight of bags & soil	1369.1
Weight of soil	1351.6

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0028	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	69.6	5.15	5.15	94.85
	3/8 inch	9.50	2.754	93.1	6.89	12.04	87.96
	No. 4	4.75	2.016	273.2	20.22	32.27	67.73
	No. 8	2.37	1.474	182.6	13.52	45.78	54.22
	No. 16	1.18	1.077	150.3	11.13	56.91	43.09
	No. 30	0.60	0.795	199.2	14.75	71.66	28.34
	No. 50	0.30	0.582	211.4	15.65	87.30	12.70
	No. 100	0.15	0.426	114.2	8.45	95.76	4.24
	No. 200	0.08	0.312	37.8	2.80	98.56	1.44
	Pan			19.5	1.44	100.00	0.00
			Total weight	1350.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	2250.6
Date	7/17/98	Weight of tear	899.8
Remarks		Weight of soil	1350.8

Sieve Analysis

Weight of bags & soil	1379.6
Weight of soil	1363.8

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0030	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	82.3	6.04	6.04	93.96
	3/8 inch	9.50	2.754	90.2	6.62	12.65	87.35
	No. 4	4.75	2.016	287.2	21.07	33.72	66.28
	No. 8	2.37	1.474	184.7	13.55	47.27	52.73
	No. 16	1.18	1.077	184.3	13.52	60.80	39.20
	No. 30	0.60	0.795	219.0	16.07	76.86	23.14
	No. 50	0.30	0.582	165.7	12.16	89.02	10.98
	No. 100	0.15	0.426	92.9	6.82	95.83	4.17
	No. 200	0.08	0.312	34.4	2.52	98.36	1.64
	Pan			22.4	1.64	100.00	0.00
			Total weight	1363.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	2262.7
Date	8/4/98	Weight of tear	899.7
Remarks		Weight of soil	1363.0

Sieve Analysis

Weight of bags & soil	763.5
Weight of soil	732.0

Weight of empty bags	31.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0405	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	46.4	6.34	6.34	93.66
	3/8 inch	9.50	2.754	63.8	8.72	15.06	84.94
	No. 4	4.75	2.016	157.0	21.45	36.51	63.49
	No. 8	2.37	1.474	90.6	12.38	48.89	51.11
	No. 16	1.18	1.077	67.9	9.28	58.17	41.83
	No. 30	0.60	0.795	70.3	9.61	67.78	32.22
	No. 50	0.30	0.582	106.8	14.59	82.37	17.63
	No. 100	0.15	0.426	84.1	11.49	93.86	6.14
	No. 200	0.08	0.312	30.5	4.17	98.03	1.97
	Pan			14.4	1.97	100.00	0.00
			Total weight	731.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2531.0
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	1631.3

Sieve Analysis

Weight of bags & soil	358.9
Weight of soil	343.1

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0405	1/2 inch	12.50	3.116	30.2	8.80	8.80	91.20
(heavy)	3/8 inch	9.50	2.754	39.3	11.45	20.26	79.74
	No. 4	4.75	2.016	74.5	21.71	41.97	58.03
	No. 8	2.37	1.474	38.1	11.10	53.07	46.93
	No. 16	1.18	1.077	28.7	8.36	61.44	38.56
	No. 30	0.60	0.795	30.0	8.74	70.18	29.82
	No. 50	0.30	0.582	44.6	13.00	83.18	16.82
	No. 100	0.15	0.426	37.1	10.81	94.00	6.00
	No. 200	0.08	0.312	12.9	3.76	97.76	2.24
	Pan			7.7	2.24	100.00	0.00
			Total weight	343.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	1242.7
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	343.0

Sieve Analysis

Weight of bags & soil	404.6
Weight of soil	388.9

Weight of empty bags	15.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0405 (light)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	16.2	4.17	4.17	95.83
	3/8 inch	9.50	2.754	24.5	6.30	10.47	89.53
	No. 4	4.75	2.016	82.5	21.22	31.70	68.30
	No. 8	2.37	1.474	52.5	13.51	45.20	54.80
	No. 16	1.18	1.077	39.2	10.08	55.29	44.71
	No. 30	0.60	0.795	40.3	10.37	65.65	34.35
	No. 50	0.30	0.582	62.2	16.00	81.66	18.34
	No. 100	0.15	0.426	47.0	12.09	93.75	6.25
	No. 200	0.08	0.312	17.6	4.53	98.28	1.72
	Pan			6.7	1.72	100.00	0.00
			Total weight	388.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1288.3
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	388.6

Sieve Analysis

Weight of bags & soil	777.6
Weight of soil	746.2

Weight of empty bags	31.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0406	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	32.9	4.41	4.41	95.59
	3/8 inch	9.50	2.754	46.8	6.28	10.69	89.31
	No. 4	4.75	2.016	191.3	25.65	36.34	63.66
	No. 8	2.37	1.474	93.4	12.52	48.86	51.14
	No. 16	1.18	1.077	69.5	9.32	58.18	41.82
	No. 30	0.60	0.795	72.6	9.73	67.91	32.09
	No. 50	0.30	0.582	113.9	15.27	83.19	16.81
	No. 100	0.15	0.426	74.0	9.92	93.11	6.89
	No. 200	0.08	0.312	35.6	4.77	97.88	2.12
	Pan			15.8	2.12	100.00	0.00
			Total weight	745.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2545.4
Date	7/23/98	Weight of tear	1799.4
Remarks		Weight of soil	746.0

Sieve Analysis

Weight of bags & soil	373.2
Weight of soil	357.4

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0406	1/2 inch	12.50	3.116	11.0	3.08	3.08	96.92
(heavy)	3/8 inch	9.50	2.754	16.6	4.65	7.72	92.28
	No. 4	4.75	2.016	88.5	24.77	32.49	67.51
	No. 8	2.37	1.474	46.2	12.93	45.42	54.58
	No. 16	1.18	1.077	36.3	10.16	55.58	44.42
	No. 30	0.60	0.795	36.7	10.27	65.86	34.14
	No. 50	0.30	0.582	57.2	16.01	81.86	18.14
	No. 100	0.15	0.426	36.9	10.33	92.19	7.81
	No. 200	0.08	0.312	18.5	5.18	97.37	2.63
	Pan			9.4	2.63	100.00	0.00
			Total weight	357.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	1257.1
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	357.4

Sieve Analysis

Weight of bags & soil	404.4
Weight of soil	388.8

Weight of empty bags	15.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0406 (light)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	21.9	5.64	5.64	94.36
	3/8 inch	9.50	2.754	30.2	7.77	13.41	86.59
	No. 4	4.75	2.016	102.8	26.46	39.87	60.13
	No. 8	2.37	1.474	47.2	12.15	52.02	47.98
	No. 16	1.18	1.077	33.2	8.55	60.57	39.43
	No. 30	0.60	0.795	35.9	9.24	69.81	30.19
	No. 50	0.30	0.582	56.7	14.59	84.40	15.60
	No. 100	0.15	0.426	37.1	9.55	93.95	6.05
	No. 200	0.08	0.312	17.1	4.40	98.35	1.65
	Pan			6.4	1.65	100.00	0.00
			Total weight	388.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	1288.3
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	388.6

Sieve Analysis

Weight of bags & soil	989.7
Weight of soil	974.1

Weight of empty bags	15.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0408	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	39.4	4.05	4.05	95.95
	3/8 inch	9.50	2.754	41.5	4.26	8.31	91.69
	No. 4	4.75	2.016	200.8	20.64	28.95	71.05
	No. 8	2.37	1.474	137.9	14.17	43.12	56.88
	No. 16	1.18	1.077	124.5	12.79	55.91	44.09
	No. 30	0.60	0.795	157.9	16.23	72.14	27.86
	No. 50	0.30	0.582	136.6	14.04	86.18	13.82
	No. 100	0.15	0.426	83.5	8.58	94.76	5.24
	No. 200	0.08	0.312	36.7	3.77	98.53	1.47
	Pan			14.3	1.47	100.00	0.00
			Total weight	973.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	1873.0
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	973.3

Sieve Analysis

Weight of bags & soil	806.8
Weight of soil	791.1

Weight of empty bags	15.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0532	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	24.7	3.12	3.12	96.88
	3/8 inch	9.50	2.754	38.6	4.88	8.00	92.00
	No. 4	4.75	2.016	159.8	20.20	28.20	71.80
	No. 8	2.37	1.474	113.5	14.35	42.55	57.45
	No. 16	1.18	1.077	91.1	11.52	54.07	45.93
	No. 30	0.60	0.795	109.2	13.81	67.88	32.12
	No. 50	0.30	0.582	123.2	15.58	83.45	16.55
	No. 100	0.15	0.426	84.0	10.62	94.07	5.93
	No. 200	0.08	0.312	26.8	3.39	97.46	2.54
	Pan			20.1	2.54	100.00	0.00
			Total weight	791.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	1690.5
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	790.8

Sieve Analysis

Weight of bags & soil	650.4
Weight of soil	632.9

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0608	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	27.9	4.41	4.41	95.59
	3/8 inch	9.50	2.754	26.1	4.13	8.54	91.46
	No. 4	4.75	2.016	117.7	18.61	27.15	72.85
	No. 8	2.37	1.474	86.7	13.71	40.87	59.13
	No. 16	1.18	1.077	72.6	11.48	52.35	47.65
	No. 30	0.60	0.795	84.2	13.32	65.67	34.33
	No. 50	0.30	0.582	126.7	20.04	85.70	14.30
	No. 100	0.15	0.426	55.8	8.82	94.53	5.47
	No. 200	0.08	0.312	26.6	4.21	98.73	1.27
	Pan			8.0	1.27	100.00	0.00
			Total weight	632.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	1532.1
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	632.4

