



DEPARTMENT OF ENERGY AND MINES
MINERAL RESOURCES DIVISION

OPEN FILE REPORT
OF83-1

AGGREGATE RESOURCE INVENTORY
OF THE SOUTH RIDING MOUNTAIN AREA

By
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Winnipeg, 1982

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AGGREGATE RESOURCE INVENTORY OF THE SOUTH RIDING MOUNTAIN AREA

ABSTRACT

An aggregate resource inventory was conducted within the South Riding Mountain area in 1981. Field investigations included mapping the surficial geology and backhoe testing of selected deposits. Laboratory sample analysis included grain size analysis and determination of clast lithologies. The sand and gravel deposits are located within kame moraines, outwash plains and meltwater terrace deposits. There are 275 million cubic meters of sand and gravel reserves within the study area, sufficient reserves for more than 25 years. High quality deposits are not present due to the high shale content.

INTRODUCTION

The South Riding Mountain study area consists of Rural Municipalities of Strathclair, Harrison, Clanwilliam, Minto and the Local Government District of Park. It is located between latitudes $50^{\circ} 14'$ to $50^{\circ} 43'$ north and longitudes $99^{\circ} 41'$ to $100^{\circ} 31'$ west, and south of and adjoining Riding Mountain National Park (Fig. 1). It covers an area of 2660 square kilometres.

The purpose of this study was to map the surficial geology and to provide detailed aggregate resource information for each municipality. Preliminary map series 1980 SRM 1-4 (Groom, 1980) at a scale of 1:50 000 are available delineating the surface deposits. The location and quality of aggregate resources shown on Map OF83-1 accompanying this report was based on this preliminary map series.

PREVIOUS WORK

Tyrrell (1890) studied the Cretaceous bedrock along the Assiniboine River and describes bedrock outcrops near Minnedosa. Using regional nomenclature, Kirk (1930) described the stratigraphy of the marine Cretaceous of Manitoba from Swan River to Turtle Mountain. A comprehensive report and map was published by Wickenden (1945) on the Mesozoic stratigraphy along the Manitoba Escarpment. The chemical and mineralogical composition of the Millwood and Odanah Members of the Riding Mountain Formation are presented by Bannatyne (1970) to determine the economic potential of these members. The bedrock topography and geology are shown in

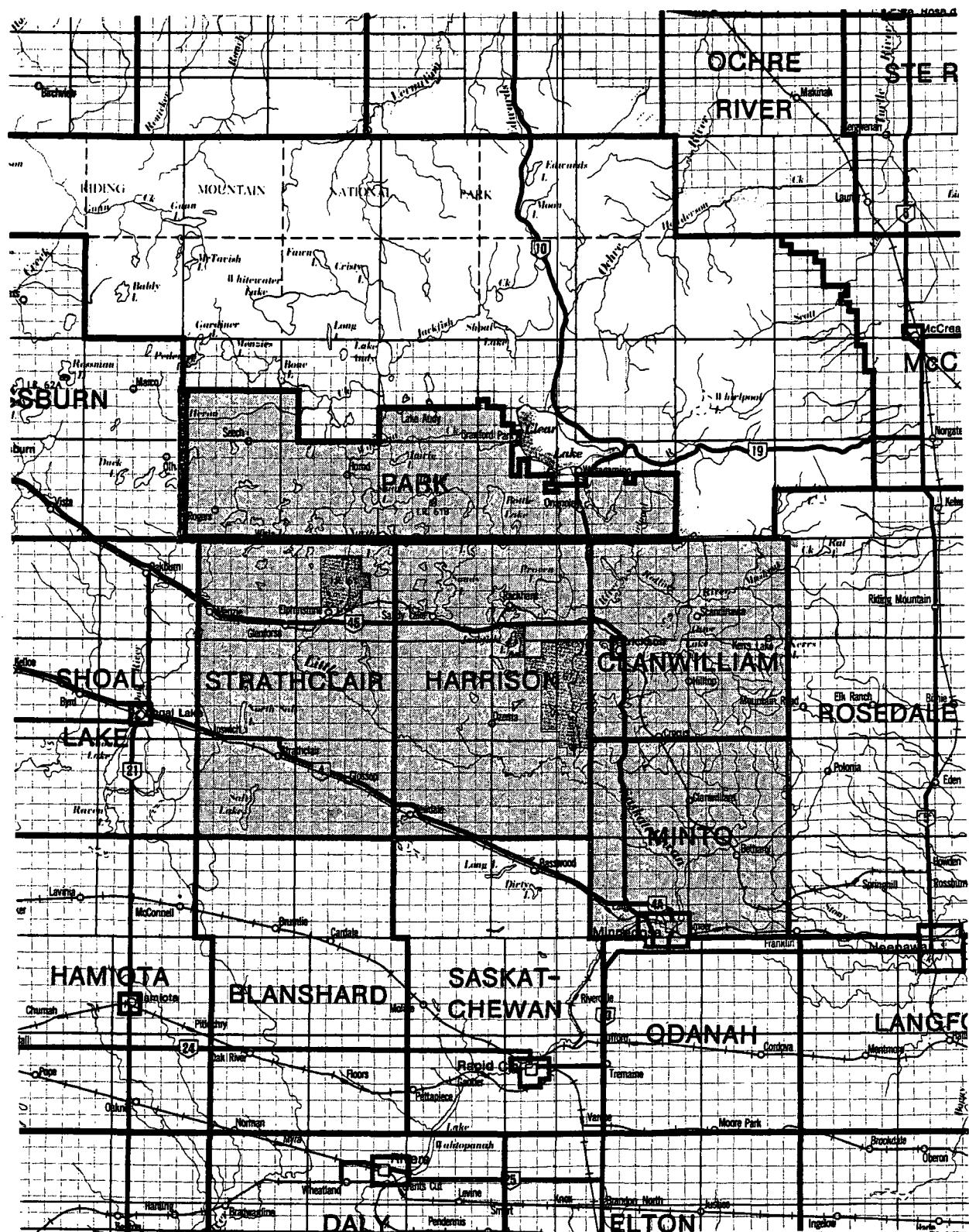


Figure 1. Location of the South Riding Mountain study area.

Klassen et al. (1970) and Teller et al. (1976). Cretaceous rocks and their foraminifera are described in detail by McNeil and Caldwell (1981) who correlate the Riding Mountain Formation with the Pierre Shale.

Early geological reports by Bell (1876) and Tyrrell (1892) mention some of the glacial geology of the area. A surficial geology map and description of surficial deposits was first presented by Johnston (1934). The Quaternary geology and geomorphology is described in detail by Klassen (1969, 1975, 1979) and Klassen and Elson (1972). A preliminary report on the surficial geology and aggregate resources was previously published by Groom (1980).

PRESENT STUDY

Airphotographs at scales of 1:70 000 and 1:15 840 were used to delineate surficial deposits. All natural exposures and road cuts were examined in the field by H. Groom. A backhoe was used to evaluate selected surficial deposits and to sample sand and gravel deposits. Laboratory analysis included sieving the sand and gravel samples between 0.074-101.6 mm. Sizes greater than 2.0 mm were retained for pebble analysis. Pebble analysis included the percentage of each lithology as well as the weight percentage shale. The grain size analysis data was run through the Aggregate Resources Section Industrial Usage Assessment computer program which correlated the data to industrial specifications.

The quality of each sand and gravel deposit was estimated based on the percentage gravel (sizes greater than 2.0 mm). Reserve estimates were calculated by multiplying the areal distribution of each deposit by the average depth. Reserve estimates for each quarter section are available on computer printout through the Aggregate Resources Section.

TOPOGRAPHY

The South Riding Mountain study area lies west of the Manitoba Escarpment at the Second Prairie Level. It can be divided into two physiographic regions. The Riding Mountain Uplands generally lie above the 550 m contour and cover the northeastern two-thirds of the map area. The Assiniboine River Plain lies below this contour and forms the remaining portion of the district. The topography on the uplands is that of a hummocky stagnation moraine. Numerous

kettle lakes and sloughs dot the area and the relief is high, often exceeding 10 m. The relief on the plain is more subdued and rarely exceeds 8 m. The topography is rolling and lakes and sloughs are numerous.

BEDROCK GEOLOGY

The upper bedrock in the study area consists of shales of the Upper Cretaceous Riding Mountain Formation (Pierre Shale of McNeil and Caldwell, 1981). Overburden depth varies from bedrock exposures along Minnedosa River to depths of 182 m (Teller *et al.*, 1976) southeast of Erickson. The bedrock consists primarily of the Odanah Member, a hard siliceous shale. South of Minnedosa (Little Saskatchewan) River and adjacent to Highway 10, the bedrock is bentonitic shale of the Millwood Member. The economic potential of each member is discussed by Bannatyne (1970).

SURFICIAL GEOLOGY

The surficial geology is shown in Figure 2. The oldest recognized till in the area is the Minnedosa Till named by Klassen (1966). This till is yellow brown to grey brown, compact, jointed and manganese stained along the joints. It was not seen in outcrop at the surface but was identified in several road cuts where it underlies younger till.

There are two surface tills in the study area: the Lennard Till on the plain and the Zelena on the uplands. Lithologically and physically they are very similar. They are loose, structureless, slightly clayey, yellow brown to grey brown in colour and contain shale, Precambrian and carbonate pebbles in the coarse fraction. Klassen (1979) differentiates the tills on the basis of the carbonate content of the matrix; the Lennard contains 14 to 19 per cent carbonate while the Zelena contains between 26 and 36 per cent.

The knolls and ridges of the plain are composed entirely of till but on the uplands the hummocks occasionally comprise till underlying stratified silt, sand or sand and gravel.

Two large kame moraines are found on the uplands. One is 8 km long and trends northward along the western edge of Bottle Lake (Fig. 3). The other extends west from the first kame moraine for 13 km to the Minnedosa River. These features are up to 25 km high and consist primarily of coarse sand and shaly pebble gravel.

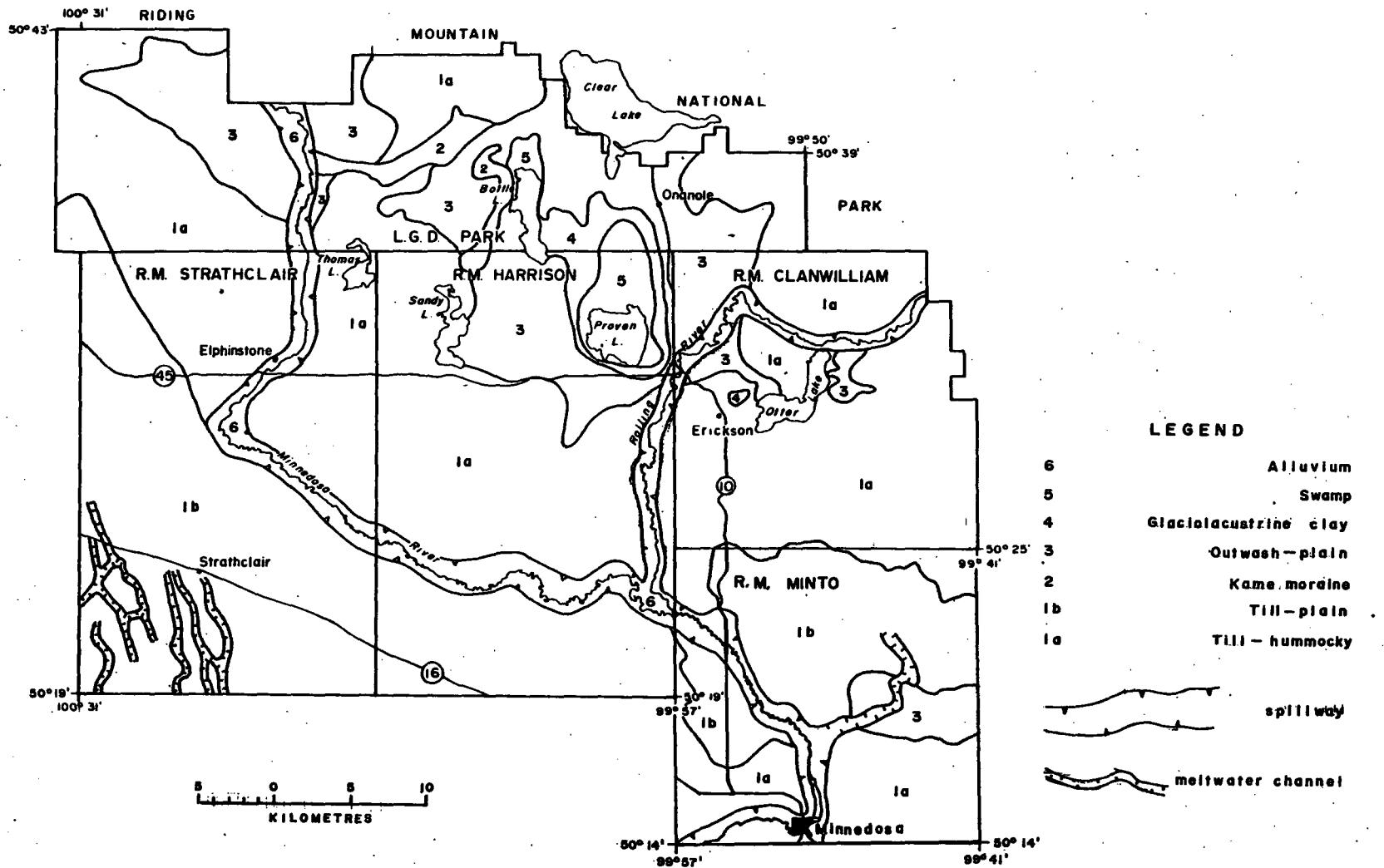


Figure 2. Surficial geology, South Riding Mountain area.



Figure 3. Airphoto stereopair (A21808-36, 37, 1:70 000) showing sand and gravel kame moraine complex (1) of deposit 22011. Also shown is deposit 22007A and Bottle Lake (2).

Two roughly triangular glaciofluvial outwash plains cover a large portion of the upland area. One lies northwest of the Minnedosa River below Heron Creek and the other lies east of the Minnedosa River between Clear Lake and Proven Lake. The surface of these outwash plains is hummocky with relief up to 10 m although locally they are gently rolling. The northern plain consists largely of coarse, shaly gravel in the west and grades into sand and silt to the east along the Minnedosa River (Fig. 4). The eastern outwash plain also consists of coarse shaly gravel at its northern extent near Clear Lake and grades into sand and silt towards the south. The material within the hummocks is often faulted indicating the outwash was laid down over ice which later melted away producing the faulting and the rolling topography. A third outwash plain, east of Otter Lake, is much smaller in areal extent and its surface is flatter than the plains to the west. It is comprised of 3 to 5 m of shale rich pebble gravel.

The Minnedosa River and Rolling River Valleys are spillways that carried meltwater from the area during the last deglaciation. Their terraces, particularly along the Minnedosa River, are often comprised of thick accumulations of sand and gravel (Fig. 5). The deposits are usually very shaly but occasionally the shale content is as little as 15 per cent.

A series of meltwater channels much smaller than the spillways are located on the till plain near Strathclair. Two exposures in the channels indicate that they are floored by shallow deposits of shaly fine pebble gravel (Fig. 6).

Deposits of glaciolacustrine clays occur in a large area around Proven Lake and in a much smaller area near Erickson. In both of these areas the terrain is flat. They consist of yellow silt grading into yellow silty clay that is jointed and manganese stained and overlies a grey, lacustrine clay.

Drainage is not yet well established and with the exception of deposits on the spillway floors, there is little alluvium in the area. Organic deposits, on the other hand, are very common. There are large swamps around Proven and Bottle Lakes and along the banks of the creeks. Most of the small kettle lakes and sloughs are fringed with hay meadows or swamp deposits consisting of muck and peat.

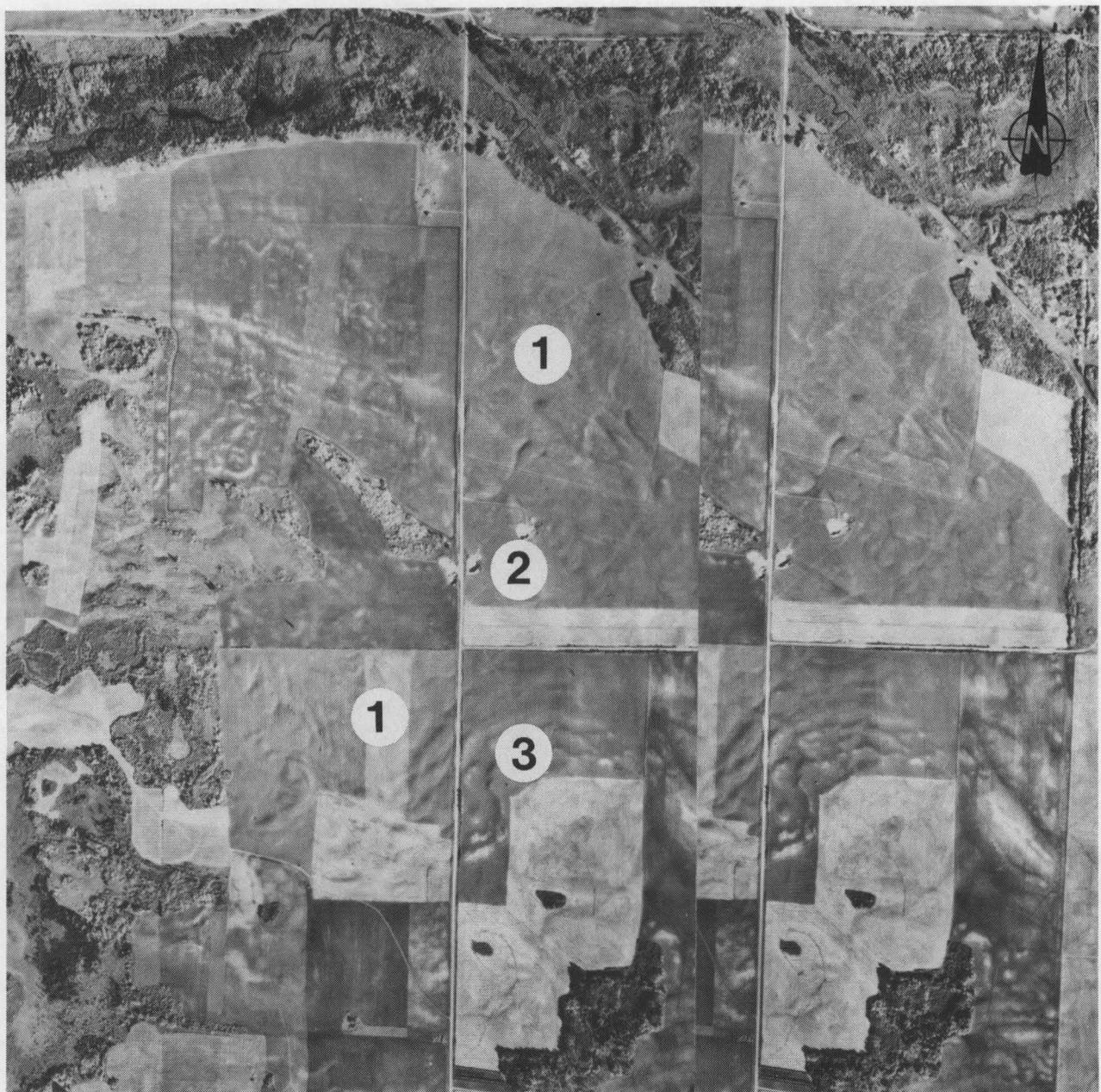


Figure 4. Airphoto stereopair (A18630-74, 75 at 1:15 840) of deposit 22006 showing outwash plain (1), gravel pits (2) and gravel ridges (3).

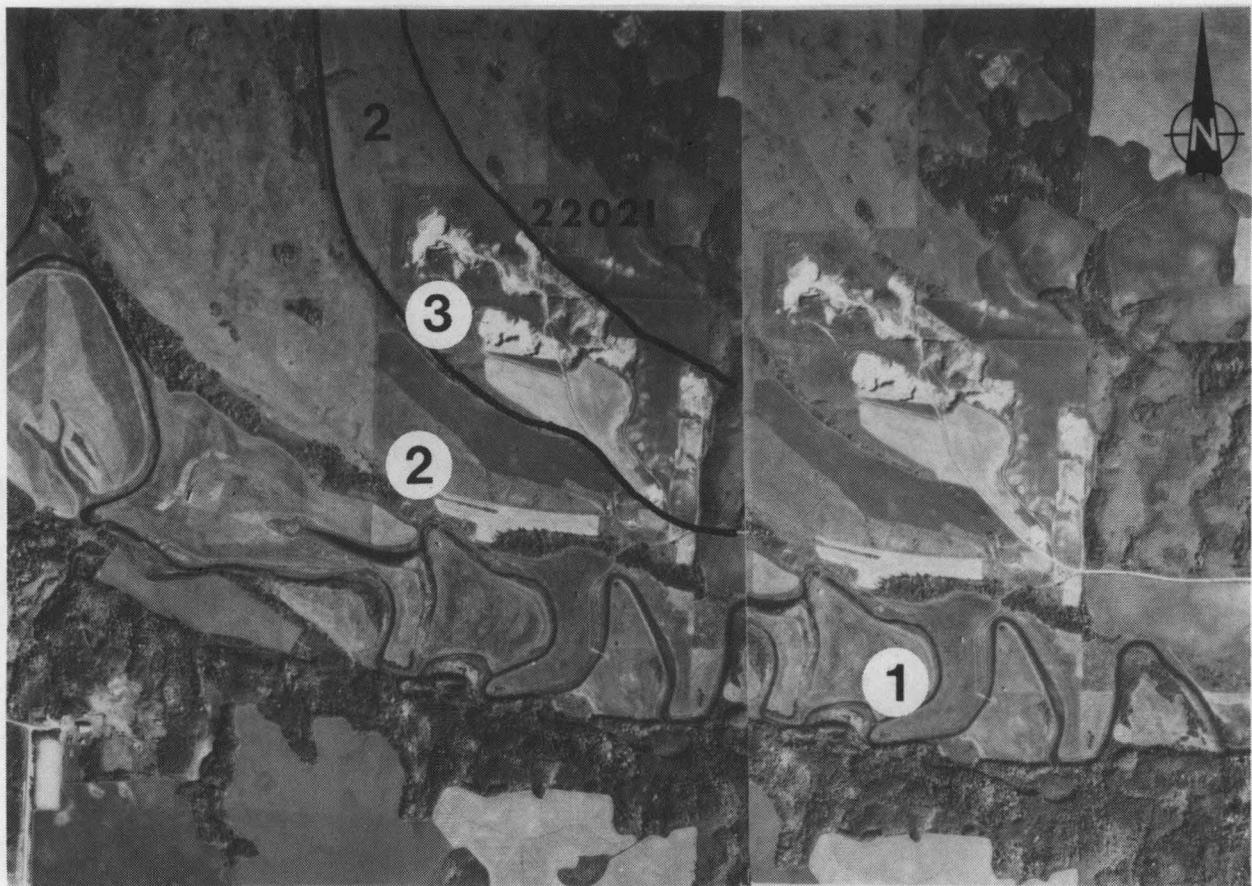


Figure 5. Airphoto stereopair (A18626-123, 124, 1:15 840) showing terrace sand and gravel deposit 22021. Also shown are Minnedosa (Little Saskatchewan) River floodplain (1), terraces (2) and gravel pits (3).

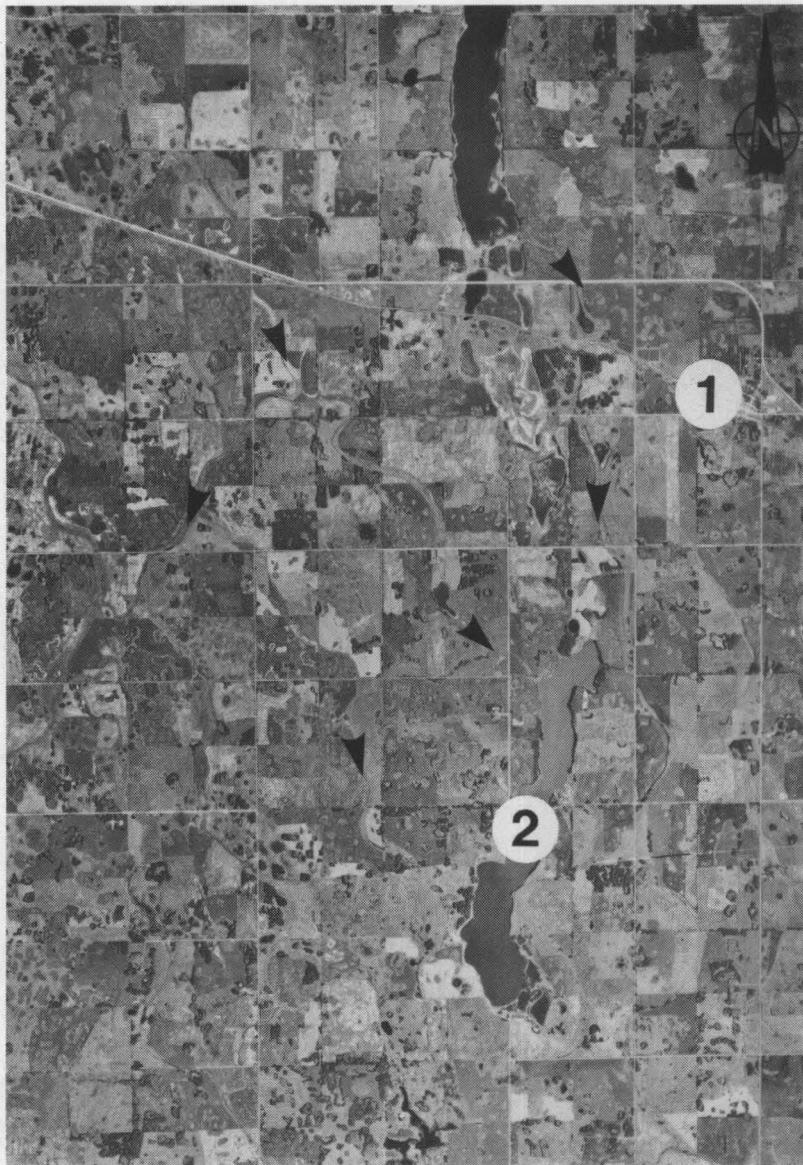


Figure 6. Airphoto (A21748-31, 1:70 000) showing meltwater channels near Strathclair (1) and Salt Lake (2). Arrows indicate direction of flow.



Figure 7. Terrace deposit 22021 along the Minnedosa Spillway, 5 km south of Elphinstone. Shovel is 0.97 m high.

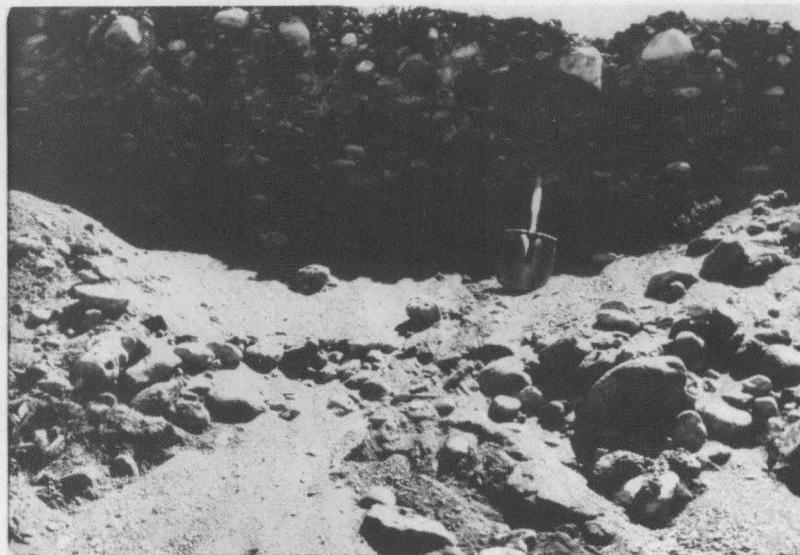


Figure 8. Cobble gravel of terrace deposit 22015 along the Minnedosa Spillway, 2 km north of Elphinstone. Shovel is 0.97 m high.

AGGREGATE RESOURCES

Aggregate resources within the study area are the result of the melting of stagnant ice on the Riding Mountain Upland. Meltwater flowed south from the Upland through a series of channels and spillways into Lake Souris, and at a later stage into Lake Agassiz. Two prominent spillways, the Minnedosa and Rolling Rivers deposited sand and gravel as river terraces (Figures 7 and 8). Esker-kame complexes and outwash plains (Fig. 9) were also deposited as the stagnant ice melted.

The distribution of sand and gravel deposits are shown on Map OF83-1 accompanying this report. Pebble lithologies and a summary of grain size analysis of each sample is shown on Table 1, Appendix I. Generalized material content, estimated quality, and reserves are shown on Table 2, Appendix I.



Figure 9. Faulted sand in outwash plain deposit 22006, 1.5 km south of Crawford Park.
Scale is 1 cm = 0.19 m.

Quality of Sand and Gravel

A total of 76 deposits have been identified within the study area. The generalized quality of each deposit was estimated based on field observations, the percentage gravel (sizes greater than 2.0 mm), and potential industrial uses. Laboratory analyses were performed on 85 samples.

The type of industrial uses for which the sample is suited is related to the grain size distribution. Although processing methods can modify the sediment to accommodate a variety of potential uses, the industrial uses are based on the natural (unprocessed) characteristics of the deposit. A computer program developed by the Aggregate Resources Section of the Mineral Resources Division correlates specification requirements (grain size distribution) of 48 different industrial uses with the grain size distribution data derived from laboratory testing of each sample. The computed results include individual ratings (suitable, marginal, or not suitable) for each correlation, and a positive or negative indication of whether screening is required; whether it is necessary to remove silt or clay from the deposit; whether crushable material is available on site; or whether it is necessary to add fines to meet the specifications for a particular use.

Size fractions greater than 8 cm were normally not included within the deposit sample. Size fractions greater than 15 cm are recorded in the field and referred to as crushable material. Due to the complexity of sampling the coarse size fractions (cobbles and boulders) this size fraction was not included with the grain size distribution and is reflected in the absence of suitabilities for the coarse aggregate specifications.

The grain size distributions and industrial assessment for each sample are presented in Appendix II.

Reserves of Sand and Gravel

Total estimated reserves within the study area are 275 115 400 cubic metres. Reserves for each municipality are shown as Table 1, and total reserves by quality are shown as Table 2. There are no high quality reserves within the study area, although there are 127.4 million cubic metres of medium to high quality sand and gravel. The largest reserves are located within the L.G.D. of Park with an estimated 192.9 million cubic metres or 70 per cent of available reserves.

TABLE 1

**Estimated Reserves of Sand and Gravel
by Municipality**

Municipality	Reserves (cubic meters)	Per Cent
L.G.D. Park	192 900 000	70.1
R.M. Clanwilliam	14 400 000	5.2
R.M. Harrison	31 900 000	11.5
R.M. Strathclair	12 600 000	4.5
R.M. Minto	23 300 000	8.4
TOTAL	275 100 000	99.7

TABLE 2

**Estimated Reserves of Sand and Gravel
by Quality**

Quality	Reserves (cubic meters)
High	
Medium-High	127 400 000
Medium	38 700 000
Low-Medium	83 400 000
Low	19 500 000
Unknown	6 100 000
TOTAL	275 100 000

TABLE 3

**Estimated Annual Demand for Sand and Gravel
by Municipality**
(cubic metres)

	LGD Park	R.M. Clanwilliam	R.M. Harrison	R.M. Strathclair	R.M. Minto
Municipal	500	6 000	15 000	14 000	300
Dept. Highways	3 600	9 200	13 000	38 800	700
Contractors	-	10 000	-	-	-
TOTAL	4 100	25 200	28 000	52 800	1 000
Cumulative Total		111 100 cubic metres			

Demand for Aggregate

The estimation of the demand for sand and gravel was derived from consideration of:

1. Manitoba Department of Highways and Transportation upgrading and improvements,
2. Requirements of each municipality, and
3. Construction requirements of private contractors and aggregate suppliers.

The demand for sand and gravel by municipality is shown on Table 3. Annual demand is estimated at 111 100 cubic metres, with the highest demand within the R.M. of Strathclair. The Manitoba Department of Highways and Transportation utilizes an estimated 63 500 cubic metres annually, or 59 per cent of all sand and gravel consumed.

CONCLUSIONS

The South Riding Mountain area has an abundance of sand and gravel resources located within the kame moraines, outwash plains and meltwater channel terraces. Although there is an abundance of sand and gravel there are no high quality deposits as the shale content is generally between 20 and 50 per cent. A comparison of supply and demand shows there are sufficient reserves of sand and gravel for more than 25 years.

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APPENDIX I
PEBBLE LITHOLOGIES, GRAIN SIZE ANALYSES
QUALITY AND RESERVE ESTIMATES

TABLE 1
PEBBLE LITHOLOGY AND GRAIN SIZE ANALYSES

- - - - - LITHOLOGY - - - - -

Deposit	Exposure	Precambrian Per Cent	Carbonate Per Cent	Shale Per Cent	Shale Weight Per Cent	Gravel Per Cent	Sand Per Cent	Silt/Clay Per Cent
22000	59	16.4	60.6	22.1	10.6	44.9	53.6	1.5
22001	13	28.4	58.6	11.6	6.3	66.6	25.2	8.2
	12	9.0	33.9	57.1	40.1	77.5	19.1	3.4
	73	33.2	60.0	4.9	3.5	73.8	24.4	1.8
	74	22.5	50.9	19.7	17.0	33.4	65.4	1.2
	49	18.8	32.6	46.4	38.9	53.7	44.3	2.0
	50	44.5	49.7	4.7	0.1	68.9	29.7	1.4
	51	35.4	51.7	4.8	10.1	65.8	31.3	2.9
	52	36.9	46.4	13.7	10.3	70.3	26.8	2.9
	54	27.5	38.0	29.0	9.8	25.6	73.4	1.0
	69	37.7	49.2	12.0	9.9	36.4	62.6	1.0
22002	B14	14.4	42.5	43.2	33.8	43.9	50.9	5.2
22004	96	31.6	62.1	6.3	3.8	61.8	36.1	2.1
22006	3	15.3	31.7	51.8	50.2	38.9	60.0	1.0
	4	20.4	27.7	51.8	39.1	22.5	76.4	1.1
	14	14.4	29.7	55.9	32.8	73.5	24.8	1.7
	80	21.9	54.7	16.9	47.0	49.7	49.9	0.4
	81	27.3	58.4	15.2	11.3	62.1	37.4	0.5
	146	38.4	60.3	-	10.0	63.7	34.2	2.1
	2	14.9	21.4	60.5	81.2	41.4	56.7	1.9
22007A	68	24.1	61.8	13.2	10.7	68.8	29.5	1.7
	98	30.9	47.1	21.6	22.9	22.6	75.5	1.9
	6	16.2	29.9	53.9	27.6	52.4	47.3	0.3
22007B	8	30.6	36.4	32.2	12.0	54.2	44.1	1.7
	67	22.2	50.0	26.8	24.0	62.6	34.6	2.8
	79	26.1	52.6	14.1	7.8	36.2	60.7	3.1

- - - - LITHOLOGY - - - -

Deposit	Exposure	Precambrian Per Cent	Carbonate Per Cent	Shale Per Cent	Shale Weight Per Cent	Gravel Per Cent	Sand Per Cent	Silt/Clay Per Cent
22009	10	26.6	64.1	9.4	4.0	52.0	43.9	4.1
	11	34.8	55.5	7.1	5.1	59.3	28.8	11.9
22011	90	8.8	10.4	80.8	88.7	9.5	89.1	1.4
	109	32.9	53.8	10.6	4.4	65.9	32.2	1.9
22012	144	-	-	-	-	57.1	40.1	2.8
22014	143	31.5	52.3	10.0	5.2	56.1	42.4	1.5
22015	140	20.8	25.9	53.3	33.3	45.3	53.3	1.4
22017	B18	36.6	52.9	8.7	3.9	36.4	61.6	2.0
22018	60	32.3	57.3	7.7	6.7	14.8	82.0	3.2
22019	93	24.8	68.1	0.5	3.8	33.7	62.2	4.1
22020	139	34.3	59.8	1.4	-	52.9	44.5	2.6
22021	122	7.9	13.9	77.0	44.1	42.7	56.1	1.2
22022	123	41.5	51.1	4.0	0.6	45.9	52.9	1.2
22023	20	38.3	57.1	3.0	1.8	39.4	57.6	3.0
22024	21	32.7	55.3	9.0	6.5	30.3	67.6	2.1
22025	23	32.8	47.5	18.9	21.1	40.4	58.4	1.2
22026	46	34.1	53.6	8.2	12.0	67.1	28.1	2.8
22027	32	27.5	38.5	33.0	29.5	16.0	72.9	1.1
22028	36	32.2	37.9	29.1	23.2	55.4	43.5	1.1
22029	25	51.3	38.9	8.5	1.3	58.2	40.4	1.4
22030	29	41.5	44.9	13.6	13.0	47.3	51.5	1.2
22031	63	38.1	44.7	13.2	25.4	43.9	54.0	2.1
22033	115	26.7	52.9	5.5	6.5	47.4	50.7	1.9
22034	117	33.0	48.2	17.0	8.5	52.4	43.9	3.7
22036	110	11.7	10.6	76.7	73.8	46.5	45.0	8.5
22037	41	25.7	28.1	46.1	47.3	58.9	36.1	5.0
	42	25.5	35.5	36.9	21.7	59.5	39.5	1.0
	44	32.9	34.3	31.9	17.8	24.4	74.1	1.5

- - - - - LITHOLOGY - - - - -

Deposit	Exposure	Precambrian Per Cent	Carbonate Per Cent	Shale Per Cent	Shale Weight Per Cent	Gravel Per Cent	Sand Per Cent	Silt/Clay Per Cent
22039	215	26.5	59.3	9.7	-	69.1	26.3	4.6
22040	170	22.6	53.1	19.8	6.0	54.0	42.3	3.7
22042	149	13.9	15.5	70.6	71.5	24.7	73.5	1.8
22043	171	35.9	63.2	0.5	-	61.1	36.7	2.2
22044	151	22.7	44.0	33.3	29.4	32.4	66.3	1.3
	154	32.4	57.6	10.1	-	50.4	47.7	1.9
22045	188	26.3	59.0	10.4	3.3	70.6	27.1	2.3
22048	200	35.6	49.5	7.9	1.6	59.5	33.7	6.8
22049	157	30.1	54.1	15.3	5.1	48.1	49.9	2.0
22050	B2	38.1	59.8	1.6	0.3	59.7	32.8	7.5
22051	194	36.8	57.9	3.2	-	73.3	24.5	2.2
22052	16	29.8	60.4	9.3	1.5	55.8	42.2	2.0
22053A	192	31.9	66.3	0.6	-	55.3	40.1	4.6
22054	18	31.4	58.8	6.7	8.0	72.7	24.7	2.6
22055	17	24.9	58.0	14.8	10.0	68.2	28.9	2.7
22057A	19	27.2	62.3	7.6	12.8	29.3	66.0	4.7
	206	25.4	52.5	21.3	11.0	54.4	43.0	2.6
22057B	205	29.4	62.3	6.7	5.3	50.7	48.1	1.2
22062	185	13.3	46.1	40.6	28.2	58.1	38.2	3.7
22067	309	22.2	29.3	46.7	17.0	62.7	34.7	2.6
22068	319	-	-	-	-	55.7	42.2	2.1
22069	298	-	-	-	-	59.3	38.2	2.5
22070	296	-	-	-	-	71.1	26.0	2.9
22072	257	-	-	-	-	72.4	21.0	6.6

- - - - LITHOLOGY - - - -								
Deposit	Exposure	Precambrian Per Cent	Carbonate Per Cent	Shale Per Cent	Shale Weight Per Cent	Gravel Per Cent	Sand Per Cent	Silt/Clay Per Cent
21080	RL2	-	-	-	-	24.7	73.8	1.5
	BH32	30.6	40.5	28.9	21.2	54.6	40.0	5.4
	BH31	32.9	47.6	16.3	24.6	63.1	33.1	3.8
	293					81.8	12.4	5.8
	BH29	25.2	26.5	47.1	28.7	32.5	66.3	1.2
21081	262	-	-	-	-	79.3	14.9	5.8
	RL24	-	-	-	-	58.3	40.3	1.4

TABLE 2
SAND AND GRAVEL RESOURCES WITHIN THE SOUTH RIDING MOUNTAIN AREA

<u>Deposit #</u>	<u>Generalized Material Content</u>	<u>Estimated Gravel Content (Quality)</u>	<u>Reserves (cu. m.)</u>	<u>Ownership</u>	<u>Comments</u>
22000	sandy fine pebble gravel	M-H	8 010 000	P.	active pit
22001	sandy fine pebble gravel	M-H	54 484 100	P., C.	6 pits, 2 active
22002	sandy fine pebble gravel	L-M	698 100	P.	pit revegetated
22003	-	-	105 500	P., C.	similar to deposit 22002
22004	sandy fine pebble gravel	L-M	1 683 600	P., C.	shale gravel, inactive pit
22005	sandy fine pebble gravel	M	1 467 500	P., C.	revegetated pit
22006	sandy fine-cobbly coarse	L-M	20 050 100	P., C.	4 active pits
22007A	sandy fine pebble gravel	M-H, L-M	43 835 700	P., C., M.	several active pits
22007B	sand, sandy coarse pebble	L-M-H	4 640 600	P., C., M.	several active pits
22007C	-	-	1 322 000	P.	similar to 22007B
22008	sand, sandy coarse pebble gravel	M	131 100	P.	pit revegetated
22009	sandy pebble gravel	M-H	5 116 700	P., C.	pit revegetated
22010	coarse pebble gravel, cobbles	M	7 613 300	P., I.R.	variable terrace deposit
22011	sand to sandy pebble gravel	L, L-M	24 625 400	P., C.	active pit
22012	sandy fine pebble gravel	M-H	45 000	P.	pit revegetated
22013	sandy fine pebble gravel	L-M	90 000	P.	