Sieve Analysis

Weight of bags & soil	583.6
Weight of soil	548.4

Weight of empty bags	35.2

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0620	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	3.6	0.66	0.66	99.34
	3/8 inch	9.50	2.754	18.0	3.29	3.94	96.06
	No. 4	4.75	2.016	97.0	17.71	21.65	78.35
	No. 8	2.37	1.474	77.5	14.15	35.80	64.20
	No. 16	1.18	1.077	63.9	11.67	47.47	52.53
	No. 30	0.60	0.795	71.2	13.00	60.47	39.53
	No. 50	0.30	0.582	115.8	21.14	81.61	18.39
	No. 100	0.15	0.426	64.8	11.83	93.45	6.55
	No. 200	0.08	0.312	26.9	4.91	98.36	1.64
	Pan			9.0	1.64	100.00	0.00
			Total weight	547.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	2347.2
Date	7/23/98	Weight of tear	1799.4
Remarks		Weight of soil	547.8

Sieve Analysis

Weight of bags & soil	297.6
Weight of soil	380.0

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0620	1/2 inch	12.50	3.116	3.6	1.29	1.29	98.71
(heavy)	3/8 inch	9.50	2.754	8.5	3.04	4.33	95.67
	No. 4	4.75	2.016	50.0	17.88	22.20	77.80
	No. 8	2.37	1.474	38.2	13.66	35.86	64.14
	No. 16	1.18	1.077	32.6	11.66	47.52	52.48
	No. 30	0.60	0.795	36.2	12.94	60.46	39.54
	No. 50	0.30	0.582	56.7	20.27	80.73	19.27
	No. 100	0.15	0.426	32.7	11.69	92.42	7.58
	No. 200	0.08	0.312	15.4	5.51	97.93	2.07
	Pan			5.8	2.07	100.00	0.00
			Total weight	279.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1179.4
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	279.7

Sieve Analysis

Weight of bags & soil	286.0
Weight of soil	268.4

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0620 (light)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	0.0	0.00	0.00	100.00
	3/8 inch	9.50	2.754	9.5	3.54	3.54	96.46
	No. 4	4.75	2.016	47.0	17.54	21.08	78.92
	No. 8	2.37	1.474	39.3	14.66	35.75	64.25
	No. 16	1.18	1.077	31.3	11.68	47.43	52.57
	No. 30	0.60	0.795	35.0	13.06	60.49	39.51
	No. 50	0.30	0.582	59.1	22.05	82.54	17.46
	No. 100	0.15	0.426	32.1	11.98	94.51	5.49
	No. 200	0.08	0.312	11.5	4.29	98.81	1.19
	Pan			3.2	1.19	100.00	0.00
			Total weight	268.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	1167.8
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	268.1

Sieve Analysis

Weight of bags & soil	605.1
Weight of soil	569.9

Weight of empty bags	35.2

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0621	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	17.7	3.11	3.11	96.89
	3/8 inch	9.50	2.754	35.3	6.21	9.32	90.68
	No. 4	4.75	2.016	130.7	22.98	32.30	67.70
	No. 8	2.37	1.474	72.5	12.75	45.04	54.96
	No. 16	1.18	1.077	58.5	10.28	55.33	44.67
	No. 30	0.60	0.795	59.2	10.41	65.73	34.27
	No. 50	0.30	0.582	105.2	18.50	84.23	15.77
	No. 100	0.15	0.426	55.3	9.72	93.95	6.05
	No. 200	0.08	0.312	25.8	4.54	98.49	1.51
	Pan			8.6	1.51	100.00	0.00
			Total weight	568.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2368.4
Date	7/23/98	Weight of tear	1799.4
Remarks		Weight of soil	569.0

Sieve Analysis

Weight of bags & soil	309.7
Weight of soil	292.1

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0621 (heavy)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	5.8	1.99	1.99	98.01
	3/8 inch	9.50	2.754	15.1	5.18	7.17	92.83
	No. 4	4.75	2.016	74.7	25.64	32.82	67.18
	No. 8	2.37	1.474	38.7	13.29	46.10	53.90
	No. 16	1.18	1.077	29.9	10.26	56.37	43.63
	No. 30	0.60	0.795	29.4	10.09	66.46	33.54
	No. 50	0.30	0.582	51.7	17.75	84.21	15.79
	No. 100	0.15	0.426	29.2	10.02	94.23	5.77
	No. 200	0.08	0.312	12.8	4.39	98.63	1.37
	Pan			4.0	1.37	100.00	0.00
			Total weight	291.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	1191.1
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	291.4

Sieve Analysis

Weight of bags & soil	295.4
Weight of soil	277.8

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0621	1/2 inch	12.50	3.116	11.9	4.29	4.29	95.71
(light)	3/8 inch	9.50	2.754	20.2	7.28	11.57	88.43
	No. 4	4.75	2.016	56.0	20.18	31.75	68.25
	No. 8	2.37	1.474	33.8	12.18	43.93	56.07
	No. 16	1.18	1.077	28.6	10.31	54.23	45.77
	No. 30	0.60	0.795	29.8	10.74	64.97	35.03
	No. 50	0.30	0.582	53.5	19.28	84.25	15.75
	No. 100	0.15	0.426	26.1	9.41	93.66	6.34
	No. 200	0.08	0.312	13.0	4.68	98.34	1.66
	Pan			4.6	1.66	100.00	0.00
			Total weight	277.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	1177.3
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	277.6

Sieve Analysis

Weight of bags & soil	534.7
Weight of soil	518.8

Weight of empty bags	15.9

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0622	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	26.7	5.15	5.15	94.85
	3/8 inch	9.50	2.754	33.0	6.36	11.51	88.49
	No. 4	4.75	2.016	102.9	19.85	31.36	68.64
	No. 8	2.37	1.474	68.0	13.11	44.47	55.53
	No. 16	1.18	1.077	55.1	10.63	55.10	44.90
	No. 30	0.60	0.795	56.3	10.86	65.96	34.04
	No. 50	0.30	0.582	101.4	19.56	85.52	14.48
	No. 100	0.15	0.426	50.0	9.64	95.16	4.84
	No. 200	0.08	0.312	18.5	3.57	98.73	1.27
	Pan			6.6	1.27	100.00	0.00
			Total weight	518.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	1418.2
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	518.5

Sieve Analysis

Weight of bags & soil	630.9
Weight of soil	615.1

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0624	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	27.2	4.42	4.42	95.58
	3/8 inch	9.50	2.754	18.3	2.98	7.40	92.60
	No. 4	4.75	2.016	127.5	20.74	28.14	71.86
	No. 8	2.37	1.474	83.5	13.58	41.72	58.28
	No. 16	1.18	1.077	71.5	11.63	53.35	46.65
	No. 30	0.60	0.795	89.5	14.56	67.91	32.09
	No. 50	0.30	0.582	118.5	19.27	87.18	12.82
	No. 100	0.15	0.426	48.9	7.95	95.14	4.86
	No. 200	0.08	0.312	18.4	2.99	98.13	1.87
	Pan			11.5	1.87	100.00	0.00
			Total weight	614.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	1514.5
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	614.8

Sieve Analysis

Weight of bags & soil	645.2
Weight of soil	614.2

Weight of empty bags	31.0

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0625	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	11.7	1.91	1.91	98.09
	3/8 inch	9.50	2.754	46.8	7.63	9.54	90.46
	No. 4	4.75	2.016	127.5	20.79	30.33	69.67
	No. 8	2.37	1.474	83.5	13.61	43.94	56.06
	No. 16	1.18	1.077	64.7	10.55	54.49	45.51
	No. 30	0.60	0.795	66.1	10.78	65.27	34.73
	No. 50	0.30	0.582	107.2	17.48	82.75	17.25
	No. 100	0.15	0.426	66.3	10.81	93.56	6.44
	No. 200	0.08	0.312	30.0	4.89	98.45	1.55
	Pan			9.5	1.55	100.00	0.00
			Total weight	613.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2412.9
Date	7/23/98	Weight of tear	1799.4
Remarks		Weight of soil	613.5

Sieve Analysis

Weight of bags & soil	326.8
Weight of soil	311.4

Weight of empty bags	15.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0625 (heavy)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	3.8	1.22	1.22	98.78
	3/8 inch	9.50	2.754	31.7	10.20	11.42	88.58
	No. 4	4.75	2.016	57.9	18.62	30.04	69.96
	No. 8	2.37	1.474	45.2	14.54	44.58	55.42
	No. 16	1.18	1.077	32.2	10.36	54.94	45.06
	No. 30	0.60	0.795	32.2	10.36	65.29	34.71
	No. 50	0.30	0.582	52.1	16.76	82.05	17.95
	No. 100	0.15	0.426	34.9	11.23	93.28	6.72
	No. 200	0.08	0.312	15.5	4.99	98.26	1.74
	Pan			5.4	1.74	100.00	0.00
			Total weight	310.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	1210.7
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	311.0

Sieve Analysis

Weight of bags & soil	318.4
Weight of soil	302.8

Weight of empty bags	15.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0625	1/2 inch	12.50	3.116	7.9	2.61	2.61	97.39
(light)	3/8 inch	9.50	2.754	15.1	4.99	7.61	92.39
	No. 4	4.75	2.016	69.6	23.02	30.62	69.38
	No. 8	2.37	1.474	38.3	12.67	43.29	56.71
	No. 16	1.18	1.077	32.5	10.75	54.03	45.97
	No. 30	0.60	0.795	33.9	11.21	65.24	34.76
	No. 50	0.30	0.582	55.1	18.22	83.47	16.53
	No. 100	0.15	0.426	31.4	10.38	93.85	6.15
	No. 200	0.08	0.312	14.5	4.79	98.64	1.36
	Pan			4.1	1.36	100.00	0.00
			Total weight	302.4	100.00		

Operator	Joel Davenport	Weight of tear & soil	1202.2
Date	7/23/98	Weight of tear	899.7
Remarks		Weight of soil	302.5

Sieve Analysis

Weight of bags & soil	620.2
Weight of soil	588.8

Weight of empty bags	31.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0626	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	19.8	3.36	3.36	96.64
	3/8 inch	9.50	2.754	22.3	3.79	7.15	92.85
	No. 4	4.75	2.016	131.7	22.38	29.53	70.47
	No. 8	2.37	1.474	84.9	14.43	43.96	56.04
	No. 16	1.18	1.077	62.6	10.64	54.60	45.40
	No. 30	0.60	0.795	61.4	10.43	65.03	34.97
	No. 50	0.30	0.582	72.7	12.35	77.38	22.62
	No. 100	0.15	0.426	95.7	16.26	93.64	6.36
	No. 200	0.08	0.312	28.7	4.88	98.52	1.48
	Pan			8.7	1.48	100.00	0.00
			Total weight	588.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2387.9
Date	7/30/98	Weight of tear	1799.4
Remarks		Weight of soil	588.5

Sieve Analysis

Weight of bags & soil	296.0
Weight of soil	280.2

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0626	1/2 inch	12.50	3.116	7.1	2.54	2.54	97.46
(heavy)	3/8 inch	9.50	2.754	15.7	5.61	8.14	91.86
	No. 4	4.75	2.016	57.4	20.50	28.64	71.36
	No. 8	2.37	1.474	43.8	15.64	44.29	55.71
	No. 16	1.18	1.077	30.6	10.93	55.21	44.79
	No. 30	0.60	0.795	28.7	10.25	65.46	34.54
	No. 50	0.30	0.582	30.7	10.96	76.43	23.57
	No. 100	0.15	0.426	50.1	17.89	94.32	5.68
	No. 200	0.08	0.312	12.1	4.32	98.64	1.36
	Pan			3.8	1.36	100.00	0.00
			Total weight	280.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	1179.8
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	280.1

Sieve Analysis

Weight of bags & soil	324.2
Weight of soil	308.6

Weight of empty bags	15.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0626 (light)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	12.7	4.12	4.12	95.88
	3/8 inch	9.50	2.754	6.6	2.14	6.26	93.74
	No. 4	4.75	2.016	74.3	24.08	30.34	69.66
	No. 8	2.37	1.474	41.1	13.32	43.66	56.34
	No. 16	1.18	1.077	32.0	10.37	54.04	45.96
	No. 30	0.60	0.795	32.7	10.60	64.64	35.36
	No. 50	0.30	0.582	42.0	13.61	78.25	21.75
	No. 100	0.15	0.426	45.6	14.78	93.03	6.97
	No. 200	0.08	0.312	16.6	5.38	98.41	1.59
	Pan			4.9	1.59	100.00	0.00
			Total weight	308.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	1208.1
Date	7/30/98	Weight of tear	899.7
Remarks		Weight of soil	308.4

Sieve Analysis

Weight of bags & soil	784.4
Weight of soil	766.8

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0632	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	28.5	3.72	3.72	96.28
	3/8 inch	9.50	2.754	36.0	4.70	8.42	91.58
	No. 4	4.75	2.016	168.9	22.05	30.47	69.53
	No. 8	2.37	1.474	110.4	14.41	44.88	55.12
	No. 16	1.18	1.077	83.4	10.89	55.76	44.24
	No. 30	0.60	0.795	108.2	14.12	69.89	30.11
	No. 50	0.30	0.582	118.1	15.42	85.30	14.70
	No. 100	0.15	0.426	78.7	10.27	95.57	4.43
	No. 200	0.08	0.312	23.7	3.09	98.67	1.33
	Pan			10.2	1.33	100.00	0.00
			Total weight	766.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	1665.6
Date	8/4/98	Weight of tear	899.7
Remarks		Weight of soil	765.9

Sieve Analysis

Weight of bags & soil	731.5
Weight of soil	716.1

Weight of empty bags	15.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0704	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	69.9	9.77	9.77	90.23
	3/8 inch	9.50	2.754	63.3	8.85	18.63	81.37
	No. 4	4.75	2.016	148.8	20.81	39.44	60.56
	No. 8	2.37	1.474	84.4	11.80	51.24	48.76
	No. 16	1.18	1.077	69.0	9.65	60.89	39.11
	No. 30	0.60	0.795	70.1	9.80	70.69	29.31
	No. 50	0.30	0.582	109.8	15.35	86.04	13.96
	No. 100	0.15	0.426	61.2	8.56	94.60	5.40
	No. 200	0.08	0.312	23.0	3.22	97.82	2.18
	Pan			15.6	2.18	100.00	0.00
			Total weight	715.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	1615.0
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	715.3

Sieve Analysis

Weight of bags & soil	707.8
Weight of soil	692.0

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0705	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	57.0	8.24	8.24	91.76
	3/8 inch	9.50	2.754	62.2	8.99	17.23	82.77
	No. 4	4.75	2.016	145.5	21.03	38.26	61.74
	No. 8	2.37	1.474	88.0	12.72	50.98	49.02
	No. 16	1.18	1.077	60.3	8.72	59.69	40.31
	No. 30	0.60	0.795	66.5	9.61	69.30	30.70
	No. 50	0.30	0.582	125.4	18.12	87.43	12.57
	No. 100	0.15	0.426	53.5	7.73	95.16	4.84
	No. 200	0.08	0.312	20.0	2.89	98.05	1.95
	Pan			13.5	1.95	100.00	0.00
			Total weight	691.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	1191.7
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	292.0

Sieve Analysis

Weight of bags & soil	655.7
Weight of soil	640.0

Weight of empty bags	15.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0707	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	24.3	3.80	3.80	96.20
	3/8 inch	9.50	2.754	35.7	5.58	9.38	90.62
	No. 4	4.75	2.016	116.4	18.20	27.58	72.42
	No. 8	2.37	1.474	80.9	12.65	40.22	59.78
	No. 16	1.18	1.077	74.5	11.65	51.87	48.13
	No. 30	0.60	0.795	76.5	11.96	63.83	36.17
	No. 50	0.30	0.582	138.3	21.62	85.45	14.55
	No. 100	0.15	0.426	61.0	9.54	94.98	5.02
	No. 200	0.08	0.312	24.1	3.77	98.75	1.25
	Pan			8.0	1.25	100.00	0.00
			Total weight	639.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1539.4
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	639.7

Sieve Analysis

Weight of bags & soil	614.0
Weight of soil	598.2

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0710	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	27.4	4.58	4.58	95.42
	3/8 inch	9.50	2.754	28.6	4.79	9.37	90.63
	No. 4	4.75	2.016	148.7	24.88	34.25	65.75
	No. 8	2.37	1.474	76.6	12.82	47.06	52.94
	No. 16	1.18	1.077	57.7	9.65	56.72	43.28
	No. 30	0.60	0.795	61.6	10.31	67.02	32.98
	No. 50	0.30	0.582	113.9	19.06	86.08	13.92
	No. 100	0.15	0.426	54.5	9.12	95.20	4.80
	No. 200	0.08	0.312	20.8	3.48	98.68	1.32
	Pan			7.9	1.32	100.00	0.00
			Total weight	597.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1497.5
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	597.8

Sieve Analysis

Weight of bags & soil	693.0
Weight of soil	675.4

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0712	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	21.5	3.19	3.19	96.81
	3/8 inch	9.50	2.754	40.0	5.93	9.11	90.89
	No. 4	4.75	2.016	139.5	20.67	29.78	70.22
	No. 8	2.37	1.474	93.0	13.78	43.56	56.44
	No. 16	1.18	1.077	73.6	10.90	54.46	45.54
	No. 30	0.60	0.795	90.6	13.42	67.88	32.12
	No. 50	0.30	0.582	138.0	20.44	88.33	11.67
	No. 100	0.15	0.426	52.5	7.78	96.10	3.90
	No. 200	0.08	0.312	18.0	2.67	98.77	1.23
	Pan			8.3	1.23	100.00	0.00
			Total weight	675.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	1574.5
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	674.8

Sieve Analysis

Weight of bags & soil	666.2
Weight of soil	648.5

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0716	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	39.6	6.11	6.11	93.89
	3/8 inch	9.50	2.754	43.5	6.71	12.82	87.18
	No. 4	4.75	2.016	115.6	17.84	30.66	69.34
	No. 8	2.37	1.474	88.7	13.69	44.35	55.65
	No. 16	1.18	1.077	66.9	10.32	54.68	45.32
	No. 30	0.60	0.795	74.1	11.44	66.11	33.89
	No. 50	0.30	0.582	129.6	20.00	86.11	13.89
	No. 100	0.15	0.426	56.6	8.73	94.85	5.15
	No. 200	0.08	0.312	22.1	3.41	98.26	1.74
	Pan			11.3	1.74	100.00	0.00
			Total weight	648.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	1547.8
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	648.1