<u>Deposit #</u>	<u>Generalized Material Content</u>	<u>Estimated Gravel Content (Quality)</u>	<u>Reserves (cu m)</u>	<u>Ownership</u>	<u>Comments</u>
22014	sandy pebble gravel some cobbles	M	308 800	I.R.	active pit
22015	sandy fine pebble gravel	M	667 800	I.R.	garbage dump
22017	sandy fine pebble gravel	M	143 000	P.	pit revegetated
22018	sand, some pebble gravel	L	4 953 100	P, C.	near depletion
22019	sandy fine pebble gravel	M	327 000	P.	
22020	sandy pebble gravel	M	279 000	P.	nuisance grounds
22021	sandy fine pebble gravel	M-H	6 025 500	P, C.	active pit
22022	sandy fine pebble gravel	M-H	73 100	P.	pit revegetated
22023	pebbly sand	L-M	62 700	P.	pit revegetated
22024	sandy fine pebble gravel	M	141 800	P.	
22025	coarse pebble gravel, cobbles	M-H	35 900	P.	
22026	sandy fine pebble gravel	M	266 600	P.	
22027	sandy fine pebble gravel	L-M	3 297 000	P.	
22028	sandy pebble gravel	M-H	8 010 000	P.	active pit
22029	sandy pebble gravel	M-H	4 862 600	P, C.	
22030	sandy coarse pebble gravel	M	4 502 600	P, C.	active pit
22031	sandy pebble gravel	M	50 000	P.	rehabilitated pit
22032	sand	L	9 000	P.	
22033	sandy fine pebble gravel	M	990 300	P.	shallow deposit
22034	sandy fine pebble gravel	M, M-H	980 900	P, C.	pit revegetated

Deposit #	Generalized Material Content	Estimated Gravel Content (Quality)	Reserves (cu m)	Ownership	Comments
22035	-	-	1 858 300	P, C.	
22036	sandy pebble gravel	M	1 162 100	P.	active pit
22037	sandy fine pebble gravel	L-M, M-H	2 151 600	P.	active pit
22038	sandy fine pebble gravel	M-H	278 000	P.	
22039	sandy fine pebble gravel	M-H	44 600	P, C.	
22040	sandy pebble gravel	M-H	974 800	P.	active pit
22041	sandy fine pebble gravel	L-M	1 717 500	P, C.	1.0 m gravel over sand
22042	sandy fine pebble gravel	L-M	3 193 900	P, C.	
22043	sandy fine pebble gravel	M-H	539 500	P.	
22044	sandy fine pebble gravel	M	6 327 200	P, C.	active pit
22045	pebbly gravel	M-H	3 366 100	P, C.	pit revegetated
22046	-	-	201 000	P.	terrace deposit
22047	-	-	690 000	P, C.	terrace deposit
22048	fine pebble gravel	M	187 500	P, C.	
22049	sandy fine pebble gravel	M	976 300	P.	active pit
22050	sandy fine pebble gravel	M-H	556 300	P.	
22051	sandy fine pebble gravel	M-H	332 700	P.	shallow revegetated pit
22052	sandy fine pebble gravel	M-H	260 400	P.	active pit
22053A	sandy pebble gravel	M-H	1 158 000	P, C.	
22053B	-	-	270 000	P.	similar to 23053A
22054	sandy pebble gravel	M-H	708 200	P.	pit revegetated
22055	pebble gravel	M-H	72 300	P.	pit revegetated

Deposit #	Generalized Material Content	Estimated Gravel Content (Quality)	Reserves (cu m)	Ownership	Comments
22056	sandy fine pebble gravel	L-M	110 000	P.	1 depleted pit
22057A	sandy pebble gravel	L-M, M	7 364 200	P.	large active pit
22057B	sandy pebble gravel	M	810 900	P.	
22058	-	-	767 600	P., C.	terrace deposit
22059	-	-	415 000	P.	terrace deposit
22060	-	-	225 400	P.	terrace deposit
22061	-	-	95 200	P.	terrace deposit, 1 inactive
22062	sandy pebble gravel	M-H	72 000	P.	pit revegetated
22063	sandy pebble gravel	M, M-H	10 100 000	P., C., M.	active pits
22064	sandy fine pebble gravel	M	383 500	P.	
22065	medium pebble gravel	-	2 405 500	P.	terrace deposit
22067	sandy coarse pebble gravel	M-L	1 024 200	P.	1980 source for Hwy 10 improvements
22068	sandy fine pebble gravel	M-H	248 400	P.	
22069	coarse pebble gravel	M-L	341 000	P.	active pit
22070	cobbly coarse pebble gravel	M-H	1 176 000	P.	active pit
22071	sandy fine pebble gravel	M-L	1 638 300	P.	garbage dump; active pits, town of Minnedosa
22072	cobbly fine pebble gravel	M-L	62 500	P.	
21078	-	-	27 000		

Deposit #.	Generalized Material Content	Estimated Gravel Content (Quality)	Reserves (cu m)	Ownership	Comments
21080	fine pebble gravel, some cobbles	L-M	10 482 400	P.	Stop status in vicinity of active pit - along PR 564; some areas very high shale
021081	sandy coarse pebble gravel	M-L - M-H	5 385 200	P.	material variable, high shale, active pit
21082	sandy coarse pebble gravel	M	415 400	P.	
Total Reserves			275 115 400		

Codes

P. - Private
 C. - Crown
 M. - Municipal
 I.R. - Indian Reserve
 H - High
 M-H - Medium to High
 M - Medium
 L-M - Low-Medium
 L - Low

APPENDIX II
GRAIN SIZE DISTRIBUTION AND
INDUSTRIAL USAGE ASSESSMENT

Sample Identification 022000 02022W07NWHG059A
Deposit Number 22000
Legal Description NW $\frac{1}{4}$ of 7 - Tp. 20 R. 22 West
Sample Number HG59A

SAMPLE IDENTIFICATION 022000 02022W07NNH6059A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4057.09 GMS. WASHED SAMPLE - WEIGHT BEFORE 825.02 AFTER 812.09 % LOSS 1.57

STEEVE SIZE	FINE FRACTION (GMS.)	STEEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		107.90	2.46	97.54	2.46
1/2 IN		34.00	0.78	96.76	2.24
3/8 IN	35.00	178.40	4.07	92.69	7.31
1/2 IN	21.30	104.74	4.02	88.67	11.33
3/8 IN	23.00	113.10	3.93	86.28	11.72
1/4 IN	44.30	217.85	4.07	84.70	15.30
#4	26.90	132.28	4.02	78.73	21.27
#8	130.00	643.22	14.68	61.03	38.97
#10	152.00	258.66	14.68	55.12	44.88
#16	139.70	686.98	14.68	50.44	60.56
#30	203.00	1002.69	14.68	49.99	83.04
#50	50.10	246.37	14.62	10.94	89.06
#80	53.20	164.28	14.55	7.40	92.50
#100	74.40	31.47	14.22	2.03	95.97
#200	13.20	24.91	14.05	1.45	98.55
<200 + W	12.94	63.65	14.45	0.0	100.00

TOTALS 825.84 4381.43

SPLITTING FACTOR 4.92

FINENESS MODULUS 4.23

% COBBLES 0.0 % PEBBLES 24.29 % GRANULES 20.58 % SAND 53.67 % SILT/CLAY 1.45

INDUSTRIAL USAGE ASSESSMENT

022000 02022W07NNH6059A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF H.)	20.09	MARGINAL	YES	YES	YES	YES	YES
ASPHALT B (P. OF H.)	11.58	MARGINAL	YES	YES	YES	YES	YES
ASPHALT C (P. OF H.)	57.69	NOT SUIT					
BASE COURSE A (P. OF H.)	25.78	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE B (P. OF H.)	8.92	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE C (P. OF H.)	29.55	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	55.08	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	43.90	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	28.91	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	29.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	29.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/SURFACE COURSE F (ASTM D1241)	29.00	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL A (P. OF H.)	29.67	NOT SUIT					
TRAFFIC GRAVEL B (P. OF H.)	29.67	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF H.)	10.24	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT A (P. OF H.)	0.31	NOT SUIT					
SEAL COAT B (P. OF H.)	17.75	MARGINAL	YES	YES	YES	YES	YES
COARSE AGGREGATE 1 (ASTM C33, D448)	210.68	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D448)	200.68	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	201.96	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	191.03	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	154.20	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	198.69	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	147.55	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	199.79	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	217.41	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	154.14	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	179.31	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	158.31	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	1024.08	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	1020.84	NOT SUIT					
COARSE AGGREGATE 88 (ASTM C33, D448)	1020.84	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33, D448)	113.88	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	72.00	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	4.66	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	20.08	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	20.08	NOT SUIT					
MORTAR (ASTM C144)	14.99	MARGINAL	YES	YES	YES	YES	YES
PORTLAND CEMENT (P.C.A.)	14.67	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	140.89	MARGINAL	YES	YES	YES	YES	YES
AIRFIELD RUNWAYS (P. OF M.)	9.21	MARGINAL	YES	YES	YES	YES	YES
PIT RUN (P. OF M.)	29.23	MARGINAL	YES	YES	YES	YES	YES
SEPTIC FIELDS (U.M.A.)	29.03	MARGINAL	YES	YES	YES	YES	YES
SHOULDERS (P. OF H.)	9.71	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022001 02021W06NEHG049A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 5436.70 GMS. WASHED SAMPLE - WEIGHT BEFORE 851.40 AFTER 831.80 % LOSS 2.30

STEVE SIZE	ETNE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
6			0.0	100.00	0.0
1/2			0.0	100.00	0.0
1/2			0.0	100.00	0.0
1/2			0.0	100.00	0.0
3/4			0.0	99.85	0.15
5/8	28.40	572.00	0.0	99.08	0.92
5/8	50.00	100.00	0.0	98.97	1.03
1/4	79.00	158.00	0.0	98.99	1.01
1/4	120.00	200.00	1.00	98.99	1.01
1/4	147.00	203.00	1.00	98.99	1.01
1/4	126.00	180.00	1.00	98.99	1.01
1/4	267.40	1707.00	2.01	98.48	1.52
1/4	21.50	137.00	0.0	98.40	1.60
1/4	5.00	37.00	0.0	98.32	1.68
1/4	7.10	49.00	0.0	98.27	1.73
# 100	2.00	14.00	0.0	98.27	1.73
# 200	7.80	49.81	0.78	98.02	1.98
<200 + M	19.60	125.16	1.98	0.0	100.00

TOTALS 851.40 6322.08

SPLITTING FACTOR 6.39

FINENESS MODULUS 4.79

% COBBLES 0.0 % PEBBLES 36.10 % GRANULES 17.61 % SAND 44.31 % SILT/CLAY 1.98

INDUSTRIAL USAGE ASSESSMENT

022001 02021W06NEHG049A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	16.29	MARGINAL	YES			YES	
ASPHALT C (P. OF M.)	6.40	MARGINAL	YES			YES	
BASE COURSE A (P. OF M.)	6.00	MARGINAL	YES			YES	
BASE COURSE B (P. OF M.)	1.20	MARGINAL	YES			YES	
BASE COURSE D (P. OF M.)	2.00	MARGINAL	YES			YES	
SUB-BASE/ BASE COURSE E (ASTM D1241)	2.00	MARGINAL	YES			YES	
SUB-BASE/ BASE COURSE F (ASTM D1241)	2.00	MARGINAL	YES			YES	
SUB-BASE/ BASE COURSE G (ASTM D1241)	2.00	MARGINAL	YES			YES	
SUB-BASE/ BASE COURSE H (ASTM D1241)	2.00	MARGINAL	YES			YES	
TRAFFIC GRAVEL A (P. OF M.)	1.70	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	1.9	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	1.9	NOT SUIT					
SEAL COAT A (P. OF M.)	8.6	NOT SUIT					
SEAL COAT B (P. OF M.)	8.8	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D448)	205.83	SUITABLE	YES				
COARSE AGGREGATE 2 (ASTM C33, D448)	195.83	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	191.81	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	180.89	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	140.94	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	177.14	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	120.96	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	175.88	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	180.52	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	128.16	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	170.20	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	142.24	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	144.22	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	132.36	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	146.31	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	139.82	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	89.62	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	64.32	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	7.95	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33, C904)	15.35	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C904)	28.63	NOT SUIT					
MORTAR (ASTM C144)	56.61	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	15.00	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	26.71	MARGINAL	YES				
AIRFIELD RUNWAYS (P. OF M.)	132.86	NOT SUIT					
PIT RUN (P. OF M.)	1.15	SUITABLE	YES			YES	
SEPTIC FIELDS (U.M.A.)	9.00	SUITABLE	YES			YES	
SHOULDERS (P. OF M.)	16.99	MARGINAL	YES				
	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022001 02022W13SWH6050A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3904.20 GMS. WASHED SAMPLE - WEIGHT BEFORE 806.30 AFTER 792.20 % LOSS 1.75

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		75.00	1.53	98.47	1.53
1/4		304.40	1.02	90.45	9.55
1/4		245.60	1.04	79.41	20.59
1/4		245.96	0.07	70.34	29.66
1/4		245.43	0.71	60.63	39.37
1/4		245.74	0.40	54.23	45.77
1/4		245.80	0.30	46.93	53.07
1/4		245.21	0.24	42.70	57.30
1/4		245.16	0.24	41.46	58.54
1/4		245.27	0.28	27.11	72.89
1/4		245.47	0.28	27.11	72.89
1/4		245.50	0.10	12.10	87.90
1/4		245.50	0.60	5.63	93.59
1/4		245.40	0.70	5.63	93.59
1/4		245.94	0.70	5.63	93.59
1/4		130.25	0.92	2.95	97.05
1/4		21.79	0.44	1.03	97.75
1/4		56.17	1.39	1.03	97.75
<200 + M		14.10	68.27	1.39	100.00

TOTALS 806.30 4916.18

SPLITTING FACTOR 4.84

FINENESS MODULUS 5.41

% COBBLES 0.0 % PEBBLES 57.30 % GRANULES 11.58 % SAND 29.73 % SILT/CLAY 1.39

INDUSTRIAL USAGE ASSESSMENT

022001 02022W13SWH6050A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE- (MATERIAL <#4)	ADDITION OF FINES
ASPHALT A (P. OF M.)	11.54	MARGINAL	YES	YES			
ASPHALT B (P. OF M.)	57.96	MARGINAL	YES	YES			
ASPHALT C (P. OF M.)	57.66	NOT SUIT					
BASE COURSE I (P. OF M.)	9.41	MARGINAL	YES	YES			
BASE COURSE II (P. OF M.)	8.04	MARGINAL	YES	YES			
BASE COURSE III (P. OF M.)	8.04	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	9.21	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE B (ASTM D1241)	9.21	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	9.07	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	9.07	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	9.20	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	6.40	NOT SUIT					
TRAFFIC GRAVEL 1 (P. OF M.)	6.00	MARGINAL	YES	YES			
TRAFFIC GRAVEL 2 (P. OF M.)	10.17	MARGINAL	YES	YES			
TRAFFIC GRAVEL 3 (P. OF M.)	10.17	MARGINAL	YES	YES			
SOIL COAT 1 (P. OF M.)	7.01	NOT SUIT					
SOIL COAT 2 (P. OF M.)	8.73	SUITABLE	YES	YES			YES
COARSE AGGREGATE 1 (ASTM C33, D446)	170.00	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D446)	170.00	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D446)	100.00	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D446)	100.00	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D446)	100.00	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D446)	120.00	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D446)	120.00	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D446)	120.00	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D446)	120.00	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D446)	13.13	NOT SUIT					YES
FINE CONCRETE AGGREGATE (P. OF M.)	11.96	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	35.28	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	18.47	MARGINAL	YES				
MORTAR (ASTM C144)	16.64	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	14.57	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	90.79	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	10.65	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022001 02022W11NEH6051A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4445.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 973.20 AFTER 938.80 % LOSS 3.53

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	100.00	0.0	
3 1/2 IN	0.0	0.0	100.00	0.0	
2 1/2 IN	424.60	7.21	22.79	2.21	
2 1/2 IN	0.0	0.0	22.79	2.21	
1 1/2 IN	0.0	0.0	22.79	2.21	
1 1/2 IN	665.90	11.32	61.47	10.00	
3/4 IN	353.80	6.01	75.47	10.00	
5/8 IN	301.05	5.11	70.36	10.00	
1/2 IN	223.84	3.80	66.56	10.00	
3/8 IN	254.91	2.33	62.23	10.00	
1/4 IN	83.20	0.45	55.78	10.00	
# 4	57.60	0.47	55.31	10.00	
# 8	185.00	16.35	56.97	10.00	
# 10	68.50	3.31	51.65	10.00	
# 16	144.70	6.02	11.22	10.00	
# 30	135.10	617.17	10.48	9.96	10.00
# 40	21.70	99.13	1.68	0.27	91.73
# 50	14.60	65.70	1.13	7.14	92.86
# 100	21.20	96.85	1.64	5.50	94.50
# 200	7.90	36.09	0.61	0.89	95.11
<200 + M	28.60	130.65	2.22	2.67	97.33
	34.40	157.15	2.67	0.0	100.00

TOTALS 973.20 5891.08

SPLITTING FACTOR 4.57

FINENESS MODULUS 5.39

% COBBLES 7.21 % PEBBLES 41.48 % GRANULES 19.66 % SAND 28.99 % SILT/CLAY 2.67

INDUSTRIAL USAGE ASSESSMENT

022001 02022W11NEH6051A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <\$4)
ASPHALT A (P. OF M.)	5.81	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	53.22	NOT SUIT					
BASE COURSE A (P. OF M.)	8.50	MARGINAL	YES				
BASE COURSE B (P. OF M.)	7.23	MARGINAL	YES				
BASE COURSE Q (P. OF M.)	1.13	MARGINAL	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	12.36	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	0.23	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	6.57	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	20.75	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	15.75	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	17.74	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	12.46	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	4.44	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	2.37	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	74.51	NOT SUIT					
SEAL COAT B (P. OF M.)	0.0	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	182.33	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	182.25	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	147.48	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	191.40	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	111.70	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33, D448)	163.07	NOT SUIT					
COARSE AGGREGATE 558 (ASTM C33, D448)	163.07	NOT SUIT					
COARSE AGGREGATE 559 (ASTM C33, D448)	150.79	NOT SUIT					
COARSE AGGREGATE 565 (ASTM C33, D448)	149.49	NOT SUIT					
COARSE AGGREGATE 566 (ASTM C33, D448)	100.93	NOT SUIT					
COARSE AGGREGATE 567 (ASTM C33, D448)	148.33	NOT SUIT					
COARSE AGGREGATE 568 (ASTM C33, D448)	117.01	NOT SUIT					
COARSE AGGREGATE 569 (ASTM C33, D448)	107.09	NOT SUIT					
COARSE AGGREGATE 570 (ASTM C33, D448)	113.78	NOT SUIT					
COARSE AGGREGATE 571 (ASTM C33, D448)	115.85	NOT SUIT					
COARSE AGGREGATE 572 (ASTM C33, D448)	121.34	NOT SUIT					
COARSE AGGREGATE 573 (ASTM C33, D448)	27.07	NOT SUIT					
COARSE AGGREGATE 574 (ASTM C33, D448)	54.54	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	7.98	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	25.50	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	59.31	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	60.01	NOT SUIT					
MORTAR (ASTM C144)	22.96	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	34.60	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	114.28	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	11.33	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022001 02022W03NEHG052A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2891.90 GMS. WASHED SAMPLE - WEIGHT BEFORE 782.20 AFTER 771.40 % LOSS 1.38

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 IN		0.0	0.0	100.00	0.0
2 1/2 IN		212.90	0.95	24.05	75.95
2 1/2 IN		105.40	0.95	91.10	8.90
2 1/2 IN		97.10	0.75	68.38	31.62
2 1/2 IN		266.90	0.47	80.96	19.04
2 1/2 IN	29.30	108.33	0.03	77.89	22.11
2 1/2 IN	55.30	204.45	0.72	72.17	27.83
2 1/2 IN	77.20	285.42	0.98	64.19	35.81
2 1/2 IN	105.60	390.42	10.92	53.27	46.73
2 1/2 IN	52.60	194.47	5.44	47.83	52.17
2 1/2 IN	139.90	517.23	14.47	33.36	66.64
2 1/2 IN	34.90	129.03	3.61	29.75	70.25
2 1/2 IN	61.00	225.53	6.31	23.44	76.56
2 1/2 IN	86.80	320.91	0.98	14.47	85.53
2 1/2 IN	40.30	148.99	6.17	10.30	89.70
2 1/2 IN	24.90	92.06	2.57	7.72	92.28
2 1/2 IN	23.50	86.88	2.43	5.29	94.71
2 1/2 IN	5.00	21.44	0.60	2.70	95.30
2 1/2 IN	17.50	64.70	1.81	2.89	97.11
<200 + M	27.90	103.17	2.09	0.0	100.00

TOTALS 782.50 3575.32

SPLITTING FACTOR 3.70

FINENESS MODULUS 5.32

% COBBLES 0.0 % PEBBLES 52.17 % GRANULES 18.08 % SAND 26.87 % SILT/CLAY 2.89

INDUSTRIAL USAGE ASSESSMENT

022001 02022W03NEHG052A

NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	NOT ON SITE	ADDITION OF FINES (MATERIAL <#84)
ASPHALT A (P. OF M.)	2.27	MARGINAL	YES				
ASPHALT B (P. OF M.)	52.16	SUITABLE	YES				
ASPHALT C (P. OF M.)	6.71	NOT SUIT					
BASE COURSE A (P. OF M.)	6.71	MARGINAL	YES				
BASE COURSE B (P. OF M.)	6.71	MARGINAL	YES				
BASE COURSE C (ASTM D1241)	6.71	MARGINAL	YES				
BASE COURSE D (ASTM D1241)	6.71	MARGINAL	YES				
SUB BASE COURSE E (ASTM D1241)	2.47	MARGINAL	YES				
SUB BASE COURSE F (ASTM D1241)	2.47	MARGINAL	YES				
SUB BASE COURSE G (ASTM D1241)	2.47	MARGINAL	YES				
SUB BASE COURSE H (ASTM D1241)	2.47	MARGINAL	YES				
TRAFFICK GRAVEL A (P. OF M.)	0.00	NOT SUIT					
TRAFFICK GRAVEL B (P. OF M.)	0.00	MARGINAL	YES				
TRAFFICK GRAVEL C (P. OF M.)	0.00	MARGINAL	YES				
SEAL COAT A (P. OF M.)	6.56	SUITABLE	YES				
SEAL COAT B (P. OF M.)	6.56	SUITABLE	YES				
COARSE AGGREGATE I (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE J (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE K (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE L (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE M (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE N (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE O (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE P (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE Q (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE R (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE S (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE T (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE U (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE V (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE W (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE X (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE Y (ASTM C33-D448)	19.90	NOT SUIT					
COARSE AGGREGATE Z (ASTM C33-D448)	19.90	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	29.96	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTH C33-C404)	64.96	NOT SUIT					
FINE CONCRETE AGGREGATE III (ASTH C33-C404)	64.96	NOT SUIT					
MORTAR (ASTH C44)	25.00	MARGINAL	YES				
PORTLAND CEMENT (C.P.A.)	40.95	NOT SUIT					
BUILT-UP ROOFS (ASTH D1863)	93.53	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	18.82	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.00	SUITABLE	YES				YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION - 022001 01922W34NWHG054

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4001.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 730.40 AFTER 728.90 % LOSS 0.21

STIEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT WEIGHTS (GMS.)	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		78.00	1.88	98.12	1.88
5/8 IN	8.30	76.30	1.84	96.29	4.81
5/8 IN	18.40	45.47	1.09	95.19	6.57
5/8 IN	28.90	158.34	1.77	93.43	10.38
1/4 IN	22.30	122.18	2.94	86.68	13.32
1/4 IN	18.40	100.81	2.43	84.25	15.75
1/4 IN	52.00	283.29	6.96	77.29	22.71
1/4 IN	22.00	120.54	2.90	74.39	25.61
1/4 IN	57.00	279.97	6.74	67.65	22.35
1/4 IN	197.30	1080.99	26.01	61.64	38.36
1/4 IN	139.00	766.50	18.44	23.20	76.80
1/4 IN	95.30	522.14	12.56	10.64	89.36
1/4 IN	57.00	325.59	7.59	3.05	96.95
1/4 IN	5.00	32.04	0.70	2.35	97.65
<200 + W	10.00	84.79	1.32	1.03	98.97
<200 + W	7.00	42.74	1.03	0.0	100.00

TOTALS 730.40 4156.09

SPLITTING FACTOR 5.48

FINENESS MODULUS 3.30

% COBBLES 0.0 % PEBBLES 15.75 % GRANULES 9.86 % SAND 73.36 % SILT/CLAY 1.03

INDUSTRIAL USAGE ASSESSMENT

022001 01922W34NWHG054

NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	35.76	NOT SUIT					
ASPHALT A (P. OF M.)	27.97	NOT SUIT					
BASE COURSE (P. OF M.)	26.99	NOT SUIT					
BASE COURSE (P. OF M.)	29.91	MARGINAL					
BASE COURSE (P. OF M.)	23.92	MARGINAL					
SUB-BASE/ASPHALT COURSE A (ASTM D1241)	92.33	NOT SUIT					
SUB-BASE/ASPHALT COURSE B (ASTM D1241)	92.33	NOT SUIT					
SUB-BASE/SURFACE COURSE C (ASTM D1241)	56.32	NOT SUIT					
SUB-BASE/SURFACE COURSE D (ASTM D1241)	12.98	MARGINAL	YES	YES			
SUB-BASE/SURFACE COURSE E (ASTM D1241)	12.98	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	53.72	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	53.72	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	21.89	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	16.08	MARGINAL	YES				
SEAL COAT A (P. OF M.)	13.02	NOT SUIT					
SEAL COAT B (P. OF M.)	30.01	NOT SUIT					
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	216.32	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	205.32	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	202.74	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33, D448)	201.58	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	170.83	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	209.06	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	165.18	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	203.36	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	233.61	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	180.00	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	197.46	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	186.01	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	219.96	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	170.91	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	216.17	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	200.42	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	156.81	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	118.76	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	7.53	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	0.0	SUITABLE	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	0.99	MARGINAL	YES				
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	5.92	MARGINAL	YES				
MARL (ASTM C14)	7.29	MARGINAL	YES				
CORTI AND (ASTM C14)	7.96	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	17.03	NOT SUIT					
BIT RUN UPS (P. OF M.)	5.56	NOT SUIT					
SEPTIC FIELDS (U.M.A.)	2.53	MARGINAL	YES				
SHOULDERS (P. OF M.)	14.25	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022001 01921W20NEHG012A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4559.20 GMS.

WASHED SAMPLE - WEIGHT BEFORE 1098.90 AFTER 1095.00 % LOSS 0.35

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
# 1/2 IN		0.0	0.0	100.00	0.0
# 1/2 IN		0.0	0.0	100.00	0.0
# 1/2 IN		209.10	4.92	96.08	3.92
# 1/2 IN		0.0	0.0	96.08	3.92
# 1/2 IN		258.00	4.83	91.25	8.75
# 1/2 IN		259.50	5.82	85.43	14.57
# 1/2 IN		377.48	9.11	81.32	18.68
# 1/2 IN		252.40	5.00	54.32	25.68
# 1/2 IN		245.55	5.54	55.31	44.66
# 1/2 IN		109.80	12.48	24.53	75.47
# 1/2 IN		248.89	12.33	24.53	75.47
# 1/2 IN		169.00	10.73	27.25	72.75
# 1/2 IN		226.92	10.33	27.25	72.75
# 1/2 IN		92.78	10.33	27.25	72.75
# 1/2 IN		252.67	9.34	32.17	67.83
# 1/2 IN		194.40	9.00	10.18	89.82
# 1/2 IN		250.95	9.48	9.70	91.30
# 1/2 IN		149.00	4.02	8.06	92.94
# 1/2 IN		133.40	4.02	8.06	92.94
# 1/2 IN		20.00	0.21	0.29	94.53
# 1/2 IN		7.40	0.18	0.37	96.73
# 1/2 IN		27.00	0.18	0.37	96.73
<200 + M		43.30	3.37	0.0	100.00

TOTALS 1098.90 5336.78

SPLITTING FACTOR 4.15

FINENESS MODULUS 5.42

% COBBLES 0.0 % PEBBLES 55.42 % GRANULES 22.06 % SAND 19.15 % SILT/CLAY 3.37

INDUSTRIAL USAGE ASSESSMENT

022001 01921W20NEHG012A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	13.46	MARGINAL	YES				
ASPHALT B (P. OF M.)	8.65	MARGINAL	YES				
ASPHALT C (P. OF M.)	53.80	NOT SUIT					
BASE COURSE A (P. OF M.)	8.88	MARGINAL	YES	YES			
BASE COURSE B (P. OF M.)	8.91	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	0.50	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	3.97	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	7.94	MARGINAL	YES	YES			YES
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	7.10	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	3.24	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	7.94	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	7.94	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	4.05	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	1.04	MARGINAL	YES				
SEAL COAT A (P. OF M.)	4.29	NOT SUIT					
SEAL COAT B (P. OF M.)	4.29	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33/D448)	20.90	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33/D448)	10.93	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33/D448)	10.27	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33/D448)	10.79	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33/D448)	10.17	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33/D448)	10.33	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33/D448)	10.90	NOT SUIT					
COARSE AGGREGATE 77 (ASTM C33/D448)	1.30	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33/D448)	0.83	NOT SUIT					
COARSE AGGREGATE 98 (ASTM C33/D448)	0.56	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33/D448)	6.9	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33/D448)	75.59	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33/D448)	42.48	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33/D448)	42.48	NOT SUIT					YES
COARSE AGGREGATE 10 (ASTM C33/D448)	23.94	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	50.79	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTM C33/C404)	102.40	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33/C404)	74.55	NOT SUIT					
MORTAR (ASTM C144)	33.87	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	78.72	NOT SUIT					
BUILT-UP ROOFS (ASTH D1863)	77.52	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PTT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	18.91	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022001 01921W19NMHG013A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4711.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 772.40 AFTER 767.30 % LOSS 0.66

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		328.00	0.07	100.00	0.07
1/2 IN		237.10	0.07	99.74	0.27
3/4 IN		324.50	0.07	99.90	0.10
5/8 IN	19.10	193.00	0.07	99.90	0.10
1/2 IN	19.40	193.00	0.07	99.90	0.10
1/4 IN	43.90	287.73	11.00	99.40	0.60
1/4 IN	101.50	100.97	11.00	99.40	0.60
1/4 IN	90.00	92.50	11.00	99.40	0.60
1/4 IN	156.70	92.50	17.00	99.40	0.60
1/4 IN	46.10	203.17	5.00	99.40	0.60
1/4 IN	78.80	480.03	5.00	99.40	0.60
1/4 IN	59.80	364.73	6.51	99.40	0.59
1/4 IN	22.60	137.84	6.46	99.40	0.59
1/4 IN	17.80	108.57	6.46	99.40	0.59
1/4 IN	24.40	148.82	6.66	99.40	0.59
1/4 IN	6.20	37.81	6.68	10.63	89.37
<200 + H	22.10	134.79	8.41	8.22	91.78
<200 + H	75.50	460.49	8.22	0.0	100.00
TOTALS	772.40	5601.58			
SPLITTING FACTOR	6.10				
FINENESS MODULUS	4.84				
% COBBLES	0.0	% PEBBLES	44.47	% GRANULES	22.08
				% SAND	25.23
				% SILT/CLAY	8.22

INDUSTRIAL USAGE ASSESSMENT

022001 01921W19NMHG013A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF H.)	2.62	MARGINAL	YES		YES		YES
ASPHALT C (P. OF H.)	327.96	MARGINAL	YES				
BASE COURSE (P. OF H.)	0.00	SUITABLE	YES				
BASE COURSE (P. OF H.)	0.00	SUITABLE	YES				
SUB BASE COURSE (P. OF H.)	0.00	SUITABLE	YES				
SUB BASE COURSE (P. OF H.)	20.90	MARGINAL	YES				
SUB BASE COURSE (P. OF H.)	20.67	MARGINAL	YES				
SUB BASE COURSE (P. OF H.)	0.00	SUITABLE	YES				
SUB BASE COURSE (P. OF H.)	0.00	SUITABLE	YES				
SUB BASE COURSE (P. OF H.)	105.11	MARGINAL	YES				
SUB BASE COURSE (P. OF H.)	105.34	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF H.)	12.56	NOT SUIT					
TRAFFIC GRAVEL A (P. OF H.)	12.53	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF H.)	1.75	MARGINAL	YES				
SEAL COAT A (P. OF H.)	0.00	SUITABLE	YES				
SEAL COAT B (P. OF H.)	10.22	NOT SUIT					
SEAL COAT C (P. OF H.)	10.13	MARGINAL	YES				YES
COARSE AGGREGATE 1 (ASTM C33, D448)	205.45	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D448)	189.58	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	191.63	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	182.43	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	129.70	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	198.75	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	132.24	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	184.50	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	193.49	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	118.84	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	170.21	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	127.70	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	120.36	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	121.39	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	125.96	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	110.54	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	72.74	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	68.25	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	22.08	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF H.)	62.03	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTH C33, C404)	80.06	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTH C33, C404)	56.88	NOT SUIT					
MORTAR (ASTH C194)	50.53	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	58.08	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	121.89	NOT SUIT					
AIRFIELD RUNWAYS (P. OF H.)	0.00	SUITABLE	YES				
PARKING SPACES (P. OF H.)	12.35	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	0.00	SUITABLE	YES				
SHOULDERS (P. OF H.)	0.00	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022001 01922W25NWHC073A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3647.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 983.80 AFTER 965.90 % LOSS 1.82

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/8 IN	21.90	315.20	2.23	97.77	2.23
1/16 IN	85.00	315.14	0.64	89.13	10.87
1/32 IN	97.00	362.50	0.94	79.19	20.81
1/64 IN	154.90	574.30	15.75	63.45	36.55
1/128 IN	96.20	356.67	0.78	53.67	46.33
1/256 IN	217.00	804.54	22.06	51.61	68.39
1/512 IN	53.40	197.98	5.43	26.16	73.82
1/1024 IN	104.50	387.44	10.62	15.56	84.44
1/2048 IN	81.40	301.80	0.27	7.29	92.71
1/4096 IN	13.50	50.05	1.37	5.92	94.08
1/8192 IN	8.10	30.03	0.82	5.09	94.91
1/16384 IN	11.40	42.27	1.16	3.93	96.07
1/32768 IN	7.90	14.46	0.40	1.54	96.26
<200 + N	17.90	62.69	1.72	1.82	98.18
		66.36	1.82	0.0	100.00

TOTALS 983.80 3647.50

SPLITTING FACTOR 3.71

FINENESS MODULUS 5.04

% COBBLES 0.0 % PEBBLES 46.33 % GRANULES 27.49 % SAND 24.36 % SILT/CLAY 1.82

INDUSTRIAL USAGE ASSESSMENT

022001 01922W25NWHC073A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	18.08	MARGINAL	YES	YES			
ASPHALT B (P. OF M.)	13.08	MARGINAL	YES	YES			
ASPHALT C (P. OF M.)	63.33	NOT SUIT					
BASE COURSE A (P. OF M.)	15.26	MARGINAL	YES	YES			
BASE COURSE B (P. OF M.)	11.26	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	2.18	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	16.46	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE B (ASTM D1241)	21.46	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	12.26	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	39.08	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	33.41	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	75.41	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	10.26	MARGINAL	YES	YES			
TRAFFIC GRAVEL B (P. OF M.)	10.26	MARGINAL	YES	YES			
TRAFFIC GRAVEL C (P. OF M.)	4.08	MARGINAL	YES	YES			
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE					
SEAL COAT A (P. OF M.)	40.83	NOT SUIT					
SEAL COAT B (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33,D448)	220.82	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	210.82	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	214.95	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33,D448)	199.95	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	138.62	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	205.01	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	128.68	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	199.15	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	192.82	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	100.23	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	147.82	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	95.29	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	75.86	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	76.19	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	69.72	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	69.18	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	21.04	MARGINAL	YES				
COARSE AGGREGATE 9 (ASTM C33,D448)	29.61	MARGINAL	YES				
COARSE AGGREGATE 10 (ASTM C33,D448)	24.06	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (P. OF M.)	56.15	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	117.03	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	94.03	NOT SUIT					
MORTAR (ASTM C144)	36.10	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	92.03	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	76.60	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE					
PIT RUN (P. OF M.)	0.0	SUITABLE					
SEPTIC FIELDS (U.M.A.)	30.00	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022001 01922W25NEHG074A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2720.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 803.60 AFTER 793.10 % LOSS 1.31

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4	TN	0.0	0.0	100.00	0.0
3 1/2	TN	0.0	0.0	100.00	0.0
3 1/2	TN	0.0	0.0	100.00	0.0
3 1/2	TN	0.0	0.0	100.00	0.0
3 1/2	TN	0.0	0.0	100.00	0.0
3/4	TN	71.00	2.45	100.00	2.45
5/8	TN	121.00	1.10	97.00	6.94
1/2	TN	21.07	0.34	62.00	9.95
3/8	TN	120.68	2.25	88.00	11.71
5/16	TN	30.62	2.00	80.00	10.09
1/4	TN	90.00	1.27	91.00	18.38
3/16	TN	30.00	1.50	82.00	10.24
1/8	TN	120.00	1.24	72.00	10.43
1/16	TN	120.00	1.24	72.00	10.43
1/32	TN	120.00	1.24	72.00	10.43
1/64	TN	120.00	1.24	72.00	10.43
1/128	TN	120.00	1.24	72.00	10.43
1/256	TN	120.00	1.24	72.00	10.43
<200 + M	10.50	35.55	1.22	0.0	100.00

TOTALS 803.60 2913.10

SPLITTING FACTOR 3.39

FINENESS MODULUS 3.77

% COBBLES 0.0 % PEBBLES 18.38 % GRANULES 15.06 % SAND 65.34 % SILT/CLAY 1.22

INDUSTRIAL USAGE ASSESSMENT

022001 01922W25NEHG074A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <\$4)
ASPHALT A (P. OF M.)	39.00	NOT SUIT	YES	YES	YES	YES	YES
ASPHALT B (P. OF M.)	29.25	NOT SUIT				YES	YES
BASE COURSE A (P. OF M.)	52.29	NOT SUIT					
BASE COURSE B (P. OF M.)	20.35	NOT SUIT					
BASE COURSE C (P. OF M.)	10.96	MARGINAL					
BASE COURSE D (P. OF M.)	4.40	MARGINAL					
SUB-BASE SUB-BASE COURSE A (ASTM D1241)	77.35	NOT SUIT					
SUB-BASE SUB-BASE COURSE B (ASTM D1241)	62.90	NOT SUIT					
SUB-BASE SUB-BASE SURFACE COURSE C (ASTM D1241)	26.26	NOT SUIT					
SUB-BASE SUB-BASE SURFACE COURSE D (ASTM D1241)	14.56	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE SUB-BASE SURFACE COURSE E (ASTM D1241)	7.56	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE SUB-BASE SURFACE COURSE F (ASTM D1241)	19.56	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL A (P. OF M.)	69.56	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	29.56	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	31.87	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	13.67	MARGINAL	YES				
SEAL COAT A (P. OF M.)	107.63	NOT SUIT					
SEAL COAT B (P. OF M.)	21.20	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	213.61	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	203.61	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	211.26	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	200.42	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	167.04	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	204.56	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	158.63	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	204.65	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	226.27	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	170.64	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D448)	154.50	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	177.46	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D448)	175.27	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D448)	166.93	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D448)	159.70	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33, D448)	177.62	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33, D448)	171.56	NOT SUIT					
COARSE AGGREGATE 18 (ASTM C33, D448)	95.53	NOT SUIT					
COARSE AGGREGATE 19 (ASTM C33, D448)	0.03	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (P. OF M.)	0.67	SUITABLE	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	2.67	MARGINAL	YES				
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	15.85	MARGINAL	YES				
MORTAR (ASTM C144)	7.83	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	0.0	SUITABLE	YES				
BUILT-UP ROOFS (ASTM B1863)	169.03	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	28.51	MARGINAL	YES				
PIT RUN (P. OF M.)	28.52	MARGINAL	YES				
SEPTIC FIELDS (I.M.A.)	23.39	MARGINAL	YES				
SHOULDERS (P. OF M.)	11.62	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022002 02020W06SHG069A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3096.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 701.40 AFTER 694.40 % LOSS 1.00

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	30.50	0.94	99.06	0.94
1/4	IN	7.20	0.22	98.83	1.17
5/8	IN	98.90	3.06	95.78	4.22
1/2	IN	44.14	1.30	94.41	5.59
1/4	IN	18.70	2.55	91.86	8.14
3/8	IN	82.54	4.31	87.55	12.45
1/4	IN	31.60	110.99	6.52	83.02
1/4	IN	47.80	112.12	3.47	82.44
1/4	IN	25.60	355.33	10.99	66.57
10		80.50	94.46	2.92	63.65
16		54.90	242.33	7.49	56.16
30		132.70	585.74	18.11	38.05
40		91.60	404.32	12.50	25.55
50		76.40	337.23	10.43	15.12
60		85.70	378.26	11.70	3.43
100		10.00	44.14	1.36	2.06
200		8.10	35.75	1.11	0.96
^200 + M		7.00	30.92	0.96	100.00

TOTALS 701.80 3234.36

SPLITTING FACTOR 4.41

FINENESS MODULUS 3.62

% COBBLES 0.0 % PEBBLES 22.44 % GRANULES 13.91 % SAND 62.70 % SILT/CLAY 0.96

INDUSTRIAL USAGE ASSESSMENT

022002 02020W06SHG069A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	24.85	MARGINAL	YES	YES	YES	YES	YES
ASPHALT B (P. OF M.)	18.44	MARGINAL	YES	YES	YES	YES	YES
ASPHALT C (P. OF M.)	43.75	NOT SUIT					
BASE COURSE A (P. OF M.)	29.44	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE B (P. OF M.)	6.33	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	3.04	MARGINAL	NOT SUIT				
SUB-BASE/BASE COURSE A (ASTM D1241)	75.35	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	56.63	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	35.49	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	7.03	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	15.03	MARGINAL	YES	YES	YES	YES	
SUB-BASE/SURFACE COURSE A (ASTM D1241)	11.18	MARGINAL	NOT SUIT				
TRAFFIC GRAVEL A (P. OF M.)	55.35	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	35.35	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	20.65	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL D (P. OF M.)	8.45	MARGINAL	NOT SUIT				
SEAL COAT A (P. OF M.)	101.29	NOT SUIT					
SEAL COAT B (P. OF M.)	27.24	MARGINAL	YES	YES	YES	YES	YES
COARSE AGGREGATE 1 (ASTM C33; D446)	214.83	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33; D446)	204.83	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33; D446)	211.69	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33; D446)	199.78	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33; D446)	163.25	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33; D446)	107.16	NOT SUIT					
COARSE AGGREGATE 667 (ASTM C33; D446)	155.88	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33; D446)	207.90	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33; D446)	226.10	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33; D446)	161.24	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33; D446)	185.00	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33; D446)	184.41	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33; D446)	186.23	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33; D446)	186.23	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33; D446)	186.23	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33; D446)	186.23	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33; D446)	108.50	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33; D446)	124.53	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33; D446)	105.52	NOT SUIT					YES
COARSE AGGREGATE 10 (ASTM C33; D446)	1.44	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE I (ASTM C33; C404)	1.44	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE II (ASTM C33; C404)	10.17	MARGINAL	YES	YES	YES	YES	
MORTAR (ASTM C247)	9.16	MARGINAL	YES	YES	YES	YES	
PORTLAND CEMENT (P.C.A.)	1.41	MARGINAL	YES	YES	YES	YES	
BUILT-UP ROOFS (ASTM D1863)	152.39	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	17.45	MARGINAL	YES	YES	YES	YES	YES
PIT RUN (P. OF M.)	3.30	MARGINAL	YES	YES	YES	YES	
SEPTIC FIELDS (U.M.A.)	26.79	MARGINAL	YES	YES	YES	YES	
SHOULDERS (P. OF M.)	7.56	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022004 01919W32NNHGB14A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4643.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 805.10 AFTER 761.40 % LOSS 5.43

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
5/8 IN	26.20	139.00	2.67	97.13	2.87
5/8 IN	27.70	151.11	2.20	95.93	4.07
5/8 IN	45.80	159.76	2.30	92.61	7.39
5/8 IN	70.00	264.15	2.30	89.51	10.49
5/8 IN	34.60	403.15	2.30	84.05	15.95
5/8 IN	102.60	199.57	2.34	75.71	23.29
10	27.50	591.74	1.23	71.59	23.41
10	36.70	158.61	3.20	56.09	43.91
10	112.00	645.96	13.35	38.37	61.63
10	49.60	285.07	5.91	32.46	67.54
50	60.20	347.20	7.17	25.28	74.72
80	102.60	592.90	12.25	13.04	86.96
100	24.40	140.73	2.61	10.13	89.87
# 200	41.30	238.20	4.92	5.21	94.79
<200 + M	43.70	252.04	5.21	0.0	100.00

TOTALS 805.10 4840.39

SPLITTING FACTOR 5.77

FINENESS MODULUS 3.64

% COBBLES 0.0 % PEBBLES 28.41 % GRANULES 15.50 % SAND 50.88 % SILT/CLAY 5.21

INDUSTRIAL USAGE ASSESSMENT

022004 01919W32NNHGB14A

NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	11.92	MARGINAL	YES		YES		YES
ASPHALT B (P. OF M.)	7.30	MARGINAL	YES		YES		YES
ASPHALT C (P. OF M.)	22.58	MARGINAL	YES		YES		YES
BASE COURSE A (P. OF M.)	14.50	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	0.0	SUITABLE					
BASE COURSE C (P. OF M.)	0.0	SUITABLE					
SUB-BASE/BASE COURSE A (ASTM D1241)	64.18	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	36.31	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	21.40	MARGINAL	YES		YES		
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	2.64	MARGINAL	YES		YES		
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	0.64	MARGINAL	YES		YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	2.64	MARGINAL	YES		YES		
TRAFFIC GRAVEL A (P. OF M.)	37.80	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	13.97	MARGINAL	YES		YES		
TRAFFIC GRAVEL C (P. OF M.)	8.60	MARGINAL	YES		YES		
TRAFFIC GRAVEL D (P. OF M.)	7.12	MARGINAL	YES		YES		
SEAL COAT A (P. OF M.)	95.09	NOT SUIT					
SEAL COAT B (P. OF M.)	33.06	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D446)	13.08	MARGINAL	YES				YES
COARSE AGGREGATE 2 (ASTM C33, D446)	220.14	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D446)	210.14	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D446)	214.64	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D446)	200.89	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D446)	157.33	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33, D446)	206.32	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D446)	250.77	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D446)	203.70	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33, D446)	219.28	NOT SUIT					
COARSE AGGREGATE 70 (ASTM C33, D446)	149.69	NOT SUIT					
COARSE AGGREGATE 71 (ASTM C33, D446)	102.42	NOT SUIT					
COARSE AGGREGATE 72 (ASTM C33, D446)	152.22	NOT SUIT					
COARSE AGGREGATE 73 (ASTM C33, D446)	172.36	NOT SUIT					
COARSE AGGREGATE 74 (ASTM C33, D446)	170.72	NOT SUIT					
COARSE AGGREGATE 75 (ASTM C33, D446)	167.26	NOT SUIT					
COARSE AGGREGATE 76 (ASTM C33, D446)	163.67	NOT SUIT					
COARSE AGGREGATE 77 (ASTM C33, D446)	112.22	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D446)	95.10	NOT SUIT					
COARSE AGGREGATE 79 (ASTM C33, D446)	139.05	NOT SUIT					
COARSE AGGREGATE 80 (ASTM C33, D446)	8.86	MARGINAL	YES		YES		
COARSE AGGREGATE 81 (ASTM C33, D446)	0.0	SUITABLE					
COARSE AGGREGATE 82 (ASTM C33, D446)	25.93	MARGINAL					
SHOULDERS (P. OF M.)	1.59	MARGINAL					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022005 02019W05NEHG096A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3950.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 717.20 AFTER 699.60 % LOSS 2.45

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 IN		0.0	0.0	100.00	0.0
2 1/2 IN		0.0	0.0	100.00	0.0
2 IN		0.0	0.0	100.00	0.0
1 1/2 IN		0.0	0.0	100.00	0.0
1 1/4 IN		163.50	3.61	100.00	0.0
5/8 IN	31.90	175.70	3.88	87.15	12.85
1/2 IN	82.50	200.18	3.62	83.27	16.73
3/8 IN	59.30	126.62	3.21	76.25	23.75
1/4 IN	66.80	117.93	3.12	69.44	30.56
3/16 IN	47.90	93.03	2.93	55.33	44.67
1/8 IN	111.00	77.00	1.37	29.02	70.98
1/16 IN	23.10	24.00	1.28	22.44	77.56
1/32 IN	154.70	65.00	1.08	10.94	89.06
1/64 IN	14.50	7.50	0.74	0.00	100.00
1/128 IN	12.50	9.20	0.70	0.40	99.60
1/256 IN	12.50	9.37	0.49	0.40	99.59
1/512 IN	8.00	5.00	0.39	0.14	99.86
<200 + M	17.00	96.94	2.14	0.0	100.00
TOTALS	717.20	4532.79			
SPLITTING FACTOR	5.51				
FINENESS MODULUS	4.98				
% COBBLES	0.0	% PEBBLES	44.49	% GRANULES	17.27
		% SAND	36.10	% SILT/CLAY	2.14

INDUSTRIAL USAGE ASSESSMENT

022005 02019W05NEHG096A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	7.33	MARGINAL	YES				
ASPHALT B (P. OF M.)	2.23	MARGINAL	YES				
ASPHALT C (P. OF M.)	60.90	NOT SUIT					
BASE COURSE A (P. OF M.)	60.88	MARGINAL	YES				
BASE COURSE B (P. OF M.)	10.18	MARGINAL	YES				
BASE COURSE C (P. OF M.)	1.86	MARGINAL	YES				
SUB-BASE BASE COURSE A (ASTM D1241)	6.27	MARGINAL	YES				
SUB-BASE BASE COURSE B (ASTM D1241)	12.57	MARGINAL	YES				
SUB-BASE BASE/SURFACE COURSE C (ASTM D1241)	10.85	MARGINAL	YES				
SUB-BASE BASE/SURFACE COURSE D (ASTM D1241)	10.18	MARGINAL	YES				
SUB-BASE BASE/SURFACE COURSE E (ASTM D1241)	17.18	MARGINAL	YES				
SUB-BASE BASE/SURFACE COURSE F (ASTM D1241)	56.59	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	11.57	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	2.88	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	2.66	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	75.07	NOT SUIT					
SEAL COAT B (P. OF M.)	2.42	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	208.29	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	198.29	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	169.54	NOT SUIT					
COARSE AGGREGATE 36 (ASTM C33, D448)	184.18	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	124.69	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	179.13	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	108.24	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	164.38	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	159.89	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	100.32	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	135.36	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	104.44	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	99.84	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	105.09	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	113.72	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	132.26	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	95.71	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	61.98	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	42.67	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	20.74	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	55.10	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	48.65	NOT SUIT					
MORTAR (ASTM C144)	19.30	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	30.10	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	105.59	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	17.15	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022006 01919W21SWH6080A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4405.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 958.60 AFTER 954.00 % LOSS 0.48

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/8 IN	40.90	2.00	0.0	100.00	0.0
1/16 IN	31.00	0.0	0.0	100.00	0.0
1/32 IN	26.00	0.0	0.0	100.00	0.0
1/64 IN	7.00	0.0	0.0	100.00	0.0
1/128 IN	2.70	0.0	0.0	100.00	0.0
1/256 IN	1.41	0.0	0.0	100.00	0.0
1/512 IN	0.47	0.0	0.0	100.00	0.0
1/1024 IN	0.22	0.0	0.0	100.00	0.0
1/2048 IN	0.11	0.0	0.0	100.00	0.0
1/4096 IN	0.05	0.0	0.0	100.00	0.0
1/8192 IN	0.02	0.0	0.0	100.00	0.0
1/16384 IN	0.01	0.0	0.0	100.00	0.0
<200 + H	4.60	21.14	0.44	0.0	100.00
TOTALS	958.60	4761.78			
SPLITTING FACTOR	4.60				
FINENESS MODULUS	4.50				
% COBBLES	0.0	% PEBBLES	31.42	% GRANULES	18.26
		% SAND	49.87	% SILT/CLAY	0.44

INDUSTRIAL USAGE ASSESSMENT

022006 01919W21SWH6080A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	16.16	MARGINAL	YES	YES	YES		
ASPHALT B (P. OF M.)	2.00	MARGINAL	YES	YES	YES		
ASPHALT C (P. OF M.)	6.44	NOT SUIT					
BASE COURSE A (P. OF M.)	59.59	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	59.59	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	59.59	MARGINAL	YES	YES	YES		
SUB-BASE/BASE COURSE A (ASTM D1241)	59.59	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	59.59	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	59.59	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	59.59	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	59.59	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL A (P. OF M.)	59.59	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	59.59	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	59.59	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL D (P. OF M.)	59.59	SUITABLE	YES				
SEAL COAT A (P. OF M.)	87.05	NOT SUIT					
SEAL COAT B (P. OF M.)	10.55	MARGINAL	YES				
SEAL COAT C (P. OF M.)	10.55	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	232.06	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	232.06	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	232.06	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33, D448)	132.80	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	147.83	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	137.13	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	136.94	NOT SUIT					
COARSE AGGREGATE 55 (ASTM C33, D448)	130.02	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	198.91	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	134.95	NOT SUIT					
COARSE AGGREGATE 59 (ASTM C33, D448)	162.84	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	130.92	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	130.92	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	130.92	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	146.48	NOT SUIT					
COARSE AGGREGATE 86 (ASTM C33, D448)	143.39	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	93.39	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	64.55	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	8.60	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	14.03	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	42.88	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	48.66	NOT SUIT					
MORTAR (ASTM C164)	14.88	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	22.25	MARGINAL	YES				
BYPFIELD RUNWAYS (P. OF M.)	130.92	NOT SUIT					
PIT RUN (P. OF M.)	0.70	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	0.0	SUITABLE	YES				
SHOULDERS (P. OF M.)	22.93	MARGINAL	YES				
	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022006 01919W26SWH6146A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3252.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 732.40 AFTER 716.10 % LOSS 2.23