Sieve Analysis

Weight of bags & soil	817.3
Weight of soil	782.0

Weight of empty bags	35.3

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0720	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	36.1	4.62	4.62	95.38
	3/8 inch	9.50	2.754	44.1	5.64	10.26	89.74
	No. 4	4.75	2.016	134.0	17.14	27.41	72.59
	No. 8	2.37	1.474	105.9	13.55	40.95	59.05
	No. 16	1.18	1.077	89.7	11.48	52.43	47.57
	No. 30	0.60	0.795	96.7	12.37	64.80	35.20
	No. 50	0.30	0.582	150.2	19.22	84.02	15.98
	No. 100	0.15	0.426	80.3	10.27	94.29	5.71
	No. 200	0.08	0.312	32.4	4.15	98.44	1.56
	Pan			12.2	1.56	100.00	0.00
			Total weight	781.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2580.8
Date	8/6/98	Weight of tear	1799.4
Remarks		Weight of soil	781.4

Sieve Analysis

Weight of bags & soil	403.9
Weight of soil	386.2

Weight of empty bags	17.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
0720	1/2 inch	12.50	3.116	23.3	6.04	6.04	93.96
(heavy)	3/8 inch	9.50	2.754	29.3	7.59	13.63	86.37
	No. 4	4.75	2.016	57.9	15.00	28.63	71.37
	No. 8	2.37	1.474	50.3	13.03	41.67	58.33
	No. 16	1.18	1.077	42.7	11.07	52.73	47.27
	No. 30	0.60	0.795	48.0	12.44	65.17	34.83
	No. 50	0.30	0.582	69.6	18.04	83.21	16.79
	No. 100	0.15	0.426	41.2	10.68	93.88	6.12
	No. 200	0.08	0.312	16.8	4.35	98.24	1.76
	Pan			6.8	1.76	100.00	0.00
			Total weight	385.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	1285.5
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	385.8

Sieve Analysis

Weight of bags & soil	412.4
Weight of soil	359.8

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0720 (light)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	12.8	3.23	3.23	96.77
	3/8 inch	9.50	2.754	14.8	3.74	6.97	93.03
	No. 4	4.75	2.016	76.1	19.23	26.21	73.79
	No. 8	2.37	1.474	55.6	14.05	40.26	59.74
	No. 16	1.18	1.077	47.0	11.88	52.14	47.86
	No. 30	0.60	0.795	48.7	12.31	64.44	35.56
	No. 50	0.30	0.582	80.6	20.37	84.81	15.19
	No. 100	0.15	0.426	39.1	9.88	94.69	5.31
	No. 200	0.08	0.312	15.6	3.94	98.64	1.36
	Pan			5.4	1.36	100.00	0.00
			Total weight	395.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1295.3
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	395.6

Sieve Analysis

Weight of bags & soil	1517.1
Weight of soil	1499.6

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0929	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	96.4	6.43	6.43	93.57
	3/8 inch	9.50	2.754	80.4	5.36	11.80	88.20
	No. 4	4.75	2.016	306.1	20.42	32.22	67.78
	No. 8	2.37	1.474	236.2	15.76	47.98	52.02
	No. 16	1.18	1.077	225.6	15.05	63.03	36.97
	No. 30	0.60	0.795	249.3	16.63	79.66	20.34
	No. 50	0.30	0.582	191.7	12.79	92.45	7.55
	No. 100	0.15	0.426	74.2	4.95	97.40	2.60
	No. 200	0.08	0.312	26.7	1.78	99.19	0.81
	Pan			12.2	0.81	100.00	0.00
			Total weight	1498.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	2398.4
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	1498.7

Sieve Analysis

Weight of bags & soil	1451.6
Weight of soil	1434.1

Weight of empty bags	17.5

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0930	3/4 inch	19.00	3.762	8.4	0.59	0.59	99.41
	1/2 inch	12.50	3.116	57.9	4.04	4.62	95.38
	3/8 inch	9.50	2.754	61.1	4.26	8.89	91.11
	No. 4	4.75	2.016	301.1	21.00	29.89	70.11
	No. 8	2.37	1.474	203.4	14.19	44.08	55.92
	No. 16	1.18	1.077	160.6	11.20	55.28	44.72
	No. 30	0.60	0.795	163.0	11.37	66.65	33.35
	No. 50	0.30	0.582	235.5	16.43	83.08	16.92
	No. 100	0.15	0.426	155.1	10.82	93.90	6.10
	No. 200	0.08	0.312	50.0	3.49	97.38	2.62
	Pan			37.5	2.62	100.00	0.00
			Total weight	1433.6	100.00		

Operator	Joel Davenport	Weight of tear & soil	2333.3
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	1433.6

Sieve Analysis

Weight of bags & soil	1291.6
Weight of soil	1275.9

Weight of empty bags	15.7

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 0931	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	75.0	5.88	5.88	94.12
	3/8 inch	9.50	2.754	87.4	6.85	12.73	87.27
	No. 4	4.75	2.016	265.1	20.79	33.52	66.48
	No. 8	2.37	1.474	174.3	13.67	47.19	52.81
	No. 16	1.18	1.077	148.6	11.65	58.84	41.16
	No. 30	0.60	0.795	195.6	15.34	74.18	25.82
	No. 50	0.30	0.582	203.5	15.96	90.14	9.86
	No. 100	0.15	0.426	81.6	6.40	96.53	3.47
	No. 200	0.08	0.312	26.5	2.08	98.61	1.39
	Pan			17.7	1.39	100.00	0.00
			Total weight	1275.3	100.00		

Operator	Joel Davenport	Weight of tear & soil	2175.1
Date	8/6/98	Weight of tear	899.7
Remarks		Weight of soil	1275.4

Sieve Analysis

Weight of bags & soil	1362.2
Weight of soil	1333.4

Weight of empty bags	31.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 1021	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	56.8	4.26	4.26	95.74
	3/8 inch	9.50	2.754	61.0	4.58	8.84	91.16
	No. 4	4.75	2.016	268.1	20.12	28.95	71.05
	No. 8	2.37	1.474	194.1	14.56	43.52	56.48
	No. 16	1.18	1.077	152.2	11.42	54.94	45.06
	No. 30	0.60	0.795	180.0	13.51	68.44	31.56
	No. 50	0.30	0.582	252.9	18.98	87.42	12.58
	No. 100	0.15	0.426	110.4	8.28	95.70	4.30
	No. 200	0.08	0.312	40.5	3.04	98.74	1.26
	Pan			16.8	1.26	100.00	0.00
			Total weight	1332.8	100.00		

Operator	Joel Davenport	Weight of tear & soil	3132.1
Date	8/10/98	Weight of tear	1799.4
Remarks		Weight of soil	1332.7

Sieve Analysis

Weight of bags & soil	657.1
Weight of soil	641.3

Weight of empty bags	15.8

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
1021	1/2 inch	12.50	3.116	22.9	3.57	3.57	96.43
(heavy)	3/8 inch	9.50	2.754	27.7	4.32	7.89	92.11
	No. 4	4.75	2.016	136.2	21.24	29.14	70.86
	No. 8	2.37	1.474	92.7	14.46	43.60	56.40
	No. 16	1.18	1.077	71.7	11.18	54.78	45.22
	No. 30	0.60	0.795	79.2	12.35	67.13	32.87
	No. 50	0.30	0.582	123.2	19.22	86.35	13.65
	No. 100	0.15	0.426	57.2	8.92	95.27	4.73
	No. 200	0.08	0.312	19.9	3.10	98.38	1.62
	Pan			10.4	1.62	100.00	0.00
			Total weight	641.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	1540.8
Date	8/10/98	Weight of tear	899.7
Remarks		Weight of soil	641.1

Sieve Analysis

Weight of bags & soil	708.1
Weight of soil	692.1

Weight of empty bags	16.0

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
1021	1/2 inch	12.50	3.116	33.9	4.90	4.90	95.10
(light)	3/8 inch	9.50	2.754	33.3	4.81	9.72	90.28
	No. 4	4.75	2.016	131.9	19.07	28.78	71.22
	No. 8	2.37	1.474	101.4	14.66	43.44	56.56
	No. 16	1.18	1.077	80.5	11.64	55.08	44.92
	No. 30	0.60	0.795	100.8	14.57	69.65	30.35
	No. 50	0.30	0.582	129.7	18.75	88.41	11.59
	No. 100	0.15	0.426	53.2	7.69	96.10	3.90
	No. 200	0.08	0.312	20.6	2.98	99.07	0.93
	Pan			6.4	0.93	100.00	0.00
			Total weight	691.7	100.00		

Operator	Joel Davenport	Weight of tear & soil	1591.3
Date	8/10/98	Weight of tear	899.7
Remarks		Weight of soil	691.6

Sieve Analysis

Weight of bags & soil	1466.0
Weight of soil	1448.4

Weight of empty bags	17.6

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 1022	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	52.3	3.61	3.61	96.39
	3/8 inch	9.50	2.754	76.1	5.26	8.87	91.13
	No. 4	4.75	2.016	314.7	21.74	30.61	69.39
	No. 8	2.37	1.474	202.3	13.98	44.59	55.41
	No. 16	1.18	1.077	187.3	12.94	57.53	42.47
	No. 30	0.60	0.795	244.3	16.88	74.40	25.60
	No. 50	0.30	0.582	207.1	14.31	88.71	11.29
	No. 100	0.15	0.426	110.1	7.61	96.32	3.68
	No. 200	0.08	0.312	38.1	2.63	98.95	1.05
	Pan			15.2	1.05	100.00	0.00
			Total weight	1447.5	100.00		