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4	IN		0.0	0.0	100.00
1/2	IN		0.0	0.0	100.00
1/2	IN		0.0	0.0	100.00
1/2	IN		0.0	0.0	100.00
1/2	IN	74.10	2.10	97.90	2.10
3/4	IN	204.40	5.79	92.11	7.89
5/8	IN	15.40	1.94	90.18	9.82
3/8	IN	37.10	4.67	85.51	14.49
1/4	IN	74.20	9.33	76.10	23.82
1/4	IN	86.40	10.87	65.31	34.69
1/4	IN	48.20	6.06	59.25	20.75
1/8	IN	146.00	18.36	40.89	59.11
1/16	IN	36.50	4.60	30.20	6.32
1/32	IN	103.17	5.47	30.81	69.19
1/64	IN	147.70	18.56	19.25	87.75
1/128	IN	40.90	1.14	1.14	92.89
1/256	IN	21.60	2.72	4.30	95.61
1/512	IN	9.00	4.96	3.14	96.86
1/1024	IN	2.20	0.20	2.07	97.13
1/2048	IN	0.50	0.05	0.05	97.95
>200 + M	IN	16.30	2.05	0.0	100.00

TOTALS 732.40 3530.90

SPLITTING FACTOR 4.44

FINENESS MODULUS 4.81

% COBBLES 0.0 % PEBBLES 40.75 % GRANULES 22.97 % SAND 34.23 % SILT/CLAY 2.05

INDUSTRIAL USAGE ASSESSMENT

022006 01919W26SWH6146A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	REMOVED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	7.29	MARGINAL	YES				
ASPHALT B (P. OF M.)	1.29	MARGINAL	YES				
ASPHALT C (P. OF M.)	61.25	NOT SUIT					
BASE COURSE A (P. OF M.)	13.02	MARGINAL	YES				
BASE COURSE B (P. OF M.)	1.02	MARGINAL	YES				
BASE COURSE C (P. OF M.)	1.02	MARGINAL	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	16.42	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	14.02	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	10.62	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	20.02	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	19.02	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	56.02	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF M.)	15.21	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	10.89	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	3.05	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.05	SUITABLE	YES				
SEAL COAT A (P. OF M.)	65.41	NOT SUIT					
SEAL COAT B (P. OF M.)	0.00	SUITABLE	YES				
SEAL COAT C (P. OF M.)	0.00	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	213.16	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	203.16	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	203.16	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33, D448)	194.46	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	138.71	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	192.24	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	123.59	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	184.85	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	186.10	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	151.70	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	151.77	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	111.19	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	107.66	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	102.64	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	111.09	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	109.54	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	60.58	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	53.80	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	15.15	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (P. OF M.)	26.01	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	66.26	NOT SUIT					
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	55.90	NOT SUIT					
MORTAR (ASTM C144)	25.99	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	41.26	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	103.14	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	22.11	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022006 01919W29NEHG014A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2335.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 846.40 AFTER 824.50 % LOSS 2.59

STEEVE SIZE	FINE FRACTION (GMS.)	STEEVE WEIGHTS (GMS.)	PERCENT WEIGHTS (GMS.)	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		687.90	19.11	99.59	10.11
1/2 IN		678.80	20.09	100.00	0.0
1/2 IN		675.60	19.87	99.47	0.53
1/4 IN	46.90	11.55	24.65	99.54	0.46
1/4 IN	52.10	12.57	27.70	99.99	0.01
1/4 IN	52.60	12.59	27.87	99.97	0.03
1/4 IN	102.60	26.77	50.00	99.99	0.01
1/4 IN	92.50	25.77	50.00	99.99	0.01
1/4 IN	110.00	30.34	50.00	99.99	0.01
1/4 IN	57.20	14.06	33.70	99.50	0.50
1/4 IN	128.60	32.00	60.00	100.00	0.00
1/4 IN	128.60	32.00	60.00	100.00	0.00
1/4 IN	96.30	24.00	44.00	99.50	0.50
1/4 IN	96.60	24.00	44.00	99.50	0.50
1/4 IN	96.60	24.00	44.00	99.50	0.50
<200 + M	10.60	2.67	0.99	99.99	0.01
<200 + M	21.73	5.96	1.67	0.00	100.00
TOTALS	839.73	3599.38			
SPLITTING FACTOR	2.76				
FINENESS MODULUS	6.03				
% COBBLES	0.0	% PEBBLES	62.67	% GRANULES	10.83
				% SAND	24.84
				% SILT/CLAY	1.67

INDUSTRIAL USAGE ASSESSMENT

022006 01919W29NEHG014A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	4.56	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	57.57	NOT SUIT					
BASE COURSE A (P. OF M.)	9.98	MARGINAL	YES	YES			
BASE COURSE B (P. OF M.)	8.09	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	1.94	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	9.64	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	7.68	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	21.73	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	14.88	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	56.88	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	5.41	MARGINAL	YES	YES			
TRAFFIC GRAVEL B (P. OF M.)	5.41	MARGINAL	YES	YES			
TRAFFIC GRAVEL C (P. OF M.)	0.53	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	66.27	NOT SUIT					
SEAL COAT B (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33-D448)	163.57	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33-D448)	133.74	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33-D448)	124.10	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33-D448)	121.89	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33-D448)	74.35	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33-D448)	157.42	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33-D448)	89.40	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33-D448)	120.95	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33-D448)	149.40	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D448)	99.93	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33-D448)	130.03	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33-D448)	101.34	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33-D448)	62.14	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33-D448)	62.19	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33-D448)	150.37	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33-D448)	150.37	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33-D448)	99.84	NOT SUIT					
COARSE AGGREGATE 18 (ASTM C33-D448)	99.84	NOT SUIT					
COARSE AGGREGATE 19 (ASTM C33-D448)	102.81	NOT SUIT					
COARSE AGGREGATE 20 (ASTM C33-D448)	102.81	NOT SUIT					
COARSE AGGREGATE 21 (ASTM C33-D448)	62.19	NOT SUIT					
COARSE AGGREGATE 22 (ASTM C33-D448)	62.19	NOT SUIT					
COARSE AGGREGATE 23 (ASTM C33-D448)	126.53	MARGINAL	YES				YES
COARSE AGGREGATE 24 (ASTM C33-D448)	87.50	MARGINAL	YES				
COARSE AGGREGATE 25 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 26 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 27 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 28 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 29 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 30 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 31 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 32 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 35 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 36 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 37 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 38 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 39 (ASTM C33-D448)	10.52	NOT SUIT					
COARSE AGGREGATE 40 (ASTM C33-D448)	10.52	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	32.78	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	90.74	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.N.A.)	13.81	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022006 01919W32SEH6005A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3543.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 1056.50 AFTER 1023.90 % LOSS 3.09

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	93.91	6.09
1/2 IN		0.0	0.0	87.85	12.15
1/2 IN		0.0	0.0	76.79	23.21
1/2 IN		0.0	0.0	66.74	33.26
1/2 IN		0.0	0.0	60.54	39.46
1/2 IN		0.0	0.0	56.53	43.47
1/2 IN		0.0	0.0	50.54	49.46
1/2 IN		0.0	0.0	46.00	53.99
1/2 IN		0.0	0.0	42.00	57.99
1/2 IN		0.0	0.0	38.00	61.99
1/2 IN		0.0	0.0	34.00	65.99
1/2 IN		0.0	0.0	30.00	69.99
1/2 IN		0.0	0.0	26.00	73.99
1/2 IN		0.0	0.0	22.00	77.99
1/2 IN		0.0	0.0	18.00	81.99
1/2 IN		0.0	0.0	14.00	85.99
1/2 IN		0.0	0.0	10.00	91.99
1/2 IN		0.0	0.0	6.00	94.99
1/2 IN		0.0	0.0	2.00	97.99
<200 + M	32.55	109.15	2.00	0.0	100.00

TOTALS 1054.74 5303.20

SPLITTING FACTOR 3.35

FINENESS MODULUS 5.56

% COBBLES 0.0 % PEBBLES 54.10 % GRANULES 10.13 % SAND 33.71 % SILT/CLAY 2.06

INDUSTRIAL USAGE ASSESSMENT

022006 01919W32SEH6005A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	3.91	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	56.12	NOT SUIT					
BASE COURSE A (P. OF M.)	8.83	MARGINAL	YES	YES			
BASE COURSE B (P. OF M.)	8.24	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	1.81	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	0.13	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	9.93	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	7.69	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	20.69	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	13.69	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	44.54	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	22.50	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL B (P. OF M.)	5.13	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	8.51	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL D (P. OF M.)	0.00	SUITABLE	YES				
SEAL COAT A (P. OF M.)	90.54	NOT SUIT					
SEAL COAT B (P. OF M.)	0.00	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.00	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTH C33, D448)	179.00	NOT SUIT					
COARSE AGGREGATE 1 (ASTH C33, D448)	0.00	NOT SUIT					
COARSE AGGREGATE 2 (ASTH C33, D448)	140.70	NOT SUIT					
COARSE AGGREGATE 3 (ASTH C33, D448)	135.87	NOT SUIT					
COARSE AGGREGATE 357 (ASTH C33, D448)	80.01	NOT SUIT					
COARSE AGGREGATE 4 (ASTH C33, D448)	137.04	NOT SUIT					
COARSE AGGREGATE 467 (ASTH C33, D448)	75.91	NOT SUIT					
COARSE AGGREGATE 556 (ASTH C33, D448)	140.43	NOT SUIT					
COARSE AGGREGATE 56 (ASTH C33, D448)	132.60	NOT SUIT					
COARSE AGGREGATE 57 (ASTH C33, D448)	98.17	NOT SUIT					
COARSE AGGREGATE 6 (ASTH C33, D448)	138.97	NOT SUIT					
COARSE AGGREGATE 67 (ASTH C33, D448)	112.36	NOT SUIT					
COARSE AGGREGATE 68 (ASTH C33, D448)	112.36	NOT SUIT					
COARSE AGGREGATE 78 (ASTH C33, D448)	112.94	NOT SUIT					
COARSE AGGREGATE 89 (ASTH C33, D448)	129.60	NOT SUIT					
COARSE AGGREGATE 9 (ASTH C33, D448)	90.00	NOT SUIT					
COARSE AGGREGATE 10 (ASTH C33, D448)	89.00	MARGINAL	YES				
FALSE CONCRETE AGGREGATE I (ASTH C33, C404)	0.00	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTH C33, C404)	20.50	MARGINAL	YES				
MORTAR (ASTH C44)	1.37	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	1.00	MARGINAL	YES				
BUILT-UP ROOFS (ASTH D1863)	120.04	NOT SUIT					
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	5.93	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.00	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022006 01919W32NEH6081A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4005.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 787.40 AFTER 787.40 % LOSS 0.0

STIEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		648.00	15.07	84.73	15.27
5/8 IN		502.90	9.07	79.20	20.79
5/8 IN	40.60	396.55	7.14	72.10	27.09
5/8 IN	34.40	206.51	3.74	68.41	31.59
5/8 IN	45.00	228.93	4.13	65.20	34.74
5/8 IN	83.50	424.50	7.65	53.14	36.86
5/8 IN	38.40	195.36	3.55	49.97	50.03
5/8 IN	99.20	504.67	9.09	40.69	59.31
#10	32.90	167.37	3.01	37.87	62.13
#10	72.30	367.82	6.62	31.25	68.75
#30	254.60	1295.25	23.32	7.92	92.08
#40	53.60	272.68	4.91	3.01	96.99
#50	17.20	87.50	1.58	1.44	98.56
#80	6.90	35.10	0.63	0.81	99.19
#100	0.90	4.58	0.08	0.72	99.28
#200	2.00	10.17	0.18	0.54	99.46
<200 + M	5.90	30.02	0.54	0.0	100.00
TOTALS	787.40	5553.28			
SPLITTING FACTOR	5.09				
FINENESS MODULUS	5.50				
% COBBLES	0.0	% PEBBLES	50.03	% GRANULES	12.10
				% SAND	37.33
				% SILT/CLAY	0.54

INDUSTRIAL USAGE ASSESSMENT

022006 01919W32NEH6081A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	12.23	MARGINAL	YES	YES			
ASPHALT B (P. OF M.)	68.09	MARGINAL	NOT SUIT	YES	YES		
BASE COURSE (P. OF M.)	12.81	MARGINAL	YES	YES			
BASE COURSE (P. OF M.)	12.82	MARGINAL	YES	YES			
SUB-BASE COURSE (P. OF M.)	7.42	MARGINAL	YES	YES			
SUB-BASE COURSE (P. OF M.)	7.42	MARGINAL	YES	YES			
SUB-BASE COURSE (P. OF M.)	7.42	MARGINAL	YES	YES			
SUB-BASE COURSE (P. OF M.)	7.42	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	7.0	MARGINAL	NOT SUIT				
TRAFFIC GRAVEL B (P. OF M.)	7.0	MARGINAL	NOT SUIT				
TRAFFIC GRAVEL C (P. OF M.)	10.22	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL D (P. OF M.)	1.22	MARGINAL	YES	YES			
SEAL COAT A (P. OF M.)	83.68	NOT SUIT					
SEAL COAT B (P. OF M.)	6.57	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	176.86	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	169.86	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	149.13	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33, D448)	139.27	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	89.51	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	142.82	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	88.52	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	164.32	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	163.30	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	110.69	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	147.48	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	121.73	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	126.15	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	120.72	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	139.04	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	142.10	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	92.10	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	71.24	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	12.08	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	15.91	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	48.00	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	49.00	NOT SUIT					
MORTAR (ASTM C144)	23.49	MARGINAL	YES				
PORTLAND CEMENT (P.T.A.)	28.97	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	120.27	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	6.29	MARGINAL	YES				
DRY RUMPS (P. OF M.)	6.13	SUITABLE	YES				
SEPTIC FIELDS (M.A.)	15.13	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022006 01919W33SWH6003A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4245.60 GMS. MASHED SAMPLE - WEIGHT BEFORE 1058.50 AFTER 1048.10 % LOSS 0.98

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT %	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		144.00	16	96.84	16
1/2 IN		0.0	0.0	96.84	16
1/2 IN		116.00	26	92.44	23
3/4 IN		93.00	0.0	91.73	8.27
5/8 IN		27.00	0.0	90.43	11.56
1/2 IN	6.90	60.00	1.0	89.95	0.05
3/8 IN		15.00	1.0	89.48	1.52
1/4 IN		88.04	1.0	88.96	1.04
1/4 IN		53.20	1.0	88.52	1.48
1/4 IN	53.90	216.19	1.0	88.09	1.91
1/4 IN		213.50	1.0	87.66	2.33
1/8 IN	161.50	649.37	14.0	64.91	35.09
1/16 IN	65.40	262.32	1.0	59.16	0.82
1/32 IN	206.60	829.47	10.0	47.05	52.95
1/64 IN	293.80	1178.42	25.0	15.31	84.69
1/128 IN	90.70	363.79	7.0	7.56	92.44
1/256 IN	32.40	129.95	2.0	4.52	95.48
1/512 IN	24.20	97.07	2.12	2.40	97.60
1/1024 IN	5.50	22.06	0.48	1.92	98.08
1/2048 IN	11.50	46.13	1.01	0.91	99.09
<200 + M	10.55	41.52	0.91	0.0	100.00

TOTALS 1053.65 4576.74

SPLITTING FACTOR 4.01

FINENESS MODULUS 4.16

% COBBLES 3.16 % PEBBLES 17.74 % GRANULES 19.92 % SAND 58.27 % SILT/CLAY 0.91

INDUSTRIAL USAGE ASSESSMENT

022006 01919W33SWH6003A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	38.63	NOT SUIT	YES	YES	YES	YES	YES
ASPHALT C (P. OF M.)	23.93	MARGINAL	NO	NO	NO	NO	NO
BASE COURSE (P. OF M.)	17.30	NOT SUIT	YES	YES	YES	YES	YES
BASE COURSE (P. OF M.)	17.30	MARGINAL	NO	NO	NO	NO	NO
SUB BASE COURSE (P. OF M.)	720.00	NOT SUIT	NO	NO	NO	NO	NO
SUB BASE SURFACE (P. OF M.)	800.00	NOT SUIT	NO	NO	NO	NO	NO
SUB BASE SURFACE (P. OF M.)	800.00	MARGINAL	YES	YES	YES	YES	YES
SUB BASE SURFACE (P. OF M.)	800.00	MARGINAL	YES	YES	YES	YES	YES
SUB BASE SURFACE (P. OF M.)	800.00	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL (P. OF M.)	291.73	NOT SUIT	NO	NO	NO	NO	NO
TRAFFIC GRAVEL (P. OF M.)	291.73	MARGINAL	NO	NO	NO	NO	NO
TRAFFIC GRAVEL (P. OF M.)	291.73	MARGINAL	YES	YES	YES	YES	YES
SURF COAT A (P. OF M.)	140.00	NOT SUIT	NO	NO	NO	NO	NO
SURF COAT B (P. OF M.)	140.00	MARGINAL	YES	YES	YES	YES	YES
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
COARSE AGGREGATE (ASTM C33, D4468)	200.01	NOT SUIT	NO	NO	NO	NO	NO
FINE CONCRETE AGGREGATE (P. OF M.)	9.10	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	28.45	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	45.97	NOT SUIT	NO	NO	NO	NO	NO
MORTAR (ASTM C144)	12.94	MARGINAL	YES	YES	YES	YES	YES
PORTLAND CEMENT (P.C.A.)	13.20	MARGINAL	YES	YES	YES	YES	YES
BUILT-UP ROOFS (ASTM D1863)	162.26	NOT SUIT	NO	NO	NO	NO	NO
AIRFIELD RUNWAYS (P. OF M.)	27.10	MARGINAL	YES	YES	YES	YES	YES
PIT RUN (P. OF M.)	6.68	MARGINAL	YES	YES	YES	YES	YES
SEPTIC FIELDS (U.M.A.)	25.50	MARGINAL	YES	YES	YES	YES	YES
SHOULDERS (P. OF M.)	11.68	MARGINAL	YES	YES	YES	YES	YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022006 01919W33SWHG004

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3714.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 951.00 AFTER 948.30 % LOSS 0.28

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	33.80	0.08	99.12	0.88
1/2	TN	100.60	2.43	96.51	3.49
1/2	TN	55.07	0.43	95.08	4.92
1/2	TN	75.97	0.47	94.61	5.39
1/2	TN	21.20	0.47	91.84	8.16
1/2	TN	109.63	0.77	88.78	11.22
1/2	TN	59.26	0.56	86.20	13.80
1/2	TN	27.33	0.58	79.87	20.13
1/2	TN	92.94	0.58	77.53	22.47
1/2	TN	68.90	0.58	70.58	25.42
1/2	TN	263.75	0.58	64.76	35.24
1/2	TN	493.00	0.58	64.81	38.19
1/2	TN	693.75	0.58	63.73	36.27
1/2	TN	113.75	0.60	62.07	37.93
1/2	TN	59.00	0.60	61.70	38.30
1/2	TN	11.20	0.60	61.14	38.86
<200 + M		43.75	1.14	0.0	100.00

TOTALS 951.00 3848.90

SPLITTING FACTOR 3.91

FINENESS MODULUS 3.21

% COBBLES 0.0 % PEBBLES 13.80 % GRANULES 8.67 % SAND 76.39 % SILT/CLAY 1.14

INDUSTRIAL USAGE ASSESSMENT

022006 01919W33SWHG004

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	50.64	NOT SUIT				YES	YES
ASPHALT C (P. OF M.)	49.64	NOT SUIT				YES	YES
BASE COURSE A (P. OF M.)	51.28	NOT SUIT				YES	YES
BASE COURSE B (P. OF M.)	26.59	MARGINAL				YES	YES
BASE COURSE C (P. OF M.)	9.26	MARGINAL				YES	YES
SUB-BASE/BASE COURSE A (ASTM D1241)	98.24	NOT SUIT				YES	YES
SUB-BASE/BASE COURSE B (ASTM D1241)	63.55	NOT SUIT				YES	YES
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	61.69	NOT SUIT				YES	YES
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	20.03	MARGINAL	YES	YES		YES	YES
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	4.85	MARGINAL	YES	YES		YES	YES
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	14.85	MARGINAL	YES	YES		YES	YES
TRAFFIC GRAVEL A (P. OF M.)	79.51	NOT SUIT				YES	YES
TRAFFIC GRAVEL B (P. OF M.)	59.51	NOT SUIT				YES	YES
TRAFFIC GRAVEL C (P. OF M.)	45.63	NOT SUIT				YES	YES
TRAFFIC GRAVEL D (P. OF M.)	17.21	MARGINAL	YES			YES	YES
SEAL COAT A (P. OF M.)	118.28	NOT SUIT				YES	YES
SEAL COAT B (P. OF M.)	29.16	MARGINAL	YES			YES	YES
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES			YES	YES
COARSE AGGREGATE 1 (ASTM C33, D448)	216.64	NOT SUIT				YES	YES
COARSE AGGREGATE 2 (ASTM C33, D448)	206.64	NOT SUIT				YES	YES
COARSE AGGREGATE 24 (ASTM C33, D448)	216.26	NOT SUIT				YES	YES
COARSE AGGREGATE 3 (ASTM C33, D448)	203.87	NOT SUIT				YES	YES
COARSE AGGREGATE 357 (ASTM C33, D448)	175.07	NOT SUIT				YES	YES
COARSE AGGREGATE 4 (ASTM C33, D448)	212.61	NOT SUIT				YES	YES
COARSE AGGREGATE 467 (ASTM C33, D448)	169.68	NOT SUIT				YES	YES
COARSE AGGREGATE 5 (ASTM C33, D448)	213.10	NOT SUIT				YES	YES
COARSE AGGREGATE 56 (ASTM C33, D448)	239.29	NOT SUIT				YES	YES
COARSE AGGREGATE 57 (ASTM C33, D448)	185.81	NOT SUIT				YES	YES
COARSE AGGREGATE 6 (ASTM C33, D448)	200.33	NOT SUIT				YES	YES
COARSE AGGREGATE 67 (ASTM C33, D448)	190.33	NOT SUIT				YES	YES
COARSE AGGREGATE 68 (ASTM C33, D448)	226.54	NOT SUIT				YES	YES
COARSE AGGREGATE 7 (ASTM C33, D448)	177.61	NOT SUIT				YES	YES
COARSE AGGREGATE 78 (ASTM C33, D448)	225.39	NOT SUIT				YES	YES
COARSE AGGREGATE 89 (ASTM C33, D448)	205.92	NOT SUIT				YES	YES
COARSE AGGREGATE 90 (ASTM C33, D448)	150.39	NOT SUIT				YES	YES
COARSE AGGREGATE 10 (ASTM C33, D448)	117.37	NOT SUIT				YES	YES
FINE CONCRETE AGGREGATE (P. OF M.)	0.00	MARGINAL	YES			YES	YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	32.37	MARGINAL	YES			YES	YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	0.39	MARGINAL	YES			YES	YES
MORTAR (ASTM C144)	99.95	MARGINAL	YES			YES	YES
BUILT UP ROOFS (ASTM D1863)	152.21	MARGINAL	YES			YES	YES
AIRFIELD RUNWAYS (P. OF M.)	44.50	NOT SUIT				YES	YES
PIT RUN (P. OF M.)	32.51	MARGINAL	YES			YES	YES
SEPTIC FIELDS (U.M.A.)	60.24	MARGINAL	YES			YES	YES
SHOULDERS (P. OF M.)	16.20	MARGINAL	YES			YES	YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022007A01920W21SWH6002A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2468.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 714.60 AFTER 710.00 % LOSS 0.64

STIEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	IN	0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/8 IN	7.70	0.0	0.0	100.00	0.0
1/2 IN	7.30	0.0	0.0	100.00	0.0
1/8 IN	11.80	0.0	0.0	100.00	0.0
1/4 IN	42.90	0.0	0.0	100.00	0.0
1/8 IN	44.50	0.0	0.0	100.00	0.0
1/4 IN	121.10	0.0	0.0	100.00	0.0
1/8 IN	129.80	0.0	0.0	100.00	0.0
1/16 IN	134.80	0.0	0.0	100.00	0.0
1/32 IN	200.80	0.0	0.0	100.00	0.0
1/64 IN	288.50	0.0	0.0	100.00	0.0
1/128 IN	19.40	0.0	0.0	100.00	0.0
1/256 IN	15.00	0.0	0.0	100.00	0.0
1/512 IN	15.00	0.0	0.0	100.00	0.0
1/1024 IN	15.00	0.0	0.0	100.00	0.0
<200 + M	14.10	0.0	0.0	100.00	0.0

TOTALS 714.60 2544.80

SPLITTING FACTOR 3.45

FINENESS MODULUS 4.02

% COBBLES 0.0 % PEBBLES 18.51 % GRANULES 22.93 % SAND 56.65 % SILT/CLAY 1.91

INDUSTRIAL USAGE ASSESSMENT

022007A01920W21SWH6002A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	32.65	NOT SUIT					
ASPHALT B (P. OF M.)	17.65	MARGINAL	YES	YES	YES		
ASPHALT C (P. OF M.)	61.78	NOT SUIT					
BASE COURSE A (P. OF M.)	32.40	NOT SUIT					
BASE COURSE B (P. OF M.)	15.79	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	3.58	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	73.71	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	67.22	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	47.10	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	23.15	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	16.15	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	28.15	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL A (P. OF M.)	55.30	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	35.30	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	25.67	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL D (P. OF M.)	14.13	MARGINAL	YES	YES	YES		
SEAL COAT A (P. OF M.)	94.03	NOT SUIT					
SEAL COAT B (P. OF M.)	15.82	MARGINAL	YES	YES	YES		
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES	YES			
COPARSON AGGREGATE 1 (ASTM C33, D2440)	217.91	NOT SUIT					
COPARSON AGGREGATE 2 (ASTM C33, D2440)	202.73	NOT SUIT					
COPARSON AGGREGATE 3 (ASTM C33, D2440)	0.67	NOT SUIT					
COPARSON AGGREGATE 4 (ASTM C33, D2440)	140.58	NOT SUIT					
COPARSON AGGREGATE 5 (ASTM C33, D2440)	170.07	NOT SUIT					
COPARSON AGGREGATE 6 (ASTM C33, D2440)	245.77	NOT SUIT					
COPARSON AGGREGATE 7 (ASTM C33, D2440)	215.79	NOT SUIT					
COPARSON AGGREGATE 8 (ASTM C33, D2440)	215.22	NOT SUIT					
COPARSON AGGREGATE 9 (ASTM C33, D2440)	197.45	NOT SUIT					
COPARSON AGGREGATE 10 (ASTM C33, D2440)	102.42	NOT SUIT					
COPARSON AGGREGATE 11 (ASTM C33, D2440)	199.84	NOT SUIT					
COPARSON AGGREGATE 12 (ASTM C33, D2440)	174.49	NOT SUIT					
COPARSON AGGREGATE 13 (ASTM C33, D2440)	100.37	NOT SUIT					
COPARSON AGGREGATE 14 (ASTM C33, D2440)	100.03	NOT SUIT					
COPARSON AGGREGATE 15 (ASTM C33, D2440)	162.02	NOT SUIT					
COPARSON AGGREGATE 16 (ASTM C33, D2440)	103.18	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D2440)	60.20	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D2440)	60.04	MARGINAL	YES	YES			
FINE CONCRETE AGGREGATE I (P. OF M.)	10.04	MARGINAL	YES	YES			
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	40.42	NOT SUIT					
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	50.45	NOT SUIT					
MORTAR (ASTM C144)	15.17	MARGINAL	YES	YES			
PORTLAND CEMENT (P.C.A.)	20.10	MARGINAL	YES	YES			
BUILT-UP ROOFS (ASTM D1863)	158.81	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	24.35	MARGINAL	YES	YES			
PIT RUN (P. OF M.)	6.49	MARGINAL					
SEPTIC FIELDS (U.M.A.)	26.99	MARGINAL					
SHOULDERS (P. OF M.)	11.49	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022007A01920W21SWH6068

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3969.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 709.70 AFTER 694.90 % LOSS 2.09

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
1/2 TN		0.0	0.0	100.00	0.0
1/2 IN	469.00	0.0	0.0	100.00	0.0
1/2 IN	0.0	9.68	9.68	90.32	9.68
1/2 IN	109.00	0.0	0.0	20.26	11.94
1/2 IN	175.50	0.0	0.0	88.06	15.55
1/4 IN	131.50	0.0	0.0	84.45	18.26
1/4 IN	0.0	1.91	1.91	79.83	20.17
1/4 IN	154.50	0.0	0.0	78.71	21.29
1/4 IN	105.00	0.0	0.0	74.62	25.38
1/4 IN	105.00	0.0	0.0	74.62	32.78
1/4 IN	105.00	0.0	0.0	59.04	40.96
1/4 IN	105.00	0.0	0.0	57.35	62.65
1/4 IN	105.00	0.0	0.0	51.24	68.76
1/4 IN	105.00	0.0	0.0	50.22	79.58
1/4 IN	105.00	0.0	0.0	49.95	93.04
1/4 IN	105.00	0.0	0.0	48.95	95.05
1/4 IN	105.00	0.0	0.0	43.82	96.18
1/4 IN	105.00	0.0	0.0	42.64	97.36
1/4 IN	105.00	0.0	0.0	41.60	97.60
1/4 IN	105.00	0.0	0.0	41.29	98.30
<200 + M	14.80	82.78	1.70	0.0	100.00

TOTALS 709.70 4856.29

SPLITTING FACTOR 5.59

FINENESS MODULUS 5.25

% COBBLES 9.68 % PEBBLES 30.39 % GRANULES 28.70 % SAND 29.53 % SILT/CLAY 1.70

INDUSTRIAL USAGE ASSESSMENT

022007A01920W21SWH6068

* * * * * NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS * * * * *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	13.56	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	62.73	MARGINAL	YES			YES	
ASPHALT COURSE (P. OF M.)	62.73	NOT SUIT					
BASE COURSE (P. OF M.)	108.48	MARGINAL	YES			YES	
BASE COURSE (P. OF M.)	111.44	MARGINAL	YES			YES	
BASE COURSE (P. OF M.)	112.11	MARGINAL	YES			YES	
SUB-BASE COURSE (P. OF M.)	31.60	NOT SUIT					
SUB-BASE COURSE (P. OF M.)	26.20	MARGINAL	YES			YES	
SUB-BASE SURFACE COURSE (ASTM D1241)	21.46	MARGINAL	YES			YES	
SUB-BASE SURFACE COURSE (ASTM D1241)	28.13	MARGINAL	YES			YES	
SUB-BASE SURFACE COURSE (ASTM D1241)	21.13	MARGINAL	YES			YES	
SUB-BASE SURFACE COURSE (ASTM D1241)	48.13	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	29.48	MARGINAL	YES			YES	
TRAFFIC GRAVEL B (P. OF M.)	19.32	MARGINAL	YES			YES	
TRAFFIC GRAVEL C (P. OF M.)	8.32	MARGINAL	YES			YES	
TRAFFIC GRAVEL D (P. OF M.)	0.98	MARGINAL	YES			YES	
SEAL COAT A (P. OF M.)	62.18	NOT SUIT					
SEAL COAT B (P. OF M.)	6.15	MARGINAL	YES			YES	
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	180.83	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	170.83	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	174.21	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	189.02	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	142.88	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	192.49	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	135.36	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	167.88	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	205.94	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	125.79	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	178.56	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	134.59	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	123.77	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	121.40	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	121.38	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	105.71	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	95.51	NOT SUIT					
COARSE AGGREGATE 90 (ASTM C33, D448)	95.75	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	27.81	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	80.93	NOT SUIT					
MORTAR (ASTM C142)	22.28	NOT SUIT					
PORTLAND CEMENT C (P. C.A.)	25.89	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	121.90	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	121.34	MARGINAL	YES			YES	
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	22.82	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022107A01920W26NEH6098A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3403.20 GMS. WASHED SAMPLE - WEIGHT BEFORE 921.60 AFTER 902.90 % LOSS 2.03

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	228.70	0.25	0.25	93.75	0.25
1/4 IN	0.0	0.0	0.0	93.75	0.0
3/8 IN	0.0	0.0	0.0	93.75	0.0
1/2 IN	0.0	0.0	0.0	93.49	0.0
5/8 IN	0.0	0.0	0.0	91.91	0.0
1 IN	15.70	0.0	0.0	90.81	0.19
1 1/2 IN	0.0	0.0	0.0	88.63	0.37
2 IN	79.00	0.0	0.0	86.04	0.95
3 IN	52.00	0.0	0.0	85.99	0.01
5 IN	24.70	0.0	0.0	77.43	0.0
10 IN	0.0	0.0	0.0	65.93	0.07
20 IN	10.70	0.0	0.0	56.04	0.96
50 IN	0.0	0.0	0.0	46.05	0.95
100 IN	0.0	0.0	0.0	37.66	0.24
200 IN	0.0	0.0	0.0	29.20	0.04
^200 + W	20.70	0.0	0.0	20.70	0.0
	18.80	69.44	1.90	1.90	100.00

TOTALS 926.70 3660.34

SPLITTING FACTOR 3.69

FINENESS MODULUS 3.34

% COBBLES 0.0 % PEBBLES 12.96 % GRANULES 9.63 % SAND 75.51 % SILT/CLAY 1.90

INDUSTRIAL USAGE ASSESSMENT

022107A01920W26NEH6098A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	58.03	NOT SUIT					
ASPHALT B (P. OF M.)	48.03	NOT SUIT					
ASPHALT C (P. OF M.)	42.56	NOT SUIT					
BASE COURSE A (P. OF M.)	56.96	NOT SUIT					
BASE COURSE B (P. OF M.)	57.39	NOT SUIT					
BASE COURSE C (P. OF M.)	14.02	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	115.72	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	109.22	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	79.22	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	27.00	MARGINAL					
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	18.70	MARGINAL					
TRAFFIC GRAVEL A (P. OF M.)	1800.00	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	1800.00	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	1800.00	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	1800.00	NOT SUIT					
SHALLOW COAT A (P. OF M.)	12.52	MARGINAL					
SHALLOW COAT B (P. OF M.)	1.01	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D448)	209.14	SUITABLE					
COARSE AGGREGATE 2 (ASTM C33, D448)	299.00	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	299.94	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	180.00	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	180.00	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	180.00	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	180.00	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	180.00	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	126.00	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	126.00	MARGINAL					
FINE CONCRETE AGGREGATE I (P. OF M.)	0.04	SUITABLE					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	0.00	SUITABLE					
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	1.05	MARGINAL					
MORTAR (ASTM C144)	1.00	MARGINAL					
PORTLAND CEMENT (P.C.A.)	33.70	MARGINAL					
BUILT-UP ROOFS (ASTM D1863)	188.49	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	61.30	NOT SUIT					
PIT RUN (P. OF M.)	17.84	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	29.52	MARGINAL	YES				
SHOULDERS (P. OF M.)	22.84	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022007B01920W18NEH6009A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4270.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 691.90 AFTER 674.10 % LOSS 2.57

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE HEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		40.00	0.93	99.07	0.97
1/4 IN		10.00	0.23	98.93	1.07
1/8 IN	0.0	0.0	0.0	98.93	1.07
1/16 IN	2.90	17.90	0.42	98.48	1.52
1/32 IN	4.20	19.75	0.46	97.99	2.01
1/64 IN	4.50	27.77	0.65	97.34	2.66
1/128 IN	4.70	29.01	0.68	96.93	3.07
1/256 IN	22.90	141.34	3.29	93.34	6.66
1/512 IN	7.40	91.96	2.14	91.96	8.00
1/1024 IN	7.40	490.07	11.42	79.78	20.22
1/2048 IN	311.20	1920.77	26.76	55.03	64.96
1/4096 IN	123.70	763.49	17.79	17.23	82.77
1/8192 IN	58.20	359.22	8.37	8.86	95.04
1/16384 IN	33.70	208.00	4.85	4.01	95.99
1/32768 IN	7.80	23.45	0.55	3.46	96.54
1/65536 IN	6.40	35.50	0.92	2.54	97.46
<200 + W	17.68	109.11	2.54	0.0	100.00

TOTALS 687.18 4291.35

SPLITTING FACTOR 6.17

FINENESS MODULUS 2.87

% COBBLES 0.0 % PEBBLES 3.37 % GRANULES 5.44 % SAND 88.65 % SILT/CLAY 2.54

INDUSTRIAL USAGE ASSESSMENT

022007B01920W18NEH6009A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES MATERIAL NOT ON SITE	(MATERIAL <#4)
ASPHALT A (P. OF M.)	74.16	NOT SUIT					
ASPHALT B (P. OF M.)	64.16	NOT SUIT					
ASPHALT C (P. OF M.)	50.96	NOT SUIT					
BASE COURSE A (P. OF M.)	70.47	NOT SUIT					
BASE COURSE B (P. OF M.)	51.03	NOT SUIT					
BASE COURSE C (P. OF M.)	18.99	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	125.79	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	112.31	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	90.91	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	47.64	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	6.04	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	18.04	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF M.)	100.05	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	80.05	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	73.94	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	31.89	NOT SUIT					
SEAL COAT A (P. OF M.)	131.75	NOT SUIT					
SEAL COAT B (P. OF M.)	30.69	NOT SUIT					
SEAL COAT C (P. OF M.)	0.00	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	219.45	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	209.45	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	222.06	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	98.19	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	99.66	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	99.00	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	206.25	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	207.35	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	207.10	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	207.33	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D448)	207.33	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	207.54	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D448)	202.00	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D448)	202.00	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D448)	202.00	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33, D448)	202.00	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33, D448)	202.00	NOT SUIT					
COARSE AGGREGATE 18 (ASTM C33, D448)	202.00	NOT SUIT					
COARSE AGGREGATE 19 (ASTM C33, D448)	202.00	NOT SUIT					
COARSE AGGREGATE 20 (ASTM C33, D448)	202.00	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	28.06	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	28.40	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	28.96	MARGINAL	YES				
MORTAR (ASTM C144)	0.00	SUITABLE	YES				
PORTLAND CEMENT (P.C.A.)	17.69	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	203.40	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	78.82	NOT SUIT					
PIT RUN (P. OF M.)	22.54	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	29.76	MARGINAL	YES				
SHOULDERS (P. OF M.)	26.63	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 6

SAMPLE IDENTIFICATION 022007B01920W19SEH6067A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3003.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 787.80 AFTER 745.50 % LOSS 5.37

STEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	96.00	2.83	97.17	2.83
1/4	TN	168.90	4.97	92.20	7.80
1/8	TN	127.90	3.77	88.43	11.57
1/16	TN	15.25	0.45	87.99	12.01
1/32	TN	3.75	0.24	15.76	
1/64	TN	0.47	0.16	33.84	
1/128	TN	11.61	0.06	40.00	
1/256	TN	6.16	0.03	57.85	
1/512	TN	17.85	0.02	62.63	
1/1024	TN	4.78	0.01	70.59	
1/2048	TN	7.96	0.01	82.84	
1/4096	TN	12.25	0.01	86.56	
1/8192	TN	3.73	0.01	88.64	
1/16384	TN	2.08	0.01	91.74	
1/32768	TN	4.10	0.01	92.61	
1/65536	TN	0.88	0.01	95.25	
1/131072	TN	2.64	0.01		
<200 + W		4.75	0.0	100.00	

TOTALS 787.80 3396.30

SPLITTING FACTOR 3.81

FINENESS MODULUS 4.69

% COBBLES 0.0 % PEBBLES 40.00 % GRANULES 22.63 % SAND 32.62 % SILT/CLAY 4.75

INDUSTRIAL USAGE ASSESSMENT

022007B01920W19SEH6067A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	45.46	NOT SUIT					
BASE COURSE A (P. OF M.)	2.63	MARGINAL	YES	YES			
BASE COURSE B (P. OF M.)	1.17	MARGINAL	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	0.0	SUITABLE					
SUB-BASE/BASE COURSE B (ASTM D1241)	17.77	MARGINAL					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	4.59	MARGINAL	YES	YES			YES
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	0.50	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	13.28	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	5.28	MARGINAL	YES	YES			
TRAFFIC GRAVEL 1 (P. OF M.)	37.93	NOT SUIT					
TRAFFIC GRAVEL 2 (P. OF M.)	15.73	MARGINAL	YES	YES			
TRAFFIC GRAVEL 3 (P. OF M.)	7.00	MARGINAL	YES	YES			
TRAFFIC GRAVEL 4 (P. OF M.)	0.06	SUITABLE	YES				
SEAL COAT A (P. OF M.)	66.01	NOT SUIT					
SEAL COAT B (P. OF M.)	3.02	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	200.96	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	199.56	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	198.59	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	107.00	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	180.07	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	197.01	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	192.01	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	192.00	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	194.01	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	64.58	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	13.46	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	27.64	MARGINAL	YES				
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	59.87	NOT SUIT					
MORTAR (ASTM C144)	45.04	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	24.75	MARGINAL	YES				
BUILT-UP ROOFS (ASTM B663)	118.32	NOT SUIT					
PTT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	21.01	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022007B01920W17NMG006A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3382.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 820.10 AFTER 817.00 % LOSS 0.38

STEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
3 1/2	TN	0.0	0.0	100.00	0.0
2 1/2	TN	0.0	0.0	100.00	0.0
1 1/2	TN	152.90	3.87	99.13	0.87
		70.20	1.78	94.35	5.65
		178.10	4.51	89.84	10.16
		188.00	4.71	85.13	14.87
5 1/2	TN	158.77	4.02	81.10	18.90
1 1/2	TN	85.78	2.17	78.93	21.07
3 1/2	TN	201.60	5.11	73.82	26.18
1 1/4	TN	281.25	7.12	66.70	33.30
# 4		200.01	5.07	61.63	38.37
# 8		48.90	10.40	51.23	48.77
# 10		99.60	144.75	3.67	97.56
# 16		124.90	515.07	13.05	84.51
# 30		243.90	1005.82	25.48	90.97
# 40		45.70	188.46	4.77	4.26
# 50		16.50	68.04	1.72	2.54
# 80		10.50	42.48	1.08	1.46
# 100		2.00	8.25	0.21	1.25
# 200		8.00	36.70	0.93	0.32
<200 + H		3.08	12.70	0.32	100.00

TOTALS 814.88 3947.67

SPLITTING FACTOR 4.12

FINENESS MODULUS 4.87

% COBBLES 0.0 % PEBBLES 38.37 % GRANULES 14.07 % SAND 47.24 % SILT/CLAY 0.32

INDUSTRIAL USAGE ASSESSMENT

022007B01920W17NMG006A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	14.89	MARGINAL	YES	YES	YES	YES	YES
ASPHALT C (P. OF M.)	7.49	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE A (P. OF M.)	67.90	NOT SUIT					
BASE COURSE B (P. OF M.)	20.89	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE C (P. OF M.)	14.14	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE COURSE A (ASTM D1241)	35.67	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE COURSE B (ASTM D1241)	25.62	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	21.44	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	27.90	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	20.90	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	36.36	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	38.61	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	18.61	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	5.50	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL D (P. OF M.)	0.26	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT A (P. OF M.)	87.91	NOT SUIT					
SEAL COAT B (P. OF M.)	8.08	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	YES
COARSE AGGREGATE 1 (ASTM C33, D448)	199.47	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	185.60	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	183.40	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	173.12	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	125.40	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	183.81	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	124.51	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	182.13	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	187.45	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	128.22	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	193.64	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	127.80	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	142.92	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	129.04	NOT SUIT					
COARSE AGGREGATE 86 (ASTM C33, D448)	144.04	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33, D448)	141.71	NOT SUIT					
COARSE AGGREGATE 100 (ASTM C33, D448)	93.66	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	9.95	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	28.04	MARGINAL	YES	YES	YES	YES	YES
MORTAR (ASTM C144-C.A.)	11.38	MARGINAL	YES	YES	YES	YES	YES
PORTLAND CEMENT C. A.	32.38	MARGINAL	YES	YES	YES	YES	YES
BUILT-UP ROOFS (ASTH D1863)	126.40	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.87	MARGINAL	YES	YES	YES	YES	YES
PIT RUN (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	YES
SEPTIC FIELDS (U.M.A.)	20.22	MARGINAL	YES	YES	YES	YES	YES
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022007B01920W18NEHG008A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 5142.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 1133.80 AFTER 1128.90 % LOSS 0.43

STEVE SIZE	FINE FRACTION (GMS.)	STEEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 IN		0.0	0.0	100.00	0.0
2 1/2 IN		0.0	0.0	100.00	0.0
2 IN		0.0	0.0	100.00	0.0
1 1/2 IN		0.0	0.0	100.00	0.0
1 1/4 IN		267.90	4.77	95.23	4.77
5/8 IN	64.80	291.40	5.59	91.64	8.36
1/2 IN	41.90	190.04	5.24	86.40	13.59
3/8 IN	69.90	317.03	5.39	83.01	16.99
1/4 IN	89.30	405.02	5.65	77.36	22.64
7/16 IN	72.90	330.63	5.89	70.15	29.85
15/32 IN	164.40	745.63	13.29	50.97	49.03
10 IN	63.50	288.00	5.13	45.83	54.17
16 IN	199.50	904.82	16.12	29.71	70.29
32 IN	280.30	1271.29	22.65	7.06	92.94
40 IN	34.80	157.83	2.81	4.24	95.76
50 IN	11.90	53.97	0.96	3.28	96.72
80 IN	9.80	44.45	0.79	2.49	97.51
100 IN	2.40	10.89	0.19	2.30	97.70
200 IN	7.50	34.02	0.61	1.69	98.31
<200 + M	20.90	94.79	1.69	0.0	100.00

TOTALS 1133.80 5611.58

SPLITTING FACTOR 4.54

FINENESS MODULUS 4.73

% COBBLES 0.0 % PEBBLES 35.75 % GRANULES 18.42 % SAND 44.15 % SILT/CLAY 1.69

INDUSTRIAL USAGE ASSESSMENT

022007B01920W18NEHG008A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <8200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES NOT ON SITE	(MATERIAL <84)
ASPHALT A (P. OF M.)	11.36	MARGINAL	YES	YES	YES		
ASPHALT B (P. OF M.)	5.53	MARGINAL	YES	YES			
ASPHALT C (P. OF M.)	65.81	NOT SUIT					
BASE COURSE A (P. OF M.)	16.64	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	13.07	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	12.55	MARGINAL					
SUB-BASE COURSE A (ASTM D1241)	31.98	NOT SUIT					
SUB-BASE COURSE B (ASTM D1241)	21.79	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE SURFACE COURSE C (ASTM D1241)	16.25	MARGINAL	YES	YES			
SUB-BASE SURFACE COURSE D (ASTM D1241)	26.77	MARGINAL	YES	YES			
SUB-BASE SURFACE COURSE E (ASTM D1241)	19.77	MARGINAL	YES	YES			
SUB-BASE SURFACE COURSE F (ASTM D1241)	6.16	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	1.29	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL B (P. OF M.)	1.29	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL C (P. OF M.)	1.29	MARGINAL	YES	YES	YES	YES	
SEAL COAT A (P. OF M.)	8.90	NOT SUIT					
SEAL COAT B (P. OF M.)	7.40	MARGINAL	YES	YES	YES		
COARSE AGGREGATE 1 (ASTM C33, D648)	21.93	MOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D648)	26.92	MOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D648)	26.93	MOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D648)	26.93	MOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D648)	26.93	MOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D648)	26.74	MOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D648)	26.22	MOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D648)	26.22	MOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D648)	26.22	MOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D648)	26.22	MOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	10.44	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	10.44	MOT SUIT					
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	10.44	MOT SUIT					
MORTAR (ASTM C144)	1.78	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	1.78	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	32.15	MOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.54	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	0.0	SUITABLE					
SHOULDERS (P. OF M.)	21.64	MARGINAL					
	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