Operator	Joel Davenport	Weight of tear & soil	2398.4
Date	8/10/98	Weight of tear	899.7
Remarks		Weight of soil	1498.7

Sieve Analysis

Weight of bags & soil	1347.1
Weight of soil	1315.8

Weight of empty bags	31.3

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 1023	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	53.7	4.08	4.08	95.92
	3/8 inch	9.50	2.754	67.8	5.16	9.24	90.76
	No. 4	4.75	2.016	284.6	21.64	30.88	69.12
	No. 8	2.37	1.474	181.5	13.80	44.68	55.32
	No. 16	1.18	1.077	138.1	10.50	55.19	44.81
	No. 30	0.60	0.795	140.9	10.71	65.90	34.10
	No. 50	0.30	0.582	236.2	17.96	83.86	16.14
	No. 100	0.15	0.426	136.5	10.38	94.24	5.76
	No. 200	0.08	0.312	44.5	3.38	97.63	2.37
	Pan			31.2	2.37	100.00	0.00
			Total weight	1315.0	100.00		

Operator	Joel Davenport	Weight of tear & soil	3114.4
Date	8/10/98	Weight of tear	1799.4
Remarks		Weight of soil	1315.0

Sieve Analysis

Weight of bags & soil	659.7
Weight of soil	644.3

Weight of empty bags	15.4

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
1023	1/2 inch	12.50	3.116	31.3	4.86	4.86	95.14
(heavy)	3/8 inch	9.50	2.754	27.1	4.21	9.07	90.93
	No. 4	4.75	2.016	141.0	21.90	30.97	69.03
	No. 8	2.37	1.474	90.6	14.07	45.04	54.96
	No. 16	1.18	1.077	66.1	10.27	55.30	44.70
	No. 30	0.60	0.795	69.3	10.76	66.07	33.93
	No. 50	0.30	0.582	120.6	18.73	84.80	15.20
	No. 100	0.15	0.426	63.8	9.91	94.70	5.30
	No. 200	0.08	0.312	20.4	3.17	97.87	2.13
	Pan			13.7	2.13	100.00	0.00
			Total weight	643.9	100.00		

Operator	Joel Davenport	Weight of tear & soil	1543.5
Date	8/10/98	Weight of tear	899.7
Remarks		Weight of soil	643.8

Sieve Analysis

Weight of bags & soil	687.4
Weight of soil	671.5

Weight of empty bags	15.9

Sample number	Sieve size	Sieve opening (mm)	Sieve opening .45 power	Field data - total weight = Weight retained	Percent retained	Cum. % retained	Percent passing
Site 13 1023 (light)	3/4 inch	19.00	3.762	0.0	0.00	0.00	100.00
	1/2 inch	12.50	3.116	22.4	3.34	3.34	96.66
	3/8 inch	9.50	2.754	40.7	6.06	9.40	90.60
	No. 4	4.75	2.016	143.6	21.40	30.80	69.20
	No. 8	2.37	1.474	90.9	13.54	44.35	55.65
	No. 16	1.18	1.077	72.0	10.73	55.07	44.93
	No. 30	0.60	0.795	71.6	10.67	65.74	34.26
	No. 50	0.30	0.582	115.6	17.23	82.97	17.03
	No. 100	0.15	0.426	72.7	10.83	93.80	6.20
	No. 200	0.08	0.312	24.1	3.59	97.39	2.61
	Pan			17.5	2.61	100.00	0.00
			Total weight	671.1	100.00		

Operator	Joel Davenport	Weight of tear & soil	1570.9
Date	8/10/98	Weight of tear	899.7
Remarks		Weight of soil	671.2

Site 14

North of Allegan Rd.

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M50 Direction: SB.
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 14 ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

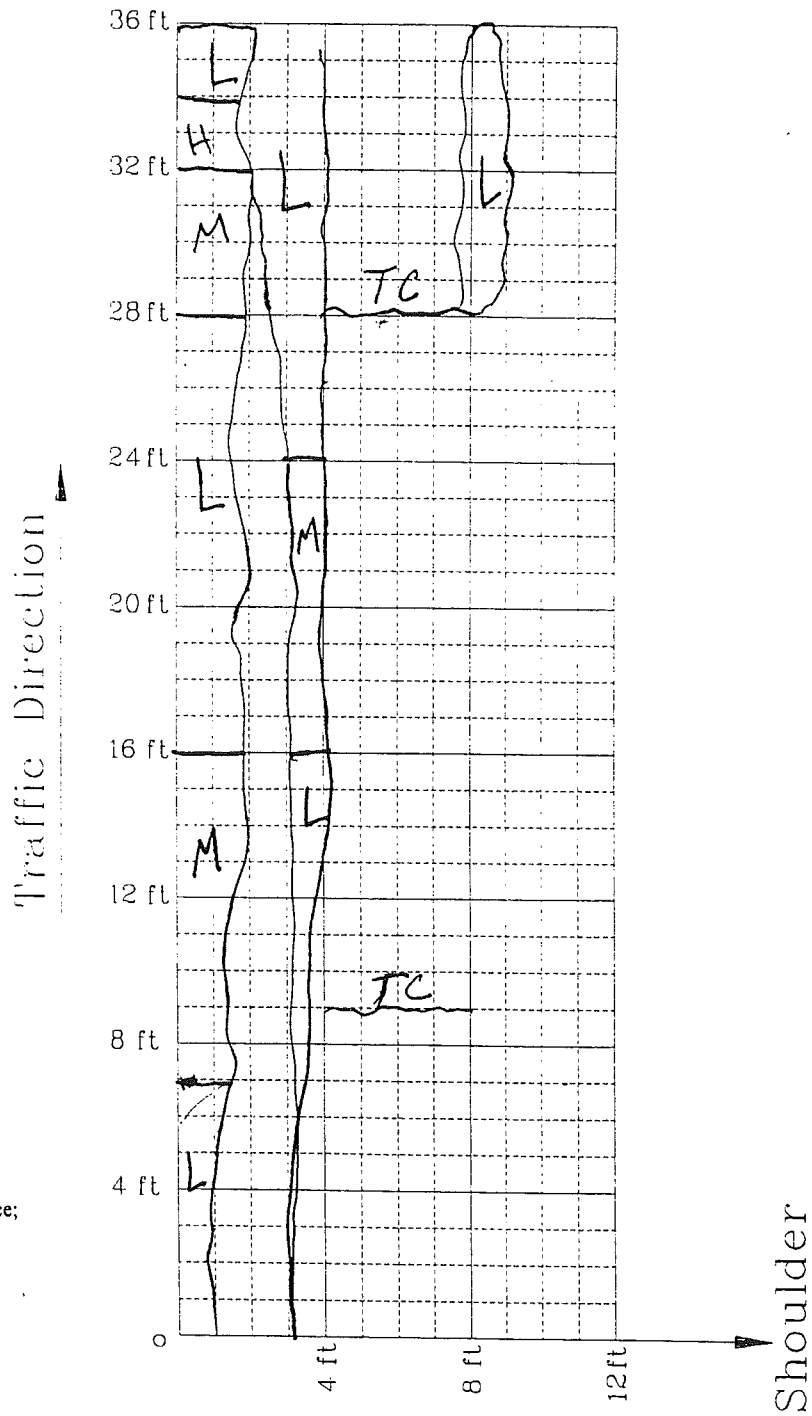
Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine), significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: Eastbound

Surveyor: _____ (your name)
Control Section Number: _____ Route: M50 Direction: ~~Southbound~~
Region: _____ Mile Post: from North of to Allegan Rd
Section Number: _____ Test Site Number: 14 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
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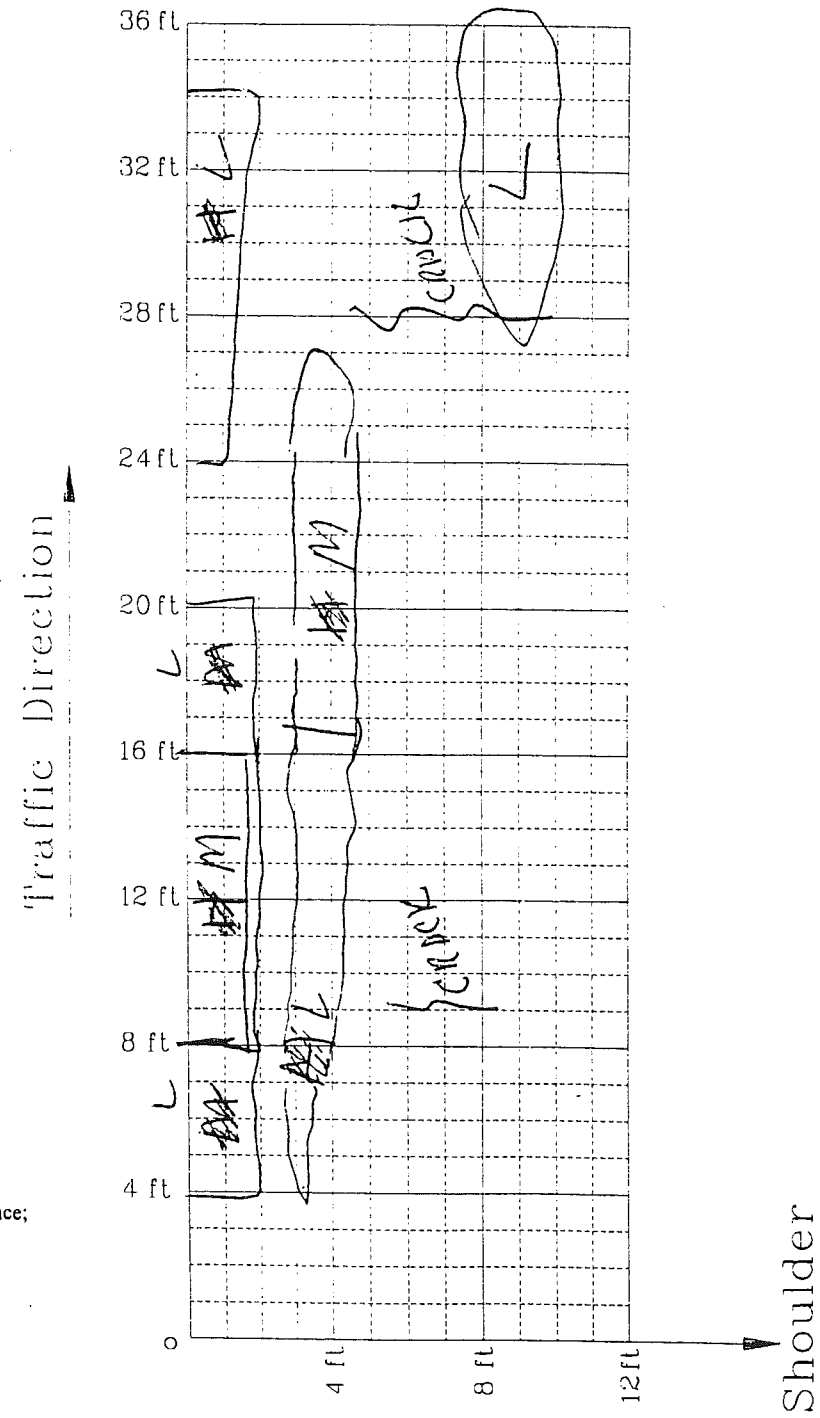
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

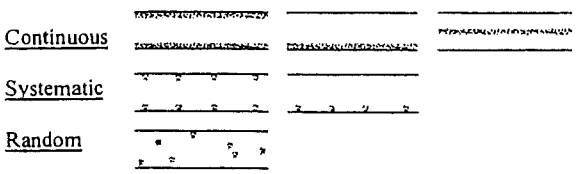
Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name) EAST/Pd M-50
Control Section Number: 1 _____ Route: _____ Direction: _____.
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 14 _____ ADT: _____.

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:



Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
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High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
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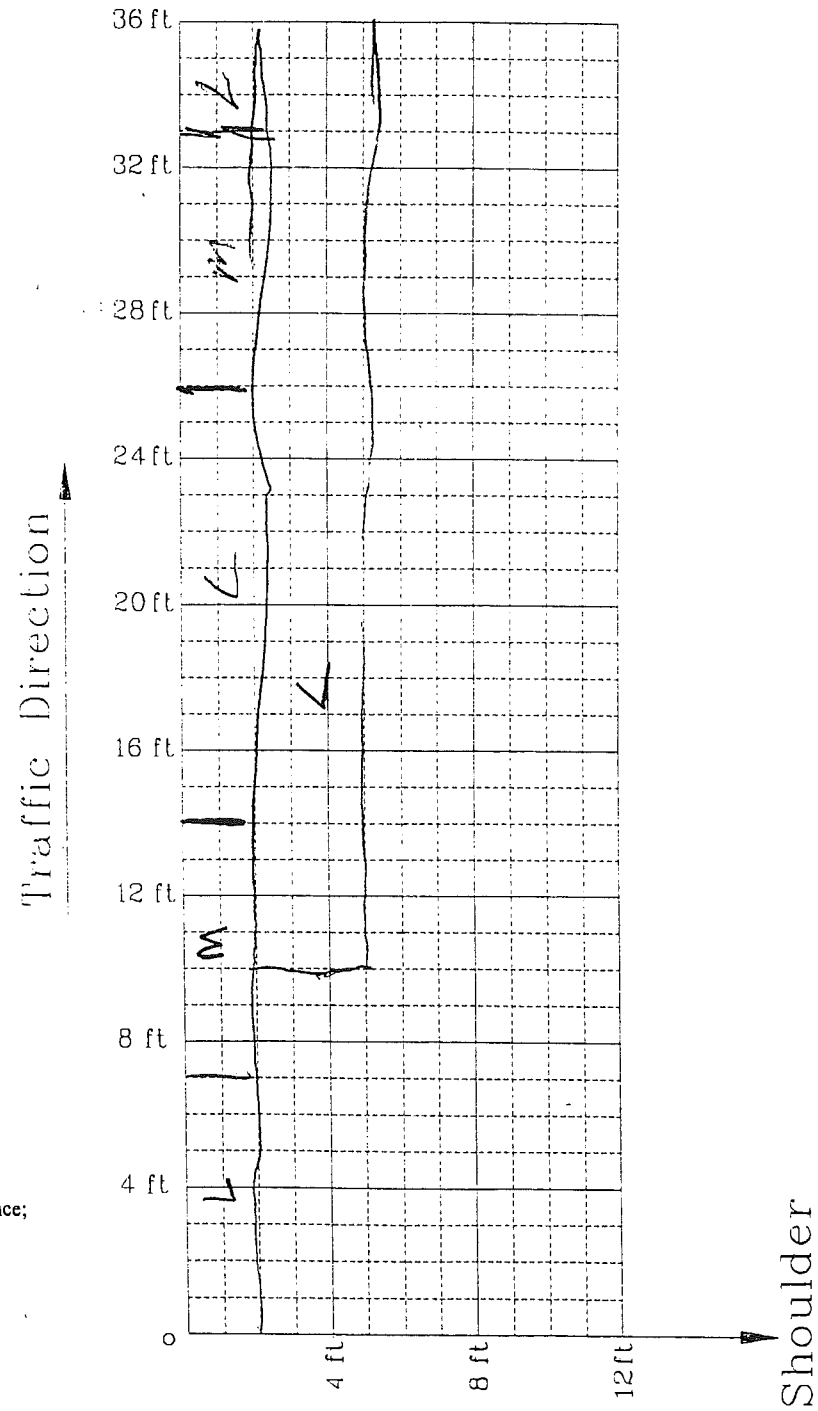
COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: M-50 Direction: SBd
Region: University Eaton County Mile Post: from _____ to _____
Section Number: _____ Test Site Number: 14 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified

1. Raveling
☒ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate

2. Cracking
☒ Low ☐ Moderate ☐ High
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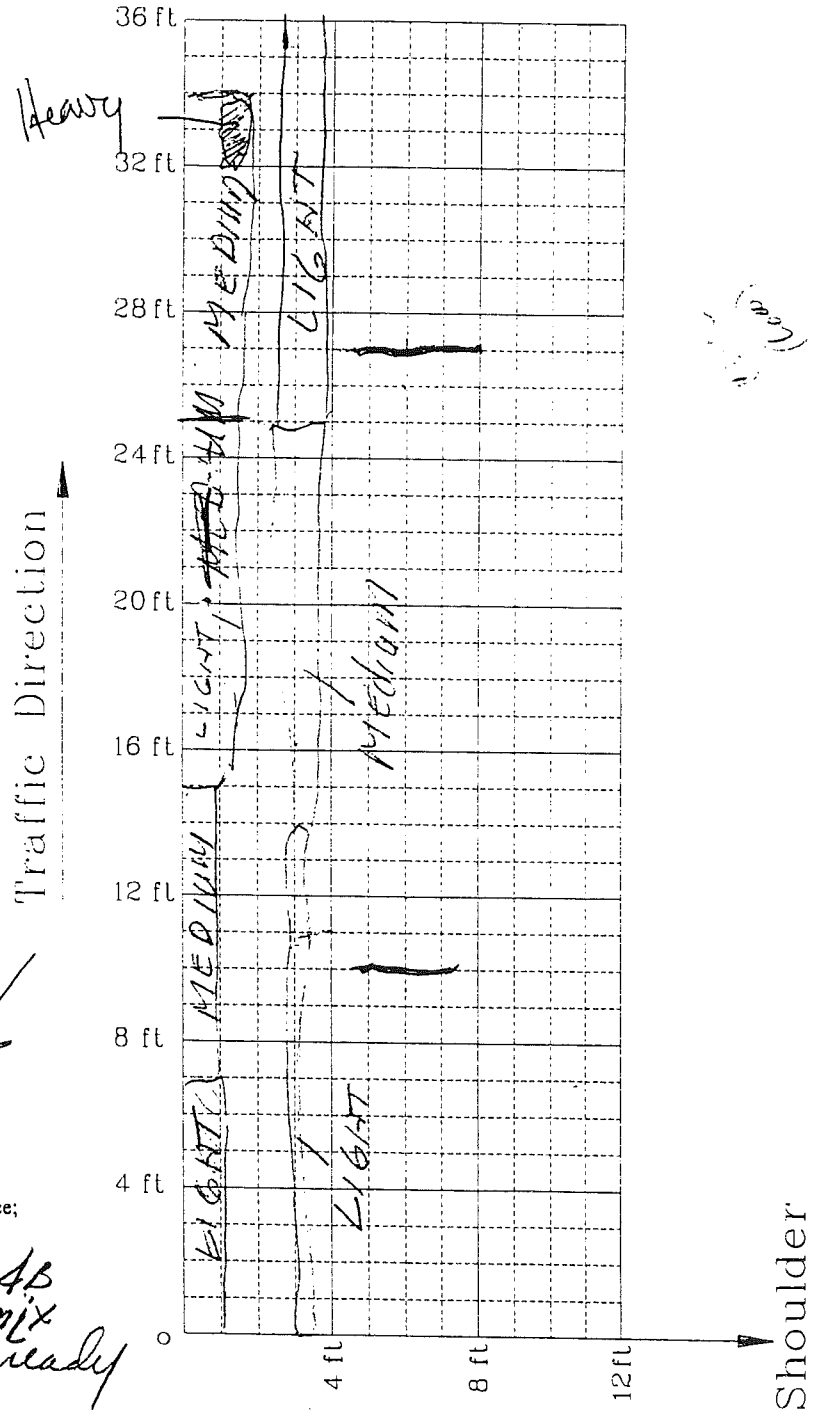
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low-severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking

3. Rut Depth

4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

Segregation Map



COMMENTS 1 course overlay — 4B mix
Reflective cracks in mat already
3' shoulder -

Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: K (your name)
Control Section Number:_____ Route:_____ Direction:_____.
Region:_____ Mile Post: from _____ to_____.
Section Number:_____ Test Site Number: 14 ADT:_____.