YES

YES

SAMPLE IDENTIFICATION 022008 01921W23SMHG079A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3134.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 729.20 AFTER 701.10 % LOSS 3.85

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		222.90	9.70	94.30	5.70
1/2 IN		379.20	9.70	86.60	13.40
1/2 IN		172.50	4.41	89.10	9.89
3/4 IN	14.60	62.70	1.61	79.50	20.50
1/2 IN	17.40	74.70	1.91	78.60	21.40
3/8 IN	14.00	60.10	1.54	75.40	24.60
1/4 IN	14.40	147.80	3.78	71.24	28.76
1/4 IN	13.40	57.60	1.47	65.07	34.93
1/8 IN	41.50	178.30	4.56	63.93	36.07
10	13.40	57.60	1.47	63.03	36.97
16	23.10	99.29	1.54	61.29	38.71
30	158.50	681.28	17.43	83.86	16.14
40	165.60	713.79	18.21	78.69	21.31
50	101.90	437.99	11.21	14.49	85.50
60	80.30	345.15	8.03	5.62	94.38
100	10.30	44.27	1.13	2.49	97.51
# 200	12.70	54.59	1.40	3.09	96.91
<200 + M	28.10	120.76	3.09	0.0	100.00

TOTALS 729.20 3908.90

SPLITTING FACTOR 4.30

FINENESS MODULUS 3.91

% COBBLES 0.0 % PEBBLES 30.13 % GRANULES 6.04 % SAND 60.74 % SILT/CLAY 3.09

INDUSTRIAL USAGE ASSESSMENT

022008 01921W23SMHG079A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING MATERIAL REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	67.43	NOT SUIT					
ASPHALT B (P. OF M.)	38.74	NOT SUIT					
ASPHALT C (P. OF M.)	36.14	NOT SUIT					
BASE COURSE A (P. OF M.)	47.88	NOT SUIT					
BASE COURSE B (P. OF M.)	36.42	MARGINAL	YES	YES			YES
BASE COURSE C (P. OF M.)	30.91	MARGINAL					
SUB-BASE BASE COURSE A (ASTM D1241)	54.48	NOT SUIT					
SUB-BASE BASE COURSE B (ASTM D1241)	30.24	NOT SUIT					
SUB-BASE BASE SURFACE COURSE C (ASTM D1241)	40.92	NOT SUIT					
SUB-BASE BASE SURFACE COURSE D (ASTM D1241)	30.80	MARGINAL	YES	YES			YES
SUB-BASE BASE SURFACE COURSE E (ASTM D1241)	30.80	MARGINAL	YES	YES			YES
SUB-BASE BASE SURFACE COURSE F (ASTM D1241)	30.90	MARGINAL	YES	YES			YES
TRAFFIC GRAVEL A (P. OF M.)	73.90	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	73.90	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	73.90	NOT SUIT					
SEAL COAT (P. OF M.)	13.70	MARGINAL	YES				YES
SEAL COAT (P. OF M.)	13.70	NOT SUIT					YES
COARSE AGGREGATE 1 (ASTM C33: D448)	129.42	MARGINAL	YES				
COARSE AGGREGATE 2 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 76 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 77 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33: D448)	129.42	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33: D448)	214.30	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33: D448)	178.15	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33: D448)	129.86	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33: D448)	129.14	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	2.00	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33: C404)	2.00	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE II (ASTM C33: C404)	1.53	MARGINAL	YES				YES
MORTAR (ASTM C140)	1.53	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	25.09	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	125.63	NOT SUIT					YES
AIRFIELD RUNWAYS (P. OF M.)	33.18	NOT SUIT					
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	15.03	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022009 01921W02NEHB011A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3927.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 835.30 AFTER 674.00 X LOSS 19.31

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	+	0.0	0.0	100.00	0.0
1/2	+	1020.50	16.00	84.00	16.00
1/2	+	1520.40	18.16	75.85	24.15
1/2	+	240.80	10.42	65.43	34.57
1/2	+	247.20	10.87	61.55	38.45
5/8	+	0.0	0.0	61.55	38.45
5/8	+	86.05	1.35	60.20	39.80
5/8	+	239.28	3.64	56.56	43.44
5/8	+	239.22	3.60	52.76	47.24
1/4	+	247.70	3.41	49.35	50.65
1/4	+	243.53	3.60	42.55	57.45
1/4	+	119.00	1.88	40.67	59.33
1/4	+	259.14	3.16	35.51	64.49
1/4	+	100.50	1.41	28.11	71.89
1/4	+	42.00	1.12	24.98	75.02
1/4	+	181.03	2.84	22.15	77.85
1/4	+	261.43	4.10	18.05	81.95
1/4	+	74.20	1.16	16.88	83.12
1/4	+	279.80	5.00	11.89	88.11
<200 + M		318.80	11.89	0.0	100.00
		161.28	11.89		
TOTALS	835.17	6379.90			
SPLITTING FACTOR	4.70				
FINENESS MODULUS	5.11				
% COBBLES	0.0	% PEBBLES	50.65	% GRANULES	8.67
				% SAND	28.79
				% SILT/CLAY	11.89

INDUSTRIAL USAGE ASSESSMENT

022009 01921W02NEHB011A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF H.)	45.04	NOT SUIT					YES
ASPHALT B (P. OF H.)	30.19	NOT SUIT					
ASPHALT C (P. OF H.)	16.73	MARGINAL	YES				
BASE COURSE A (P. OF H.)	36.15	NOT SUIT					
BASE COURSE B (P. OF H.)	0.0	SUITABLE	YES				
BASE COURSE C (P. OF H.)	0.0	SUITABLE	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	30.58	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	30.58	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	30.58	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	30.58	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	30.58	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	30.58	MARGINAL	YES				
TRAFFICK GRAVEL A (P. OF H.)	6.00	NOT SUIT					
TRAFFICK GRAVEL B (P. OF H.)	1.00	MARGINAL	YES				
TRAFFICK GRAVEL C (P. OF H.)	1.00	MARGINAL	YES				
SEAL COAT A (P. OF H.)	1.00	MARGINAL	YES				
SEAL COAT B (P. OF H.)	1.00	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 667 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 666 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 667 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33; D448)	100.00	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33; D448)	20.00	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF H.)	29.42	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33; C404)	57.54	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33; C404)	56.94	NOT SUIT					
MORTAR (ASTM C144)	32.07	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	65.46	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	170.01	NOT SUIT					
AIRFIELD RUNNALS (P. OF H.)	28.74	MARGINAL	YES				
PIT RUN (P. OF H.)	0.57	MARGINAL	YES				
SEPTIC FIELDS (U.H.A.)	11.15	MARGINAL	YES				
SHOULDERS (P. OF H.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022009 01921W24SWH6010A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 5343.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 1172.30 AFTER 1117.50 % LOSS 4.67

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4			0.0	0.0	100.00
1/2	TN		0.0	0.0	100.00
1/2	TN		0.0	0.0	100.00
1/2	TN		0.0	0.0	100.00
1/2	TN	1.4	0.0	0.0	100.00
1/4	TN	1.4	0.0	0.0	100.00
1/8	TN	36.30	0.0	0.0	100.00
1/16	TN	67.50	0.0	0.0	100.00
1/32	TN	107.20	0.0	0.0	100.00
1/64	TN	117.80	0.0	0.0	100.00
1/128	TN	125.00	0.0	0.0	100.00
1/256	TN	114.90	0.0	0.0	100.00
1/512	TN	114.80	0.0	0.0	100.00
1/1024	TN	88.90	0.0	0.0	100.00
1/2048	TN	206.90	0.0	0.0	100.00
1/4096	TN	104.60	0.0	0.0	100.00
1/8192	TN	27.40	0.0	0.0	100.00
1/16384	TN	27.20	0.0	0.0	100.00
1/32768	TN	5.20	0.0	0.0	100.00
1/65536	TN	1.40	0.0	0.0	100.00
<200 + M.		54.53	248.59	0.0	100.00

TOTALS 1166.63 5999.45

SPLITTING FACTOR 4.56

FINENESS MODULUS 4.57

% COBBLES 0.0 % PEBBLES 40.82 % GRANULES 11.15 % SAND 43.89 % SILT/CLAY 4.14

INDUSTRIAL USAGE ASSESSMENT

022009 01921W24SWH6010A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <\$4)
ASPHALT A (P. OF M.)	2.85	MARGINAL	YES				
ASPHALT B (P. OF M.)	51.56	SUITABLE	YES				
ASPHALT C (P. OF M.)	51.56	NOT SUIT	YES				
BASE COURSE A (P. OF M.)	51.56	MARGINAL	YES				
BASE COURSE B (P. OF M.)	51.56	MARGINAL	YES				
BASE COURSE C (P. OF M.)	51.56	SUITABLE	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	20.27	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	20.27	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	17.14	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	17.14	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	10.14	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	53.03	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	20.89	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	4.94	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	6.66	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	89.40	NOT SUIT					
SEAL COAT B (P. OF M.)	3.97	MARGINAL	YES				
SEAL COAT C (P. OF M.)	1.10	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	209.58	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	199.58	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	195.79	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	186.11	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	182.49	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	183.81	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	119.02	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	102.64	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	102.64	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	102.64	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D448)	117.27	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	117.27	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D448)	142.01	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D448)	99.70	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D448)	90.06	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	11.18	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	25.64	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	16.73	MARGINAL	YES				
MORTAR (ASTM C144)	9.75	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	10.68	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	120.27	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	20.64	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022011 01920W01SHG090A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3024.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 800.30 AFTER 789.10 % LOSS 1.40

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
3/4 IN		0.0	0.0	100.00	0.0
5/8 IN	0.0	22.70	0.73	99.27	0.73
5/8 IN	4.20	15.87	0.52	99.27	0.73
7/8 IN	7.10	15.93	0.58	97.87	2.13
1/4 IN	3.00	15.71	0.67	97.00	3.00
1/8 IN	32.00	15.71	0.98	93.02	6.98
1/16 IN	25.00	15.71	2.00	90.52	10.48
1/32 IN	24.00	15.71	2.00	81.04	18.96
1/64 IN	10.00	15.71	2.00	72.21	27.79
1/128 IN	135.96	15.71	2.00	62.00	37.99
1/256 IN	90.00	15.71	2.00	52.00	48.00
1/512 IN	10.00	15.71	2.00	42.00	57.99
<200 + W	10.00	42.33	1.39	0.0	100.00

TOTALS 800.30 3046.70

SPLITTING FACTOR 3.78

FINENESS MODULUS 2.62

% COBBLES 0.0 % PEBBLES 3.00 % GRANULES 6.47 % SAND 89.13 % SILT/CLAY 1.39

INDUSTRIAL USAGE ASSESSMENT

022011 01920W01SHG090A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF H.)	75.38	NOT SUIT					
ASPHALT B (P. OF H.)	65.50	NOT SUIT					
ASPHALT C (P. OF H.)	58.83	NOT SUIT					
BASE COURSE A (P. OF H.)	71.91	NOT SUIT					
BASE COURSE B (P. OF H.)	50.14	NOT SUIT					
BASE COURSE C (P. OF H.)	19.61	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	138.05	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	116.05	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	91.05	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	39.13	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	4.61	MARGINAL					
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	6.61	MARGINAL					
TRAFFIC GRAVEL A (P. OF H.)	101.91	NOT SUIT					
TRAFFIC GRAVEL B (P. OF H.)	80.50	NOT SUIT					
TRAFFIC GRAVEL C (P. OF H.)	71.79	NOT SUIT					
TRAFFIC GRAVEL D (P. OF H.)	32.44	NOT SUIT					
SEAL COAT A (P. OF H.)	129.90	NOT SUIT					
SEAL COAT B (P. OF H.)	44.11	NOT SUIT					
SEAL COAT C (P. OF H.)	6.40	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33-D446)	219.66	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33-D446)	209.66	NOT SUIT					
COARSE AGGREGATE 224 (ASTM C33-D446)	223.93	NOT SUIT					
COARSE AGGREGATE 353 (ASTM C33-D446)	209.66	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33-D446)	191.66	NOT SUIT					
COARSE AGGREGATE 466 (ASTM C33-D446)	223.40	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33-D446)	190.40	NOT SUIT					
COARSE AGGREGATE 555 (ASTM C33-D446)	227.67	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33-D446)	264.67	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33-D446)	214.67	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33-D446)	220.40	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33-D446)	219.15	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33-D446)	265.76	NOT SUIT					
COARSE AGGREGATE 72 (ASTM C33-D446)	201.29	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33-D446)	258.50	NOT SUIT					
COARSE AGGREGATE 86 (ASTM C33-D446)	229.02	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33-D446)	205.74	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D446)	137.04	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF H. C33-C404)	7.97	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33-C404)	2.64	MARGINAL	YES				
MORTAR (ASTM C144)	0.00	SUITABLE	YES				
PORTLAND CEMENT (P.C.A.)	2.93	SUITABLE	YES				
BUILT UP ROOFS (ASTM D1863)	257.70	MARGINAL	YES				
AIRFIELD RUNWAYS (P. OF H.)	22.71	MARGINAL	YES				
PTT RUN (P. OF H.)	22.00	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	26.67	MARGINAL	YES				
SHOULDERS (P. OF H.)	27.00	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022011 01920WI2SWHA109A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3002.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 733.70 AFTER 717.50 % LOSS 2.21

STIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/2 IN		245.40	7.15	92.85	7.15
3/4 IN		237.70	6.81	96.04	13.96
5/8 IN	52.20	213.59	6.12	79.92	20.08
1/2 IN	52.30	214.00	6.13	73.79	26.21
3/8 IN	68.40	279.87	8.02	95.76	34.24
1/4 IN	83.60	342.07	9.80	95.96	24.04
# 4	43.10	176.35	5.05	50.91	49.09
# 8	108.60	444.36	12.74	38.17	61.83
# 16	34.90	142.80	4.09	34.08	65.92
# 30	64.50	261.92	7.56	26.51	73.49
# 40	132.00	560.11	15.48	11.03	88.97
# 50	30.60	125.21	3.59	7.45	92.55
# 80	18.40	75.29	3.19	5.29	94.71
# 100	16.60	67.92	4.95	4.34	96.66
<200 + W	8.80	36.01	1.03	1.90	98.10
		66.29	1.90	0.0	100.00

TOTALS 733.70 3489.20

SPLITTING FACTOR 4.09

FINENESS MODULUS 5.13

% COBBLES 0.0 % PEBBLES 49.09 % GRANULES 16.83 % SAND 32.18 % SILT/CLAY 1.90

INDUSTRIAL USAGE ASSESSMENT

022011 01920WI2SWHA109A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	8.46	MARGINAL	YES			
ASPHALT B (P. OF M.)	60.28	MARGINAL	YES			
BASE COURSE A (P. OF M.)	12.14	MARGINAL	YES			
BASE COURSE B (P. OF M.)	6.65	MARGINAL	YES			
BASE COURSE C (P. OF M.)	2.10	MARGINAL	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	1.42	MARGINAL	YES			
SUB-BASE/BASE COURSE B (ASTM D1241)	10.65	MARGINAL	YES			
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	9.93	MARGINAL	YES			
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	26.23	MARGINAL	YES			
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	19.41	MARGINAL	YES			
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	61.41	NOT SUIT				
TRAFFIC GRAVEL A (P. OF M.)	7.14	MARGINAL	YES			
TRAFFIC GRAVEL B (P. OF M.)	7.14	MARGINAL	YES			
TRAFFIC GRAVEL C (P. OF M.)	4.32	MARGINAL	YES			
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES			
SEAL COAT A (P. OF M.)	69.23	NOT SUIT				
SEAL COAT B (P. OF M.)	0.0	SUITABLE	YES			
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES			
COARSE AGGREGATE 1 (ASTM C33, D448)	206.94	NOT SUIT				
COARSE AGGREGATE 2 (ASTM C33, D448)	196.94	NOT SUIT				
COARSE AGGREGATE 24 (ASTM C33, D448)	185.72	NOT SUIT				
COARSE AGGREGATE 3 (ASTM C33, D448)	177.54	NOT SUIT				
COARSE AGGREGATE 357 (ASTM C33, D448)	113.44	NOT SUIT				
COARSE AGGREGATE 4 (ASTM C33, D448)	170.56	NOT SUIT				
COARSE AGGREGATE 467 (ASTM C33, D448)	98.61	NOT SUIT				
COARSE AGGREGATE 5 (ASTM C33, D448)	156.49	NOT SUIT				
COARSE AGGREGATE 56 (ASTM C33, D448)	147.39	NOT SUIT				
COARSE AGGREGATE 57 (ASTM C33, D448)	90.91	NOT SUIT				
COARSE AGGREGATE 6 (ASTM C33, D448)	131.16	NOT SUIT				
COARSE AGGREGATE 67 (ASTM C33, D448)	97.81	NOT SUIT				
COARSE AGGREGATE 68 (ASTM C33, D448)	91.36	NOT SUIT				
COARSE AGGREGATE 7 (ASTM C33, D448)	95.48	NOT SUIT				
COARSE AGGREGATE 78 (ASTM C33, D448)	101.33	NOT SUIT				
COARSE AGGREGATE 8 (ASTM C33, D448)	113.23	NOT SUIT				
COARSE AGGREGATE 69 (ASTM C33, D448)	66.22	NOT SUIT				
COARSE AGGREGATE 10 (ASTM C33, D448)	60.60	NOT SUIT				
FINE CONCRETE AGGREGATE I (P. OF M.)	12.96	MARGINAL	YES			
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	25.25	NOT SUIT				
MORTAR (ASTM C242)	20.02	MARGINAL	YES			
PORTLAND CEMENT (P.C.A.)	94.43	NOT SUIT				
BUILT UP ROOFS (ASTM B1863)	95.92	NOT SUIT				
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES			
PIT RUN (P. OF M.)	0.0	SUITABLE				
SEPTIC FIELDS (U.M.A.)	16.04	MARGINAL				
SHOULDERS (P. OF M.)	0.0	SUITABLE				YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022012 01821W32NWHSI44A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4266.20 GMS. WASHED SAMPLE - WEIGHT BEFORE 707.00 AFTER 685.20 % LOSS 3.08

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		105.80	2.26	97.74	2.26
1/4 IN		123.40	2.63	95.11	4.89
1/8 IN	13.60	165.10	4.16	90.95	9.05
1/16 IN		134.56	2.87	89.20	10.80
1/32 IN		122.30	6.20	88.34	14.66
1/64 IN		40.20	6.20	88.13	10.87
1/128 IN		65.90	8.48	71.66	28.34
1/256 IN		97.66	5.09	66.56	33.44
1/512 IN		238.96	18.08	48.49	51.51
1/1024 IN		140.50	5.56	42.93	57.07
1/2048 IN		43.20	10.73	32.20	67.80
1/4096 IN		83.40	17.96	14.24	85.76
1/8192 IN		140.60	4.00	10.24	89.76
1/16384 IN		31.10	187.66	2.65	92.41
1/32768 IN		20.70	124.41	4.03	95.07
1/65536 IN		20.70	124.91	4.37	95.63
<200 + M		12.20	73.62	2.80	97.20
		21.80	131.55	2.00	100.00

TOTALS 707.00 4690.49

SPLITTING FACTOR 6.03

FINENESS MODULUS 4.58

% COBBLES 0.0 % PEBBLES 33.44 % GRANULES 23.63 % SAND 40.13 % SILT/CLAY 2.80

INDUSTRIAL USAGE ASSESSMENT

022012 01821W32NWHSI44A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <64)
ASPHALT A (P. OF M.)	6.92	MARGINAL	YES		YES		
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	55.24	NOT SUIT					
BASE COURSE A (P. OF M.)	19.64	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	15.95	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	15.95	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	29.63	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	18.77	MARGINAL	YES	YES		YES	YES
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	11.27	MARGINAL	YES	YES		YES	
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	19.20	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	12.39	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	32.17	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	26.22	MARGINAL	YES	YES		YES	
TRAFFIC GRAVEL B (P. OF M.)	13.02	MARGINAL	YES	YES		YES	
TRAFFIC GRAVEL C (P. OF M.)	0.77	MARGINAL	YES	YES		YES	
SEAL COAT A (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT B (P. OF M.)	77.13	NOT SUIT					
SEAL COAT C (P. OF M.)	7.10	MARGINAL	YES	YES		YES	
COARSE AGGREGATE 1 (ASTM C33,D448)	210.50	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33,D448)	200.50	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	190.04	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33,D448)	191.00	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	144.02	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	193.01	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	134.40	NOT SUIT					
COARSE AGGREGATE 55 (ASTM C33,D448)	105.23	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	203.43	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	132.90	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	173.95	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	137.16	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	136.02	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	126.68	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	137.08	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	127.80	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	81.60	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33,D448)	59.60	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	8.98	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	17.28	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	49.00	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	50.98	NOT SUIT					
MORTAR (ASTM C144)	22.16	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	24.00	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	127.18	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	23.05	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE				YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022013 01821W33SWHG135A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3646.70 GMS. WASHED SAMPLE - WEIGHT BEFORE 849.80 AFTER 825.80 % LOSS 2.82

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/4		0.0	0.0	100.00	0.0
1/8		68.30	1.04	98.16	1.84
1/16		85.00	1.31	92.96	3.94
1/32		85.00	1.31	92.75	6.25
1/64		91.00	1.42	91.26	8.74
1/128		127.00	1.86	88.74	11.26
1/256		107.00	1.42	88.56	14.46
1/512	18.20	645.50	1.08	95.57	26.43
1/1024	200.00	1400.75	1.09	61.58	38.42
1/2048	200.10	500.00	1.09	61.50	38.40
1/4096	229.60	1399.00	1.09	61.24	38.76
1/8192	100.00	1399.00	1.09	61.00	38.99
1/16384	100.00	1399.00	1.09	60.76	39.23
1/32768	100.00	1399.00	1.09	60.52	39.47
1/65536	100.00	1399.00	1.09	60.28	39.71
1/131072	100.00	1399.00	1.09	60.04	39.95
1/262144	100.00	1399.00	1.09	59.80	40.19
1/524288	100.00	1399.00	1.09	59.56	40.43
1/1048576	100.00	1399.00	1.09	59.32	40.67
1/2097152	100.00	1399.00	1.09	59.08	40.91
1/4194304	100.00	1399.00	1.09	58.84	41.15
1/8388608	100.00	1399.00	1.09	58.60	41.39
1/16777216	100.00	1399.00	1.09	58.36	41.63
1/33554432	100.00	1399.00	1.09	58.12	41.87
1/67108864	100.00	1399.00	1.09	57.88	42.11
1/134217728	100.00	1399.00	1.09	57.64	42.35
1/268435456	100.00	1399.00	1.09	57.40	42.59
1/536870912	100.00	1399.00	1.09	57.16	42.83
1/107374184	100.00	1399.00	1.09	56.92	43.07
1/214748368	100.00	1399.00	1.09	56.68	43.31
1/429496736	100.00	1399.00	1.09	56.44	43.55
1/858993472	100.00	1399.00	1.09	56.20	43.79
1/1717986944	100.00	1399.00	1.09	55.96	44.03
1/3435973888	100.00	1399.00	1.09	55.72	44.27
1/6871947776	100.00	1399.00	1.09	55.48	44.51
1/1374389552	100.00	1399.00	1.09	55.24	44.75
1/2748779104	100.00	1399.00	1.09	55.00	45.00
>200 + M	24.00	102.99	0.77	0.0	100.00

TOTALS 849.80 3715.00

SPLITTING FACTOR 4.29

FINENESS MODULUS 3.08

% COBBLES 0.0 % PEBBLES 14.65 % GRANULES 15.77 % SAND 66.81 % SILT/CLAY 2.77

INDUSTRIAL USAGE ASSESSMENT

022013 01821W33SWHG135A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	44.03	NOT SUIT					
ASPHALT B (P. OF M.)	205.66	NOT SUIT					
ASPHALT C (P. OF M.)	205.76	MARGINAL					
BASE COURSE A (P. OF M.)	205.83	NOT SUIT					
BASE COURSE B (P. OF M.)	10.20	MARGINAL					
BASE COURSE C (P. OF M.)	0.58	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	103.72	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	80.95	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	109.95	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	109.58	MARGINAL					
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	109.23	MARGINAL					
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	109.23	MARGINAL					
TRAFFIC GRAVEL A (P. OF M.)	71.34	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	46.34	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	35.81	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	32.48	MARGINAL					
SEAL COAT A (P. OF M.)	109.06	NOT SUIT					
SEAL COAT B (P. OF M.)	45.64	NOT SUIT					
SEAL COAT C (P. OF M.)	14.60	MARGINAL	YES				YES
COARSE AGGREGATE #3 (ASTM C33, C448)	219.93	NOT SUIT					
COARSE AGGREGATE #4 (ASTM C33, C448)	209.93	NOT SUIT					
COARSE AGGREGATE #4 (ASTM C33, C448)	210.98	NOT SUIT					
COARSE AGGREGATE #5 (ASTM C33, C448)	205.98	NOT SUIT					
COARSE AGGREGATE #5 (ASTM C33, C448)	205.98	NOT SUIT					
COARSE AGGREGATE #6 (ASTM C33, C448)	210.98	NOT SUIT					
COARSE AGGREGATE #6 (ASTM C33, C448)	210.98	NOT SUIT					
COARSE AGGREGATE #7 (ASTM C33, C448)	210.98	NOT SUIT					
COARSE AGGREGATE #7 (ASTM C33, C448)	210.98	NOT SUIT					
COARSE AGGREGATE #8 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #8 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #78 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #78 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #79 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #79 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #80 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #80 (ASTM C33, C448)	206.98	NOT SUIT					
COARSE AGGREGATE #10 (ASTM C33, C448)	206.98	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	78	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	206.98	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	206.98	MARGINAL	YES				YES
MORTAR (ASTM C144)	9.03	MARGINAL	YES				
PORTLAND CEMENT (C.A.)	15.92	MARGINAL					
BUILT-UP ROOFS (ASTM D1863)	167.40	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	39.72	NOT SUIT					
PIT RUN (P. OF M.)	10.35	MARGINAL					
SEPTIC FIELDS (M.A.)	28.16	MARGINAL					
SHOULDERS (P. OF M.)	15.35	MARGINAL	YES				YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022014 01821W27SEHC143A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3973.70 GMS.

WASHED SAMPLE - WEIGHT BEFORE

774.50

AFTER

761.20

% LOSS 1.72

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN	9.10	122.60	2.70	97.30	2.70
1/4 IN	39.70	132.00	3.01	86.73	13.27
1/4 IN	52.50	203.69	4.05	81.21	14.29
1/4 IN	52.50	242.04	4.05	78.72	11.28
1/4 IN	50.00	104.03	4.00	69.02	10.98
1/4 IN	121.70	129.05	1.57	48.15	51.85
1/4 IN	77.40	149.71	4.24	43.91	56.09
1/4 IN	174.80	149.94	1.87	38.24	61.76
1/4 IN	52.50	102.94	4.00	39.46	60.54
1/4 IN	52.50	142.66	4.00	38.80	61.20
1/4 IN	52.50	142.67	4.00	38.80	61.20
1/4 IN	52.50	142.67	4.00	38.80	61.20
1/4 IN	147.00	142.67	4.00	38.80	61.20
<200 + M	13.50	68.24	1.49	0.0	100.00

TOTALS 774.50 4581.79

SPLITTING FACTOR 5.13

FINENESS MODULUS 4.66

% COBBLES 0.0 % PEBBLES 35.98 % GRANULES 20.11 % SAND 42.42 % SILT/CLAY 1.49

INDUSTRIAL USAGE ASSESSMENT

022014 01821W27SEHC143A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <\$4)
ASPHALT A (P. OF M.)	8.49	MARGINAL	YES	YES	YES		
ASPHALT B (P. OF M.)	0.20	MARGINAL	YES	YES	YES		
ASPHALT COURSE A (P. OF M.)	19.16	NOT SUIT					
ASPHALT COURSE B (P. OF M.)	14.35	MARGINAL	YES	YES	YES		
ASPHALT COURSE C (P. OF M.)	2.55	MARGINAL					
ASPHALT COURSE D (ASTM D1241)	20.55	MARGINAL					
ASPHALT COURSE E (ASTM D1241)	10.23	MARGINAL	YES	YES	YES		
ASPHALT COURSE F (ASTM D1241)	10.23	MARGINAL	YES	YES	YES		
ASPHALT COURSE G (ASTM D1241)	10.80	MARGINAL	YES	YES	YES		
ASPHALT COURSE H (ASTM D1241)	11.80	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL A (P. OF M.)	1.87	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	10.42	MARGINAL	YES	YES	YES		YES
TRAFFIC GRAVEL C (P. OF M.)	13.80	MARGINAL	YES	YES	YES		YES
TRAFFIC GRAVEL D (P. OF M.)	1.90	MARGINAL	YES	YES	YES		YES
TRAFFIC GRAVEL E (P. OF M.)	1.34	MARGINAL	YES	YES	YES		YES
SEAL COAT A (P. OF M.)	77.80	NOT SUIT					
SEAL COAT B (P. OF M.)	8.73	MARGINAL	YES	YES	YES		
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	204.52	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	204.52	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	190.78	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	198.79	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	140.50	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	180.27	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	124.55	NOT SUIT					
COARSE AGGREGATE 25 (ASTM C33, D448)	183.67	NOT SUIT					
COARSE AGGREGATE 26 (ASTM C33, D448)	189.46	NOT SUIT					
COARSE AGGREGATE 27 (ASTM C33, D448)	127.10	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	174.84	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	142.94	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	147.21	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	130.36	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	145.99	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	137.23	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	69.37	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	63.04	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	10.67	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (P. OF M.)	15.86	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTH C33, C404)	64.37	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTH C33, C404)	41.21	NOT SUIT					
MORTAR (ASTH C144)	19.79	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	19.37	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	130.86	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	1.34	MARGINAL	YES				
SEPTIC FIELDS (U.H.A.)	19.13	SUITABLE	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022015 01821W16SEHG140A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3945.70 GMS. WASHED SAMPLE - WEIGHT BEFORE 920.70 AFTER 903.80 % LOSS 1.84

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
5/8 IN	9.30	302.00	6.00	94.00	6.00
5/8 IN		435.10	8.64	85.36	14.64
5/8 IN		352.50	7.00	78.56	21.44
5/8 IN		39.10	0.70	77.56	22.43
5/8 IN		68.14	1.95	75.62	23.38
5/8 IN		99.00	1.97	73.65	26.35
1/4 IN		145.28	2.89	70.77	29.23
1/4 IN		122.14	2.23	68.34	31.66
1/4 IN		122.50	2.23	68.50	31.50
1/4 IN		495.41	9.84	58.50	41.50
1/4 IN		115.10	1.84	54.67	45.33
1/4 IN		193.28	3.84	39.64	60.36
1/4 IN		1638.79	32.03	7.09	92.91
1/4 IN		105.00	2.00	5.00	95.00
1/4 IN		24.50	0.50	0.00	100.00
1/4 IN		11.60	0.99	2.90	95.98
1/4 IN		13.10	1.14	1.14	97.10
1/4 IN		17.14	0.34	2.50	97.44
1/4 IN		13.20	56.57	1.12	98.56
<200 + H	16.90	72.43	1.44	0.0	100.00

TOTALS 920.70 5035.29

SPLITTING FACTOR 4.29

FINENESS MODULUS 4.74

% COBBLES 0.0 % PEBBLES 31.66 X GRANULES 13.68 % SAND 53.23 % SILT/CLAY 1.44

INDUSTRIAL USAGE ASSESSMENT

022015 01821W16SEHG140A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES NOT ON SITE (MATERIAL <#4)
ASPHALT A (P. OF M.)	44.75	NOT SUIT				
ASPHALT B (P. OF M.)	30.76	NOT SUIT				
ASPHALT C (P. OF M.)	63.68	NOT SUIT				
BASE COURSE A (P. OF M.)	46.76	NOT SUIT				
BASE COURSE B (P. OF M.)	12.15	MARGINAL	YES	YES	YES	
BASE COURSE C (P. OF M.)	2.59	MARGINAL				
SUB-BASE/BASE COURSE A (ASTM D1241)	40.29	NOT SUIT				
SUB-BASE/BASE COURSE B (ASTM D1241)	31.57	NOT SUIT				
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	42.84	NOT SUIT				
SUB-BASE/BASE COURSE D (ASTM D1241)	29.45	MARGINAL	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	18.45	MARGINAL	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	30.45	NOT SUIT				
TRAFFIC GRAVEL A (P. OF M.)	68.29	NOT SUIT				
TRAFFIC GRAVEL B (P. OF M.)	48.26	NOT SUIT				
TRAFFIC GRAVEL C (P. OF M.)	26.44	MARGINAL	YES	YES	YES	YES
SEAL COAT A (P. OF M.)	10.06	MARGINAL	YES	YES	YES	
SEAL COAT B (P. OF M.)	107.01	NOT SUIT				
SEAL COAT C (P. OF M.)	20.00	MARGINAL	YES	YES	YES	
COARSE AGGREGATE 1 (ASTM C33, D448)	102.00	SUITABLE				
COARSE AGGREGATE 2 (ASTM C33, D448)	102.00	NOT SUIT				
COARSE AGGREGATE 24 (ASTM C33, D448)	172.22	NOT SUIT				
COARSE AGGREGATE 44 (ASTM C33, D448)	172.22	NOT SUIT				
COARSE AGGREGATE 357 (ASTM C33, D448)	192.22	NOT SUIT				
COARSE AGGREGATE 44 (ASTM C33, D448)	152.22	NOT SUIT				
COARSE AGGREGATE 467 (ASTM C33, D448)	112.22	NOT SUIT				
COARSE AGGREGATE 55 (ASTM C33, D448)	172.69	NOT SUIT				
COARSE AGGREGATE 56 (ASTM C33, D448)	185.49	NOT SUIT				
COARSE AGGREGATE 57 (ASTM C33, D448)	145.11	NOT SUIT				
COARSE AGGREGATE 67 (ASTM C33, D448)	180.62	NOT SUIT				
COARSE AGGREGATE 67 (ASTM C33, D448)	165.57	NOT SUIT				
COARSE AGGREGATE 68 (ASTM C33, D448)	177.00	NOT SUIT				
COARSE AGGREGATE 78 (ASTM C33, D448)	166.71	NOT SUIT				
COARSE AGGREGATE 8 (ASTM C33, D448)	176.06	NOT SUIT				
COARSE AGGREGATE 89 (ASTM C33, D448)	126.37	NOT SUIT				
COARSE AGGREGATE 10 (ASTM C33, D448)	84.65	NOT SUIT				
FINE CONCRETE AGGREGATE (P. OF M.)	7.47	MARGINAL	YES	YES	YES	
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	4.55	MARGINAL	YES	YES	YES	
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	22.70	MARGINAL	YES	YES	YES	
MORTAR (ASTM C144)	45.15	NOT SUIT				
PORTLAND LEMENT (P.C.L.A.)	19.92	MARGINAL	YES	YES	YES	
BUILT UP ROOFS (ASTM D1863)	167.21	NOT SUIT				
AIRFIELD RUNWAYS (P. OF M.)	18.10	MARGINAL	YES	YES	YES	
RUN (P. OF M.)	0.0	SUITABLE	YES	YES	YES	
SEPTIC FIELDS (U.M.A.)	13.36	MARGINAL	YES	YES	YES	
SHOULDERS (P. OF M.)	0.0	SUITABLE				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022017 01820W04NW&GB18A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2509.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 715.00 AFTER 697.40 % LOSS 2.46

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
# 1/2 IN		0.0	0.0	100.00	0.0
# 1/2 IN		0.0	0.0	100.00	0.0
# 1/2 IN		0.0	0.0	100.00	0.0
# 1/2 IN		205.40	0.69	93.31	6.69
# 1/2 IN		251.80	0.23	85.10	14.90
# 1/2 IN		102.00	0.33	81.77	18.23
# 1/2 IN	11.60	40.71	1.33	80.45	19.55
# 1/2 IN		16.50	1.89	78.56	21.44
# 1/2 IN		28.70	1.28	75.28	24.72
# 1/2 IN		16.80	2.15	73.13	26.87
# 1/2 IN		14.60	1.67	71.46	28.54
# 1/2 IN		48.80	5.58	65.88	34.12
# 1/2 IN		20.00	2.29	63.59	36.41
# 1/2 IN		24.30	2.78	60.81	39.19
# 1/2 IN		63.40	2.25	53.56	46.44
# 1/2 IN		32.20	3.68	49.88	50.12
# 1/2 IN		61.80	7.07	42.81	57.19
# 1/2 IN		229.70	806.07	26.27	16.54
# 1/2 IN		60.90	213.71	6.97	9.57
# 1/2 IN		66.10	231.96	7.56	2.01
<200 + M		17.60	61.76	2.01	0.0
TOTALS		715.00	3068.30		

SPLITTING FACTOR 3.51

FINENESS MODULUS 3.46

% COBBLES 0.0 % PEBBLES 28.54 % GRANULES 7.87 % SAND 61.58 % SILT/CLAY 2.01

INDUSTRIAL USAGE ASSESSMENT

022017 01820W04NW&GB18A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	73.20	NOT SUIT					
ASPHALT B (P. OF M.)	62.54	NOT SUIT					
ASPHALT C (P. OF M.)	62.54	MARGINAL	YES	YES			
BASE COURSE A (P. OF M.)	75.58	NOT SUIT					
BASE COURSE B (P. OF M.)	75.00	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	75.99	MARGINAL	YES	YES	YES		
SUB-BASE/BASE COURSE A (ASTM D1241)	80.20	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	78.49	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	78.40	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	78.97	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	78.24	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	75.63	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL A (P. OF M.)	102.75	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	59.62	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	24.58	NOT SUIT					
SEAL COAT A (P. OF M.)	119.40	NOT SUIT					
SEAL COAT B (P. OF M.)	69.45	NOT SUIT					
SEAL COAT C (P. OF M.)	38.49	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33,D448)	196.09	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	186.09	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33,D448)	179.65	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	167.98	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	131.13	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	168.17	NOT SUIT					
COARSE AGGREGATE 667 (ASTM C33,D448)	126.22	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33,D448)	183.68	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	200.26	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	161.24	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	161.11	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	161.21	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	177.67	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	171.46	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	220.83	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	208.78	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33,D448)	208.27	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	171.83	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	1.67	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	27.65	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	40.81	NOT SUIT					
MORTAR (ASTM C144)	32.67	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	78.51	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	171.96	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	61.77	NOT SUIT					
PIT RUN (P. OF M.)	1.59	MARGINAL	YES				
SEPTIC FIELDS (U.N.A.)	17.64	MARGINAL	YES				
SHOULDERS (P. OF M.)	1.46	MARGINAL					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 6

SAMPLE IDENTIFICATION 022018 01820W10NEHG6060A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3546.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 722.90 AFTER 711.10 % LOSS 1.63

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
3/4 IN		0.0	0.0	100.00	0.0
5/8 IN		0.0	0.0	100.00	0.0
3/8 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/4 IN		10.00	0.8	100.00	0.0
3/16 IN		0.0	0.0	100.00	0.0
5/32 IN		0.0	0.0	100.00	0.0
1/8 IN		0.0	0.0	100.00	0.0
1/16 IN		0.0	0.0	100.00	0.0
1/32 IN		0.0	0.0	100.00	0.0
1/64 IN		0.0	0.0	100.00	0.0
1/128 IN		0.0	0.0	100.00	0.0
1/256 IN		0.0	0.0	100.00	0.0
1/512 IN		0.0	0.0	100.00	0.0
1/1024 IN		0.0	0.0	100.00	0.0
10		0.00	0.00	0.00	0.00
15		0.00	0.00	0.00	0.00
20		0.00	0.00	0.00	0.00
30		0.00	0.00	0.00	0.00
40		0.00	0.00	0.00	0.00
50		0.00	0.00	0.00	0.00
60		0.00	0.00	0.00	0.00
70		0.00	0.00	0.00	0.00
80		0.00	0.00	0.00	0.00
90		0.00	0.00	0.00	0.00
100		0.00	0.00	0.00	0.00
120		0.00	0.00	0.00	0.00
150		0.00	0.00	0.00	0.00
200		0.00	0.00	0.00	0.00
~200 + W		23.80	116.74	3.23	0.0
TOTALS	734.89	3615.35			
SPLITTING FACTOR	4.91				
FINENESS MODULUS	2.65				
% COBBLES	0.0				
% PEBBLES	4.66				
% GRANULES	10.10				
% SAND	82.02				
% SILT/CLAY	3.23				

INDUSTRIAL USAGE ASSESSMENT

022018 01820W10NEHG6060A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#64)
ASPHALT A (P. OF M.)	70.72	NOT SUIT					
ASPHALT A (P. OF M.)	60.55	NOT SUIT					
ASPHALT C (P. OF M.)	20.55	NOT SUIT					
BASE COURSE A (P. OF M.)	26.73	NOT SUIT					
BASE COURSE B (P. OF M.)	26.73	NOT SUIT					
BASE COURSE C (P. OF M.)	42.10	NOT SUIT					
SUB-BASE/BASE COURSE A (ASTM D1241)	152.84	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	131.34	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	69.48	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	50.68	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	20.72	MARGINAL					
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	24.70	MARGINAL					
TRAFFIC GRAVEL A (P. OF M.)	96.69	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	71.69	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	66.93	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	39.45	NOT SUIT					
SEAL COAT A (P. OF M.)	123.58	NOT SUIT					
SEAL COAT B (P. OF M.)	46.75	NOT SUIT					
SEAL COAT C (P. OF M.)	10.34	MARGINAL					YES
COARSE AGGREGATE 1 (ASTM C33, D448)	221.95	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	211.95	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	226.68	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	211.68	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	192.02	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	225.19	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	190.81	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	230.19	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	265.53	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	210.25	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	221.63	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	214.83	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	257.40	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	194.83	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	247.40	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	218.69	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	181.32	NOT SUIT					
COARSE AGGREGATE 90 (ASTM C33, D448)	133.01	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	7.73	MARGINAL					
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	0.00	SUITABLE					YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	0.00	SUITABLE					YES
MORTAR (ASTM C144)	2.74	MARGINAL					YES
PORTLAND CEMENT (P.C.A.)	2.74	MARGINAL					YES
BUILT-UP ROOFS (ASTM D1663)	18.55	MARGINAL					
AIRFIELD RUNWAYS (P. OF M.)	195.35	NOT SUIT					
PIT RUN (P. OF M.)	76.22	NOT SUIT					
SEPTIC FIELDS (U.M.A.)	29.34	MARGINAL					
SHOULDERS (P. OF M.)	29.32	MARGINAL					YES
	25.34	MARGINAL					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 6

SAMPLE IDENTIFICATION 022019 01819W08SEH6093A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3763.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 716.70 AFTER 686.60 % LOSS 4.20

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/8 IN	0.0	99.70	2.58	97.42	2.58
1/16 IN	11.50	60.39	1.56	97.42	2.58
1/32 IN	15.80	82.97	2.15	95.86	4.14
1/64 IN	20.40	206.90	5.36	88.35	11.65
1/128 IN	51.40	164.89	4.27	84.08	15.92
1/256 IN	93.10	491.00	12.71	71.38	28.62
1/512 IN	73.00	194.82	5.04	66.33	33.67
1/1024 IN	136.40	216.28	18.54	37.87	62.13
1/2048 IN	62.80	329.78	8.54	29.33	70.67
1/4096 IN	57.98	304.05	7.87	21.46	78.54
1/8192 IN	82.50	433.23	11.21	10.25	89.75
1/16384 IN	15.30	180.24	2.08	9.17	91.83
1/32768 IN	30.00	157.84	4.08	4.09	95.91
<200 + M	30.10	158.06	4.09	0.0	100.00

TOTALS 716.70 3863.30

SPLITTING FACTOR 5.25

FINENESS MODULUS 3.29

% COBBLES 0.0 % PEBBLES 15.92 % GRANULES 17.75 % SAND 62.24 % SILT/CLAY 4.09

INDUSTRIAL USAGE ASSESSMENT

022019 01819W08SEH6093A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	35.70	NOT SUIT				YES	YES
ASPHALT B (P. OF H.)	25.70	MARGINAL	YES			YES	
ASPHALT C (P. OF H.)	30.17	NOT SUIT				YES	
BASE COURSE A (P. OF M.)	33.31	NOT SUIT				YES	
BASE COURSE B (P. OF M.)	10.42	MARGINAL				YES	
BASE COURSE C (P. OF M.)	4.08	MARGINAL				YES	
SUB-BASE/BASE COURSE A (ASTM D1241)	93.46	NOT SUIT				YES	
SUB-BASE/BASE COURSE B (ASTM D1241)	70.03	NOT SUIT				YES	
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	45.03	NOT SUIT				YES	
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	3.91	MARGINAL				YES	
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	1.91	MARGINAL				YES	
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	4.58	MARGINAL				YES	
TRAFFIC GRAVEL A (P. OF H.)	61.71	NOT SUIT				YES	
TRAFFIC GRAVEL B (P. OF H.)	41.60	NOT SUIT				YES	
TRAFFIC GRAVEL C (P. OF H.)	31.27	NOT SUIT				YES	
TRAFFIC GRAVEL D (P. OF H.)	14.94	MARGINAL				YES	
SEAL COAT A (P. OF M.)	101.68	NOT SUIT				YES	
SEAL COAT B (P. OF M.)	33.59	NOT SUIT				YES	
SEAL COAT C (P. OF M.)	5.87	MARGINAL	YES			YES	
COARSE AGGREGATE 1 (ASTM C33,D448)	220.51	NOT SUIT				YES	
COARSE AGGREGATE 22 (ASTM C33,D448)	210.51	NOT SUIT				YES	
COARSE AGGREGATE 24 (ASTM C33,D448)	221.37	NOT SUIT				YES	
COARSE AGGREGATE 33 (ASTM C33,D448)	208.95	NOT SUIT				YES	
COARSE AGGREGATE 357 (ASTM C33,D448)	178.03	NOT SUIT				YES	
COARSE AGGREGATE 4 (ASTM C33,D448)	219.22	NOT SUIT				YES	
COARSE AGGREGATE 467 (ASTM C33,D448)	173.30	NOT SUIT				YES	
COARSE AGGREGATE 56 (ASTM C33,D448)	220.08	NOT SUIT				YES	
COARSE AGGREGATE 57 (ASTM C33,D448)	244.16	NOT SUIT				YES	
COARSE AGGREGATE 6 (ASTM C33,D448)	179.41	NOT SUIT				YES	
COARSE AGGREGATE 67 (ASTM C33,D448)	201.74	NOT SUIT				YES	
COARSE AGGREGATE 68 (ASTM C33,D448)	182.26	NOT SUIT				YES	
COARSE AGGREGATE 7 (ASTM C33,D448)	203.67	NOT SUIT				YES	
COARSE AGGREGATE 78 (ASTM C33,D448)	168.97	NOT SUIT				YES	
COARSE AGGREGATE 86 (ASTM C33,D448)	201.97	NOT SUIT				YES	
COARSE AGGREGATE 89 (ASTM C33,D448)	179.30	NOT SUIT				YES	
COARSE AGGREGATE 9 (ASTM C33,D448)	149.99	NOT SUIT				YES	
COARSE AGGREGATE 10 (ASTM C33,D448)	107.62	NOT SUIT				YES	
FINE CONCRETE AGGREGATE (P. OF M.C33, C404)	4.65	MARGINAL	YES			YES	
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	9.10	MARGINAL	YES			YES	
MORTAR (ASTM C1441)	10.11	MARGINAL	YES			YES	
PORTLAND CEMENT (P.C.A.)	4.29	MARGINAL	YES			YES	
BUTTLE UP ROADS (ASTM D1863)	169.76	NOT SUIT				YES	
PIT RUN (P. OF M.H.A.)	39.98	MARGINAL	YES			YES	
SEPTIC FIELDS (U.M.A.)	29.08	MARGINAL	YES			YES	
SHOULDERS (P. OF M.H.)	27.42	MARGINAL	YES			YES	
	14.08	MARGINAL	YES			YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022020 01821W06NEHG139A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3556.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 864.30 AFTER 836.90 % LOSS 3.17

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		472.90	10.90	89.10	10.90
1/8 IN	8.80	316.70	7.35	81.75	18.25
1/16 IN	24.80	102.00	6.83	80.92	19.08
1/32 IN	66.90	103.00	2.35	78.57	21.43
1/64 IN	82.20	148.27	4.45	74.12	25.88
1/128 IN	25.30	186.23	7.80	66.32	33.68
1/256 IN	137.10	506.50	11.60	62.03	37.97
1/512 IN	347.50	441.90	1.27	50.35	49.65
1/1024 IN	236.60	236.60	0.45	41.62	58.38
1/2048 IN	150.10	654.73	15.09	26.53	73.47
1/4096 IN	100.30	215.23	0.57	16.96	83.04
1/8192 IN	70.70	200.95	0.71	10.26	89.74
1/16384 IN	57.30	255.80	0.43	4.82	95.18
1/32768 IN	18.50	56.98	0.81	4.01	95.99
1/65536 IN	15.00	61.42	2.59	97.41	
<200 + W	27.32	112.45	2.59	0.0	100.00
TOTALS	861.92	4338.61			
SPLITTING FACTOR	4.12				
FINENESS MODULUS	4.49				
% COBBLES	0.0	% PEBBLES	37.97	% GRANULES	14.95
				% SAND	44.49
				% SILT/CLAY	2.59

INDUSTRIAL USAGE ASSESSMENT

022020 01821W06NEHG139A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	MATERIAL CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	9.11	MARGINAL	YES		YES	YES	YES
ASPHALT B (P. OF M.)	45.19	MARGINAL	YES		YES	YES	YES
ASPHALT C (P. OF M.)	13.28	NOT SUIT					
BASE COURSE A (P. OF M.)	1.41	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	1.41	MARGINAL					
BASE COURSE C (P. OF M.)	1.41	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	23.22	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	6.51	MARGINAL					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	9.54	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	11.05	MARGINAL	YES	YES	YES		YES
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	4.05	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	18.61	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	39.38	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	19.38	MARGINAL	YES	YES	YES		YES
TRAFFIC GRAVEL C (P. OF M.)	3.24	MARGINAL	YES	YES			
SEAL COAT A (P. OF M.)	0.00	SUITABLE	YES				
SEAL COAT B (P. OF M.)	87.70	NOT SUIT					
SEAL COAT C (P. OF M.)	15.53	MARGINAL	YES		YES		YES
COARSE AGGREGATE 1 (ASTM C33, D448)	203.35	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	193.35	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	186.91	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33, D448)	179.26	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	126.20	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	171.57	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	114.49	NOT SUIT					
COARSE AGGREGATE 55 (ASTM C33, D448)	166.93	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	168.96	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	123.43	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	167.09	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	141.22	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33, D448)	152.93	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	149.20	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	106.20	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33, D448)	153.31	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33, D448)	111.32	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	86.74	NOT SUIT					
FTM CONCRETE AGGREGATE I (P. OF M.)	9.33	MARGINAL	YES				
FTM CONCRETE AGGREGATE II (ASTM C33, C404)	29.33	MARGINAL	YES				
FTM CONCRETE AGGREGATE III (ASTM C33, C404)	23.82	MARGINAL	YES				
MORTAR (ASTM C144)	1.20	MARGINAL	YES				
PORTLAND CEMENT (C.P.C.A.)	1.20	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	14.00	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	11.75	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022021 01721W30SEH6123A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4890.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 759.10 AFTER 749.40 % LOSS 1.26

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT WEIGHT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN	12.30	258.20	4.75	95.25	4.75
1/8 IN	5.90	28.20	0.51	89.94	10.06
1/16 IN	2.90	7.50	0.42	88.49	11.51
1/32 IN	2.00	4.70	0.19	87.31	12.69
1/64 IN	1.20	2.00	0.07	86.55	13.45
#4 10	119.70	253.50	2.17	75.99	24.01
#10 16	57.10	119.70	1.16	86.79	13.21
#16 30	135.90	362.67	6.70	85.90	14.10
#30 50	229.90	1481.16	2.24	86.90	13.29
#50 80	44.50	282.41	0.22	85.55	14.25
#80 100	20.60	132.72	0.44	86.10	13.89
#100 200	12.40	73.89	0.47	86.94	13.05
<200 + H	1.50	1.60	0.08	1.40	88.54
	9.70	62.49	1.15	0.0	100.00
TOTALS	759.10	5437.38			
SPLITTING FACTOR	6.44				
FINENESS MODULUS	4.36				
% COBBLES	0.0	% PEBBLES	24.91	% GRANULES	20.95
				% SAND	52.99
				% SILT/CLAY	1.15

INDUSTRIAL USAGE ASSESSMENT

022021 01721W30SEH6123A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRAADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	32.01	NOT SUIT					
ASPHALT B (P. OF M.)	18.23	MARGINAL	YES	YES	YES		
ASPHALT C (P. OF M.)	65.74	NOT SUIT					
BASE COURSE A (P. OF M.)	134.23	NOT SUIT					
BASE COURSE B (P. OF M.)	12.40	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	2.85	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	56.88	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	47.13	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	37.19	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	25.97	MARGINAL					
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	18.97	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	30.97	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	56.30	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	36.30	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	17.08	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL D (P. OF M.)	8.83	MARGINAL	YES	YES	YES		
SEAL COAT A (P. OF M.)	93.20	NOT SUIT					
SEAL COAT B (P. OF M.)	16.00	MARGINAL	YES	YES	YES		
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES	YES	YES		
COARSE AGGREGATE 1 (ASTM C33,D448)	210.09	NOT SUIT					
COARSE AGGREGATE 22 (ASTM C33,D448)	200.09	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	202.41	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33,D448)	192.71	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	152.60	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	194.70	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	144.53	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33,D448)	191.76	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	206.84	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	148.45	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33,D448)	184.20	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	161.53	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	166.96	NOT SUIT					
COARSE AGGREGATE 77 (ASTM C33,D448)	159.23	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	172.24	NOT SUIT					
COARSE AGGREGATE 88 (ASTM C33,D448)	154.92	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33,D448)	104.65	NOT SUIT					
COARSE AGGREGATE 70 (ASTM C33,D448)	67.65	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	0.0	MARGINAL	YES	YES			
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	12.50	MARGINAL					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	0.0	NOT SUIT					
MORTAR LESTHIC C142	1.42	NOT SUIT					
PORTLAND CEMENT C142	1.00	MARGINAL	YES	YES			
BUILT UP ROOFS (ASTM D1863)	1.00	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	10.89	MARGINAL	YES	YES			
SEPTIC FIELDS (U.M.A.)	19.04	MARGINAL					
SHOULDERS (P. OF M.)	5.09	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022021 01721W30SEH6122A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2442.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 737.50 AFTER 728.00 % LOSS 1.29

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	27.000	27.000	0.06	99.94	1.06
1/2 IN	107.400	107.400	0.06	92.79	7.21
5/8 IN	45.400	45.400	0.06	92.93	7.07
5/8 IN	10.10	10.10	0.06	88.05	11.95
1/2 IN	50.10	50.10	0.06	88.05	11.95
3/8 IN	54.90	54.90	0.06	85.07	14.93
1/4 IN	50.40	50.40	0.06	77.05	22.95
1/4 IN	52.40	52.40	0.06	77.05	22.95
1/8 IN	93.400	93.400	1.12	87.05	12.95
1/8 IN	36.000	36.000	1.12	72.30	27.70
1/8 IN	219.100	219.100	2.27	72.30	27.70
1/8 IN	63.000	63.000	2.27	62.94	37.06
1/8 IN	37.700	37.700	2.27	58.85	41.15
1/8 IN	29.700	29.700	2.27	58.85	41.15
<100	3.00	3.00	2.27	58.85	41.15
<200	9.00	9.00	1.12	47.21	52.79
<200 + W	9.50	31.46	1.21	0.0	100.00
TOTALS	737.50	2600.40			
SPLITTING FACTOR	3.31				
FINENESS MODULUS	4.14				
% COBBLES	0.0	% PEBBLES	26.15	% GRANULES	16.54
		% SAND	56.09	% SILT/CLAY	1.21

INDUSTRIAL USAGE ASSESSMENT

022021 01721W30SEH6122A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT AGGREGATE (P. OF M.)	16.74	MARGINAL	YES	YES	YES	YES	YES
ASPHALT AGGREGATE (P. OF M.)	50.32	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE (P. OF M.)	59.92	NOT SUIT	YES	YES	YES	YES	YES
BASE COURSE (P. OF M.)	54.47	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE (P. OF M.)	59.79	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE COURSE (P. OF M.)	52.29	NOT SUIT	YES	YES	YES	YES	YES
SUB-BASE COURSE (P. OF M.)	52.00	NOT SUIT	YES	YES	YES	YES	YES
SUB-BASE COURSE (P. OF M.)	52.00	NOT SUIT	YES	YES	YES	YES	YES
SUB-BASE COURSE (P. OF M.)	52.00	NOT SUIT	YES	YES	YES	YES	YES
SUB-BASE COURSE (P. OF M.)	52.00	NOT SUIT	YES	YES	YES	YES	YES
TRAFFIC GRAVEL A (P. OF M.)	52.00	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL B (P. OF M.)	52.00	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	52.00	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT A (P. OF M.)	95.47	NOT SUIT	YES	YES	YES	YES	YES
SEAL COAT B (P. OF M.)	13.00	MARGINAL	YES	YES	YES	YES	YES
COARSE AGGREGATE 1 (ASTM C33, D448)	213.00	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 24 (ASTM C33, D448)	203.00	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 24 (ASTM C33, D448)	206.88	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 45 (ASTM C33, D448)	192.74	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 45 (ASTM C33, D448)	152.64	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 46 (ASTM C33, D448)	198.28	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 46 (ASTM C33, D448)	147.34	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 55 (ASTM C33, D448)	200.17	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 56 (ASTM C33, D448)	214.81	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 57 (ASTM C33, D448)	152.23	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 6 (ASTM C33, D448)	185.85	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 67 (ASTM C33, D448)	162.53	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 68 (ASTM C33, D448)	176.12	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 7 (ASTM C33, D448)	144.66	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 78 (ASTM C33, D448)	168.69	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 8 (ASTM C33, D448)	160.15	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 89 (ASTM C33, D448)	112.68	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 9 (ASTM C33, D448)	80.77	NOT SUIT	YES	YES	YES	YES	YES
COARSE AGGREGATE 10 (ASTM C33, D448)	7.60	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE (P. OF M.)	5.16	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	19.60	MARGINAL	YES	YES	YES	YES	YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	27.51	MARGINAL	YES	YES	YES	YES	YES
MORTAR (ASTM C144)	11.11	MARGINAL	YES	YES	YES	YES	YES
PORTLAND CEMENT (P.C.A.)	8.04	MARGINAL	YES	YES	YES	YES	YES
BUTTLE UP ROCKS (ASTM D1863)	145.16	NOT SUIT	YES	YES	YES	YES	YES
PIT RUN (P. OF M.)	13.05	MARGINAL	YES	YES	YES	YES	YES
SEPTIC FIELDS (U.M.A.)	0.00	SUITABLE	YES	YES	YES	YES	YES
SHOULDERS (P. OF M.)	24.94	MARGINAL	YES	YES	YES	YES	YES
	3.85	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022022 01719W29SEH6020A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3573.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 704.70 AFTER 682.70 % LOSS 3.12

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED				
4 IN		0.0	0.0	100.00	0.0				
1/2 IN		0.0	0.0	100.00	0.0				
1/2 IN		0.0	0.0	100.00	0.0				
1/2 IN		58.70	1.58	98.42	1.58				
1/4 IN		39.60	1.06	97.36	2.64				
1/8 IN		49.60	1.33	96.03	3.97				
1/16 IN		0.0	0.0	96.03	3.97				
1/32 IN		12.68	0.34	95.68	4.32				
1/64 IN	0.0	22.50	0.07	92.62	7.38				
1/128 IN	0.0	114.09	2.14	88.48	11.52				
1/256 IN	0.0	154.15	4.32	84.16	15.84				
1/512 IN	0.0	160.74	17.35	66.81	33.19				
1/1024 IN	127.70	645.51	16.25	60.56	39.44				
1/2048 IN	45.00	232.75	11.62	48.93	51.07				
1/4096 IN	85.00	432.54	20.78	28.15	71.85				
1/8192 IN	152.00	773.40	7.07	20.48	79.52				
1/16384 IN	52.00	285.29	5.31	15.17	84.83				
1/32768 IN	49.00	197.76	5.84	8.33	91.67				
1/65536 IN	254.55	254.55	9.66	9.66	9.34				
1/131072 IN	42.00	67.86	3.00	3.00	97.00				
<200 + M	22.00	130.40	3.00	0.0	100.00				
TOTALS	704.70	3721.30							
SPLITTING FACTOR	5.07								
FINENESS MODULUS	3.63								
% COBBLES	0.0	% PEBBLES	15.84	% GRANULES	23.60	% SAND	57.56	% SILT/CLAY	3.00

INDUSTRIAL USAGE ASSESSMENT

022022 01719W29SEH6020A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	32.15	NOT SUIT				YES	YES
ASPHALT C (P. OF M.)	22.82	MARGINAL	YES				
ASPHALT COURSE A (P. OF M.)	41.88	NOT SUIT					
BASE COURSE A (P. OF M.)	50.59	NOT SUIT					
BASE COURSE B (P. OF M.)	18.59	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	55.00	NOT SUIT					
BASE COURSE D (P. OF M.)	74.00	NOT SUIT					
SUBD. BASE COURSE D (ASTM D1241)	74.00	NOT SUIT					
SUBD. BASE COURSE E (ASTM D1241)	42.00	NOT SUIT					
SUBD. BASE COURSE F (ASTM D1241)	10.00	MARGINAL	YES	YES	YES	YES	
SUBD. BASE COURSE G (ASTM D1241)	10.00	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL A (P. OF M.)	200.53	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	200.53	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	200.53	MARGINAL	YES	YES	YES	YES	
SEAL COAT A (P. OF M.)	19.75	NOT SUIT					
SEAL COAT B (P. OF M.)	19.75	MARGINAL	YES	YES	YES	YES	YES
COARSE AGGREGATE I (ASTM C33, D448)	216.45	NOT SUIT					
COARSE AGGREGATE II (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE III (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE IV (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE V (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE VI (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE VII (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE VIII (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE IX (ASTM C33, D448)	206.74	NOT SUIT					
COARSE AGGREGATE X (ASTM C33, D448)	206.74	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	10.04	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	120.00	SUITABLE					
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	120.02	MARGINAL	YES				
MORTAR (ASTM C144)	15.61	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)		SUITABLE					
BUILT-UP ROOFS (ASTM D1863)	166.29	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	10.51	MARGINAL	YES	YES	YES	YES	
SEPTIC FIELDS (U.M.A.)	27.50	MARGINAL	YES				
SHOULDERS (P. OF M.)	14.10	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022023 01719W21NMHG021

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4308.70 GMS. WASHED SAMPLE - WEIGHT BEFORE 935.10 AFTER 915.50 % LOSS 2.10

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
5/8 IN		0.0	0.0	100.00	0.0
5/8 IN	0.0	18.10	0.42	99.58	0.42
5/8 IN	10.40	47.92	1.11	98.47	1.53
5/8 IN	19.10	74.18	1.71	96.76	3.24
5/8 IN	47.20	203.53	5.03	91.73	8.27
5/8 IN	42.00	153.53	5.47	87.26	12.74
5/8 IN	115.00	532.69	12.31	76.95	23.05
5/8 IN	49.50	228.08	5.27	69.68	30.32
5/8 IN	86.30	397.65	9.19	80.49	19.51
5/8 IN	24.80	1118.76	25.86	34.63	65.37
5/8 IN	111.90	515.61	11.92	82.71	17.29
5/8 IN	67.20	309.64	7.16	15.56	84.44
5/8 IN	78.90	363.55	8.40	7.16	92.84
5/8 IN	20.50	94.46	2.18	4.97	95.03
5/8 IN	27.10	124.87	2.89	2.09	97.91
<200 + H	19.60	90.31	2.09	0.0	100.00

TOTALS 935.10 4326.79

SPLITTING FACTOR 4.61

FINENESS MODULUS 3.26

% COBBLES 0.0 % PEBBLES 12.74 % GRANULES 17.58 % SAND 67.59 % SILT/CLAY 2.09

INDUSTRIAL USAGE ASSESSMENT

022023 01719W21NMHG021

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	39.76	NOT SUIT			YES		YES
ASPHALT B (P. OF M.)	29.76	MARGINAL	YES				
ASPHALT C (P. OF M.)	42.91	NOT SUIT					
BASE COURSE A (P. OF M.)	38.95	NOT SUIT					
BASE COURSE B (P. OF M.)	18.85	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	96.47	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	50.61	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	50.61	MARGINAL					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	10.36	MARGINAL	YES	YES			YES
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	10.36	MARGINAL	YES	YES			YES
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	23.20	MARGINAL	YES	YES			YES
TRAFFIC GRAVEL A (P. OF M.)	27.39	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	40.31	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	20.13	MARGINAL					YES
SEAL COAT A (P. OF M.)	182.19	NOT SUIT					
SEAL COAT C (P. OF M.)	22.68	MARGINAL	YES		YES		YES
COARSE AGGREGATE 1 (ASTM C33, D448)	220.67	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	210.67	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	224.14	NOT SUIT					
COARSE AGGREGATE 44 (ASTM C33, D448)	209.66	NOT SUIT					
COARSE AGGREGATE 457 (ASTM C33, D448)	181.82	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	222.49	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	179.69	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	225.90	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	253.16	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	186.77	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	208.58	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	190.06	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	215.54	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	171.15	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	206.90	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	182.27	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	143.07	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	102.21	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	6.02	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	0.0	SUITABLE	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	7.36	MARGINAL	YES				
MORTAR (ASTM C144)	9.11	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	9.11	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	0.0	SUITABLE	YES				
AIRFIELD RUNWAYS (P. OF M.)	171.65	NOT SUIT					
PIT RUN (P. OF M.)	43.17	NOT SUIT					
SEPTIC FIELDS (U.M.A.)	12.26	MARGINAL					YES
SHOULDERS (P. OF M.)	29.58	MARGINAL					YES
	17.26	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022024 01719W04NEHG023A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4439.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 884.50 AFTER 873.60 % LOSS 1.23

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
3/4 IN	57.40	4.56	88.84	77.07	1.16
5/8 IN	61.40	4.50	87.97	77.34	
1/2 IN	59.72	4.20	85.78	74.95	
3/8 IN	11.70	1.20	23.08	11.06	
1/4 IN	24.60	1.20	28.14	11.06	
1/4 IN	45.00	1.20	28.14	11.06	
# 4	34.40	1.20	28.14	11.06	
# 8	162.40	1.17	17.82	15.42	
# 10	62.60	1.17	16.89	15.35	
# 16	124.30	1.17	13.64	12.01	53.99
# 30	226.30	1.15	29.83	21.18	70.85
# 40	80.50	1.04	26.03	12.35	87.65
# 50	49.20	1.04	25.40	6.95	93.05
# 80	35.70	1.04	23.92	3.03	96.97
# 100	5.30	1.04	2.58	2.45	97.55
# 200	11.40	1.21	1.25	1.20	98.00
<200 + M	10.90	1.20	0.0	100.00	

TOTALS 884.50 4573.19

SPLITTING FACTOR 5.02

FINENESS MODULUS 3.82

% COBBLES 0.0 % PEBBLES 15.63 % GRANULES 24.71 % SAND 58.46 % SILT/CLAY 1.20

INDUSTRIAL USAGE ASSESSMENT

022024 01719W04NEHG023A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	32.32	NOT SUIT					YES
ASPHALT B (P. OF M.)	20.04	MARGINAL	YES	YES	YES		
ASPHALT C (P. OF M.)	57.93	NOT SUIT					
BASE COURSE A (P. OF M.)	42.44	NOT SUIT					
BASE COURSE B (P. OF M.)	14.83	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	7.17	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	77.91	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	67.41	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	46.18	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	19.66	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	12.30	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	24.30	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL A (P. OF M.)	58.82	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	38.82	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	27.61	MARGINAL	YES				YES
TRAFFIC GRAVEL D (P. OF M.)	17.26	MARGINAL	YES				
SEAL COAT A (P. OF M.)	94.73	NOT SUIT	YES				
SEAL COAT B (P. OF M.)	18.08	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33,D448)	217.26	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	207.26	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	218.04	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33,D448)	204.82	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	174.19	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	214.19	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	169.71	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	216.12	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	240.49	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	171.89	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	201.64	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	177.06	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	188.61	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	161.61	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	184.01	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	160.85	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	113.10	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33,D448)	73.67	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	7.66	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	3.10	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	18.00	MARGINAL	YES				
MORTAR (ASTM C144)	18.00	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	16.12	MARGINAL	YES				
BUTTLE UP ROOFS (ASTM D1863)	162.11	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	27.29	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	9.37	MARGINAL					
SHOULDERS (P. OF M.)	27.07	MARGINAL					
	14.37	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022025 01719W05NEHG046A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4220.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 763.60 AFTER 734.30 % LOSS 3.84

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
6		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		495.30	1.01	23.49	76.51
5/8		4532.00	9.37	97.40	2.60
5/8		4532.00	9.37	77.22	22.78
5/8		4532.00	9.37	75.24	24.76
5/8		4532.00	9.37	83.28	16.72
1/4		69.10	4.73	99.66	0.34
1/4		91.60	6.07	94.00	6.00
1/4		50.00	3.43	48.27	7.73
1/4		100.10	5.53	53.79	46.21
1/4		59.00	3.98	30.95	69.05
1/4		64.40	4.09	24.86	75.14
1/4		141.70	13.41	11.45	88.55
1/4		43.40	2.83	1.34	92.66
1/4		20.50	1.13	1.94	94.50
1/4		16.60	0.97	0.83	96.17
1/4		3.10	0.17	0.29	96.40
<200		8.10	0.44	0.54	99.46
<200 + W		29.30	1.61	0.23	99.77
		161.94	2.77	0.0	100.00

TOTALS 763.60 5840.68

SPLITTING FACTOR 5.53

FINENESS MODULUS 5.65

% COBBLES 0.0 % PEBBLES 56.73 % GRANULES 12.31 % SAND 28.18 % SILT/CLAY 2.77

INDUSTRIAL USAGE ASSESSMENT

022025 01719W05NEHG046A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES MATERIAL NOT ON SITE	(MATERIAL <#4)
ASPHALT A (P. OF M.)	5.82	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	55.70	NOT SUIT	YES				
BASE COURSE A (P. OF M.)	9.00	MARGINAL	YES				
BASE COURSE B (P. OF M.)	6.97	MARGINAL	YES				
BASE COURSE C (P. OF M.)	6.97	MARGINAL	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	8.94	MARGINAL	YES				
SUB-BASE/SURFACE COURSE C (ASTM D1241)	6.98	MARGINAL	YES				
SUB-BASE/SURFACE COURSE D (ASTM D1241)	20.16	MARGINAL	YES				
SUB-BASE/SURFACE COURSE E (ASTM D1241)	53.16	MARGINAL	YES				
SUB-BASE/SURFACE COURSE F (ASTM D1241)	54.49	NOT SUIT	YES				
TRAFFIC GRAVEL A (P. OF M.)	6.16	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	6.16	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	2.58	MARGINAL	YES				
SEAL COAT A (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT B (P. OF M.)	72.87	NOT SUIT	YES				
SEAL COAT C (P. OF M.)	0.0	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	178.1%	NOT SUIT	YES				
COARSE AGGREGATE 2	129.1%	NOT SUIT	YES				
COARSE AGGREGATE 3	142.1%	NOT SUIT	YES				
COARSE AGGREGATE 4	130.2%	NOT SUIT	YES				
COARSE AGGREGATE 5	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 557	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 6	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 667	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 67	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 67	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 68	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 7	100.4%	NOT SUIT	YES				
COARSE AGGREGATE 76	152.2%	NOT SUIT	YES				
COARSE AGGREGATE 77	152.2%	NOT SUIT	YES				
COARSE AGGREGATE 77	96.66	NOT SUIT	YES				
COARSE AGGREGATE 77	137.47	NOT SUIT	YES				
COARSE AGGREGATE 77	104.62	NOT SUIT	YES				
COARSE AGGREGATE 78	101.61	NOT SUIT	YES				
COARSE AGGREGATE 78	100.43	NOT SUIT	YES				
COARSE AGGREGATE 78	109.83	NOT SUIT	YES				
COARSE AGGREGATE 8	119.64	NOT SUIT	YES				
COARSE AGGREGATE 89	73.553	NOT SUIT	YES				
COARSE AGGREGATE 9	70.558	NOT SUIT	YES				
COARSE AGGREGATE 10 (ASTM C33, D448)	16.229	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	26.63	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	50.40	NOT SUIT	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	31.89	NOT SUIT	YES				
MORTAR (ASTM C144)	16.89	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	26.29	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	100.93	NOT SUIT	YES				
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.I.A.)	15.92	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

YES

SAMPLE IDENTIFICATION 022026 01720W25SWH6037A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2222.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 723.90 AFTER 701.80 % LOSS 3.05

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT PASSED	PERCENT PASSING	PERCENT RETAINED				
4 IN		0.0	0.0	100.00	0.0				
1/2 IN		0.0	0.0	100.00	0.0				
1/2 IN		0.0	0.0	100.00	0.0				
1/2 IN		0.0	0.0	100.00	0.0				
1/4 IN		60.90	5.7	97.43	2.57				
1/8 IN		89.10	5.7	97.68	2.32				
1/16 IN		107.47	5.7	97.97	2.03				
1/32 IN		107.02	5.7	98.24	1.76				
1/64 IN		65.65	5.7	98.45	1.55				
1/128 IN		40.00	5.7	98.64	1.36				
100.00		100.00	13.95	99.32	0.68				
25.00		25.00	13.95	99.32	0.68				
10.00		10.00	13.95	99.32	0.68				
4.00		4.00	13.95	99.32	0.68				
1.00		1.00	13.95	99.32	0.68				
0.25		0.25	13.95	99.32	0.68				
128.90		128.90	16.68	99.26	0.74				
72.80		72.80	9.42	99.83	0.17				
36.40		36.40	6.00	99.94	0.06				
18.20		18.20	3.00	99.94	0.06				
9.10		9.10	1.50	99.94	0.06				
4.55		4.55	0.75	99.94	0.06				
2.28		2.28	0.38	99.94	0.06				
<200 + W		22.10	67.86	2.86	97.14				
TOTALS		723.90	2372.80						
SPLITTING FACTOR		3.07							
FINENESS MODULUS		4.03							
% COBBLES	0.0	% PEBBLES	30.73	% GRANULES	16.33	% SAND	50.08	% SILT/CLAY	2.86

INDUSTRIAL USAGE ASSESSMENT

022026 01720W25SWH6037A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	5.46	MARGINAL	YES			YES	YES
ASPHALT B (P. OF M.)	1.51	MARGINAL	YES			YES	YES
ASPHALT C (P. OF M.)	43.95	NOT SUIT					
BASE COURSE A (P. OF M.)	10.41	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	1.14	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	1.14	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	45.98	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	29.72	MARGINAL					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	12.62	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	8.68	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	3.06	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	14.35	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	34.07	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	14.07	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	1.15	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	1.10	MARGINAL	YES				
SEAL COAT A (P. OF M.)	67.80	NOT SUIT					
SEAL COAT B (P. OF M.)	17.70	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	215.54	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	205.54	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	208.28	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	197.03	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	151.30	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	200.98	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	142.75	NOT SUIT					
COARSE AGGREGATE 59 (ASTM C33, D448)	196.21	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	205.49	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	140.19	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	173.20	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	145.96	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	159.13	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	134.65	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	159.76	NOT SUIT					
COARSE AGGREGATE 80 (ASTM C33, D448)	173.90	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	113.54	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	66.95	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	6.53	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	6.46	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C406)	23.57	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	13.78	MARGINAL	YES				
MORTAR (ASTM C144)	13.78	MARGINAL	YES				
PORTLAND CEMENT (P. A.)							
BUILT-UP ROOFS (ASTM D1863)	135.10	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	MARGINAL	YES		YES		
SEPTIC FIELDS (U.M.A.)	23.08	SUITABLE					
SHOULDERS (P. OF M.)	0.0	MARGINAL					
OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4							

SAMPLE IDENTIFICATION 022027 01620W35SEH032A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2358.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 708.40 AFTER 699.70 % LOSS 1.23

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4			0.0	0.0	100.00
1/2 IN			0.0	0.0	100.00
1/2 IN			0.0	0.0	100.00
1/2 IN			0.0	0.0	100.00
1/2 IN		93.30	3.68	96.32	3.68
1/2 IN		35.80	1.41	95.91	5.09
3/8 IN		48.10	1.40	93.43	6.59
5/8 IN		14.60	0.50	91.89	7.57
1/2 IN		13.65	0.54	91.89	8.11
3/8 IN		57.95	1.70	90.39	9.61
1/4 IN		68.91	2.70	87.68	12.32
3/16 IN		42.61	1.60	85.99	14.01
1/8 IN		216.07	0.45	77.55	22.45
1/16 IN		26.70	0.51	74.04	25.96
1/32 IN		90.00	2.02	62.22	37.78
1/64 IN		220.00	7.32	26.90	65.68
1/128 IN		118.60	3.64	17.74	82.26
1/256 IN		75.70	2.02	7.80	92.20
1/512 IN		37.50	0.94	4.93	97.12
100		4.30	0.52	0.56	97.59
200		8.90	1.42	1.14	98.86
<200 + W		8.70	28.95	1.14	0.0
TOTALS		708.10	2534.59		

SPLITTING FACTOR 3.33

FINENESS MODULUS 3.51

% COBBLES	0.0	% PEBBLES	14.01	% GRANULES	11.95	% SAND	72.90	% SILT/CLAY	1.14
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INDUSTRIAL USAGE ASSESSMENT

022027 01620W35SEH032A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	55.03	NOT SUIT					
ASPHALT B (P. OF M.)	55.60	NOT SUIT					
BASE COURSE A (P. OF M.)	33.84	NOT SUIT					
BASE COURSE B (P. OF M.)	28.97	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	8.85	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	91.29	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	74.29	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	67.67	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	26.72	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	6.10	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	18.10	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL A (P. OF M.)	62.64	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	62.64	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	50.45	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	22.43	MARGINAL	YES	YES	YES	YES	
SEAL COAT A (P. OF M.)	117.04	NOT SUIT					
SEAL COAT B (P. OF M.)	27.89	MARGINAL	YES	YES	YES	YES	
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	
COARSE AGGREGATE 1 (ASTM C33,D448)	209.47	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	199.47	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	206.36	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33,D448)	193.26	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	167.94	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	203.45	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	164.54	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	216.00	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	249.28	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	190.38	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	207.88	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	197.77	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	228.52	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	193.22	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	202.20	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	207.92	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33,D448)	192.51	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	198.51	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE I (P. OF M.)	4.42	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	4.47	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	10.85	MARGINAL	YES	YES	YES	YES	
MORTAR (ASTM C144)	1.82	MARGINAL	YES	YES	YES	YES	
PORTLAND CEMENT (P.C.A.)	1.37	MARGINAL	YES	YES	YES	YES	
BUILT-UP ROOFS (ASTH D1863)	183.75	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	51.70	NOT SUIT					
PIT RUN (P. OF M.)	51.28	MARGINAL	YES	YES	YES	YES	
SEPTIC FIELDS (U.M.A.)	26.56	MARGINAL	YES	YES	YES	YES	
SHOULDERS (P. OF M.)	15.99	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022028 01619W20N4HG036A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3508.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 789.10 AFTER 780.40 % LOSS 1.10

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/4	IN	0.0	0.0	100.00	0.0
1/4	IN	0.0	0.0	100.00	0.0
1/4	IN	0.0	0.0	100.00	0.0
1/8	IN	18.50	117.50	99.24	1.06
1/8	IN	16.20	72.00	94.79	5.20
1/8	IN	62.10	187.16	95.95	14.05
1/4	IN	50.70	225.40	95.95	29.15
1/4	IN	50.00	222.28	95.82	26.10
8		182.38	810.45	21.95	48.13
10		60.50	268.96	7.29	55.42
16		145.40	646.40	17.53	72.93
30		144.18	640.63	17.33	90.28
40		24.30	108.03	2.93	6.79
50		16.50	73.35	1.99	4.81
80		18.40	81.80	2.22	2.59
100		3.80	16.89	0.46	2.13
200		0.00	40.01	1.05	98.95
<200 + M		0.72	38.75	1.05	0.0
TOTALS		790.51	3691.59		

SPLITTING FACTOR 4.45

FINENESS MODULUS 4.49

% COBBLES 0.0 % PEBBLES 26.18 % GRANULES 29.24 % SAND 43.53 % SILT/CLAY 1.05

INDUSTRIAL USAGE ASSESSMENT

022028 01619W20N4HG036A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	16.59	MARGINAL	YES	YES	YES	YES	
ASPHALT B (P. OF M.)	6.31	MARGINAL	YES	YES	YES	YES	
ASPHALT C (P. OF M.)	64.04	NOT SUIT					
BASE COURSE A (P. OF M.)	22.21	MARGINAL	YES	YES	YES	YES	
BASE COURSE B (P. OF M.)	11.16	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	12.65	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE COURSE A (ASTM D1241)	46.52	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	40.27	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	24.50	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	25.02	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	18.02	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	39.69	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	34.75	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	22.92	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL C (P. OF M.)	10.72	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL D (P. OF M.)	5.07	MARGINAL	YES	YES	YES	YES	
SEAL COAT A (P. OF M.)	77.16	NOT SUIT					
SEAL COAT B (P. OF M.)	11.11	MARGINAL	YES	YES	YES	YES	
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	
COARSE AGGREGATE 1 (ASTM C33, D448)	215.25	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	205.25	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	211.27	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	169.21	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	158.23	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	204.54	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	150.02	NOT SUIT					
COARSE AGGREGATE 55 (ASTM C33, D448)	202.22	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	216.05	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	141.76	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	180.10	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	145.29	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	137.82	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	132.42	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	135.66	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	122.99	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	73.27	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	42.66	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	7.74	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE I (P. OF M. C33, C404)	27.02	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	65.36	NOT SUIT					
MORTAR (ASTM C144)	78.39	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	24.74	MARGINAL	YES	YES	YES	YES	
BUILT-UP ROOFS (ASTM D1863)	132.92	NOT SUIT					
AIRPORT RUNWAYS (P. OF M. H.)	9.07	MARGINAL	YES	YES	YES	YES	
PIER PONDS (P. OF M. H.A.)	9.00	SUITABLE	YES	YES	YES	YES	
SEPTIC FIELDS (U.M.A.)	25.20	MARGINAL	YES	YES	YES	YES	
SHOULDERS (P. OF M. H.)	3.82	MARGINAL	YES	YES	YES	YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022029 01619W30NEH6025A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2910.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 764.50 AFTER 752.60 % LOSS 1.56

SIEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
3/4 IN		126.10	5.94	96.06	3.94
5/8 IN	16.50	163.90	5.12	96.97	11.03
1/2 IN	44.00	62.81	5.23	88.74	16.26
3/8 IN	38.20	167.48	4.54	79.20	20.80
1/4 IN	67.00	145.40	7.97	71.23	23.77
#4	46.50	255.03	5.53	65.70	34.30
#8	155.30	177.00	18.47	47.22	52.78
#10	45.40	591.14	5.40	41.82	58.18
#16	82.50	314.03	9.81	32.01	67.99
#30	159.90	608.64	19.02	12.99	87.01
#40	52.10	198.31	6.20	6.79	93.21
#50	23.30	88.69	2.77	6.02	95.98
#80	14.90	56.72	1.77	2.25	97.75
#100	2.20	8.37	0.26	1.99	98.01
#200	4.80	18.27	0.57	1.42	98.58
<200 + M	11.90	45.30	1.42	0.0	100.00
TOTALS	764.50	3200.00			
SPLITTING FACTOR	3.81				
FINENESS MODULUS	4.66				
% COBBLES	0.0	% PEBBLES	34.30	% GRANULES	23.87
				% SAND	40.41
				% SILT/CLAY	1.42

INDUSTRIAL USAGE ASSESSMENT

022029 01619W30NEH6025A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <\$4)
ASPHALT A (P. OF M.)	10.22	MARGINAL	YES	YES	YES		
ASPHALT B (P. OF M.)	22.57	MARGINAL	YES	YES	YES		
ASPHALT C (P. OF M.)	63.50	NOT SUIT					
BASE COURSE A (P. OF M.)	16.22	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	16.70	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	22.58	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	28.51	MARGINAL	YES	YES	YES		
SUB-BASE/BASE COURSE B (ASTM D1241)	22.75	MARGINAL					YES
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	14.65	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	24.46	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	17.46	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	42.53	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	24.30	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL B (P. OF M.)	13.30	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL C (P. OF M.)	3.26	SUITABLE	YES				YES
SEAL COAT A (P. OF M.)	75.76	NOT SUIT					
SEAL COAT B (P. OF M.)	8.45	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33,D448)	211.35	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	201.35	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	200.09	NOT SUIT					
COARSE AGGREGATE 35 (ASTM C33,D448)	190.22	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	140.91	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	191.61	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	131.25	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	184.29	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	189.99	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	122.08	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	163.49	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	130.47	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	128.79	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	123.02	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	128.79	NOT SUIT					
COARSE AGGREGATE 90 (ASTM C33,D448)	78.09	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	52.00	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	10.00	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	66.00	NOT SUIT					
MORTAR (ASTM C144)	29.00	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	55.00	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	12.00	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	6.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE					
SEPTIC FIELDS (U.M.A.)	20.94	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022030 01619W27SWH6029A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3038.90 GMS. WASHED SAMPLE - WEIGHT BEFORE 753.40 AFTER 743.60 % LOSS 1.27

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
3 1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		138.10	2.21	93.99	4.21
1/4		58.60	1.01	93.98	6.02
1/8		30.25	0.00	93.98	6.02
1/16		9.94	0.00	93.94	6.06
1/32		3.00	0.00	89.96	10.04
1/64		0.96	0.00	87.34	12.66
1/128		0.34	0.00	81.54	18.46
1/256		0.11	0.00	77.33	22.67
1/512		0.04	0.00	59.97	40.03
1/1024		0.02	0.00	52.71	47.29
1/2048		0.01	0.00	32.89	67.11
1/4096		0.00	0.00	6.47	90.53
1/8192		0.00	0.00	4.48	95.52
1/16384		0.00	0.00	2.02	97.54
1/32768		0.00	0.00	0.89	98.43
1/65536		0.00	0.00	0.12	98.55
1/131072		0.00	0.00	0.25	98.80
<200 + W	9.60	34.72	1.20	0.0	100.00
TOTALS	753.40	3233.60			
SPLITTING FACTOR	4.03				
FINENESS MODULUS	4.39				
% COBBLES	0.0	% PEBBLES	22.67	% GRANULES	24.61
				% SAND	51.52
				% SILT/CLAY	1.20

INDUSTRIAL USAGE ASSESSMENT

022030 01619W27SWH6029A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	27.27	MARGINAL	YES	YES	YES	YES	YES
ASPHALT B (P. OF M.)	24.53	MARGINAL	YES	YES	YES	YES	YES
ASPHALT C (P. OF M.)	27.29	NOT SUIT					
BASE COURSE A (P. OF M.)	50.53	NOT SUIT					
BASE COURSE B (P. OF M.)	19.80	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	19.80	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE COURSE A (ASTM D1241)	61.71	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	61.71	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	25.29	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	26.96	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	19.96	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	31.96	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	51.06	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	51.06	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	24.33	MARGINAL	YES				YES
TRAFFIC GRAVEL D (P. OF M.)	13.24	MARGINAL	YES				YES
SEAL COAT A (P. OF M.)	58.89	NOT SUIT					
SEAL COAT B (P. OF M.)	15.95	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33,D448)	209.97	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	199.97	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	204.93	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33,D448)	189.93	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	156.46	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	200.50	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	153.85	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	213.45	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	234.18	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	162.50	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	196.22	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	169.31	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	169.31	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	149.31	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	159.31	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	124.52	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	94.52	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33,D448)	56.70	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	8.71	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	20.99	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	51.83	NOT SUIT					
MORTAR (ASTM C144)	69.61	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	17.44	MARGINAL	YES				
BURIED RUNWAYS (ASTM D1863)	30.50	NOT SUIT					
BITUMEN (P. OF M.)	18.73	MARGINAL	YES				YES
SEPTIC FIELDS (U.M.A.)	5.71	MARGINAL	YES				YES
SHOULDERS (P. OF M.)	28.11	MARGINAL	YES				YES
	7.33	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022031 01620W08NWHG063A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3794.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 942.00 AFTER 921.30 % LOSS 2.20

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
1/2 IN.	0.0	0.0	0.0	100.00	0.0
1/2 IN.	0.0	0.0	0.0	100.00	0.0
1/2 IN.	0.0	0.0	0.0	100.00	0.0
1/2 IN.	0.0	0.0	0.0	100.00	0.0
1/4 IN.	124.70	124.70	100.00	99.00	1.00
1/8 IN.	57.50	23.06	100.00	95.85	4.15
1/16 IN.	35.40	14.24	100.00	95.85	4.14
#32	35.40	14.24	100.00	95.26	4.74
#64	15.50	6.22	100.00	91.86	8.14
#128	1.77	0.71	100.00	85.71	14.29
#256	0.97	0.39	100.00	56.08	43.92
#512	0.97	0.39	100.00	46.14	53.86
#1024	1.90	0.76	100.00	16.49	83.51
#2048	1.00	0.40	100.00	9.49	90.51
#4096	0.50	0.20	100.00	4.14	95.86
#8192	0.25	0.10	100.00	2.11	97.89
<200 + H	20.70	03.38	2.11	0.0	100.00

TOTALS 942.00 3958.80

SPLITTING FACTOR 4.03

FINENESS MODULUS 3.85

% COBBLES 0.0 % PEBBLES 20.02 % GRANULES 23.90 % SAND 53.97 % SILT/CLAY 2.11

INDUSTRIAL USAGE ASSESSMENT

022031 01620W08NWHG063A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRAADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	22.78	MARGINAL	YES			YES	YES
ASPHALT C (P. OF M.)	51.27	NOT SUIT	YES			YES	YES
BASE COURSE A (P. OF M.)	22.55	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE B (P. OF M.)	6.87	MARGINAL					
BASE COURSE C (P. OF M.)	1.89	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	67.91	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	54.81	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	53.09	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	14.21	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	7.21	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	1.21	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF M.)	52.13	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	42.65	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	12.01	MARGINAL	YES				YES
SEAL COAT A (P. OF M.)	68.11	NOT SUIT					
SEAL COAT B (P. OF M.)	16.27	MARGINAL	YES				YES
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33,D448)	216.96	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	206.96	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	217.22	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33,D448)	205.37	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	170.34	NOT SUIT					
COARSE AGGREGATE 4-467 (ASTM C33,D448)	212.82	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	163.79	NOT SUIT					
COARSE AGGREGATE 55 (ASTM C33,D448)	214.08	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	234.05	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	163.27	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	195.92	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	167.25	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	178.86	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	159.00	NOT SUIT					
COARSE AGGREGATE 88 (ASTM C33,D448)	178.22	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	153.00	NOT SUIT					
COARSE AGGREGATE 90 (ASTM C33,D448)	108.00	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	74.00	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	2.32	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	29.00	MARGINAL	YES				
MORTAR (ASTM C144)	6.27	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	1.27	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	158.58	NOT SUIT	YES				
AIRFIELD RUNWAYS (P. OF M.)	1.24	MARGINAL	YES				
PIT RUN (P. OF M.)	4.98	MARGINAL					
SEPTIC FIELDS (U.M.A.)	2.00	MARGINAL					
SHOULDERS (P. OF M.)	9.98	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022033 01622W01SWH6115

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4635.30 GMS. MASHED SAMPLE - WEIGHT BEFORE 782.80 AFTER 767.10 % LOSS 2.01

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	IN	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/4 IN	167.00	167.00	2.98	97.02	2.98
1/4 IN	21.20	175.05	2.98	97.02	2.98
1/4 IN	56.00	175.75	2.98	97.02	2.98
1/4 IN	53.00	176.75	2.98	97.02	2.98
1/4 IN	123.70	204.40	2.77	71.45	28.55
1/4 IN	24.50	204.29	14.76	55.09	44.91
1/4 IN	62.70	400.88	0.08	92.97	7.03
1/4 IN	175.20	1037.42	0.91	76.99	23.01
1/4 IN	91.40	542.22	10.91	87.68	12.32
1/4 IN	51.10	302.58	9.10	90.99	9.01
1/4 IN	30.20	178.82	6.68	97.02	2.98
<200 + N	16.10	38.95	0.58	97.40	2.58
<200 + N	15.69	92.89	1.87	98.13	1.87
TOTALS	782.19	4962.25			

SPLITTING FACTOR 5.92

FINENESS MODULUS 4.17

% COBBLES 0.0 % PEBBLES 28.55 % GRANULES 18.88 % SAND 50.70 % SILT/CLAY 1.87

INDUSTRIAL USAGE ASSESSMENT

022033 01622W01SWH6115

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF H.)	9.84	MARGINAL	YES		YES	YES	YES
ASPHALT B (P. OF H.)	2.59	MARGINAL	YES		YES	YES	YES
ASPHALT C (P. OF H.)	52.51	NOT SUIT					
BASE COURSE A (P. OF H.)	192.68	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE B (P. OF H.)	22.25	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE COURSE A (ASTM D1241)	48.67	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	36.01	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	19.95	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	18.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	11.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	23.81	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL A (P. OF H.)	40.37	NOT SUIT					
TRAFFIC GRAVEL B (P. OF H.)	20.37	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF H.)	6.20	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT A (P. OF H.)	86.74	NOT SUIT					
SEAL COAT B (P. OF H.)	9.33	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT C (P. OF H.)	0.00	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33-D448)	214.21	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33-D448)	204.21	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33-D448)	209.28	NOT SUIT					
COARSE AGGREGATE 44 (ASTM C33-D448)	197.96	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33-D448)	154.41	NOT SUIT					
COARSE AGGREGATE 446 (ASTM C33-D448)	200.75	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33-D448)	145.18	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33-D448)	198.80	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33-D448)	210.25	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33-D448)	144.08	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33-D448)	179.52	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33-D448)	150.12	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33-D448)	160.98	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33-D448)	138.85	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33-D448)	161.52	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33-D448)	147.76	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33-D448)	100.07	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33-D448)	74.19	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D448)	8.60	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF H.)	7.67	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	25.59	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	23.23	MARGINAL	YES				
MORTAR (ASTM C144)	15.66	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	7.67	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	139.35	NOT SUIT					
AIRFIELD RUNWAYS (P. OF H.)	3.65	MARGINAL	YES				
PIT RUN (P. OF H.)	0.9	SUITABLE					
SEPTIC FIELDS (U.M.A.)	23.34	MARGINAL	YES				
SHOULDERS (P. OF H.)	1.45	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022034 01622W10NEH6117