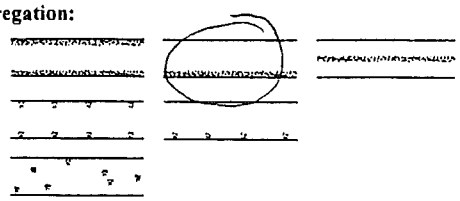
Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

Continuous

Systematic

Random

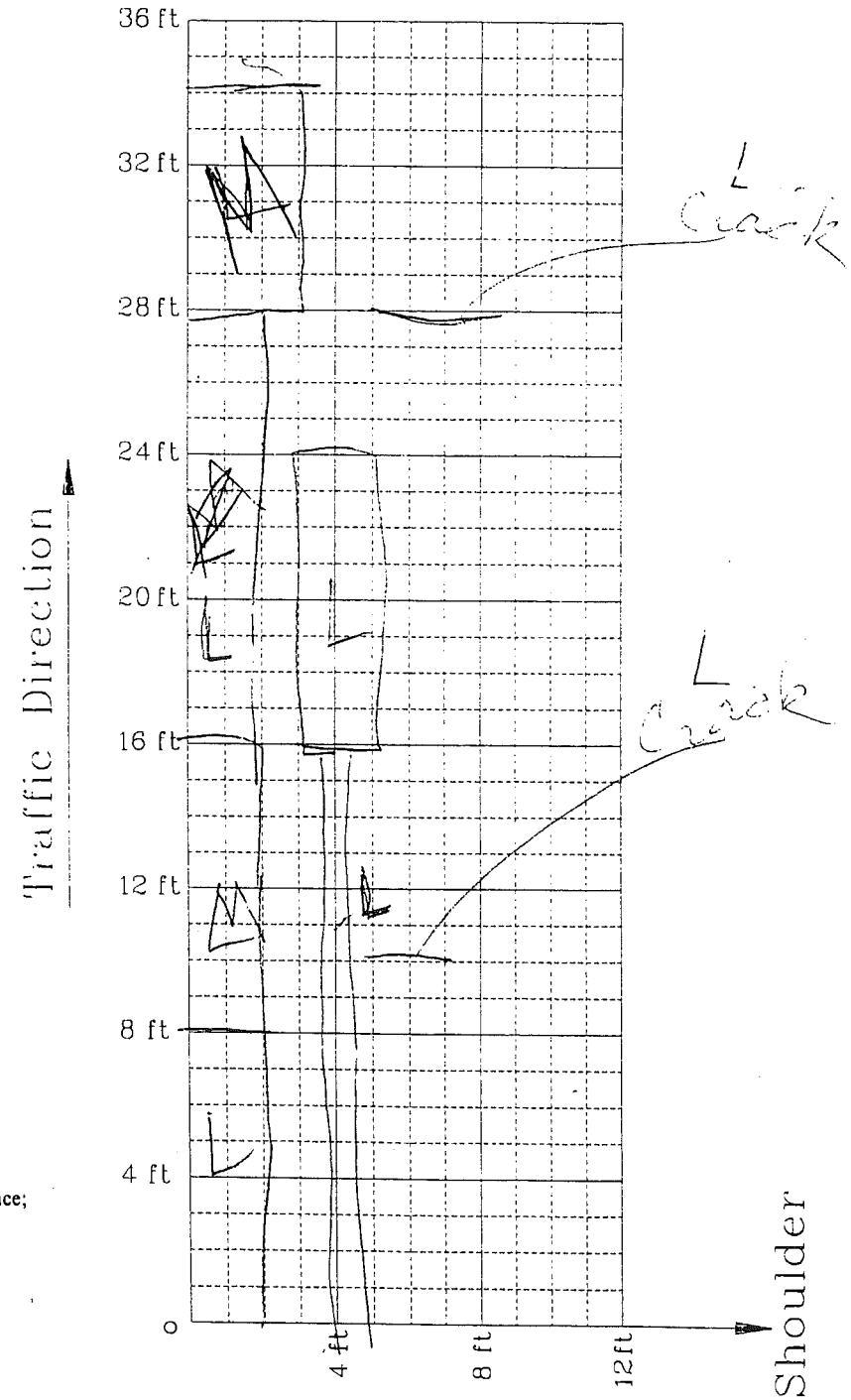


Degree of Segregation
Heavy: stone against stone, little or no matrix (fine)
Medium: lack of surrounding matrix (fine),significantly more stone than surrounding mat
Light: matrix (fine) in place, more stone than surrounding mat

Distress to be Identified
1. Raveling
☐ Low ☐ Moderate ☐ High
Low: aggregate or binder has started to wear away, but not progressed significantly
Moderate: aggregate or binder has worn away, and the surface texture becomes moderately rough and pitted; loss particles generally exist; loss of fine aggregate and some loss of coarse aggregate
High: aggregate or binder has worn away, and the surface texture is very rough and pitted; loss of coarse aggregate
2. Cracking
☐ Low ☐ Moderate ☐ High
Low: a crack with a mean width ≤ 0.25 in.
Moderate: a crack with a mean width > 0.25 in. and ≤ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent low severity random cracking
High: any crack with a mean width ≥ 0.75 in.; or any crack with a mean width ≤ 0.75 in. and adjacent moderate to high random cracking
3. Rut Depth
4. Flushing
☐ Low ☐ Moderate ☐ High
Low: an area of pavement surface discolored relative to the remainder of the pavement by excess asphalt
Moderate: an area of pavement surface that is losing surface texture due to excess asphalt
High: excess asphalt gives the pavement surface a shiny appearance; the aggregate may be obscured by excess asphalt; tire marks may be evident in warm whether

COMMENTS

Segregation Map



Please mark down the location of segregation, degree of segregation, also describe the segregation pattern; if distresses (raveling, cracking, and rutting) are identified, please provide information for the location and the severity level

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather: OVERCAST Light snow

Surveyor: _____ (your name)
Control Section Number: 23 Route: M-50 Direction: EB N of Allegan
Region: University Mile Post: from _____ to _____
Section Number: _____ Test Site Number: #14 ADT: _____

Definition of Segregation:
Areas of non-uniform distribution of coarse and fine aggregate particles in a bituminous pavement that are visually identifiable or can be determined by other methods.

Type of Segregation:

? Continuous

Systematic

Random

Degree of Segregation
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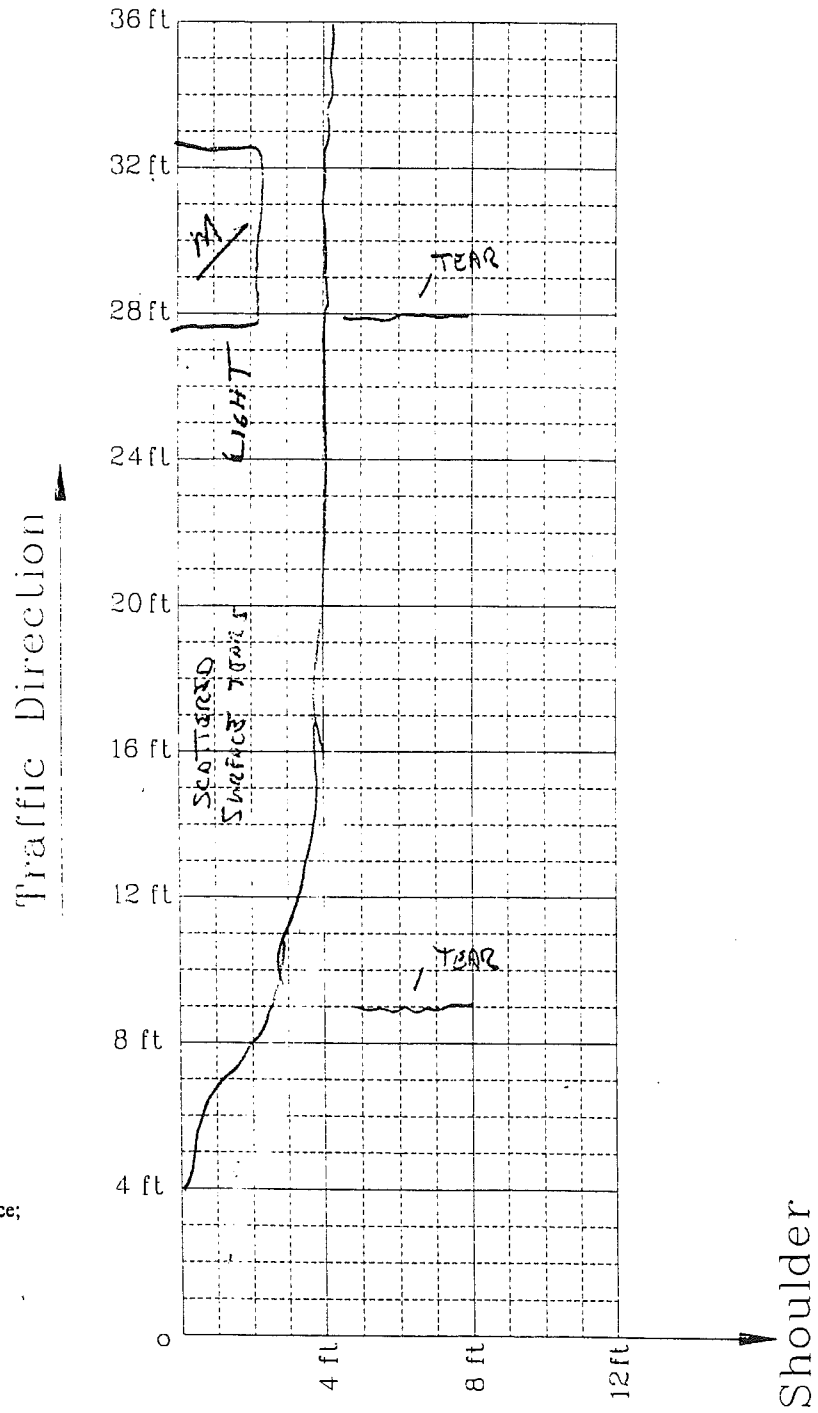
COMMENTS
LOOKS WORSE THAN IT IS UNDER CLOSE INSPECTION

Segregation Map



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37 F

Segregation Survey

Date of Survey: Dec. 9, 1997
Weather:

Surveyor: _____ (your name)
Control Section Number: _____ Route: MI-50 Direction: South bound
Region: _____ Mile Post: from _____ to _____.
Section Number: _____ Test Site Number: 14 ADT: _____.

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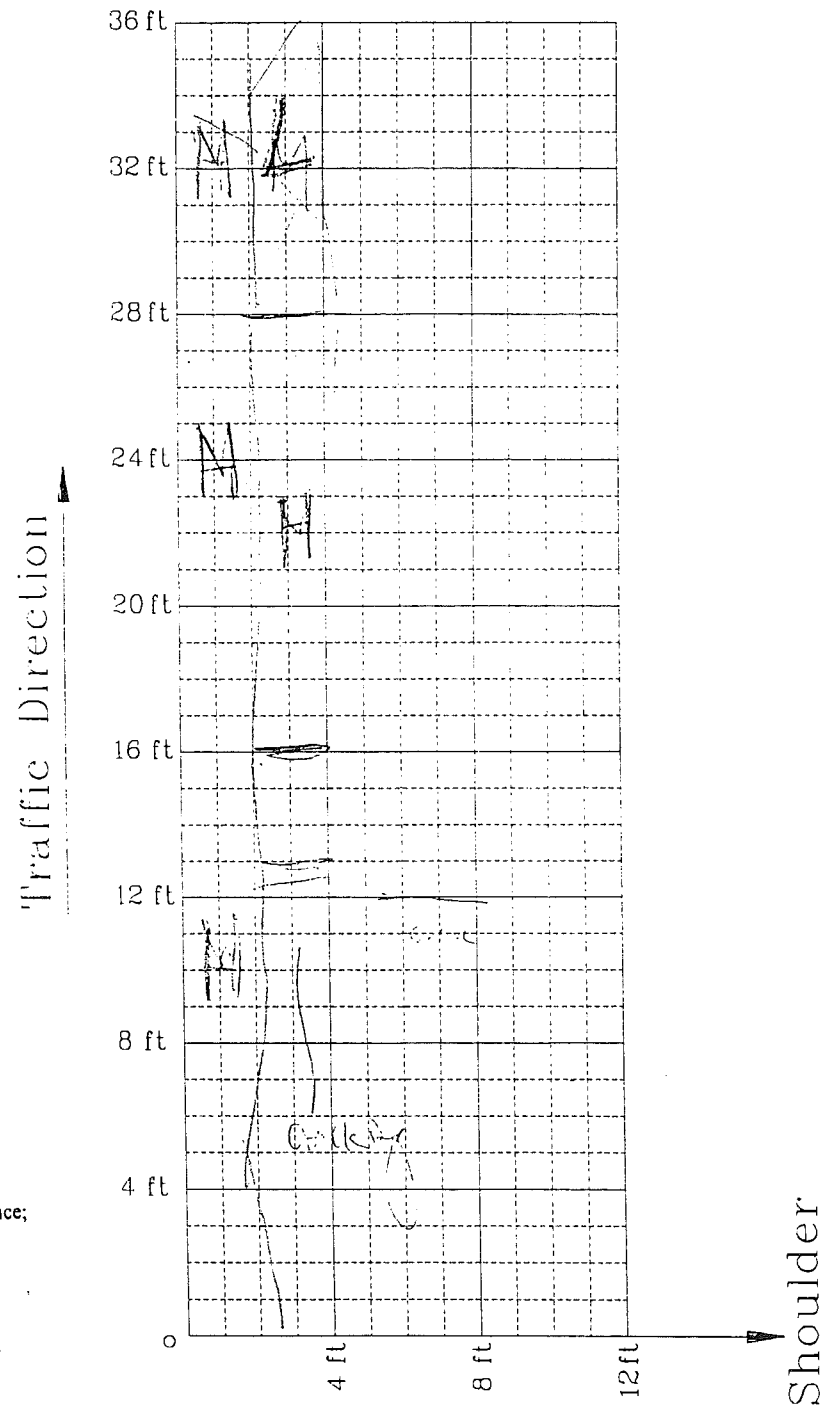

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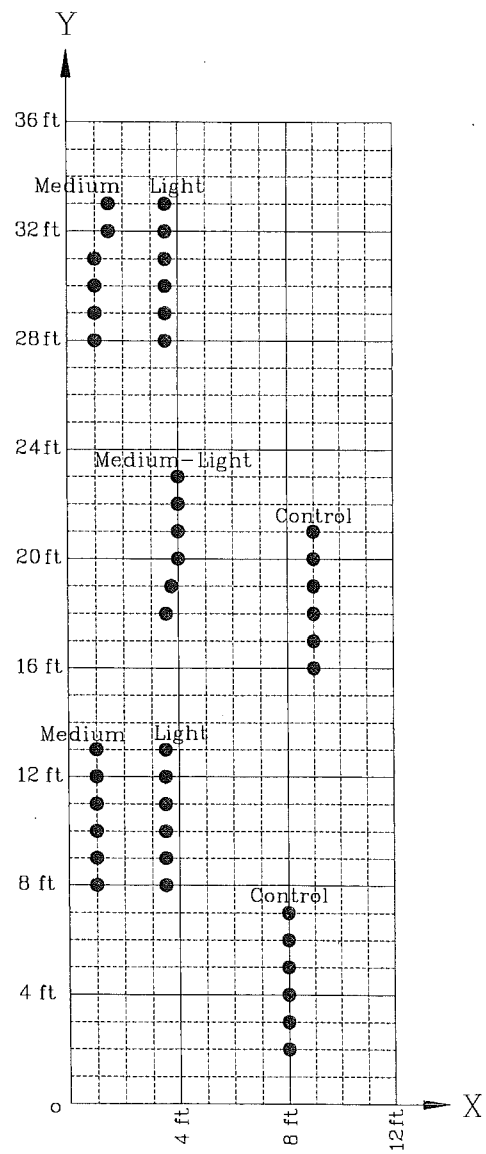
Nuclear Density Sampling Data (Feb. 13, 1998)

SITE 14 M-50 S. Bound (1437′ north of Allegan road) Eaton County

Chart Standard	Density	2617
	Moisture	705
Operating Standard	Density	2608
	Moisture	708

Gauge No.	102420
Model	Troxler 3440
Inspector	Joe Badgley

Sample 1		Sample 2	
Medium		Light	
0133	139.5	0333	144.9
0132	137.5	0332	143.8
0131	140.1	0331	142.7
0130	140.3	0330	143.6
0129	138.6	0329	143.7
0128	139.1	0328	144.0
mean	139.2	mean	143.8
std	1.04	std	0.71

Sample 3		Sample 4	
M-L		Control	
0423	139.7	0921	147.7
0422	141.9	0920	147.1
0421	140.0	0919	146.7
0420	135.9	0918	147.6
0419	139.9	0917	147.0
0418	138.6	0916	146.3
mean	139.3	mean	147.1
std	1.99	std	0.53

Sample 5		Sample 6		Sample 7	
Medium		Light		Control	
0113	139.2	0313	140.9	0807	145.1
0112	137.7	0312	142.3	0806	144.4
0111	137.7	0311	140.9	0805	144.8
0110	138.4	0310	142.0	0804	145.3
0109	137.5	0309	142.3	0803	144.4
0108	137.5	0308	142.9	0802	143.5
mean	138.0	mean	141.9	mean	144.6
std	0.68	std	0.82	std	0.64