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4179.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 930.20 AFTER 894.30 % LOSS 3.86

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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1/2	0.0	0.0	100.00	0.0	
1/2	0.0	0.0	100.00	0.0	
1/2	0.0	0.0	100.00	0.0	
1/2	0.0	0.0	100.00	0.0	
1/4	0.0	0.0	100.00	0.0	
1/8	9.90	182.00	4.17	95.85	4.17
1/16	44.30	444.40	1.02	94.01	5.99
1/32	55.50	199.00	1.05	90.24	9.76
1/64	55.50	258.00	0.95	84.95	15.05
1/128	60.00	269.00	0.97	76.68	23.32
1/256	170.00	278.00	1.09	70.29	23.71
1/512	40.00	792.00	1.17	56.12	43.88
1/1024	49.00	196.00	1.45	47.61	52.39
1/2048	194.00	444.00	1.02	37.42	62.58
1/4096	872.00	872.00	2.02	17.40	82.60
1/8192	65.00	284.00	0.55	10.87	89.13
1/16384	295.00	159.00	3.66	7.23	92.79
1/32768	29.00	90.75	2.08	5.13	94.87
1/65536	29.00	12.50	0.29	0.84	95.16
<200 + M	11.10	49.87	1.14	3.70	96.30
	35.90	161.28	3.70	0.0	100.00

TOTALS 930.20 4360.99

SPLITTING FACTOR 4.49

FINENESS MODULUS 4.30

% COBBLES 0.0 % PEBBLES 29.71 % GRANULES 22.67 % SAND 43.92 % SILT/CLAY 3.70

INDUSTRIAL USAGE ASSESSMENT

022034 01622W10NEH6117

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	7.01	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES			YES	
BASE COURSE A (P. OF M.)	54.45	NOT SUIT					
BASE COURSE B (P. OF M.)	11.15	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	11.43	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE COURSE A (ASTM D1241)	42.85	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	42.28	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	10.72	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	18.43	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	11.43	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	30.82	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	26.35	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL B (P. OF M.)	11.66	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL C (P. OF M.)	0.53	MARGINAL	YES	YES	YES	YES	
SEAL COAT A (P. OF M.)	80.15	NOT SUIT					
SEAL COAT B (P. OF M.)	80.39	MARGINAL	YES	YES	YES	YES	
SEAL COAT C (P. OF M.)	0.10	MARGINAL	YES	YES	YES	YES	YES
COARSE AGGREGATE 1 (ASTM C33, D448)	218.52	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	208.52	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	213.77	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33, D448)	202.94	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	158.23	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	208.47	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	140.76	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	203.76	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	214.09	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33, D448)	140.35	NOT SUIT					
COARSE AGGREGATE 666 (ASTM C33, D448)	173.18	NOT SUIT					
COARSE AGGREGATE 667 (ASTM C33, D448)	140.09	NOT SUIT					
COARSE AGGREGATE 668 (ASTM C33, D448)	142.47	NOT SUIT					
COARSE AGGREGATE 778 (ASTM C33, D448)	122.29	NOT SUIT					
COARSE AGGREGATE 778 (ASTM C33, D448)	145.29	NOT SUIT					
COARSE AGGREGATE 869 (ASTM C33, D448)	135.20	NOT SUIT					
COARSE AGGREGATE 869 (ASTM C33, D448)	08.19	NOT SUIT					
COARSE AGGREGATE 869 (ASTM C33, D448)	64.50	NOT SUIT					
COARSE AGGREGATE 869 (ASTM C33, D448)	19.95	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE I (P. OF M., C33, C404)	15.58	MARGINAL	YES	YES	YES	YES	
MORTAR (ASTM C144)	42.55	NOT SUIT					
PORTLAND CEMENT C404 (C.A.)	208.55	MARGINAL	YES	YES	YES	YES	
BUILT UP ROOFS (ASTM D1863)	129.39	MARGINAL	YES	YES	YES	YES	
AIRFIELD RUNWAYS (P. OF M.)	0.29	SUITABLE					
PIT RUN (P. OF M.)	0.29	SUITABLE					
SEPTIC FIELDS (U.M.A.)	208.33	MARGINAL	YES	YES	YES	YES	
SHOULDERS (P. OF M.)	0.29	MARGINAL	YES	YES	YES	YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022036 01721W01NEHGI19A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4958.90 GMS. WASHED SAMPLE - WEIGHT BEFORE 798.60 AFTER 760.90 % LOSS 4.72

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		220.20	4.06	99.94	4.06
1/8 IN	28.30	245.80	4.53	91.41	8.59
1/16 IN	26.30	175.73	3.24	88.17	11.83
3/32 IN	34.20	212.36	3.01	85.16	14.84
1/4 IN	65.40	406.10	7.49	73.76	26.24
# 8	49.00	304.26	5.61	68.15	31.85
# 16	123.30	765.63	14.11	54.04	45.96
# 32	38.70	240.31	4.43	49.61	50.39
# 64	66.30	411.69	7.59	42.02	57.98
# 128	187.00	1165.52	21.48	20.53	79.47
# 256	64.40	399.89	7.37	13.16	86.84
# 512	35.50	220.44	4.06	9.16	90.90
# 1024	24.50	152.13	2.80	6.50	93.70
# 2048	4.20	27.32	0.50	5.79	94.21
<2000 + M	12.90	80.10	1.48	2.32	95.68
	37.70	234.10	4.32	0.0	100.00

TOTALS 798.60 5424.88

SPLITTING FACTOR 6.21

FINENESS MODULUS 4.28

% COBBLES 0.0 % PEBBLES 31.85 % GRANULES 18.54 % SAND 45.29 % SILT/CLAY 4.32

INDUSTRIAL USAGE ASSESSMENT

022036 01721W01NEHGI19A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	5.16	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	48.99	NOT SUIT					
BASE COURSE A (P. OF M.)	8.43	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	1.84	MARGINAL	YES				
BASE COURSE C (P. OF M.)	0.0	SUITABLE					
SUB-BASE/BASE COURSE A (ASTM D1241)	39.00	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	22.47	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	6.52	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	14.78	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	7.78	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	23.08	MARGINAL	YES	YES			
TRAFFIC GRAVEL-A (P. OF M.)	30.27	NOT SUIT					
TRAFFIC GRAVEL-B (P. OF M.)	11.00	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL-C (P. OF M.)	1.03	MARGINAL	YES		YES		
SEAL COAT A (P. OF M.)	87.25	NOT SUIT					
SEAL COAT B (P. OF M.)	11.55	MARGINAL	YES		YES		
SEAL COAT C (P. OF M.)	2.17	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	21.73	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	204.73	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	204.89	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	198.42	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	147.57	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	196.91	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	139.12	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	193.13	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	193.28	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	135.66	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	172.98	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	169.54	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	156.34	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	129.27	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	129.29	NOT SUIT					
COARSE AGGREGATE 80 (ASTM C33, D448)	129.09	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33, D448)	129.27	NOT SUIT					
COARS AGGREGATE 10 (ASTM C33, D448)	79.06	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	0.00	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	27.02	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	27.02	MARGINAL	YES				
MORNING (ASTM C144)	1.00	5.00	MARGINAL	YES			
PORTLAND CEMENT C144	1.00	5.00	MARGINAL	YES			
BUILT-UP ROOFS (ASTM D1863)	130.53	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.03	MARGINAL	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE					
SEPTIC FIELDS (U.M.A.)	21.41	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022036 01720W06SWH6110A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2471.70 GMS. WASHED SAMPLE - WEIGHT BEFORE 711.00 AFTER 645.20 % LOSS 9.25

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		76.90	0.84	97.16	2.84
1/4		154.50	0.72	91.44	8.56
1/4		0.0	0.0	0.0	0.0
1/4		154.58	0.02	69.42	30.58
1/8		122.02	0.51	84.91	15.09
1/8		150.57	0.90	79.00	21.00
1/8		143.57	0.31	73.69	26.31
1/16		120.00	1.43	58.26	41.74
1/16		126.97	0.77	53.49	46.51
1/32		202.71	0.83	52.66	57.34
1/32		562.31	0.06	52.60	77.40
1/64		165.13	0.11	16.49	83.51
1/64		83.43	0.09	13.40	86.60
1/128		20.00	0.57	10.83	89.17
1/128		69.53	0.62	10.21	89.79
1/256		16.60	0.75	8.46	91.54
<200 + M		13.60	0.0	0.0	100.00
<200 + M		65.80	228.75	8.46	0.0

TOTALS 711.00 2703.10

SPLITTING FACTOR 3.48

FINENESS MODULUS 4.03

% COBBLES 0.0 % PEBBLES 26.31 % GRANULES 20.20 % SAND 45.03 % SILT/CLAY 8.46

INDUSTRIAL USAGE ASSESSMENT

022036 01720W06SWH6110A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <8200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	18.20	MARGINAL	YES			YES	YES
ASPHALT B (P. OF M.)	100.13	NOT SUIT	YES			YES	YES
ASPHALT C (P. OF M.)	14.09	MARGINAL	YES			YES	YES
BASE COURSE A (P. OF M.)	0.0	SUITABLE					
BASE COURSE B (P. OF M.)	0.0	SUITABLE					
BASE COURSE C (P. OF M.)	0.0	SUITABLE					
SUB-BASE/BASE COURSE A (ASTM D1241)	52.55	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	14.24	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	16.30	MARGINAL	YES			YES	YES
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	16.03	MARGINAL	YES			YES	YES
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	16.03	MARGINAL	YES			YES	YES
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	13.03	MARGINAL	YES			YES	YES
TRAFFIC GRAVEL A (P. OF M.)	21.88	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	21.88	MARGINAL	YES			YES	YES
TRAFFIC GRAVEL C (P. OF M.)	20.83	MARGINAL	YES			YES	YES
TRAFFIC GRAVEL D (P. OF M.)	25.85	MARGINAL	YES			YES	YES
SEAL COAT A (P. OF M.)	96.75	NOT SUIT					
SEAL COAT B (P. OF M.)	21.31	MARGINAL	YES			YES	YES
SEAL COAT C (P. OF M.)	5.26	MARGINAL	YES			YES	YES
COARSE AGGREGATE 1 (ASTM C33-D448)	218.90	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33-D448)	208.90	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33-D448)	213.32	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33-D448)	204.04	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33-D448)	162.73	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33-D448)	205.96	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33-D448)	152.50	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33-D448)	203.23	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33-D448)	216.92	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33-D448)	453.83	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33-D448)	487.99	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33-D448)	460.92	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33-D448)	469.82	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33-D448)	453.94	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33-D448)	477.97	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33-D448)	476.43	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33-D448)	476.43	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33-D448)	68.55	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D448)	68.55	MARGINAL	YES			YES	YES
FINE CONCRETE AGGREGATE (P. OF M.)	29.67	MARGINAL	YES			YES	YES
FINE CONCRETE AGGREGATE II (ASTM C33-C404)	29.59	MARGINAL	YES			YES	YES
MORTAR (ASTM C144)	49.83	MARGINAL	YES			YES	YES
PORTLAND CEMENT (P.C.A.)	13.20	MARGINAL	YES			YES	YES
BUILT-UP ROOFS (ASTM D1863)	155.61	NOT SUIT				YES	
AIRFIELD RUNWAYS (P. OF M.)	155.85	SUITABLE	YES			YES	
PIT RUN (P. OF M.)	20.00	SUITABLE	YES			YES	
SEPTIC FIELDS (U.M.A.)	21.44	MARGINAL	YES			YES	
SHOULDERS (P. OF M.)	3.69	MARGINAL	YES			YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022037 01619W24NNG044A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2647.90 GMS. WASHED SAMPLE - WEIGHT BEFORE 761.10 AFTER 748.80 % LOSS 1.62

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
5 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/4 IN	100.90	100.90	100.00	97.90	2.10
1/8 IN	35.50	35.50	35.50	94.08	5.92
1/16 IN	7.10	24.70	24.70	22.03	7.97
1/32 IN	3.50	7.18	6.43	61.27	38.73
1/64 IN	2.30	4.75	2.60	68.94	31.06
1/128 IN	1.40	2.75	1.74	67.20	32.79
1/256 IN	0.60	2.66	0.87	79.39	20.61
1/512 IN	0.30	1.81	0.43	75.65	24.35
1/1024 IN	0.16	0.92	0.34	65.30	34.70
1/2048 IN	0.08	0.41	0.18	34.82	65.18
1/4096 IN	0.04	0.21	0.04	20.21	79.79
1/8192 IN	0.02	0.10	0.04	11.17	88.83
1/16384 IN	0.01	0.05	0.01	3.77	96.23
1/32768 IN	0.005	0.02	0.005	2.84	97.16
1/65536 IN	0.002	0.01	0.002	1.50	98.50
<200 + M	12.30	42.79	1.50	0.0	100.00

TOTALS 761.10 2852.30

SPLITTING FACTOR 3.48

FINENESS MODULUS 3.37

% COBBLES 0.0 % PEBBLES 12.80 % GRANULES 11.55 % SAND 74.15 % SILT/CLAY 1.50

INDUSTRIAL USAGE ASSESSMENT

022037 01619W24NNG044A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	59.41	NOT SUIT					
ASPHALT B (P. OF M.)	49.41	NOT SUIT					
ASPHALT C (P. OF M.)	47.55	NOT SUIT					
BASE COURSE A (P. OF M.)	56.60	NOT SUIT					
BASE COURSE B (P. OF M.)	280.91	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	93.10	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	77.00	MARGINAL					
SUB-BASE/BASE COURSE C (ASTM D1241)	75.00	MARGINAL					
SUB-BASE/BASE COURSE D (ASTM D1241)	70.00	MARGINAL					
SUB-BASE/BASE COURSE E (ASTM D1241)	12.00	MARGINAL					
SUB-BASE/BASE COURSE F (ASTM D1241)	1.00	MARGINAL					
TRAFFIC GRAVEL (P. OF M.)	1.00	NOT SUIT					
TRAFFIC GRAVEL (P. OF M.)	1.00	NOT SUIT					
TRAFFIC GRAVEL (P. OF M.)	1.00	MARGINAL					
SEAL COAT (P. OF M.)	1.00	NOT SUIT					
SEAL COAT (P. OF M.)	1.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	21.00	SUITABLE					
COARSE AGGREGATE (ASTM C33, D448)	20.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	19.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	17.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	15.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	14.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	13.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	12.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	11.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	10.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	9.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	8.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	7.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	6.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	5.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	4.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	3.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	2.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	1.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33, D448)	0.00	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	0.53	SUITABLE					YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	0.00	SUITABLE					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	6.14	MARGINAL					
MORTAR (ASTM C144)	3.95	MARGINAL					
PORTLAND CEMENT (P.C.A.)	1.34	MARGINAL					
BUILT-UP ROOFS (ASTM D1863)	189.17	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	59.16	NOT SUIT					
PIT RUN (P. OF M.)	14.07	MARGINAL	YES	YES	YES	YES	
SEPTIC FIELDS (U.M.A.)	24.83	MARGINAL	YES				
SHOULDERS (P. OF M.)	17.20	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022037 01619W26SEHA041A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2329.90 GMS. WASHED SAMPLE - WEIGHT BEFORE 832.50 AFTER 783.60 % LOSS 5.87

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		45.20	1.63	98.37	1.63
1/4 IN		211.40	7.64	90.73	9.27
1/8 IN	5.70	177.60	6.42	84.31	15.69
1/16 IN	33.20	62.92	3.36	80.38	19.62
1/32 IN	23.90	122.86	4.44	75.94	24.06
1/64 IN	80.20	224.45	8.11	67.83	32.17
1/128 IN	24.70	121.18	4.38	63.45	36.55
1/256 IN	164.70	620.94	16.65	46.80	53.20
1/512 IN	52.00	150.73	5.58	41.14	58.86
1/1024 IN	132.30	314.29	11.35	29.78	70.22
1/2048 IN	130.80	366.07	12.23	46.56	53.44
1/4096 IN	28.20	98.79	2.57	42.99	57.01
1/8192 IN	28.00	70.53	2.55	10.44	89.56
1/16384 IN	28.00	69.97	2.55	7.91	92.09
1/32768 IN	27.40	17.91	0.65	7.27	92.73
<200 + W	23.90	64.09	3.32	4.95	95.05
<200 + W	48.98	137.08	4.95	0.0	100.00

TOTALS 833.88 2767.96

SPLITTING FACTOR 2.80

FINENESS MODULUS 4.67

% COBBLES 0.0 % PEBBLES 36.55 % GRANULES 22.31 % SAND 36.19 % SILT/CLAY 4.95

INDUSTRIAL USAGE ASSESSMENT

022037 01619W26SEHA041A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	5.33	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	50.26	MARGINAL	YES			YES	
ASPHALT C (P. OF M.)	45.20	NOT SUIT					
BASE COURSE A (P. OF M.)	7.39	MARGINAL	YES		YES	YES	
BASE COURSE B (P. OF M.)	1.79	MARGINAL	YES				
BASE COURSE C (P. OF M.)	0.0	SUITABLE					
SUB-BASE/BASE COURSE A (ASTM D1241)	20.54	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	6.45	MARGINAL	YES		YES	YES	YES
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	5.62	MARGINAL	YES		YES	YES	
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	13.22	MARGINAL	YES		YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	6.22	MARGINAL	YES		YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	27.94	MARGINAL	YES		YES	YES	
TRAFFIC GRAVEL A (P. OF M.)	26.52	MARGINAL	YES		YES	YES	
TRAFFIC GRAVEL B (P. OF M.)	12.72	MARGINAL	YES		YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	2.07	MARGINAL	YES		YES	YES	
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	61.25	NOT SUIT					
SEAL COAT B (P. OF M.)	12.27	MARGINAL	YES		YES	YES	
SEAL COAT C (P. OF M.)	2.16	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	206.63	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	196.63	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	192.03	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	163.43	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	133.54	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	179.94	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	122.66	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	178.66	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	183.17	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	125.60	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	171.59	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	139.98	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	157.51	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	127.04	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	125.98	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	82.48	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	69.59	NOT SUIT					
FINE CONCRETE AGGREGATE 1 (P. OF M.)	20.24	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	45.31	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	65.01	NOT SUIT					
MORTAR (ASTM C144)	21.24	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	22.88	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	136.21	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	15.71	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022037 01619W26SEH6042A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2879.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 826.00 AFTER 816.50 % LOSS 1.15

STEVE SIZE	FTNE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT WEIGHT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	153.60	153.60	5.21	95.29	4.71
1/2 IN	213.59	213.59	7.52	92.34	7.67
3/4 IN	153.60	153.60	5.21	82.34	17.66
3/4 IN	31.40	31.40	1.09	52.52	47.48
1/2 IN	49.40	49.40	1.72	37.37	62.63
1/4 IN	72.90	72.90	2.52	30.98	69.02
#4	40.60	40.60	1.42	20.66	79.34
#8	143.80	143.80	4.93	14.53	85.47
#10	47.40	47.40	1.65	4.81	95.19
#16	110.60	110.60	3.85	11.21	88.79
#30	191.80	191.80	6.68	10.45	89.55
#40	41.00	41.00	1.42	4.16	95.84
#50	21.60	21.60	0.75	2.19	97.81
#80	15.40	15.40	0.53	1.56	98.44
#100	2.90	2.90	0.11	0.29	99.71
#200	6.40	6.40	0.22	0.65	99.35
<200 + M	9.50	9.50	0.33	0.96	99.04
TOTALS	826.00	3438.50		100.00	

SPLITTING FACTOR 3.49

FINENESS MODULUS 5.03

% COBBLES 0.0 % PEBBLES 40.14 % GRANULES 19.39 % SAND 39.51 % SILT/CLAY 0.96

INDUSTRIAL USAGE ASSESSMENT

022037 01619W26SEH6042A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	10.57	MARGINAL	YES	YES	YES	YES	
ASPHALT B (P. OF M.)	4.09	MARGINAL	YES	YES			
ASPHALT C (P. OF M.)	64.82	NOT SUIT					
BASE COURSE A (P. OF M.)	16.57	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	11.85	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	11.99	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	22.23	MARGINAL	YES	YES	YES		
SUB-BASE/BASE COURSE B (ASTM D1241)	19.87	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	19.67	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	19.93	MARGINAL	YES	YES	YES		
SUB-BASE/DENSE SURFACE COURSE F (ASTM D1241)	19.93	MARGINAL	YES	YES			
TRAFFIC GRAVEL (P. OF M.)	1.91	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL (P. OF M.)	1.91	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL (P. OF M.)	1.91	MARGINAL	YES	YES	YES		
SEAL COAT A (P. OF M.)	0.99	NOT SUIT					
SEAL COAT B (P. OF M.)	0.99	MARGINAL	YES	YES			
COARSE AGGREGATE (ASTM C73, D448)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C74)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C74)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C75)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C75)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C76)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C76)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C77)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C77)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C78)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C78)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C79)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C79)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C79)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C79)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C79)	19.99	NOT SUIT					
COARSE AGGREGATE (ASTM C79)	19.99	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	20.32	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	20.32	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	19.99	NOT SUIT					
MORTAR (ASTM C144)	19.99	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	19.99	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	19.99	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.13	MARGINAL	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	20.49	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022038 01718W28SWHG213A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2239.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 826.70 AFTER 773.50 % LOSS 6.44

STEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		273.30	8.74	91.25	7.74
1/2 IN		198.40	6.34	54.95	15.08
1/2 IN		416.90	13.33	71.59	20.41
1/2 IN	34.10	92.37	4.95	68.64	9.56
1/2 IN	47.60	128.94	4.12	64.52	9.43
1/2 IN	91.80	248.67	3.95	56.97	9.43
1/2 IN	96.10	260.32	3.32	58.24	9.76
1/2 IN	45.20	122.44	3.91	54.33	9.67
1/2 IN	117.40	318.02	10.17	34.16	65.84
1/2 IN	37.30	101.04	3.23	30.93	6.07
1/2 IN	46.60	126.23	6.04	56.90	7.10
1/2 IN	130.70	354.06	11.32	45.58	8.43
1/2 IN	40.00	108.35	3.46	32.12	6.88
1/2 IN	29.10	78.83	2.52	9.60	9.40
1/2 IN	30.70	83.16	2.66	6.94	9.06
1/2 IN	6.80	18.42	0.59	6.35	9.55
1/2 IN	20.10	54.45	1.74	4.61	55.39
<200 + M	53.20	144.11	4.61	0.0	100.00

TOTALS 826.70 3128.00

SPLITTING FACTOR 2.71

FINENESS MODULUS 5.44

% COBBLES 0.0 % PEBBLES 55.67 % GRANULES 13.40 % SAND 26.33 % SILT/CLAY 4.61

INDUSTRIAL USAGE ASSESSMENT

022038 01718W28SWHG213A

 * NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	NOT ON SITE	ADDITION OF FINES (MATERIAL <\$4)
ASPHALT A (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT B (P. OF M.)	45.39	NOT SUIT					
ASPHALT C (P. OF M.)	45.59	MARGINAL	YES		YES		
BASE COURSE A (P. OF M.)	45.52	SUITABLE					
BASE COURSE B (P. OF M.)	0.0	SUITABLE					
SUB-BASE COURSE COURSE A (ASTM D1261)	0.0	SUITABLE					
SUB-BASE COURSE COURSE B (ASTM D1261)	0.0	MARGINAL	YES		YES		
SUB-BASE COURSE SURFACE COURSE C (ASTM D1261)	0.0	MARGINAL	YES		YES		
SUB-BASE COURSE SURFACE COURSE D (ASTM D1261)	0.0	MARGINAL	YES		YES		
SUB-BASE COURSE SURFACE COURSE E (ASTM D1261)	0.0	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	0.0	MARGINAL	YES		YES		
TRAFFIC GRAVEL B (P. OF M.)	0.0	MARGINAL	YES		YES		
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES		YES		
SEAL COAT A (P. OF M.)	78.20	NOT SUIT					
SEAL COAT B (P. OF M.)	0.0	MARGINAL	YES				YES
SEAL COAT C (P. OF M.)	0.0	MARGINAL	YES				YES
COARSE AGGREGATE 1 (ASTM C33-D448)	186.46	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33-D448)	176.46	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33-D448)	155.98	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33-D448)	152.31	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33-D448)	92.37	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33-D448)	151.69	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33-D448)	73.83	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33-D448)	135.17	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33-D448)	133.74	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33-D448)	87.70	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33-D448)	129.91	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33-D448)	93.16	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33-D448)	95.84	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33-D448)	104.09	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33-D448)	116.66	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33-D448)	124.50	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33-D448)	86.69	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33-D448)	83.68	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D448)	13.78	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	18.73	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (ASTM C33-C404)	43.05	NOT SUIT					YES
FINE CONCRETE AGGREGATE II (ASTM C33-C404)	23.33	MARGINAL	YES				YES
MORTAR (ASTM C144)	18.33	MARGINAL	YES				YES
PORTLAND CEMENT (P.C.A.)	23.60	MARGINAL	YES				YES
BUILT-UP ROOFS (ASTM D1863)	104.59	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	8.45	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE				YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022039 01717W29SEHG215A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2729.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 736.80 AFTER 677.40 % LOSS 6.06

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
6 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
3/4 IN		336.60	10.42	89.58	10.42
5/8 IN		165.59	5.11	84.47	5.11
1/2 IN	25.50	94.46	0.39	84.09	0.39
3/8 IN	63.10	233.74	0.92	81.16	0.92
1/4 IN	63.70	235.96	7.23	73.93	7.23
3/16 IN	35.50	331.50	7.30	66.62	7.30
1/8 IN	105.20	389.69	12.06	50.49	12.06
1/16 IN	31.00	114.83	3.55	46.94	3.55
1/32 IN	47.80	177.06	5.48	41.46	5.48
1/64 IN	98.90	366.35	11.34	30.12	11.34
1/128 IN	43.10	159.65	6.94	25.18	6.94
1/256 IN	39.60	146.69	4.54	20.64	4.54
1/512 IN	64.30	238.18	7.37	13.27	7.37
1/1024 IN	16.90	62.60	1.94	11.33	1.94
<200 + M	39.40	145.95	6.52	6.81	6.52
		59.40	220.03	6.81	0.0
TOTALS		736.80	3230.90		
SPLITTING FACTOR		3.70			
FINENESS MODULUS		4.25			
% COBBLES	0.0	% PEBBLES	37.45	% GRANULES	15.62
				% SAND	40.13
				% SILT/CLAY	6.81

INDUSTRIAL USAGE ASSESSMENT

022039 01717W29SEHG215A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	4.68	MARGINAL	YES		YES		YES
ASPHALT B (P. OF M.)	0.93	MARGINAL	YES		YES		YES
ASPHALT C (P. OF M.)	24.29	MARGINAL	YES		YES		YES
BASE COURSE A (P. OF M.)	4.21	SUITABLE	YES		YES		YES
BASE COURSE B (P. OF M.)	0.81	SUITABLE	YES		YES		YES
BASE COURSE C (P. OF M.)	0.01	SUITABLE	YES		YES		YES
SUB-BASE BASE COURSE A (ASTM D1241)	28.60	MARGINAL	YES		YES	YES	YES
SUB-BASE BASE COURSE B (ASTM D1241)	4.49	MARGINAL	YES		YES	YES	YES
SUB-BASE BASE SURFACE COURSE C (ASTM D1241)	0.23	MARGINAL	YES		YES	YES	YES
SUB-BASE BASE SURFACE COURSE D (ASTM D1241)	0.40	MARGINAL	YES		YES	YES	YES
SUB-BASE BASE SURFACE COURSE E (ASTM D1241)	0.07	SUITABLE	YES		YES	YES	YES
SUB-BASE BASE SURFACE COURSE F (ASTM D1241)	5.07	MARGINAL	YES		YES	YES	YES
TRAFFIC GRAVEL A (P. OF M.)	30.29	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	10.69	MARGINAL	YES		YES		YES
TRAFFIC GRAVEL C (P. OF M.)	1.30	MARGINAL	YES		YES		YES
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES		YES		YES
SEAL COAT A (P. OF M.)	94.32	NOT SUIT					
SEAL COAT B (P. OF M.)	27.49	MARGINAL	YES		YES		YES
SEAL COAT C (P. OF M.)	10.41	MARGINAL	YES		YES		YES
COARSE AGGREGATE 1 (ASTM C33, D448)	210.29	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	200.29	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	196.45	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	186.53	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	124.11	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	178.73	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	151.77	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	155.79	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	178.35	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	150.44	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	174.56	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	145.39	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	150.68	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	158.40	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	162.47	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	152.76	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	123.18	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	105.89	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	18.60	MARGINAL	YES		YES		YES
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	11.10	MARGINAL	YES		YES		YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	31.62	NOT SUIT					
MORTAR (ASTM C144)	23.28	MARGINAL	YES		YES		YES
PORTLAND CEMENT (P.C.A.)	15.17	MARGINAL	YES		YES		YES
BUILT-UP ROOFS (ASTM D1863)	136.83	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.H.A.)	14.47	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022040 01918W20SWHG170A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3191.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 833.70 AFTER 797.60 % LOSS 4.33

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		136.90	3.65	96.35	3.65
1/2 IN		206.10	5.49	90.66	9.14
3/8 IN	28.50	109.09	5.83	85.03	14.97
3/8 IN	36.00	137.79	3.67	78.45	21.55
3/8 IN	43.50	166.50	4.44	74.02	25.98
1/4 IN	71.70	273.44	7.31	66.70	33.30
1/4 IN	41.70	159.61	4.25	62.45	37.55
1/8 IN	123.00	470.80	12.55	47.91	50.09
1/8 IN	38.30	146.60	3.91	46.00	53.00
1/16 IN	51.70	197.89	5.27	40.73	59.27
30	169.60	649.17	17.30	23.43	76.57
20	66.20	253.39	6.75	16.68	83.32
50	52.90	202.48	5.40	11.28	88.72
80	53.50	204.78	5.46	15.82	84.18
100	7.30	27.94	0.74	5.08	94.92
200	13.70	52.44	1.40	3.68	96.32
<200 + M	36.10	138.18	3.68	0.0	100.00

TOTALS 833.70 3752.60

SPLITTING FACTOR 3.83

FINENESS MODULUS 4.52

% COBBLES 0.0 % PEBBLES 37.55 % GRANULES 16.45 % SAND 42.32 % SILT/CLAY 3.68

INDUSTRIAL USAGE ASSESSMENT

022040 01918W20SWHG170A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	3.44	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	0.04	SUITABLE	YES				
BASE COURSE A (P. OF M.)	42.11	NOT SUIT					
BASE COURSE B (P. OF M.)	0.16	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	0.32	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE COURSE A (ASTM D1241)	22.42	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	22.77	MARGINAL					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	5.31	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	10.59	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	21.59	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL A (P. OF M.)	28.27	MARGINAL					
TRAFFIC GRAVEL B (P. OF M.)	0.38	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL C (P. OF M.)	1.41	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	88.50	NOT SUIT					
SEAL COAT B (P. OF M.)	16.55	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.69	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	204.07	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	194.07	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	167.52	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33, D448)	178.35	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	129.45	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	177.59	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	119.18	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	179.32	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	164.13	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	126.56	NOT SUIT					
COARSE AGGREGATE 59 (ASTM C33, D448)	164.59	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	158.17	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	148.00	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	132.51	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	155.40	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	153.82	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33, D448)	113.20	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	87.29	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	7.74	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	7.10	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	22.20	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	12.98	MARGINAL	YES				
MORTAR (ASTM C) (P. OF M.)	15.09	MARGINAL	YES				
PORTLAND CEMENT (P. OF M.)	0.50	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	13.01	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	18.25	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022042 01919W12NEHGI49A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2532.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 764.20 AFTER 750.20 % LOSS 1.83

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
5/8 IN	7.20	36.50	1.23	96.77	2.23
7/16 IN	11.50	32.60	1.20	96.77	2.24
5/16 IN	13.50	26.40	1.20	96.46	2.54
3/8 IN	15.00	24.40	1.14	97.46	2.54
1/8 IN	16.00	20.00	1.09	98.99	1.01
1/16 IN	22.00	23.00	0.90	99.00	0.99
1/32 IN	22.00	17.00	0.69	99.33	0.66
1/64 IN	18.00	13.00	0.55	99.50	0.50
1/128 IN	18.00	10.00	0.41	99.75	0.25
1/256 IN	16.00	7.00	0.31	99.92	0.08
1/512 IN	16.00	5.00	0.21	99.96	0.04
1/1024 IN	7.00	2.75	0.09	99.99	0.01
1/2048 IN	7.00	2.00	0.06	99.99	0.00
>200 + M	14.00	46.39	1.75	0.0	100.00

TOTALS 764.20 2652.70

SPLITTING FACTOR 3.31

FINENESS MODULUS 3.21

% COBBLES 0.0 % PEBBLES 13.94 % GRANULES 10.74 % SAND 73.57 % SILT/CLAY 1.75

INDUSTRIAL USAGE ASSESSMENT

022042 01919W12NEHGI49A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	54.54	NOT SUIT					
ASPHALT B (P. OF M.)	24.85	NOT SUIT					
ASPHALT C (P. OF M.)	24.85	NOT SUIT					
BASE COURSE A (P. OF M.)	24.92	NOT SUIT					
BASE COURSE B (P. OF M.)	24.92	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE C (P. OF M.)	24.92	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE COURSE B (ASTM D1241)	106.05	NOT SUIT					
SUB-BASE/BASE COURSE C (ASTM D1241)	80.55	NOT SUIT					
SUB-BASE/SURFACE COURSE D (ASTM D1241)	68.54	NOT SUIT					
SUB-BASE/SURFACE COURSE E (ASTM D1241)	19.66	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/SURFACE COURSE F (ASTM D1241)	6.19	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL A (P. OF M.)	82.33	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	28.80	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	28.05	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	22.28	MARGINAL	YES				YES
SEAL COAT A (P. OF M.)	116.45	NOT SUIT					
SEAL COAT B (P. OF M.)	12.76	NOT SUIT					
SEAL COAT C (P. OF M.)	10.38	MARGINAL	YES				YES
COARSE AGGREGATE 1 (ASTM C33,D448)	212.08	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33,D448)	202.98	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	211.15	NOT SUIT					
COARSE AGGREGATE 35 (ASTM C33,D448)	197.45	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	171.74	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	205.43	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	126.73	NOT SUIT					
COARSE AGGREGATE 55 (ASTM C33,D448)	220.26	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	249.19	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	191.95	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	205.53	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	195.19	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	232.61	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	178.81	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	227.22	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	207.53	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	165.17	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33,D448)	121.05	NOT SUIT					YES
COARSE AGGREGATE 10 (ASTM C33,D448)	8.37	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	0.0	SUITABLE	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	0.90	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	5.31	MARGINAL	YES				
MORTAR (ASTM C144)	4.00	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	12.96	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	179.31	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	52.63	MARGINAL	YES				
PIT RUN (P. OF M.)	13.93	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	28.66	MARGINAL	YES				
SHOULDERS (P. OF M.)	16.06	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022043 01819W36NWHG171A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4233.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 771.40 AFTER 753.10 % LOSS 2.37

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	100.00	100.00	0.0
1/2 IN	0.0	0.0	100.00	100.00	0.0
1/2 IN	0.0	0.0	100.00	100.00	0.0
1/2 IN	0.0	0.0	100.00	100.00	0.0
1/2 IN	17.50	17.50	4.47	27.33	4.47
1/2 IN	17.50	28.50	2.56	32.96	2.56
1/2 IN	17.50	29.00	2.12	29.84	2.12
1/2 IN	17.50	29.50	1.71	30.13	1.71
1/2 IN	17.50	30.00	1.30	30.04	1.30
1/2 IN	17.50	30.50	0.95	30.59	0.95
1/2 IN	17.50	31.00	0.73	31.33	0.73
1/2 IN	17.50	31.50	0.53	31.83	0.53
1/2 IN	17.50	32.00	0.36	32.69	0.36
1/2 IN	17.50	32.50	0.26	33.26	0.26
1/2 IN	17.50	33.00	0.19	33.89	0.19
1/2 IN	17.50	33.50	0.14	34.44	0.14
1/2 IN	17.50	34.00	0.10	35.00	0.10
1/2 IN	17.50	34.50	0.07	35.57	0.07
1/2 IN	17.50	35.00	0.05	36.15	0.05
1/2 IN	17.50	35.50	0.04	36.74	0.04
1/2 IN	17.50	36.00	0.03	37.33	0.03
1/2 IN	17.50	36.50	0.02	37.92	0.02
1/2 IN	17.50	37.00	0.01	38.50	0.01
<200 + W	18.22	18.22	100.01	2.21	0.0
TOTALS	768.22	4534.86			
SPLITTING FACTOR	5.49				
FINENESS MODULUS	4.48				
% COBBLES	0.0	% PEBBLES	42.35	% GRANULES	18.79
				% SAND	36.65
				% SILT/CLAY	2.21

INDUSTRIAL USAGE ASSESSMENT

022043 01819W36NWHG171A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	<#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <\$4)
ASPHALT A (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT A (P. OF M.)	9.00	SUITABLE	YES				
ASPHALT A (P. OF M.)	42.69	MARGINAL	YES				
BASE COURSE (P. OF M.)	9.69	MARGINAL	YES				
BASE COURSE (P. OF M.)	11.70	MARGINAL	YES				
BASE COURSE (P. OF M.)	17.10	MARGINAL	YES				
BASE COURSE (ASTM D1241)	17.10	MARGINAL	YES				
BASE COURSE (ASTM D1241)	9.37	MARGINAL	YES				
BASE COURSE (ASTM D1241)	8.06	MARGINAL	YES				
BASE COURSE (ASTM D1241)	8.06	MARGINAL	YES				
BASE COURSE (ASTM D1241)	4.00	MARGINAL	YES				
TRAFFIC GRAVEL (P. OF M.)	10.30	NOT SUIT					
TRAFFIC GRAVEL (P. OF M.)	8.00	SUITABLE	YES				
TRAFFIC GRAVEL (P. OF M.)	8.00	SUITABLE	YES				
SEAL COAT (P. OF M.)	6.00	NOT SUIT					
SEAL COAT (P. OF M.)	6.00	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	214.16	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D448)	214.16	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	105.30	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	194.82	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	137.52	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	104.44	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	124.85	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	188.04	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	185.99	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	112.68	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	153.69	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	114.15	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	114.66	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	103.27	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	115.52	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	113.27	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	75.00	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	75.51	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	16.93	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	21.75	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	52.04	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	20.94	MARGINAL	YES				
MORTAR (ASTM C144)	20.94	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	27.04	MARGINAL	YES				
BUILT-UP ROOFS (ASTH D1863)	103.77	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	22.96	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022044 01918W05SEH6154A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3666.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 825.00 AFTER 808.30 % LOSS 2.02

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED		
6	IN	0.0	0.0	100.00	0.0		
1/2	IN	0.0	0.0	100.00	0.0		
2	IN	0.0	0.0	100.00	0.0		
4	IN	0.0	0.0	100.00	0.0		
8	IN	71.60	1.85	98.15	1.85		
16	IN	126.50	3.27	94.87	5.13		
32	IN	197.30	5.11	89.77	10.23		
64	IN	44.40	1.15	88.62	11.38		
128	IN	10.00	0.00	83.75	16.25		
256	IN	42.30	4.86	75.67	24.33		
512	IN	70.30	8.00	71.39	28.61		
1024	IN	37.20	2.20	54.81	45.19		
2048	IN	144.20	16.50	49.63	50.37		
4096	IN	45.00	5.22	42.41	57.59		
8192	IN	62.80	9.00	19.11	80.89		
16384	IN	202.60	23.30	11.30	88.70		
32768	IN	67.00	3.00	0.77	99.23		
65536	IN	39.40	1.75	0.53	99.47		
131072	IN	50.00	1.34	0.30	99.70		
262144	IN	4.60	0.20	0.05	99.75		
524288	IN	20.44	0.53	0.27	99.73		
1048576	IN	7.40	0.18	0.02	99.98		
<200 + W		16.70	74.21	1.92	98.08		
TOTALS		825.00	3664.20				
SPLITTING FACTOR		4.44					
FINENESS MODULUS		4.24					
% COBBLES	0.0	% PEBBLES	28.61	% GRANULES	21.76		
				% SAND	47.71	% SILT/CLAY	1.92

INDUSTRIAL USAGE ASSESSMENT

022044 01918W05SEH6154A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES NOT ON SITE	(MATERIAL <#4)
ASPHALT A (P. OF M.)	8.72	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	0.25	MARGINAL	YES			YES	
ASPHALT C (P. OF M.)	57.58	NOT SUIT					
BASE COURSE A (P. OF M.)	14.31	MARGINAL	YES	YES	YES	YES	
BASE COURSE B (P. OF M.)	5.78	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	2.08	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	44.86	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	34.70	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	15.17	MARGINAL	YES	YES		YES	
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	19.53	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	12.53	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	28.96	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	31.95	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	14.63	MARGINAL	YES	YES			
TRAFFIC GRAVEL C (P. OF M.)	3.03	MARGINAL	YES	YES			
TRAFFIC GRAVEL D (P. OF M.)	2.74	MARGINAL	YES	YES			
SEAL COAT A (P. OF M.)	84.50	NOT SUIT					
SEAL COAT B (P. OF M.)	10.56	MARGINAL	YES	YES			
SEAL COAT C (P. OF M.)	0.00	SUITABLE	YES				
COARSE AGGREGATE (ASTM C33, D446)	219.79	NOT SUIT					
COARSE AGGREGATE 1 (ASTM C33, D446)	203.79	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D446)	197.69	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D446)	159.09	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D446)	202.09	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D446)	198.94	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D446)	198.86	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D446)	209.56	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D446)	149.74	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D446)	174.32	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D446)	144.87	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D446)	153.00	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D446)	172.00	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D446)	129.00	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D446)	99.00	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D446)	79.00	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33, D446)	79.00	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33, D446)	79.00	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (P. OF M.)	26.67	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	26.67	NOT SUIT					
MORTAR (ASTM C144)	18.00	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)							
BUILT-UP ROOFS (ASTM D1863)	13.90	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	24.87	SUITABLE					
SHOULDERS (P. OF M.)	1.39	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022044 01918W05SWHG152A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3451.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 836.20 AFTER 760.30 % LOSS 9.08

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	100.00	0.0	0.0
1/2 IN	0.0	0.0	100.00	0.0	0.0
1/2 IN	0.0	0.0	100.00	0.0	0.0
1/2 IN	0.0	0.0	100.00	0.0	0.0
1/2 IN	0.0	0.0	100.00	0.0	0.0
1/2 IN	216.10	5.79	94.23	5.79	0.0
3/4 IN	62.70	1.68	92.93	7.47	0.0
5/8 IN	85.86	2.30	90.23	9.77	0.0
3/8 IN	43.00	1.76	85.47	14.53	0.0
3/8 IN	46.70	1.76	80.30	19.70	0.0
1/4 IN	220.85	5.92	74.38	25.62	0.0
# 4	53.50	1.49	70.89	29.11	0.0
# 8	31.50	1.03	70.89	29.11	0.0
# 16	92.70	2.66	60.64	39.36	0.0
# 32	32.10	0.55	57.09	42.91	0.0
# 64	51.00	1.53	51.44	48.56	0.0
# 128	147.10	3.28	55.16	44.84	0.0
# 250	69.70	1.71	57.45	42.55	0.0
# 500	60.00	1.68	60.85	39.15	0.0
# 1000	68.90	1.42	7.62	92.38	0.0
< 200 + W	13.30	0.47	11.19	88.81	0.0
< 200 + W	30.00	3.32	8.40	91.60	0.0
< 200 + W	75.90	313.31	8.40	0.0	100.00

TOTALS 836.20 3730.60

SPLITTING FACTOR 4.13

FINENESS MODULUS 3.77

% COBBLES 0.0 % PEBBLES 29.11 % GRANULES 13.81 % SAND 48.69 % SILT/CLAY 8.40

INDUSTRIAL USAGE ASSESSMENT

022044 01918W05SWHG152A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#84)
ASPHALT A (P. OF M.)	14.39	MARGINAL	YES		YES		YES
ASPHALT B (P. OF M.)	9.39	MARGINAL	YES		YES		YES
ASPHALT C (P. OF M.)	26.08	MARGINAL	YES		YES		YES
BASE COURSE A (P. OF M.)	13.32	MARGINAL	YES		YES		YES
BASE COURSE B (P. OF M.)	0.0	SUITABLE					
BASE COURSE C (P. OF M.)	0.0	SUITABLE					
SUB-BASE/BASE COURSE A (ASTM D1241)	56.13	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	20.28	MARGINAL	YES		YES	YES	YES
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	21.09	MARGINAL	YES		YES	YES	YES
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	0.86	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF M.)	35.69	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	15.69	MARGINAL	YES		YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	11.57	MARGINAL	YES		YES	YES	YES
TRAFFIC GRAVEL D (P. OF M.)	5.25	MARGINAL	YES		YES	YES	YES
SEAL COAT A (P. OF M.)	106.84	NOT SUIT					
SEAL COAT B (P. OF M.)	35.90	NOT SUIT					
SEAL COAT C (P. OF M.)	12.95	MARGINAL	YES				YES
COARSE AGGREGATE 1 (ASTM C33, D448)	219.93	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	209.93	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	210.59	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33, D448)	197.07	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	152.97	NOT SUIT					
COARSE AGGREGATE 4467 (ASTM C33, D448)	199.43	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	146.42	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33, D448)	195.69	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	206.59	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	150.19	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33, D448)	184.13	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	162.73	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	182.36	NOT SUIT					
COARSE AGGREGATE 77 (ASTM C33, D448)	147.36	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	177.31	NOT SUIT					
COARSE AGGREGATE 79 (ASTM C33, D448)	177.33	NOT SUIT					
COARSE AGGREGATE 799 (ASTM C33, D448)	179.55	NOT SUIT					
FINE CONCRETE AGGREGATE 1 (P. OF M.)	9.76	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C604)	21.56	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C604)	17.31	MARGINAL	YES				
MORTAR (ASTM C144)	11.31	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	20.68	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	147.52	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	9.85	MARGINAL	YES		YES	YES	YES
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	22.53	MARGINAL					
SHOULDERS (P. OF M.)	0.89	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022044 01918W06SEHGI51A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3610.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 741.90 AFTER 731.80 % LOSS 1.36

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4	IN	0.0	0.0	100.00	0.0
3 1/2	IN	0.0	0.0	100.00	0.0
2 1/2	IN	0.0	0.0	100.00	0.0
1 1/2	IN	90.60	2.40	97.60	2.40
1 1/4	IN	23.70	2.78	96.82	3.18
5/8	IN	86.10	2.26	94.57	5.43
1/2	IN	53.55	1.38	93.61	7.39
1/4	IN	10.80	0.02	92.23	7.77
3/8	IN	30.00	1.99	88.41	11.59
1/4	IN	23.70	1.33	85.39	14.61
1/8	IN	25.20	0.21	82.18	17.82
1/16	IN	80.70	10.54	71.64	28.36
1/32	IN	152.00	0.08	58.28	42.44
1/64	IN	72.80	0.28	50.07	41.72
1/128	IN	221.00	10.78	49.63	60.37
1/256	IN	81.00	1.91	42.43	57.57
1/512	IN	398.55	19.44	32.62	67.18
1/1024	IN	75.00	0.92	30.14	69.86
1/2048	IN	2.00	0.08	2.29	97.71
<200 + W	IN	10.10	49.15	1.29	98.71

TOTALS 741.90 3817.70

SPLITTING FACTOR 4.87

FINENESS MODULUS 3.63

% COBBLES 0.0 % PEBBLES 17.82 % GRANULES 14.62 % SAND 66.27 % SILT/CLAY 1.29

INDUSTRIAL USAGE ASSESSMENT

022044 01918W06SEHGI51A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	37.46	NOT SUIT					
ASPHALT B (P. OF M.)	28.98	MARGINAL	YES	YES	YES		YES
ASPHALT C (P. OF M.)	69.90	NOT SUIT					
BASE COURSE A (P. OF M.)	39.98	NOT SUIT					
BASE COURSE B (P. OF M.)	16.10	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE C (P. OF M.)	14.89	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	78.86	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	63.68	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	49.63	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	11.40	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	4.67	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	16.40	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL A (P. OF M.)	67.51	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	47.51	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	34.91	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	15.14	MARGINAL	YES			YES	
SEAL COAT A (P. OF M.)	109.36	NOT SUIT	YES				
SEAL COAT B (P. OF M.)	25.38	MARGINAL	YES	YES	YES		YES
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	212.46	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	202.46	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	209.69	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	196.95	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	166.52	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	205.09	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	160.44	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	212.30	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	236.50	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	177.42	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	196.78	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	180.50	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	205.69	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	166.50	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	203.13	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	185.34	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	143.82	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	106.49	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	8.03	MARGINAL	YES				YES
LENE CONCRETE AGGREGATE I (P. OF M.)	0.0	SUITABLE	YES				
LENE CONCRETE AGGREGATE II (ASTM C33, C404)	2.05	MARGINAL	YES				
MORTAR (ASTM C34)	7.53	MARGINAL	YES				
BUILDING CONCRETE (P. OF M.A.)	0.0	SUITABLE	YES				
BITFIELD ROUNDS (P. OF M.)	167.00	NOT SUIT					
BITFIELD RUNWAYS (P. OF M.)	32.26	NOT SUIT					
SEPTIC FIELDS (P. OF M.A.)	9.26	MARGINAL	YES	YES	YES		
SHOULDERS (P. OF M.)	29.59	MARGINAL	YES				
	12.18	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022045 01918W03SWH6188A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3142.70 GMS. WASHED SAMPLE - WEIGHT BEFORE 744.70 AFTER 722.00 % LOSS 3.05

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	176.70	176.70	4.28	95.72	4.28
1/4 IN	374.70	374.70	9.07	86.66	13.34
1/8 IN	438.60	438.60	10.61	76.04	23.96
1/16 IN	109.61	109.61	4.83	71.21	28.79
1/32 IN	130.82	130.82	3.47	68.05	31.95
1/64 IN	219.87	219.87	5.42	62.73	37.27
1/128 IN	52.10	52.10	1.19	53.54	46.46
1/256 IN	90.00	90.00	1.12	48.42	51.58
1/512 IN	50.10	50.10	1.04	33.48	66.52
1/1024 IN	146.50	146.50	14.94	29.37	70.63
1/2048 IN	51.00	51.00	1.22	24.16	75.84
1/4096 IN	152.40	152.40	4.21	8.60	91.40
1/8192 IN	22.50	22.50	0.55	4.80	95.20
1/16384 IN	14.50	14.50	0.50	3.44	96.56
1/32768 IN	13.50	13.50	0.31	2.74	96.37
1/65536 IN	13.50	13.50	0.31	2.74	96.37
<200 + M	22.70	95.80	2.32	0.0	100.00

TOTALS 744.70 4132.70

SPLITTING FACTOR 4.22

FINENESS MODULUS 5.43

% COBBLES 0.0 % PEBBLES 51.58 % GRANULES 19.05 % SAND 27.05 % SILT/CLAY 2.32

INDUSTRIAL USAGE ASSESSMENT

022045 01918W03SWH6188A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	8.07	MARGINAL	YES				
ASPHALT B (P. OF M.)	1.71	MARGINAL	YES				
ASPHALT C (P. OF M.)	59.14	NOT SUIT					
BASE COURSE A (P. OF M.)	11.67	MARGINAL	YES				
BASE COURSE B (P. OF M.)	10.00	MARGINAL	YES				
BASE COURSE C (P. OF M.)	1.68	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	1.70	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	11.38	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	10.05	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	29.16	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	22.16	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	63.29	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	10.34	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	6.67	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	9.98	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.9	SUITABLE	YES				
SEAL COAT A (P. OF M.)	64.71	NOT SUIT					
SEAL COAT B (P. OF M.)	1.06	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	193.09	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	103.09	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	169.14	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	169.14	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	99.00	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	153.21	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	147.29	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 18 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 19 (ASTM C33, D448)	102.09	NOT SUIT					
COARSE AGGREGATE 20 (ASTM C33, D448)	102.09	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	224.85	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	224.85	NOT SUIT					
MORTAR (ASTM C144)	103.26	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	103.26	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	103.26	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	100.00	SUITABLE	YES				
PIT RUN (P. OF M.)	100.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	9.44	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022048 01918W02NMHG200A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2185.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 830.70 AFTER 762.90 % LOSS 8.16

STEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED				
6 IN		0.0	0.0	100.00	0.0				
1/2 IN		0.0	0.0	100.00	0.0				
1/2 IN		0.0	0.0	100.00	0.0				
1/2 IN		211.60	8.08	91.92	8.08				
1/2 IN		113.10	4.32	87.60	12.40				
1/4 IN		109.00	4.16	83.44	16.56				
1/8 IN	35.40	103.13	3.56	79.89	20.11				
1/16 IN	62.40	163.38	6.24	73.65	26.35				
1/32 IN	62.40	166.80	6.37	67.28	32.72				
1/64 IN	62.20	102.58	7.35	59.93	40.07				
1/128 IN	42.20	110.50	4.22	35.71	44.29				
1/256 IN	123.20	358.87	12.17	23.53	56.47				
1/512 IN	35.40	178.93	5.01	40.52	59.48				
1/1024 IN	35.40	143.38	5.47	35.05	64.95				
1/2048 IN	122.50	320.97	12.25	22.79	77.21				
1/4096 IN	35.40	119.44	4.56	18.23	81.77				
1/8192 IN	35.40	97.61	4.73	14.50	85.50				
1/16384 IN	24.20	108.39	2.14	10.37	89.63				
1/32768 IN	16.00	26.31	1.00	9.36	90.64				
1/65536 IN	25.40	66.83	2.55	6.81	93.19				
<200 + M	67.80	178.38	6.81	0.0	100.00				
TOTALS	830.70	2619.20							
SPLITTING FACTOR	2.63								
FINENESS MODULUS	4.76								
% COBBLES	0.0	% PEBBLES	44.29	% GRANULES	15.19	% SAND	33.71	% SILT/CLAY	6.81

INDUSTRIAL USAGE ASSESSMENT

022048 01918W02NMHG200A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <8200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	REMOVAL MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	0.16	MARGINAL	YES				YES
ASPHALT B (P. OF M.)	0.16	MARGINAL	YES				YES
ASPHALT C (P. OF M.)	35.73	NOT SUIT					
BASE COURSE A (P. OF M.)	0.0	SUITABLE	YES				
BASE COURSE B (P. OF M.)	0.0	SUITABLE	YES				
BASE COURSE C (P. OF M.)	0.0	SUITABLE	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	17.88	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	0.91	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	4.41	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	24.57	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF M.)	10.32	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	0.0	SUITABLE	YES				
TRAFFIC GRAVEL C (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	90.15	NOT SUIT					
SEAL COAT B (P. OF M.)	20.64	MARGINAL	YES				
SEAL COAT C (P. OF M.)	5.25	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	201.17	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	183.09	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	179.82	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33, D448)	165.98	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	120.85	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	198.68	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	125.98	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	180.50	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	181.10	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	159.49	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	159.24	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	129.86	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	131.87	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	118.47	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	125.47	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	125.59	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	172.20	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	79.09	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	11.36	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	32.02	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	29.52	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	29.62	MARGINAL	YES				
MORTAR (ASTM C144)	27.62	MARGINAL	YES				
PORTLAND CEMENT (A.)	116.97	SUIT					
SEALED ROAD (ASTM D1663)	0.0	SUITABLE	YES				
SEWER RUN OFF (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (M.A.)	20.78	MARGINAL	YES				
SHOULDER (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022049 01818W33NEHG157A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4750.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 907.20 AFTER 867.70 % LOSS 2.15

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/8 IN	22.70	22.70	100.00	99.97	0.03
1/16 IN	24.30	24.30	100.00	99.97	0.03
1/32 IN	21.10	21.10	100.00	99.97	0.03
1/64 IN	0.00	0.00	100.00	100.00	0.00
1/128 IN	1.50	1.50	100.00	99.97	0.03
1/256 IN	1.40	1.40	100.00	99.97	0.03
1/512 IN	1.50	1.50	100.00	99.97	0.03
1/1024 IN	1.20	1.20	100.00	99.97	0.03
1/2048 IN	0.62	0.62	100.00	99.97	0.03
1/4096 IN	0.50	0.50	100.00	99.97	0.03
1/8192 IN	1.00	1.00	100.00	99.97	0.03
1/16384 IN	0.50	0.50	100.00	99.97	0.03
1/32768 IN	0.50	0.50	100.00	99.97	0.03
1/65536 IN	0.50	0.50	100.00	99.97	0.03
1/131072 IN	0.50	0.50	100.00	99.97	0.03
1/262144 IN	0.50	0.50	100.00	99.97	0.03
1/524288 IN	0.50	0.50	100.00	99.97	0.03
1/1048576 IN	0.50	0.50	100.00	99.97	0.03
1/2097152 IN	0.50	0.50	100.00	99.97	0.03
1/4194304 IN	0.50	0.50	100.00	99.97	0.03
1/8388608 IN	0.50	0.50	100.00	99.97	0.03
1/16777216 IN	0.50	0.50	100.00	99.97	0.03
1/33554432 IN	0.50	0.50	100.00	99.97	0.03
1/67108864 IN	0.50	0.50	100.00	99.97	0.03
1/134217728 IN	0.50	0.50	100.00	99.97	0.03
1/268435456 IN	0.50	0.50	100.00	99.97	0.03
1/536870912 IN	0.50	0.50	100.00	99.97	0.03
1/107374184 IN	0.50	0.50	100.00	99.97	0.03
<200 + M	19.50	102.10	2.00	0.0	100.00

TOTALS 907.20 5103.79

SPLITTING FACTOR 5.24

FINENESS MODULUS 4.09

% COBBLES 0.0 % PEBBLES 32.24 % GRANULES 15.89 % SAND 49.87 % SILT/CLAY 2.00

INDUSTRIAL USAGE ASSESSMENT

022049 01818W33NEHG157A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	<#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	3.54	MARGINAL	YES			YES	YES
ASPHALT B (P. OF M.)	0.73	MARGINAL	YES			YES	YES
ASPHALT C (P. OF M.)	43.63	NOT SUIT					
BASAL COATING	9.39	MARGINAL	YES			YES	
BASAL CRUSHING	1.96	MARGINAL	YES			YES	
COBBLE-BASE COURSE	2.00	MARGINAL					
COBBLE-BASE COURSE COURSE A (ASTM D1241)	46.30	NOT SUIT					
COBBLE-BASE COURSE COURSE B (ASTM D1241)	28.06	MARGINAL					
COBBLE-BASE SURFACE COURSE COURSE C (ASTM D1241)	10.93	MARGINAL	YES			YES	
COBBLE-BASE SURFACE COURSE COURSE D (ASTM D1241)	6.65	MARGINAL	YES			YES	
COBBLE-BASE SURFACE COURSE COURSE E (ASTM D1241)	3.95	MARGINAL	YES			YES	
TRAFFIC GRAVEL	33.87	MARGINAL	YES				
TRAFFIC GRAVEL	32.21	NOT SUIT					
TRAFFIC GRAVEL	1.63	MARGINAL	YES			YES	
SEAL COAT A (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT B (P. OF M.)	84.12	NOT SUIT					
SEAL COAT C (P. OF M.)	17.41	MARGINAL	YES			YES	
COARSE AGGREGATE 1 (ASTM C33, D448)	212.59	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	212.17	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	200.24	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33, D448)	149.80	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	149.50	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	130.29	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	201.29	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	210.60	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	143.03	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	173.43	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	143.14	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	154.69	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	156.91	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	148.53	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	107.00	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	89.44	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	11.24	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	8.37	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	26.06	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	12.55	MARGINAL	YES				
MORTAR (ASTM C144)	12.55	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	8.37	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	133.67	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (I.M.A.)	24.87	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022050 01818W20SWHGB02A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4237.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 872.30 AFTER 795.00 % LOSS 8.86

STIEVE SIZE	FINE FRACTION (GMS.)	STIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		270.30	0.58	94.62	5.38
3/4 IN		520.60	10.35	84.27	15.73
5/8 IN	15.10	73.35	1.46	82.81	17.19
1/2 IN	86.30	419.19	8.34	74.47	25.53
5/8 IN	64.20	311.84	6.26	68.27	31.73
1/4 IN	64.30	409.48	8.14	60.13	39.87
3/8 IN	47.90	232.67	4.63	55.50	44.50
10	123.40	59.40	11.92	43.58	56.42
16	37.80	164.18	3.27	40.31	59.69
30	37.30	161.18	3.60	36.71	63.29
60	140.70	683.43	13.59	23.12	76.88
50	45.80	222.47	4.42	18.69	81.31
80	34.40	167.09	3.32	15.37	84.63
100	24.80	217.61	4.33	11.04	88.96
200	11.30	54.89	1.09	9.95	90.05
<200 + W	25.70	126.83	2.48	7.47	92.53
TOTALS	872.30	5027.98			
SPLITTING FACTOR	4.86				
FINENESS MODULUS	4.63				
% COBBLES	0.0	% PEBBLES	44.50	% GRANULES	15.19
				% SAND	32.85
				% SILT/CLAY	7.47

I N D U S T R I A L U S A G E A S S E S S M E N T

022050 01818W20SWHGB02A

***** * NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS * *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	0.86	MARGINAL	YES				YES
ASPHALT B (P. OF M.)	34.95	MARGINAL	YES				YES
ASPHALT COURSE (P. OF M.)	34.71	NOT SUIT					
BASE COURSE (P. OF M.)	0.00	SUITABLE	YES				
BASE COURSE (P. OF M.)	0.00	SUITABLE	YES				
SUB-BASE COURSE (P. OF M.)	0.09	MARGINAL					
SUB-BASE COURSE (P. OF M.)	0.00	SUITABLE	YES				
SUB-BASE SURFACE COURSE (ASTM D1241)	0.25	SUITABLE	YES				
SUB-BASE SURFACE COURSE (ASTM D1241)	0.24	MARGINAL	YES				
SUB-BASE SURFACE COURSE (ASTM D1241)	0.24	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF M.)	34.90	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	0.00	SUITABLE	YES				
TRAFFIC GRAVEL C (P. OF M.)	0.94	MARGINAL	YES				
SEAL COAT A (P. OF M.)	68.28	NOT SUIT					
SEAL COAT B (P. OF M.)	0.00	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.00	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33-D448)	210.74	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33-D448)	200.21	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33-D448)	790.55	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33-D448)	165.55	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33-D448)	124.07	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33-D448)	128.63	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33-D448)	109.51	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33-D448)	105.49	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33-D448)	105.40	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33-D448)	142.34	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33-D448)	118.79	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33-D448)	118.49	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33-D448)	118.08	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33-D448)	138.64	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33-D448)	142.00	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33-D448)	112.00	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33-D448)	68.76	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D448)	13.64	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	16.14	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33-C404)	40.39	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33-C404)	27.86	MARGINAL	YES				
MORTAR (ASTM C144)	19.93	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	25.90	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	118.58	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	MARGINAL					
SEPTIC FIELDS (U.M.A.)	14.27	SUITABLE					
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022051 01818W08NEHGI94A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4031.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 837.50 AFTER 818.00 % LOSS 2.33

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	100.00	0.0	0.0
1/2 IN	0.0	0.0	100.00	0.0	0.0
IN	0.0	0.0	100.00	0.0	0.0
1/2 IN	0.0	0.0	100.00	0.0	0.0
1/4 IN	0.0	0.0	100.00	0.0	0.0
1/8 IN	275.10	275.10	100.00	6.32	93.68
5/8 IN	31.70	152.60	3.52	90.13	9.87
1/2 IN	84.50	406.77	4.45	80.68	19.32
3/8 IN	97.20	467.91	10.87	89.81	10.19
1/4 IN	131.70	633.98	14.73	92.08	7.92
1/8 IN	89.40	415.92	1.66	95.41	4.59
1/16 IN	138.10	664.79	15.45	93.97	7.03
1/32 IN	28.90	139.12	3.23	26.73	73.27
1/64 IN	41.30	198.81	4.62	82.11	17.89
1/128 IN	104.70	504.05	11.71	10.40	89.60
1/256 IN	30.90	148.75	3.46	6.95	93.05
1/512 IN	13.60	65.47	1.52	5.42	94.58
1/1024 IN	12.80	61.62	1.43	3.99	96.01
1/2048 IN	4.20	29.22	0.47	3.52	96.48
< 200 + M	12.00	57.77	1.34	2.18	97.82
< 200 + M	19.50	93.87	2.18	0.0	100.00

TOTALS 837.50 4303.69

SPLITTING FACTOR 4.81

FINENESS MODULUS 5.20

% COBBLES 0.0 % PEBBLES 54.59 % GRANULES 18.68 % SAND 24.55 % SILT/CLAY 2.18

INDUSTRIAL USAGE ASSESSMENT

022051 01818W08NEHGI94A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	15.57	MARGINAL	YES				
ASPHALT B (P. OF M.)	10.20	MARGINAL	YES				
ASPHALT COURSE A (P. OF M.)	60.20	MARGINAL	NOT SUIT				
ASPHALT COURSE B (P. OF M.)	10.59	MARGINAL	YES	YES			
SUB-BASE COURSE BASE COURSE A (ASTM D1241)	1.82	MARGINAL	YES				
SUB-BASE COURSE BASE COURSE B (ASTM D1241)	15.89	MARGINAL	YES	YES			
SUB-BASE SURFACE COURSE (ASTM D1241)	27.97	MARGINAL	YES				
SUB-BASE SURFACE COURSE (ASTM D1241)	27.93	NOT SUIT					
SUB-BASE SURFACE COURSE (ASTM D1241)	39.73	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	8.29	MARGINAL	YES				
TRAFFIC GRAVEL A (P. OF M.)	8.29	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	4.38	SUITABLE	YES				
SEAL COAT A (P. OF M.)	0.0	NOT SUIT					
SEAL COAT B (P. OF M.)	62.47	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	214.86	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	204.86	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	200.54	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33, D448)	191.86	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	122.27	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	185.47	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	195.08	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	195.35	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	160.76	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	162.24	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	192.08	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	76.37	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	63.48	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	70.19	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	69.27	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	77.54	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	32.74	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	69.44	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	27.02	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	45.50	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	97.67	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	55.47	NOT SUIT					
MORTAR (ASTM C144)	29.01	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	72.67	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	70.69	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE					
PIT RUN (P. OF M.)	0.0	SUITABLE					
SEPTIC FIELDS (U.M.A.)	23.68	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022052 01818W05SEH016A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 5500.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 697.70 AFTER 683.20 % LOSS 2.08

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	87.60	1.52	98.48	1.52
5/8	TN	156.40	2.70	97.85	2.15
1/2	TN	183.67	2.19	95.15	4.85
1/2	TN	253.83	2.21	91.96	8.04
1/2	TN	491.11	6.53	67.56	22.44
1/2	TN	62.30	9.77	6.92	20.97
1/4	TN	71.40	6.84	6.24	7.74
1/4	TN	50.00	14.07	13.35	6.65
1/4	TN	102.80	4.13	4.02	0.78
1/4	TN	30.20	9.07	8.25	0.65
1/4	TN	32.10	6.37	5.74	0.55
1/4	TN	104.50	2.23	2.05	0.72
1/4	TN	49.50	2.21	2.08	0.75
1/4	TN	147.40	2.94	2.80	0.10
1/4	TN	32.00	4.00	3.81	0.19
1/4	TN	4.00	3.74	3.20	0.80
<200 + M		14.45	113.92	1.98	0.02
				0.0	100.00

TOTALS 695.35 5760.77

SPLITTING FACTOR 7.88

FINENESS MODULUS 4.51

% COBBLES 0.0 % PEBBLES 37.58 % GRANULES 18.20 % SAND 42.24 % SILT/CLAY 1.98

INDUSTRIAL USAGE ASSESSMENT

022052 01818W05SEH016A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	1.04	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	54.96	NOT SUIT					
BASE COURSE A (P. OF M.)	6.90	MARGINAL	YES				
BASE COURSE B (P. OF M.)	4.51	MARGINAL	YES				
BASE COURSE C (P. OF M.)	2.02	MARGINAL	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	25.69	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	14.04	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	4.41	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	17.41	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	10.41	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	30.42	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	15.01	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	7.94	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	0.0	SUITABLE	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	74.93	NOT SUIT					
SEAL COAT B (P. OF M.)	1.46	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE I (ASTM C33, D448)	214.61	NOT SUIT					
COARSE AGGREGATE J (ASTM C33, D448)	204.61	NOT SUIT					
COARSE AGGREGATE K (ASTM C33, D448)	207.17	NOT SUIT					
COARSE AGGREGATE L (ASTM C33, D448)	194.86	NOT SUIT					
COARSE AGGREGATE M (ASTM C33, D448)	143.80	NOT SUIT					
COARSE AGGREGATE N (ASTM C33, D448)	198.01	NOT SUIT					
COARSE AGGREGATE O (ASTM C33, D448)	132.58	NOT SUIT					
COARSE AGGREGATE P (ASTM C33, D448)	196.79	NOT SUIT					
COARSE AGGREGATE Q (ASTM C33, D448)	200.17	NOT SUIT					
COARSE AGGREGATE R (ASTM C33, D448)	127.40	NOT SUIT					
COARSE AGGREGATE S (ASTM C33, D448)	160.06	NOT SUIT					
COARSE AGGREGATE T (ASTM C33, D448)	125.00	NOT SUIT					
COARSE AGGREGATE U (ASTM C33, D448)	125.15	NOT SUIT					
COARSE AGGREGATE V (ASTM C33, D448)	110.55	NOT SUIT					
COARSE AGGREGATE W (ASTM C33, D448)	121.69	NOT SUIT					
COARSE AGGREGATE X (ASTM C33, D448)	102.03	NOT SUIT					
COARSE AGGREGATE Y (ASTM C33, D448)	126.43	NOT SUIT					
COARSE AGGREGATE Z (ASTM C33, D448)	67.97	NOT SUIT					
COARSE CONCRETE AGGREGATE I (P. OF M.)	143.00	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	17.00	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	25.00	NOT SUIT					
MORTAR (ASTM C144)	47.50	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	17.37	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	11.05	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	26.62	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022053A01818W16NWHG192A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4869.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 735.20 AFTER 696.50 % LOSS 5.26

TOTALS **735.20** **5552.78**

SPLITTING FACTOR 6.62

FINENESS MODULUS 4.45

% COBBLES 0.0 % PEBBLES 37.93 % GRANULES 17.33 % SAND 40.12 % SILT/CLAY 4.62

INDUSTRIAL USAGE ASSESSMENT

022053A01818W16N.WG192A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022054 01818W10SWH6018A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3063.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 783.20 AFTER 757.00 % LOSS 3.35

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/4	IN	0.0	0.0	90.73	9.26
5/8	IN	36.38	0.06	95.27	4.73
1/2	IN	50.50	0.06	75.55	24.45
1/4	IN	50.50	0.06	71.06	28.94
1/4	IN	50.50	0.06	64.00	35.99
1/4	IN	50.50	0.06	54.00	45.99
1/8	IN	50.50	0.06	50.00	49.99
1/4	IN	99.40	0.06	45.00	54.99
1/4	IN	87.80	0.06	45.00	54.99
1/8	IN	143.40	14.24	45.00	54.99
1/16	IN	42.30	1.04	27.00	72.71
1/32	IN	100.70	10.04	17.00	82.97
1/64	IN	76.50	7.04	9.00	90.99
1/128	IN	57.10	1.48	0.00	99.99
1/256	IN	23.60	0.59	0.00	99.99
1/512	IN	10.80	0.24	0.00	99.99
1/1024	IN	3.20	0.08	0.00	99.99
1/2048	IN	1.80	0.04	0.00	99.99
<200 + W		26.46	103.47	2.64	97.36
TOTALS		790.85	3924.44		
SPLITTING FACTOR		3.91			
FINENESS MODULUS		5.52			
% COBBLES	0.0	% PEBBLES	54.20	% GRANULES	18.51
				% SAND	24.65
				% SILT/CLAY	2.64

INDUSTRIAL USAGE ASSESSMENT

022054 01818W10SWH6018A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES NOT ON SITE	(MATERIAL <#4)
ASPHALT A (P. OF M.)	5.00	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.37	MARGINAL	YES				
ASPHALT C (P. OF M.)	55.25	NOT SUIT					
BASE COURSE A (P. OF M.)	9.28	MARGINAL	YES		YES		
BASE COURSE B (P. OF M.)	7.08	MARGINAL	YES		YES		
BASE COURSE C (P. OF M.)	1.36	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	0.00	SUITABLE					
SUB-BASE/BASE COURSE B (ASTM D1241)	9.19	MARGINAL	YES		YES		
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	7.33	MARGINAL	YES		YES		
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	28.35	MARGINAL	YES		YES		
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	22.70	MARGINAL	YES		YES		
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	64.70	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	0.00	MARGINAL	YES		YES		
TRAFFIC GRAVEL B (P. OF M.)	0.00	MARGINAL	YES		YES		
TRAFFIC GRAVEL C (P. OF M.)	3.00	SUITABLE	YES				
SEAL COAT A (P. OF M.)	54.49	NOT SUIT					
SEAL COAT B (P. OF M.)	0.00	SUITABLE	YES				
SEAL COAT C (P. OF M.)	0.00	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	191.19	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	183.19	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	159.05	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	159.19	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	159.05	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	159.05	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	159.05	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33, D448)	160.00	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	160.00	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	139.99	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33, D448)	98.18	NOT SUIT					
COARSE AGGREGATE 70 (ASTM C33, D448)	93.40	NOT SUIT					
COARSE AGGREGATE 71 (ASTM C33, D448)	93.40	NOT SUIT					
COARSE AGGREGATE 72 (ASTM C33, D448)	93.40	NOT SUIT					
COARSE AGGREGATE 73 (ASTM C33, D448)	93.40	NOT SUIT					
COARSE AGGREGATE 74 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 75 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 76 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 77 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 79 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 80 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 81 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 82 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 83 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 84 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 85 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 86 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 87 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 88 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 90 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 91 (ASTM C33, D448)	42.55	NOT SUIT					
COARSE AGGREGATE 92 (ASTM C33, D448)	92.50	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (P. OF M. C33, C404)	0.00	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	0.00	NOT SUIT					
MORTAR (ASTM C144)	92.50	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	92.50	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	92.50	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	16.85	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.00	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022055 01818W10SWHG017A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3648.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 704.40 AFTER 679.10 % LOSS 3.59

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	234.70	10.02	99.88	1.12
1/2	TN	445.10	10.03	94.86	15.14
1/2	TN	220.40	10.41	74.44	25.56
1/2	TN	220.24	10.44	74.90	25.10
1/2	TN	445.62	10.44	99.46	0.54
1/2	TN	66.80	10.80	99.66	0.34
1/2	IN	334.94	10.80	99.80	0.20
1/2	IN	66.80	10.80	99.85	0.15
1/2	IN	272.99	10.95	99.46	0.54
1/2	IN	652.66	11.30	91.46	8.23
1/2	IN	106.90	11.30	61.77	37.63
1/2	IN	329.70	11.37	92.12	7.88
1/2	IN	442.37	11.40	90.49	9.51
1/2	IN	220.64	11.63	6.96	93.04
1/2	IN	177.90	11.64	9.70	94.30
1/2	IN	122.40	11.63	5.70	94.30
1/2	IN	11.20	11.62	4.39	95.61
1/2	IN	11.60	11.60	4.10	95.90
1/2	IN	12.60	11.47	0.24	99.75
1/2	IN	26.98	11.24	2.85	97.15
<200 + W	25.27	130.92	2.85	0.0	100.00
TOTALS	703.67	4588.22			
SPLITTING FACTOR	5.18				
FINENESS MODULUS	5.42				
% COBBLES	0.0	% PEBBLES	53.15	% GRANULES	15.08
		% SAND	28.91	% SILT/CLAY	2.85

INDUSTRIAL USAGE ASSESSMENT

022055 01818W10SWHG017A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES MATERIAL NOT ON SITE (MATERIAL <#4)
ASPHALT A (P. OF M.)	6.95	MARGINAL	YES			
ASPHALT B (P. OF M.)	1.24	MARGINAL	YES			
ASPHALT C (P. OF M.)	57.12	NOT SUIT	YES			
BASE COURSE A (P. OF M.)	10.64	MARGINAL	YES			
BASE COURSE B (P. OF M.)	8.66	MARGINAL	YES			
BASE COURSE C (P. OF M.)	1.15	MARGINAL	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	1.04	MARGINAL	YES			
SUB-BASE/BASE COURSE B (ASTM D1241)	10.18	MARGINAL	YES			
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	0.43	MARGINAL	YES			
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	24.00	MARGINAL	YES			
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	17.00	MARGINAL	YES			
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	58.79	NOT SUIT				
TRAFFIC GRAVEL A (P. OF M.)	5.64	MARGINAL	YES			
TRAFFIC GRAVEL B (P. OF M.)	3.64	MARGINAL	YES			
TRAFFIC GRAVEL C (P. OF M.)	3.17	MARGINAL	YES			
TRAFFIC GRAVEL D (P. OF M.)	0.9	SUITABLE	YES			
SEAL COAT A (P. OF M.)	73.55	NOT SUIT				
SEAL COAT B (P. OF M.)	0.11	MARGINAL	YES			
SEAL COAT C (P. OF M.)	0.11	MARGINAL	YES			YES
COARSE AGGREGATE 1 (ASTM C33, D448)	196.18	NOT SUIT				
COARSE AGGREGATE 2 (ASTM C33, D448)	189.18	NOT SUIT				
COARSE AGGREGATE 3 (ASTM C33, D448)	170.64	NOT SUIT				
COARSE AGGREGATE 4 (ASTM C33, D448)	162.66	NOT SUIT				
COARSE AGGREGATE 5 (ASTM C33, D448)	162.66	NOT SUIT				
COARSE AGGREGATE 6 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 7 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 8 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 9 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 10 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 11 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 12 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 13 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 14 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 15 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 16 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 17 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 18 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 19 (ASTM C33, D448)	152.66	NOT SUIT				
COARSE AGGREGATE 20 (ASTM C33, D448)	152.66	NOT SUIT				
FINE CONCRETE AGGREGATE I (P. OF M.)	126.13	MARGINAL	YES			
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	50.51	NOT SUIT				
MORTAR (ASTM C144)	19.31	MARGINAL	YES			
PORTLAND CEMENT (P.C.A.)	35.29	NOT SUIT				
BUILT-UP ROOFS (ASTM D1863)	94.56	NOT SUIT				
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES			
PIT RUN (P. OF M.)	0.0	SUITABLE	YES			
SEPTIC FIELDS (U.M.A.)	13.73	MARGINAL	YES			YES
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES			

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022057A01817W07SEHB206A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3861.20 GMS. WASHED SAMPLE - WEIGHT BEFORE 759.10 AFTER 735.30 % LOSS 3.14

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		279.00	0.0	94.14	5.86
1/4 IN		269.50	0.0	88.19	11.81
1/8 IN	17.00	362.50	0.0	81.23	18.77
1/16 IN	57.00	369.50	0.0	79.41	20.59
1/32 IN	109.00	184.50	0.0	75.54	24.46
1/64 IN	109.00	178.50	0.0	71.78	28.22
1/128 IN	109.00	174.50	0.0	64.48	35.52
1/256 IN	109.00	174.50	0.0	60.60	39.40
1/512 IN	109.00	174.50	0.0	49.35	50.65
1/1024 IN	109.00	178.50	0.0	45.59	54.41
1/2048 IN	109.00	242.63	0.0	40.48	59.52
1/4096 IN	151.50	770.00	16.23	24.26	75.74
1/8192 IN	54.00	274.67	5.78	18.47	81.53
1/16384 IN	45.00	230.93	4.86	13.61	86.39
1/32768 IN	61.00	312.31	6.58	12.03	82.97
1/65536 IN	15.00	76.30	1.61	5.43	94.57
<200 + M	26.90	136.83	2.88	2.55	97.45
	23.78	120.96	2.55	0.0	100.00
TOTALS	758.48	4749.24			
SPLITTING FACTOR	5.09				
FINENESS MODULUS	4.59				
% COBBLES	0.0	% PEBBLES	39.40	% GRANULES	15.01
				% SAND	43.04
				% SILT/CLAY	2.55

INDUSTRIAL USAGE ASSESSMENT

022057A01817W07SEHB206A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	5.72	MARGINAL	YES			YES	YES
ASPHALT B (P. OF M.)	1.12	MARGINAL	YES			YES	YES
ASPHALT C (P. OF M.)	40.47	NOT SUIT					
BASE COURSE A (P. OF M.)	19.58	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE B (P. OF M.)	19.29	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	17.45	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	17.97	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	3.64	MARGINAL					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	3.52	MARGINAL					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	9.17	MARGINAL	YES	YES	YES		
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	3.11	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	18.76	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	13.57	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	13.57	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL C (P. OF M.)	13.89	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	6.00	SUITABLE	YES				
SEAL COAT A (P. OF M.)	88.49	NOT SUIT					
SEAL COAT B (P. OF M.)	19.68	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.00	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33-D448)	196.92	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33-D448)	186.92	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33-D448)	177.46	NOT SUIT					
COARSE AGGREGATE 35 (ASTM C33-D448)	169.41	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33-D448)	120.87	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33-D448)	167.75	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33-D448)	111.02	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33-D448)	174.43	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33-D448)	178.86	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33-D448)	125.06	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33-D448)	162.64	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33-D448)	137.95	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33-D448)	148.85	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33-D448)	135.84	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33-D448)	156.67	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33-D448)	156.52	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33-D448)	119.54	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33-D448)	92.24	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D448)	95.56	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	5.63	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33-C404)	21.02	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33-C404)	13.56	MARGINAL	YES				
MORTAR (ASTM C144)	13.56	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	5.58	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	136.34	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	16.29	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.00	SUITABLE				YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022057A01817W18SEHG019A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 6071.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 767.40 AFTER 730.20 % LOSS 4.85

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
3/4 IN		0.0	0.0	100.00	0.0
5/8 IN	6.40	134.40	1.16	97.82	0.18
1/2 IN	14.40	50.60	0.00	97.00	0.00
3/8 IN	20.90	112.92	1.89	95.15	4.85
1/4 IN	42.30	165.34	2.00	92.47	7.53
#4	28.20	330.64	3.43	87.04	12.96
#6	69.70	223.09	3.62	83.43	16.57
#10	29.80	551.41	0.94	74.48	25.52
#16	82.80	235.75	3.82	70.66	29.34
#30	156.60	1238.88	10.62	50.04	39.96
#40	89.20	705.67	20.09	39.95	60.05
#50	73.40	580.68	0.42	19.09	80.91
#60	82.00	648.71	1.52	8.56	91.43
#100	11.90	94.14	1.53	7.04	92.96
#200	17.90	141.61	2.30	4.74	95.26
<200 + W	36.96	292.40	4.74	0.0	100.00

TOTALS 762.46 6166.31

SPLITTING FACTOR 7.91

FINENESS MODULUS 3.26

% COBBLES 0.0 % PEBBLES 16.57 % GRANULES 12.77 % SAND 65.92 % SILT/CLAY 4.74

INDUSTRIAL USAGE ASSESSMENT

022057A01817W18SEHG019A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	37.05	NOT SUIT			YES		YES
ASPHALT B (P. OF M.)	27.52	MARGINAL	YES				
ASPHALT C (P. OF M.)	52.26	NOT SUIT					
BASE COURSE A (P. OF M.)	35.67	NOT SUIT					
BASE COURSE B (P. OF M.)	14.09	MARGINAL					
BASE COURSE C (P. OF M.)	3.43	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	95.06	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	71.81	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	46.81	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	3.92	MARGINAL					
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	1.26	MARGINAL					
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	4.76	MARGINAL	YES	YES			YES
TRAFFIC GRAVEL A (P. OF M.)	62.94	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	42.94	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	34.24	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	13.58	MARGINAL					
SEAL COAT A (P. OF M.)	108.76	NOT SUIT					
SEAL COAT B (P. OF M.)	33.61	NOT SUIT					
SEAL COAT C (P. OF M.)	5.94	MARGINAL	YES	YES			YES
COARSE AGGREGATE 1 (ASTM C33, D448)	221.56	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	221.56	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	221.73	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	208.89	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	177.32	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	219.03	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	212.46	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	229.18	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	226.51	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	186.81	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	165.59	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	126.12	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	209.87	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	206.18	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	168.03	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	168.09	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	115.24	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	6.52	MARGINAL					
FINE CONCRETE AGGREGATE (P. OF M.)	1.73	MARGINAL	YES	YES			
FINE CONCRETE AGGREGATE I (ASTM C33, C604)	4.91	MARGINAL	YES	YES			
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	6.40	MARGINAL	YES	YES			
MORTAR (ASTM C140)	5.72	MARGINAL	YES	YES			
PORTLAND CEMENT (P.C.A.)	1.77	MARGINAL					
BUILT-UP ROOFS (ASTM D1863)	170.31	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	32.41	NOT SUIT					
PIT RUN (P. OF M.)	8.43	MARGINAL					
SEPTIC FIELDS (U.M.A.)	27.82	MARGINAL					
SHOULDERS (P. OF M.)	13.43	MARGINAL					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 022057B01817W06SENG205A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4035.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 785.00 AFTER 774.30 % LOSS 1.36

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 IN		0.0	0.0	100.00	0.0
2 1/2 IN		0.0	0.0	100.00	0.0
2 IN		0.0	0.0	100.00	0.0
1 1/2 IN		145.10	5.20	96.80	3.20
1 IN		187.40	4.13	92.67	7.33
5/8 IN	0.20	168.30	3.93	88.96	11.04
1/2 IN	46.00	221.15	0.93	88.03	11.97
5/8 IN	40.00	205.63	4.53	82.82	17.18
1/4 IN	61.70	317.18	6.99	71.29	28.71
#4	34.40	176.84	3.90	67.39	32.61
#8	120.00	616.88	13.60	53.80	46.20
#16	39.70	204.08	4.50	49.30	50.70
#32	45.80	235.44	1.19	44.11	55.89
#64	166.80	857.46	18.50	25.20	74.80
#128	73.90	379.89	8.37	16.83	83.17
#256	66.20	340.31	7.50	9.33	90.67
#512	59.30	289.42	6.58	2.95	97.05
#1000	6.80	34.96	0.77	2.18	97.82
#2000	8.50	23.70	0.96	1.21	98.79
<2000 + W	10.70	55.01	1.21	0.0	100.00
TOTALS	785.00	4536.19			
SPLITTING FACTOR	5.14				
FINENESS MODULUS	4.34				
% COBBLES	0.0	% PEBBLES	32.61	% GRANULES	18.10
				% SAND	48.08
				% SILT/CLAY	1.21

INDUSTRIAL USAGE ASSESSMENT

022057B01817W06SENG205A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <64)
ASPHALT A (P. OF M.)	6.81	MARGINAL	YES	YES	YES	YES	YES
ASPHALT B (P. OF M.)	51.04	MARGINAL	YES	YES	YES	YES	YES
ASPHALT C (P. OF M.)	51.91	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE I (P. OF M.)	15.00	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE II (P. OF M.)	15.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE COURSE BASE COURSE A (ASTM D1241)	35.76	NOT SUIT					
SUB-BASE COURSE BASE SURFACE COURSE B (ASTM D1241)	12.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE COURSE SURFACE COURSE C (ASTM D1241)	12.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE COURSE SURFACE COURSE D (ASTM D1241)	12.00	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE COURSE SURFACE COURSE E (ASTM D1241)	20.00	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL (P. OF M.)	15.90	NOT SUIT					
TRAFFIC GRAVEL (P. OF M.)	15.90	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL (P. OF M.)	15.90	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT A (P. OF M.)	89.06	NOT SUIT					
SEAL COAT B (P. OF M.)	16.70	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	YES
COARSE AGGREGATE 1 (ASTM C33, D448)	205.97	NOT SUIT					
COARSE AGGR.GRATE 2 (ASTM C33, D448)	195.97	NOT SUIT					
COARSE AGGR.GRATE 24 (ASTM C33, D448)	193.79	NOT SUIT					
COARSE AGGR.GRATE 35 (ASTM C33, D448)	182.50	NOT SUIT					
COARSE AGGR.GRATE 357 (ASTM C33, D448)	138.09	NOT SUIT					
COARSE AGGR.GRATE 4 (ASTM C33, D448)	185.14	NOT SUIT					
COARSE AGGR.GRATE 467 (ASTM C33, D448)	129.85	NOT SUIT					
COARSE AGGR.GRATE 55 (ASTM C33, D448)	188.58	NOT SUIT					
COARSE AGGR.GRATE 56 (ASTM C33, D448)	198.20	NOT SUIT					
COARSE AGGR.GRATE 57 (ASTM C33, D448)	136.00	NOT SUIT					
COARSE AGGR.GRATE 6 (ASTM C33, D448)	171.88	NOT SUIT					
COARSE AGGR.GRATE 67 (ASTM C33, D448)	145.56	NOT SUIT					
COARSE AGGR.GRATE 68 (ASTM C33, D448)	158.16	NOT SUIT					
COARSE AGGR.GRATE 7 (ASTM C33, D448)	154.59	NOT SUIT					
COARSE AGGR.GRATE 78 (ASTM C33, D448)	159.17	NOT SUIT					
COARSE AGGR.GRATE 8 (ASTM C33, D448)	155.05	NOT SUIT					
COARSE AGGR.GRATE 89 (ASTM C33, D448)	111.31	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	82.52	NOT SUIT					YES
COARSE AGGREGATE 10 (ASTM C33, D448)	7.77	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE (P. OF M.)	3.91	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	20.19	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	16.34	MARGINAL	YES	YES	YES	YES	
MORTAR (ASTM C144)	15.18	MARGINAL	YES	YES	YES	YES	
PORTLAND CEMENT (P.C.A.)	13.91	MARGINAL	YES	YES	YES	YES	
BUILT-UP ROOFS (ASTM D1863)	135.09	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	2.72	MARGINAL	YES	YES	YES	YES	
PIT RUN (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	
SEPTIC FIELDS (U.M.A.)	21.90	MARGINAL	YES	YES	YES	YES	
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022062 01817W16SEH6185A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3270.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 735.00 AFTER 701.80 % LOSS 4.52

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/8 IN	22.40	45.90	0.0	68.00	11.20
1/16 IN	1.50	3.00	0.0	50.00	49.99
#4	1.00	2.00	0.0	20.00	79.99
#8	1.00	2.00	0.0	20.00	79.99
#16	1.00	2.00	0.0	20.00	79.99
#32	1.00	2.00	0.0	20.00	79.99
#64	1.00	2.00	0.0	20.00	79.99
#128	1.00	2.00	0.0	20.00	79.99
<200	1.00	2.00	0.0	20.00	79.99
<200 + W	33.20	147.71	3.70	0.0	100.00
TOTALS	735.00	3987.30			
SPLITTING FACTOR	4.45				
FINENESS MODULUS	4.56				
% COBBLES	0.0	% PEBBLES	42.52	% GRANULES	15.55
				% SAND	38.22
				% SILT/CLAY	3.70

INDUSTRIAL USAGE ASSESSMENT

022062 01817W16SEH6185A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	0.08	MARGINAL	YES			YES	
ASPHALT C (P. OF M.)	0.00	SUITABLE	YES				
BASE COURSE A (P. OF M.)	39.02	NOT SUIT					
BASE COURSE B (P. OF M.)	3.56	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	0.20	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	13.01	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	1.30	MARGINAL					YES
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	0.03	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	1.03	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	1.03	MARGINAL	YES	YES			
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	20.46	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	22.48	MARGINAL	YES	YES			
TRAFFIC GRAVEL B (P. OF M.)	6.37	MARGINAL	YES	YES			YES
TRAFFIC GRAVEL C (P. OF M.)	2.59	MARGINAL	YES	YES			
TRAFFIC GRAVEL D (P. OF M.)	0.00	SUITABLE	YES				
SEAL COAT A (P. OF M.)	83.83	NOT SUIT					
SEAL COAT B (P. OF M.)	22.13	MARGINAL	YES				YES
SEAL COAT C (P. OF M.)	6.61	MARGINAL	YES				YES
COARSE AGGREGATE 1 (ASTM C33,D448)	202.30	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	192.30	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	183.41	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33,D448)	175.15	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	120.04	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	168.66	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	107.41	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	168.79	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	169.69	NOT SUIT					
COARSE AGGREGATE 96 (ASTM C33,D448)	169.92	NOT SUIT					
COARSE AGGREGATE 97 (ASTM C33,D448)	157.84	NOT SUIT					
COARSE AGGREGATE 98 (ASTM C33,D448)	167.00	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33,D448)	167.99	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	92.42	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (P. OF M.)	6.93	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	30.01	NOT SUIT					YES
MORTAR (ASTM C144)	16.61	MARGINAL	YES				YES
PORTLAND CEMENT (P.C.A.)	19.22	MARGINAL	YES				YES
BUILT-UP ROOFS (ASTM D1863)	124.66	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	14.04	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.00	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022063 01918W10SWH6173A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3409.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 737.40 AFTER 719.00 % LOSS 2.50

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
2 1/2 IN		0.0	0.0	100.00	0.0
2 IN		0.0	0.0	100.00	0.0
1 1/2 IN		0.0	0.0	100.00	0.0
1 IN		147.20	4.03	95.97	4.03
5/8 IN		95.50	2.61	93.35	6.65
1/2 IN	3.40	15.72	0.43	92.92	7.08
1/2 IN	17.40	80.45	2.20	90.72	9.28
3/8 IN	42.70	197.43	5.41	85.32	14.68
1/4 IN	49.90	230.72	6.32	79.00	21.00
# 4	31.30	144.72	4.96	75.04	24.96
# 8	115.10	532.10	14.57	60.46	39.54
# 10	40.40	186.80	5.11	55.39	44.65
# 16	80.70	373.13	10.22	45.13	54.87
# 30	194.40	898.84	24.61	20.52	79.48
# 40	58.20	269.10	7.37	13.15	86.85
# 50	38.40	177.55	4.86	8.29	91.71
# 80	30.20	130.64	4.82	4.27	95.53
# 100	5.00	21.12	0.23	0.04	96.16
# 200	11.90	55.02	1.51	0.33	97.67
<200 + W	18.40	65.08	2.33	0.0	100.00
TOTALS	737.40	3652.20			
SPLITTING FACTOR	4.62				
FINENESS MODULUS	4.08				
% COBBLES	0.0	% PEBBLES	24.96	% GRANULES	19.69
				% SAND	53.02
				% SILT/CLAY	2.33

INDUSTRIAL USAGE ASSESSMENT

022063 01918W10SWH6173A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	16.96	MARGINAL	YES			YES	YES
ASPHALT B (P. OF M.)	33.94	MARGINAL	YES			YES	YES
BASE COURSE A (P. OF M.)	53.62	NOT SUIT					
BASE COURSE B (P. OF M.)	23.00	MARGINAL	YES	YES	YES	YES	YES
BASE COURSE C (P. OF M.)	7.93	MARGINAL	YES	YES	YES		
SUB-BASE/BASE COURSE A (ASTM D1241)	55.60	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	21.40	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	28.63	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	10.89	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	10.89	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	23.97	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL A (P. OF M.)	27.35	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	15.39	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	10.19	MARGINAL	YES	YES	YES	YES	YES
SEAL COAT A (P. OF M.)	9.83	NOT SUIT					
SEAL COAT B (P. OF M.)	12.71	MARGINAL	YES	YES	YES		
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	214.68	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	204.68	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	210.41	NOT SUIT					
COARSE AGGREGATE 39 (ASTM C33, D448)	198.02	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	158.06	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	200.97	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	150.04	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	200.72	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	215.76	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	152.55	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	168.04	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	161.52	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	173.54	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	148.03	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	171.37	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	155.67	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	109.81	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	80.22	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	7.23	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	2.33	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	17.40	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	26.02	MARGINAL	YES				
MORTAR (ASTM C144)	14.42	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	3.28	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	148.53	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	10.76	MARGINAL	YES				YES
PIT RUN (P. OF M.)	0.04	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	23.35	MARGINAL	YES				
SHOULDERS (P. OF M.)	5.04	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022063 01918W10SWH6174A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3780.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 843.40 AFTER 811.80 % LOSS 3.75

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	0.0	0.0	0.0	100.00	0.0
1/2	0.0	0.0	0.0	100.00	0.0
1/2	0.0	0.0	0.0	100.00	0.0
1/2	0.0	0.0	0.0	100.00	0.0
1/4	264.80	264.80	100.00	99.96	0.04
1/8	45.00	45.00	100.00	99.92	0.08
1/16	43.10	43.10	100.00	99.49	0.51
1/32	40.50	40.50	100.00	99.14	0.85
1/64	73.00	73.00	100.00	98.95	1.05
1/128	141.20	141.20	100.00	98.84	1.16
1/256	129.00	129.00	100.00	98.60	1.30
1/512	128.70	128.70	100.00	98.06	1.94
1/1024	60.00	60.00	100.00	97.00	2.99
1/2048	47.00	47.00	100.00	96.27	3.73
1/4096	40.50	40.50	100.00	95.44	4.56
1/8192	12.70	12.70	100.00	93.71	6.29
<200 + M	31.60	141.65	3.19	0.0	100.00

TOTALS 843.40 4446.29

SPLITTING FACTOR 4.48

FINENESS MODULUS 4.67

% COBBLES 0.0 % PEBBLES 39.93 % GRANULES 18.18 % SAND 38.71 % SILT/CLAY 3.19

INDUSTRIAL USAGE ASSESSMENT

022063 01918W10SWH6174A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <\$200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	0.99	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	48.73	NOT SUIT					
BASE COURSE A (P. OF M.)	4.91	MARGINAL	YES	YES	YES	YES	
BASE COURSE B (P. OF M.)	1.80	MARGINAL	YES	YES	YES	YES	
BASE COURSE C (P. OF M.)	0.81	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	14.02	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	2.88	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	1.71	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	19.71	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	17.71	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	36.28	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	19.18	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL B (P. OF M.)	6.91	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	4.59	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	6.25	NOT SUIT					
SEAL COAT B (P. OF M.)	12.48	MARGINAL	YES			YES	YES
SEAL COAT C (P. OF M.)	0.0	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	29.44	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	168.42	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	168.29	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	169.45	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	169.35	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	124.34	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	125.41	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	125.48	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	110.20	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	168.85	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D448)	121.62	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	124.97	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D448)	122.50	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D448)	130.91	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D448)	124.64	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33, D448)	101.81	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33, D448)	76.57	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	8.85	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	28.54	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	28.00	MARGINAL	YES				
MORTAR (ASTM C144)	20.60	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	18.70	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	8.42	MARGINAL	YES				
AIRFIELD RUNWAYS (P. OF M.)	123.00	NOT SUIT					
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	15.03	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE				YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022063 01918W16SEHGI62A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2898.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 714.00 AFTER 676.90 % LOSS 5.20

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 IN		0.0	0.0	100.00	0.0
2 1/2 IN		260.90	6.71	93.29	6.71
2 1/2 IN		163.10	4.20	89.09	10.91
2 IN		362.80	9.34	79.75	20.25
1 1/2 IN		200.60	5.17	74.59	25.41
1 1/2 IN	6.60	26.79	0.69	73.90	26.10
1/2 IN	40.00	162.39	4.18	65.72	30.28
1/2 IN	74.00	300.42	7.73	61.99	38.01
1/4 IN	64.70	262.66	6.76	55.23	44.77
1/4 IN	39.10	158.73	4.08	51.15	48.85
1/8 IN	97.90	397.44	10.23	40.92	59.08
1/16 IN	51.70	128.69	3.51	37.61	62.39
1/32 IN	49.50	160.36	4.13	33.48	66.52
1/64 IN	135.80	551.30	14.19	19.29	80.71
1/128 IN	45.60	186.81	6.74	14.55	85.45
1/256 IN	35.60	143.71	3.70	10.85	88.15
1/512 IN	35.70	144.93	3.73	7.12	92.88
1/1024 IN	8.20	33.29	0.86	6.27	93.73
<200 + W	22.30	92.97	3.89	3.89	96.12
TOTALS	714.00	3886.20			
SPLITTING FACTOR	4.06				
FINENESS MODULUS	5.12				
% COBBLES	0.0	% PEBBLES	48.85	% GRANULES	13.54
				% SAND	33.73
				% SILT/CLAY	3.88

INDUSTRIAL USAGE ASSESSMENT

022063 01918W16SEHGI62A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES NOT ON SITE	(MATERIAL <#4)
ASPHALT A (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	49.94	NOT SUIT					
BASE COURSE A (P. OF M.)	22.80	MARGINAL	YES	YES			
BASE COURSE B (P. OF M.)	6.0	SUITABLE	YES				
SUB-BASE COURSE A (ASTM D1241)	0.76	MARGINAL	YES				
SUB-BASE COURSE B (ASTM D1241)	0.62	MARGINAL	YES				
SUB-BASE SURFACE COURSE C (ASTM D1241)	0.60	MARGINAL	YES				
SUB-BASE SURFACE COURSE D (ASTM D1241)	0.60	MARGINAL	YES				
SUB-BASE SURFACE COURSE E (ASTM D1241)	0.69	MARGINAL	YES				
SUB-BASE SURFACE COURSE F (ASTM D1241)	0.69	MARGINAL	YES				
TRAFFIC GRAVEL (P. OF M.)	0.0	MARGINAL	YES				
TRAFFIC GRAVEL (P. OF M.)	0.0	MARGINAL	YES				
TRAFFIC GRAVEL (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	0.0	NOT SUIT					
SEAL COAT B (P. OF M.)	0.0	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	186.00	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 72 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 76 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 80 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	99.27	NOT SUIT					
COARSE AGGREGATE 97 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 98 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 80 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	120.00	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	0.24	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (P. OF M.)	10.24	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTH C33, C404)	10.85	MARGINAL	YES				
FINE CONCRETE AGGREGATE III (ASTH C33, C404)	17.57	MARGINAL	YES				
MORTAR (ASTM C144)	16.00	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	11.86	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	121.24	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	13.72	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022064 02020W12SWHG108A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2662.10 GMS. WASHED SAMPLE - WEIGHT BEFORE 829.20 AFTER 761.00 % LOSS 8.22

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4	IN		0.0	0.0	100.00
1/2	IN		0.0	0.0	100.00
1/2	IN		0.0	0.0	100.00
1/2	IN		0.0	0.0	100.00
1/2	IN		0.0	0.0	100.00
3/4	IN	102.40	4.36	96.64	3.36
5/8	IN	21.50	0.95	95.29	4.71
1/2	IN	48.40	2.05	95.02	4.93
3/8	IN	57.30	1.95	95.93	0.07
1/4	IN	70.30	2.05	73.90	26.10
1/4	IN	34.70	1.11	66.50	33.50
1/8	IN	93.00	3.01	62.84	37.16
1/16	IN	31.00	0.99	29.97	24.03
1/32	IN	61.00	1.95	63.28	56.72
1/64	IN	144.70	4.42	28.04	71.96
1/128	IN	58.80	1.88	21.85	78.15
1/256	IN	45.50	1.46	17.06	82.94
1/512	IN	44.00	1.43	11.20	88.64
1/1024	IN	11.00	0.35	11.18	88.80
<200 + M		38.20	1.22	6.02	92.92
<200 + M		68.20	2.18	0.0	100.00

TOTALS 829.20 3049.80

SPLITTING FACTOR 3.21

FINENESS MODULUS 4.23

% COBBLES 0.0 % PEBBLES 37.16 % GRANULES 13.15 % SAND 42.52 % SILT/CLAY 7.18

INDUSTRIAL USAGE ASSESSMENT

022064 02020W12SWHG108A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	4.16	MARGINAL	YES		YES		YES
ASPHALT B (P. OF M.)	2.16	MARGINAL	YES		YES		YES
ASPHALT C (P. OF M.)	30.81	NOT SUIT					YES
BASE COURSE A (P. OF M.)	3.93	MARGINAL	YES		YES		YES
BASE COURSE B (P. OF M.)	0.0	SUITABLE					
BASE COURSE C (P. OF M.)	0.0	SUITABLE					
SUB-BASE/BASE COURSE A (ASTM D1241)	28.29	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	6.18	MARGINAL					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	1.42	MARGINAL	YES		YES		YES
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	2.96	MARGINAL	YES		YES		YES
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	16.51	MARGINAL	YES		YES		YES
TRAFFIC GRAVEL A (P. OF M.)	25.50	MARGINAL	YES		YES		YES
TRAFFIC GRAVEL B (P. OF M.)	5.50	MARGINAL	YES		YES		YES
TRAFFIC GRAVEL C (P. OF M.)	4.68	MARGINAL	YES		YES		YES
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	99.01	NOT SUIT					
SEAL COAT B (P. OF M.)	25.95	MARGINAL	YES		YES		YES
SEAL COAT C (P. OF M.)	27.22	MARGINAL	YES				
COARSE AGGREGATE 3 (ASTM C33:D448)	27.22	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33:D448)	16.27	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33:D448)	16.40	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33:D448)	16.56	NOT SUIT					
COARSE AGGREGATE 257 (ASTM C33:D448)	126.95	NOT SUIT					
COARSE AGGREGATE 258 (ASTM C33:D448)	120.01	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33:D448)	167.31	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33:D448)	167.38	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33:D448)	180.14	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33:D448)	126.92	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33:D448)	125.63	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33:D448)	122.73	NOT SUIT					
COARSE AGGREGATE 69 (ASTM C33:D448)	122.51	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33:D448)	124.57	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33:D448)	159.14	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33:D448)	169.02	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33:D448)	128.37	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33:D448)	107.05	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33:D448)	8.72	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	11.17	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33: C404)	28.15	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33: C404)	19.96	MARGINAL	YES				
MORTAR (ASTM C144)	12.14	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	20.92	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	135.07	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE					
SEPTIC FIELDS (U.H.A.)	17.29	MARGINAL					
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022067 01618W20SWHG309A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3813.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 799.80 AFTER 777.00 % LOSS 2.85

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
6	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	149.20	3.62	96.38	3.62
1/4	IN	50.00	1.25	95.17	4.83
5/8	IN	136.36	3.31	92.43	7.57
1/2	IN	137.79	3.34	89.12	10.88
3/8	IN	340.91	8.26	77.52	22.48
1/4	IN	593.83	9.55	67.97	32.03
1/8	IN	350.92	8.51	59.47	40.53
1/16	IN	708.99	17.08	42.28	57.72
1/32	IN	207.41	5.03	37.26	62.74
1/64	IN	264.27	8.83	28.43	71.57
1/128	IN	227.68	10.37	18.65	81.34
1/256	IN	264.62	6.41	11.65	88.35
1/512	IN	203.11	4.92	6.73	93.27
1/1024	IN	114.95	2.76	3.96	96.04
1/2048	IN	13.83	0.34	0.63	96.37
1/4096	IN	41.00	0.99	0.63	97.37
<200 + H	IN	108.71	2.63	0.0	100.00

TOTALS 799.80 4125.89

SPLITTING FACTOR 4.77

FINENESS MODULUS 4.75

% COBBLES 0.0 % PEBBLES 40.53 % GRANULES 22.21 % SAND 34.62 % SILT/CLAY 2.63

INDUSTRIAL USAGE ASSESSMENT

022067 01618W20SWHG309A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRAADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	2.40	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	59.96	NOT SUIT					
BASE COURSE A (P. OF M.)	5.96	MARGINAL	YES	YES			
BASE COURSE B (P. OF M.)	4.49	MARGINAL	YES	YES			
SUB-BASE/BASE COURSE A (ASTM D1241)	17.99	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	8.41	MARGINAL					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	2.99	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	16.85	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	11.88	MARGINAL	YES	YES			
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	42.94	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	12.50	MARGINAL	YES	YES			
TRAFFIC GRAVEL B (P. OF M.)	0.0	MARGINAL	YES	YES			
TRAFFIC GRAVEL D (P. OF M.)	0.13	SUITABLE	YES				
SEAL COAT A (P. OF M.)	65.18	NOT SUIT					
SEAL COAT B (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	210.44	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	200.44	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	188.23	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	188.97	NOT SUIT					
COARSE AGGREGATE 4467 (ASTM C33, D448)	137.06	NOT SUIT					
COARSE AGGREGATE 4467 (ASTM C33, D448)	191.75	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	126.05	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	197.05	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33, D448)	198.75	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33, D448)	121.30	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33, D448)	160.84	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	120.13	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	115.00	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	105.81	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	111.55	NOT SUIT					
COARSE AGGREGATE 88 (ASTM C33, D448)	108.83	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	61.67	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	55.58	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	16.00	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	27.94	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	60.09	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	44.41	NOT SUIT					
MORTAR (ASTM C144)	23.90	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	35.09	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	106.31	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	25.89	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE				YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022068 01618W16SWH6319A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4097.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 757.60 AFTER 740.80 % LOSS 2.22

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4	TN		0.0	100.00	0.0
1/2	TN		0.0	100.00	0.0
1/2	TN		0.0	100.00	0.0
1/2	TN		0.0	100.00	0.0
1/2	TN	32.50	0.70	97.50	2.45
1/2	TN	70.40	1.74	95.91	4.09
1/2	TN	0.0	0.0	0.0	0.0
1/2	TN	12.50	1.97	93.93	6.07
1/2	TN	32.50	6.14	69.79	10.21
1/2	TN	74.10	10.58	80.41	10.15
1/2	TN	12.50	10.47	69.85	29.62
1/2	TN	153.50	12.09	24.29	75.71
1/2	TN	148.10	12.96	21.33	68.57
1/2	TN	102.40	12.67	21.66	64.34
1/2	TN	123.00	12.53	20.92	61.08
1/2	TN	53.20	12.64	20.00	55.00
1/2	TN	31.00	12.64	20.00	57.00
1/2	TN	15.00	12.64	20.00	57.21
1/2	TN	5.00	12.64	20.00	57.87
#200		18.80	2.13	0.0	100.00
<200 + M		90.87	2.13	0.0	100.00

TOTALS 757.60 4272.49

SPLITTING FACTOR 5.41

FINENESS MODULUS 4.40

% COBBLES 0.0 % PEBBLES 30.15 % GRANULES 25.56 % SAND 42.17 % SILT/CLAY 2.13

INDUSTRIAL USAGE ASSESSMENT

022068 01618W16SWH6319A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	12.15	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	0.69	MARGINAL	YES			YES	
ASPHALT C (P. OF M.)	60.35	NOT SUIT	YES			YES	
BASE COURSE A (P. OF M.)	14.31	MARGINAL	YES		YES	YES	
BASE COURSE B (P. OF M.)	7.87	MARGINAL	YES		YES	YES	
BASE COURSE C (P. OF M.)	1.87	MARGINAL	YES		YES	YES	
SUB-BASE/BASE COURSE A (ASTM D1241)	43.94	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	36.15	NOT SUIT					
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	22.32	MARGINAL	YES		YES	YES	
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	21.67	MARGINAL	YES		YES	YES	
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	34.67	MARGINAL	YES		YES	YES	
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	36.27	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	28.44	MARGINAL	YES		YES	YES	
TRAFFIC GRAVEL B (P. OF M.)	17.25	MARGINAL	YES		YES	YES	
TRAFFIC GRAVEL C (P. OF M.)	8.74	MARGINAL	YES		YES	YES	
TRAFFIC GRAVEL D (P. OF M.)	22.89	MARGINAL	YES		YES	YES	
SEAL COAT A (P. OF M.)	67.13	NOT SUIT					
SEAL COAT B (P. OF M.)	4.37	MARGINAL	YES		YES	YES	
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 18 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 19 (ASTM C33, D448)	216.44	NOT SUIT					
COARSE AGGREGATE 20 (ASTM C33, D448)	216.44	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	31.74	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	68.19	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	58.44	NOT SUIT					
MORTAR (ASTM C144)	52.87	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	63.19	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	130.71	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	6.93	MARGINAL	YES		YES	YES	
PIT RUN (P. OF M.)	0.0	SUITABLE	YES		YES	YES	
SEPTIC FIELDS (U.M.A.)	26.58	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022069 01618W04NWHG298A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SWND 3812.20 GMS. WASHED SAMPLE - WEIGHT BEFORE 755.70 AFTER 732.60 % LOSS 3.06

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT PASSING	PERCENT PASSING	PERCENT RETAINED
4	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	671.70	10.10	89.90	10.10
1/2	IN	227.50	4.87	85.03	14.97
1/2	IN	160.30	4.43	81.60	18.40
1/2	IN	111.99	2.40	79.20	20.80
1/2	IN	269.14	6.40	72.80	27.20
1/2	IN	162.94	4.49	69.31	30.69
1/2	IN	325.49	4.83	64.49	35.51
1/2	IN	244.70	4.31	60.18	39.82
1/2	IN	201.28	13.89	46.29	53.71
1/2	IN	128.60	15.60	40.69	59.31
1/2	IN	129.81	13.69	27.00	73.00
1/2	IN	139.65	17.01	9.99	90.01
1/2	IN	194.52	4.17	5.82	94.18
1/2	IN	194.72	1.38	2.44	95.56
1/2	IN	199.60	1.38	2.44	95.56
1/2	IN	165.60	0.80	3.64	96.36
1/2	IN	177.43	0.18	3.46	96.54
1/2	IN	144.40	0.18	3.46	96.54
1/2	IN	179.58	0.96	0.49	97.51
<200 + N		23.10	116.53	2.49	100.00
TOTALS		755.70	4671.68		
SPLITTING FACTOR		5.04			
FINENESS MODULUS		5.08			
% COBBLES	0.0	% PEBBLES	39.82	% GRANULES	19.49
				% SAND	38.19
				% SILT/CLAY	2.49

INDUSTRIAL USAGE ASSESSMENT

022069 01618W04NWHG298A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	11.61	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	69.95	NOT SUIT	YES			YES	
BASE COURSE A (P. OF M.)	18.50	MARGINAL	YES	YES	YES	YES	
BASE COURSE B (P. OF M.)	18.50	MARGINAL	YES	YES	YES	YES	YES
SUB-BASE COURSE A (ASTM D1241)	12.52	MARGINAL	YES	YES	YES	YES	
SUB-BASE SURFACE COURSE B (ASTM D1241)	18.00	MARGINAL	YES	YES	YES	YES	
SUB-BASE SURFACE COURSE C (ASTM D1241)	18.00	MARGINAL	YES	YES	YES	YES	
SUB-BASE SURFACE COURSE D (ASTM D1241)	12.22	MARGINAL	YES	YES	YES	YES	
SUB-BASE SURFACE COURSE E (ASTM D1241)	12.22	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL AB (P. OF M.)	26.42	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL AC (P. OF M.)	13.00	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL CC (P. OF M.)	13.00	MARGINAL	YES	YES	YES	YES	
SEAL COAT A (P. OF M.)	66.12	NOT SUIT					
SEAL COAT B (P. OF M.)	12.66	MARGINAL	YES			YES	
SEAL COAT C (P. OF M.)	12.66	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33-D448)	193.00	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33-D448)	183.00	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33-D448)	159.20	NOT SUIT					
COARSE AGGREGATE 3457 (ASTM C33-D448)	114.55	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33-D448)	162.54	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33-D448)	180.66	NOT SUIT					
COARSE AGGREGATE 566 (ASTM C33-D448)	187.00	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33-D448)	126.60	NOT SUIT					
COARSE AGGREGATE 66 (ASTM C33-D448)	164.03	NOT SUIT					
COARSE AGGREGATE 668 (ASTM C33-D448)	138.66	NOT SUIT					
COARSE AGGREGATE 76 (ASTM C33-D448)	128.40	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33-D448)	128.26	NOT SUIT					
COARSE AGGREGATE 88 (ASTM C33-D448)	140.75	NOT SUIT					
COARSE AGGREGATE 889 (ASTM C33-D448)	91.85	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33-D448)	59.73	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33-D448)	7.61	MARGINAL	YES			YES	YES
FINE CONCRETE AGGREGATE (P. OF M.)	17.93	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33-C404)	46.63	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33-C404)	59.24	NOT SUIT					
MORTAR (ASTM C144)	16.00	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	23.42	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	128.76	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.77	MARGINAL	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	20.77	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022070 01518W35SWHG296A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3207.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 800.90 AFTER 769.60 % LOSS 3.91

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	505.90	1.90	100.00	0.0
1/2	TN	505.90	1.90	100.00	0.0
1/4	TN	505.90	1.90	100.00	0.0
1/4	TN	478.90	1.70	79.47	20.53
1/4	TN	478.90	1.70	79.47	20.53
1/4	TN	416.60	1.60	65.24	34.76
1/4	TN	355.30	1.50	44.04	55.96
1/4	TN	69.30	0.60	4.41	95.59
1/8	TN	69.30	0.60	4.41	95.59
1/8	TN	67.60	0.60	4.40	95.60
1/8	TN	94.50	0.50	3.78	99.00
1/16	TN	94.50	0.50	3.78	99.00
1/32	TN	14.90	0.40	1.61	99.00
1/64	TN	48.40	0.40	1.78	99.00
1/128	TN	41.60	0.30	1.66	99.00
1/256	TN	35.30	0.30	1.41	99.00
1/512	TN	6.90	0.30	2.77	99.00
1/1024	TN	6.90	0.30	2.77	99.00
1/2048	TN	0.00	0.00	0.00	100.00
<200 + W		31.30	125.33	2.29	0.0

TOTALS 800.90 5479.49.

SPLITTING FACTOR 4.00

FINENESS MODULUS 5.91

% COBBLES 0.0 % PEBBLES 59.17 % GRANULES 9.49 % SAND 29.05 % SILT/CLAY 2.29

INDUSTRIAL USAGE ASSESSMENT

022070 01518W35SWHG296A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES NOT ON SITE (MATERIAL <#4)
ASPHALT A (P. OF M.)	1.46	MARGINAL	YES				
ASPHALT B (P. OF M.)	50.46	SUITABLE	YES				
BASE COURSE (P. OF M.)	4.55	NOT SUIT					
BASE COURSE (P. OF M.)	4.55	MARGINAL	YES				
BASE COURSE (P. OF M.)	5.48	MARGINAL	YES				
SUB-BASE (P. OF M.)	0.00	SUITABLE	YES				
SUB-BASE (P. OF M.)	19.98	MARGINAL	YES				
SUB-BASE (P. OF M.)	19.98	MARGINAL	YES				
SUB-BASE (P. OF M.)	19.98	MARGINAL	YES				
SUB-BASE (P. OF M.)	19.98	MARGINAL	YES				
TRAFFIC SURFACE (P. OF M.)	19.98	MARGINAL	YES				
TRAFFIC SURFACE (P. OF M.)	19.98	MARGINAL	YES				
TRAFFIC SURFACE (P. OF M.)	19.98	MARGINAL	YES				
SEAL COAT A (P. OF M.)	87.80	NOT SUIT					
SEAL COAT B (P. OF M.)	10.20	MARGINAL	YES				
SEAL COAT C (P. OF M.)	10.20	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33; D448)	159.19	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33; D448)	139.96	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33; D448)	116.14	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33; D448)	108.05	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33; D448)	63.30	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33; D448)	120.04	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33; D448)	73.45	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33; D448)	140.82	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33; D448)	133.52	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33; D448)	99.06	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33; D448)	145.27	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33; D448)	122.73	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33; D448)	128.16	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33; D448)	126.22	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33; D448)	143.87	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33; D448)	149.44	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33; D448)	104.59	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33; D448)	79.93	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33; D448)	9.38	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	8.82	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33; C404)	23.98	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33; C404)	15.70	MARGINAL	YES				
MORTAR (ASTM C144)	11.91	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	16.94	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	126.72	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	9.74	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.00	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 022070 01518W35SWH62968

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 76.70 GMS. WASHED SAMPLE - WEIGHT BEFORE 76.70 AFTER 73.80 % LOSS 3.78

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/2		0.0	0.0	100.00	0.0
1/4		0.0	0.0	97.50	2.50
1/4		0.0	0.0	97.79	0.21
1/8		0.0	0.0	83.18	16.82
1/16		0.0	0.0	76.78	23.22
1/32		0.0	0.0	69.67	30.33
1/64		0.0	0.0	67.17	32.83
1/128		0.0	0.0	60.46	39.54
1/256		0.0	0.0	53.95	46.05
1/512		0.0	0.0	45.05	54.95
1/1024		0.0	0.0	36.99	63.01
1/2048		0.0	0.0	28.93	71.07
10	7.10	0.05	0.06	21.42	78.58
16	2.50	0.05	0.06	13.91	86.09
32	6.70	0.05	0.06	6.31	93.69
64	8.50	0.05	0.06	5.11	94.89
128	6.90	0.05	0.06	3.60	96.40
256	8.05	0.05	0.06	2.90	97.10
512	7.50	0.05	0.06	0.0	100.00
1024	7.50	0.05	0.06	0.0	100.00
2048	7.50	0.05	0.06	0.0	100.00
4096	1.20	0.05	0.06	0.0	100.00
8192	1.30	0.05	0.06	0.0	100.00
16384	0.20	0.05	0.06	0.0	100.00
32768	0.20	0.05	0.06	0.0	100.00
65536	0.70	0.05	0.06	0.0	100.00
<200 + W	2.90	2.90	2.90	0.0	100.00

TOTALS 76.70 99.90

SPLITTING FACTOR 1.00

FINENESS MODULUS 5.45

% COBBLES 0.0 % PEBBLES 54.95 % GRANULES 16.12 % SAND 26.03 % SILT/CLAY 2.90

INDUSTRIAL USAGE ASSESSMENT

022070 01518W35SWH62968

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES MATERIAL NOT ON SITE	(MATERIAL <#4)
ASPHALT A (P. OF M.)	11.04	MARGINAL	YES				
ASPHALT B (P. OF M.)	1.79	MARGINAL	YES				
ASPHALT C (P. OF M.)	58.05	NOT SUIT					
BASE COURSE A (P. OF M.)	11.01	MARGINAL	YES				
BASE COURSE B (P. OF M.)	8.97	MARGINAL	YES				
BASE COURSE C (P. OF M.)	6.02	MARGINAL	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	10.00	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	10.00	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	2.80	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	2.70	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	0.10	MARGINAL	YES				
SUB-BASE/COURSE A (ASTM D1241)	0.30	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	4.01	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	4.01	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	4.01	MARGINAL	YES				
SEAL COAT A (P. OF M.)	6.40	NOT SUIT					
SEAL COAT B (P. OF M.)	6.40	MARGINAL	YES				
SEAL COAT C (P. OF M.)	6.40	MARGINAL	YES				YES
COARSE AGGREGATE 1 (ASTM C33, D448)	190.49	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	172.97	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	162.64	NOT SUIT					
COARSE AGGREGATE 36 (ASTM C33, D448)	154.04	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	92.30	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	153.06	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	158.79	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	154.85	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	143.92	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	194.08	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	135.07	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	103.79	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	94.54	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	100.89	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	103.79	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	112.45	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	64.05	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	48.54	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (P. OF M.)	557.43	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	557.43	NOT SUIT					
MORTAR (ASTM C144)	14.56	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	12.89	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	333.24	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	101.39	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	13.64	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 022072 01617W16NWHG257A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4386.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 792.40 AFTER 725.00 % LOSS 8.51

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	320.00	5.04	92.36	7.64
1/2	TN	105.260	1.92	92.36	7.64
1/2	TN	420.00	7.20	92.36	7.64
5/8	IN	63.50	1.09	71.43	28.57
5/8	IN	20.00	0.33	66.22	33.78
5/8	IN	84.60	1.40	72.43	27.57
5/8	IN	90.50	1.50	72.43	27.57
5/8	IN	60.60	1.00	72.43	27.57
5/8	IN	140.00	2.30	72.43	27.57
5/8	IN	41.70	0.67	72.43	27.57
5/8	IN	74.80	1.20	72.43	27.57
5/8	IN	61.60	1.00	72.43	27.57
5/8	IN	23.60	0.40	72.43	27.57
5/8	IN	16.80	0.30	72.43	27.57
5/8	IN	14.30	0.23	72.43	27.57
5/8	IN	13.90	0.21	72.43	27.57
<200 + M		67.40	1.10	0.00	100.00
		373.09	6.60	0.0	100.00

TOTALS 792.40 5648.58

SPLITTING FACTOR 5.54

FINENESS MODULUS 5.38

% COBBLES 0.0 % PEBBLES 54.51 % GRANULES 17.88 % SAND 21.00 % SILT/CLAY 6.60

INDUSTRIAL USAGE ASSESSMENT

022072 01617W16NWHG257A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	3.52	MARGINAL	YES				YES
ASPHALT B (P. OF M.)	4.26	MARGINAL	NO	SUITABLE	YES		YES
BASE COURSE (P. OF M.)	0.00	SUITABLE	YES				
BASE COURSE (P. OF M.)	0.88	MARGINAL	YES				
BASE COURSE (P. OF M.)	0.00	SUITABLE	YES				
ROAD-BASE/ROAD COURSE (P. OF M.)	0.00	SUITABLE	YES				
ROAD-BASE/ROAD COURSE (ASTM D1241)	0.00	SUITABLE	YES				
ROAD-BASE/ROAD COURSE (ASTM D1241)	0.00	MARGINAL	YES				
ROAD-BASE/ROAD COURSE (ASTM D1241)	0.00	MARGINAL	YES				
ROAD-BASE/ROAD COURSE (ASTM D1241)	0.00	MARGINAL	YES				
ROAD-BASE/ROAD COURSE (ASTM D1241)	0.00	MARGINAL	YES				
TRAFFIC GRAVEL (P. OF M.)	0.00	NOT SUIT	YES				
TRAFFIC GRAVEL (P. OF M.)	0.00	SUITABLE	YES				
TRAFFIC GRAVEL (P. OF M.)	0.48	MARGINAL	YES				
SEAL COAT A (P. OF M.)	67.27	SUITABLE	YES				
SEAL COAT B (P. OF M.)	7.67	MARGINAL	YES				
SEAL COAT C (P. OF M.)	5.51	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	195.55	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	179.71	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	170.02	NOT SUIT					
COARSE AGGREGATE 34 (ASTM C33, D448)	162.22	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	101.26	NOT SUIT					
COARSE AGGREGATE 44 (ASTM C33, D448)	168.58	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	96.85	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	161.85	NOT SUIT					
COARSE AGGREGATE 556 (ASTM C33, D448)	151.14	NOT SUIT					
COARSE AGGREGATE 557 (ASTM C33, D448)	93.12	NOT SUIT					
COARSE AGGREGATE 64 (ASTM C33, D448)	139.38	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	99.85	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	88.75	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	96.22	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	97.33	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	103.79	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	65.53	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	67.19	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	20.44	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (P. OF M.)	39.80	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	57.79	NOT SUIT					
MORTAR (ASTM C144)	29.85	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	55.21	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	96.72	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	14.14	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 3

SAMPLE IDENTIFICATION 021080 01517W28NERL002A NO02

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4043.90 GMS. WASHED SAMPLE - WEIGHT BEFORE 959.50 AFTER 943.70 % LOSS 1.65

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT %	PERCENT PASSING	PERCENT RETAINED
4	TN	0.0	0.0	100.00	0.0
3 1/2	TN	0.0	0.0	100.00	0.0
1/2	TN	209.70	2.31	100.00	0.0
1/2	TN	209.70	2.31	97.69	2.31
1/2	TN	209.70	2.31	97.22	2.78
1/2	TN	209.70	2.31	96.85	3.15
1/2	TN	209.70	2.31	96.50	3.50
1/2	TN	209.70	2.31	96.15	3.85
1/2	TN	209.70	2.31	95.80	4.20
1/2	TN	209.70	2.31	95.45	4.55
1/2	TN	209.70	2.31	95.10	4.90
1/2	TN	209.70	2.31	94.75	5.25
1/2	TN	209.70	2.31	94.40	5.60
1/2	TN	209.70	2.31	94.05	6.00
1/2	TN	209.70	2.31	93.70	6.35
1/2	TN	209.70	2.31	93.35	6.70
1/2	TN	209.70	2.31	93.00	7.05
1/2	TN	209.70	2.31	92.65	7.40
1/2	TN	209.70	2.31	92.30	7.75
1/2	TN	209.70	2.31	91.95	8.10
1/2	TN	209.70	2.31	91.60	8.45
1/2	TN	209.70	2.31	91.25	8.80
1/2	TN	209.70	2.31	90.90	9.15
1/2	TN	209.70	2.31	90.55	9.50
1/2	TN	209.70	2.31	90.20	9.85
1/2	TN	209.70	2.31	90.15	10.20
1/2	TN	209.70	2.31	90.00	10.55
1/2	TN	209.70	2.31	90.00	10.90
1/2	TN	209.70	2.31	90.00	11.25
1/2	TN	209.70	2.31	90.00	11.60
1/2	TN	209.70	2.31	90.00	11.95
1/2	TN	209.70	2.31	90.00	12.30
1/2	TN	209.70	2.31	90.00	12.65
1/2	TN	209.70	2.31	90.00	13.00
1/2	TN	209.70	2.31	90.00	13.35
1/2	TN	209.70	2.31	90.00	13.70
1/2	TN	209.70	2.31	90.00	14.05
1/2	TN	209.70	2.31	90.00	14.40
1/2	TN	209.70	2.31	90.00	14.75
1/2	TN	209.70	2.31	90.00	15.10
1/2	TN	209.70	2.31	90.00	15.45
1/2	TN	209.70	2.31	90.00	15.80
TOTALS		959.50	4861.59		
SPLITTING FACTOR		4.21			
FINENESS MODULUS		4.61			
% COBBLES	0.0	% PEBBLES	34.21	% GRANULES	9.54
				% SAND	54.88
				% SILT/CLAY	1.37

INDUSTRIAL USAGE ASSESSMENT

021080 01517W28NERL002A

***** * NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS * *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	30.76	NOT SUIT					
ASPHALT B (P. OF M.)	20.76	MARGINAL	YES	YES	YES		
ASPHALT C (P. OF M.)	64.68	NOT SUIT					
BASE COURSE A (P. OF M.)	36.76	NOT SUIT					
BASE COURSE B (P. OF M.)	11.90	MARGINAL	YES	YES			
BASE COURSE C (P. OF M.)	2.57	MARGINAL	YES	YES			
SUB-BASE BASE COURSE A (ASTM D1241)	47.91	NOT SUIT					
SUB-BASE BASE COURSE B (ASTM D1241)	37.91	NOT SUIT					
SUB-BASE BASE SURFACE COURSE C (ASTM D1241)	39.64	NOT SUIT					
SUB-BASE BASE SURFACE COURSE D (ASTM D1241)	25.33	MARGINAL	YES	YES			
SUB-BASE BASE SURFACE COURSE E (ASTM D1241)	18.33	MARGINAL	YES	YES			
SUB-BASE BASE SURFACE COURSE F (ASTM D1241)	30.33	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	53.10	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	33.10	NOT SUIT					
TRAFFIC GRAVEL C (P. OF M.)	20.46	MARGINAL	YES		YES		
TRAFFIC GRAVEL D (P. OF M.)	6.30	MARGINAL	YES		YES		
SEAL COAT A (P. OF M.)	105.01	NOT SUIT					
SEAL COAT B (P. OF M.)	16.59	MARGINAL	YES		YES		
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	196.74	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	182.43	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	177.72	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	165.76	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	123.39	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	179.76	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	128.41	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	180.61	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	191.20	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	152.43	NOT SUIT					
COARSE AGGREGATE 11 (ASTM C33, D448)	175.79	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	160.06	NOT SUIT					
COARSE AGGREGATE 13 (ASTM C33, D448)	178.71	NOT SUIT					
COARSE AGGREGATE 14 (ASTM C33, D448)	148.51	NOT SUIT					
COARSE AGGREGATE 15 (ASTM C33, D448)	179.18	NOT SUIT					
COARSE AGGREGATE 16 (ASTM C33, D448)	179.72	NOT SUIT					
COARSE AGGREGATE 17 (ASTM C33, D448)	169.29	NOT SUIT					
COARSE AGGREGATE 18 (ASTM C33, D448)	91.98	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	8.30	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	16.89	MARGINAL	YES				
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	11.74	MARGINAL	YES				
MORTAR (ASTM C144)	31.23	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	16.63	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	120.01	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	15.54	MARGINAL	YES		YES		
SEPTIC FIELDS (U.M.A.)	19.26	SUITABLE	YES		YES		
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021080 01517W34SEHG293A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 957.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 757.10 AFTER 644.60 % LOSS 14.86

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	280.20	11.54	100.00	100.00	0.0
1/4 IN	280.20	11.54	100.00	100.00	0.0
1/8 IN	77.80	98.20	100.00	100.00	0.0
1/16 IN	64.00	80.25	100.00	100.00	0.0
1/32 IN	54.00	69.00	100.00	100.00	0.0
1/64 IN	67.00	62.00	100.00	100.00	0.0
1/128 IN	42.00	42.00	100.00	100.00	0.0
1/256 IN	29.00	29.00	100.00	100.00	0.0
1/512 IN	29.00	29.00	100.00	100.00	0.0
1/1024 IN	29.00	29.00	100.00	100.00	0.0
1/2048 IN	29.00	29.00	100.00	100.00	0.0
1/4096 IN	29.00	29.00	100.00	100.00	0.0
1/8192 IN	29.00	29.00	100.00	100.00	0.0
1/16384 IN	29.00	29.00	100.00	100.00	0.0
<200 + W	112.65	142.73	5.78	0.0	100.00
TOTALS	759.45	2471.17			
SPLITTING FACTOR	1.26				
FINENESS MODULUS	6.65				
% COBBLES	0.0	% PEBBLES	76.78	% GRANULES	5.05
				% SAND	12.39
				% SILT/CLAY	5.78

INDUSTRIAL USAGE ASSESSMENT

021080 01517W34SEHG293A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF H.)	12.10	MARGINAL	YES				YES
ASPHALT C (P. OF H.)	20.56	MARGINAL	YES				YES
BASE COURSE A (P. OF H.)	20.18	MARGINAL	YES				
BASE COURSE B (P. OF H.)	0.0	SUITABLE	YES				
BASE COURSE C (P. OF H.)	10.36	MARGINAL	YES				
BASE COURSE D (P. OF H.)	0.0	SUITABLE	YES				
SUB-BASE COURSE A (P. OF H.)	0.0	SUITABLE	YES				
SUB-BASE COURSE B (P. OF H.)	27.75	MARGINAL	YES				
SUB-BASE SURFACE COURSE C (ASTM D1241)	20.0	SUITABLE	YES				
SUB-BASE SURFACE COURSE D (ASTM D1241)	28.01	MARGINAL	YES				
SUB-BASE SURFACE COURSE E (ASTM D1241)	20.60	MARGINAL	YES				
SUB-BASE SURFACE COURSE F (ASTM D1241)	00.60	NOT SUIT					
TRAFFIC GRAVEL A (P. OF H.)	1.74	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF H.)	0.0	SUITABLE	YES				
TRAFFIC GRAVEL C (P. OF H.)	36.44	NOT SUIT					
TRAFFIC GRAVEL D (P. OF H.)	11.44	MARGINAL	YES				
SEAL COAT A (P. OF H.)	100.57	NOT SUIT					
SEAL COAT B (P. OF H.)	35.53	NOT SUIT					
SEAL COAT C (P. OF H.)	22.08	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	142.73	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	142.39	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	80.34	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	82.63	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	30.95	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	68.72	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	33.91	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	88.23	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	77.23	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	70.89	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	106.29	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	91.25	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	94.17	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	116.18	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	151.58	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	151.29	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	155.98	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	151.98	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	208.59	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (P. OF H. C33, C404)	202.59	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTH C33, C404)	202.77	NOT SUIT					
MORTAR (ASTM C144)	56.35	NOT SUIT					
POLYLAND CEMENT (P.C.A.)	56.05	NOT SUIT					
BALLAST RUNWAYS (ASTM D1863)	177.82	NOT SUIT					
ATF YIELD RUNWAYS (P. OF H.)	116.66	MARGINAL	YES				
SEPTIC FIELDS (U.M.A.)	0.0	SUITABLE	YES				
SHOULDERS (P. OF H.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021080 01517W34SERL003A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 7461.00 GMS. WASHED SAMPLE - WEIGHT BEFORE 1002.30 AFTER 969.00 % LOSS 3.32

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/4 IN		0.0	0.0	100.00	0.0
1/2 IN		173.10	1.98	98.02	1.98
1/4 IN		144.80	2.79	95.20	4.79
1/4 IN		559.20	9.76	85.05	11.85
1/8 IN		426.20	2.00	63.12	16.88
1/8 IN	23.60	175.68	1.05	82.20	17.75
1/8 IN	21.80	162.20	1.05	82.20	17.75
1/16 IN	62.00	461.52	9.27	76.04	13.95
1/16 IN	51.30	755.52	8.62	67.34	26.65
1/32 IN	158.00	381.87	13.42	49.61	50.39
1/32 IN	36.80	273.93	3.13	46.48	53.52
1/64 IN	124.20	924.53	10.55	35.94	64.06
1/64 IN	206.10	1534.10	17.50	18.43	81.57
1/128 IN	88.00	655.06	7.47	10.96	89.04
1/128 IN	55.60	413.88	4.72	6.23	93.77
1/256 IN	27.80	206.94	2.36	3.87	96.33
1/256 IN	3.10	23.08	0.26	3.61	96.39
<200 + N	9.20	68.48	0.78	2.83	97.17
<200 + N	33.30	247.88	2.63	0.0	100.00
TOTALS	1002.30	8764.28			
SPLITTING FACTOR	7.44				
FINENESS MODULUS	4.67				
% COBBLES	0.0	% PEBBLES	36.97	% GRANULES	16.55
				% SAND	43.66
				% SILT/CLAY	2.83

INDUSTRIAL USAGE ASSESSMENT

021080 01517W34SERL003A

***** * NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS * *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	6.17	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	54.26	NOT SUIT					
BASE COURSE A (P. OF M.)	10.65	MARGINAL	YES	YES	YES		
BASE COURSE B (P. OF M.)	4.53	MARGINAL	YES	YES	YES		
BASE COURSE C (P. OF M.)	1.11	MARGINAL	YES	YES	YES		
SUB-BASE/BASE COURSE A (ASTM D1241)	29.26	MARGINAL	YES	YES	YES		
SUB-BASE/BASE COURSE B (ASTM D1241)	45.20	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	45.20	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	47.49	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	40.49	MARGINAL	YES	YES	YES		
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	30.17	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL A (P. OF M.)	53.79	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	14.19	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL C (P. OF M.)	2.41	MARGINAL	YES	YES	YES		
TRAFFIC GRAVEL D (P. OF M.)	0.94	MARGINAL	YES	YES	YES		
SEAL COAT A (P. OF M.)	84.00	NOT SUIT					
SEAL COAT B (P. OF M.)	7.55	MARGINAL	YES	YES	YES		
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE I (ASTM C33, D648)	202.9	NOT SUIT					
COARSE AGGREGATE II (ASTM C33, D648)	190.21	NOT SUIT					
COARSE AGGREGATE III (ASTM C33, D648)	100.46	NOT SUIT					
COARSE AGGREGATE IV (ASTM C33, D648)	177.16	NOT SUIT					
COARSE AGGREGATE V (ASTM C33, D648)	129.26	NOT SUIT					
COARSE AGGREGATE VI (ASTM C33, D648)	125.29	NOT SUIT					
COARSE AGGREGATE VII (ASTM C33, D648)	125.29	NOT SUIT					
COARSE AGGREGATE VIII (ASTM C33, D648)	125.29	NOT SUIT					
COARSE AGGREGATE IX (ASTM C33, D648)	125.29	NOT SUIT					
COARSE AGGREGATE X (ASTM C33, D648)	125.29	NOT SUIT					
FINE CONCRETE AGGREGATE I (P. OF M.)	175.14	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	44.50	NOT SUIT					
FINE CONCRETE AGGREGATE III (ASTM C33, C404)	44.94	NOT SUIT					
MORTAR (ASTM C12)	16.03	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	0.63	MARGINAL	YES				
BUILT UP ROOFS (ASTM D1863)	134.03	NOT SUIT					
ATTFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES			YES	
SEPTIC FIELDS (U.M.A.)	19.39	MARGINAL	YES			YES	
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021080 01517W34SERL0038 181 -REVISIT

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 4910.30 GMS. WASHED SAMPLE - WEIGHT BEFORE 893.30 AFTER 866.70 % LOSS 2.98

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
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4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		90.20	1.76	98.24	1.76
3/4 IN		118.90	2.32	99.92	0.08
5/8 IN	10.50	57.72	1.14	94.79	5.21
1/2 IN	15.50	85.20	1.66	93.12	6.88
3/8 IN	18.00	98.94	1.93	91.19	8.81
1/4 IN	44.00	241.86	4.79	86.47	13.53
1/8 IN	27.00	148.41	2.98	83.57	6.43
1/16 IN	107.90	193.11	11.59	71.98	28.02
1/32 IN	31.70	174.25	15.90	69.50	24.42
1/64 IN	143.20	787.14	31.39	53.00	46.80
1/128 IN	291.00	1599.57	31.22	21.96	78.04
1/240 IN	92.80	510.10	9.56	11.99	88.01
1/480 IN	52.50	288.58	5.64	6.36	93.64
1/960 IN	23.10	126.98	2.48	3.68	96.12
1/1920 IN	2.60	14.29	0.20	3.60	96.40
<200 + W	6.90	37.97	0.74	2.86	97.14
<200 + W	26.60	146.21	2.86	0.0	100.00

TOTALS 893.30 5119.38

SPLITTING FACTOR 5.50

FINENESS MODULUS 3.72

% COBBLES 0.0 % PEBBLES 16.43 % GRANULES 14.99 % SAND 65.72 % SILT/CLAY 2.86

INDUSTRIAL USAGE ASSESSMENT

021080 01517W34SERL0038

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	41.20	NOT SUIT					YES
ASPHALT B (P. OF M.)	250.00	MARGINAL	YES				
BASE COURSE A (P. OF M.)	580.48	NOT SUIT					
BASE COURSE B (P. OF M.)	21.14	NOT SUIT					
BASE COURSE C (P. OF M.)	16.70	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE COURSE A (ASTM D1241)	83.24	NOT SUIT					
SUB-BASE/BASE COURSE B (ASTM D1241)	71.73	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	52.50	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	17.95	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	10.88	MARGINAL	YES	YES	YES	YES	
SUB-BASE/BASE SURFACE COURSE F (ASTM D1241)	22.88	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL A (P. OF M.)	65.74	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	45.74	NOT SUIT					
TRAFFIC GRAVEL D (P. OF M.)	34.67	NOT SUIT					
TRAFFIC GRAVEL E (P. OF M.)	15.07	MARGINAL	YES				
SEAL COAT A (P. OF M.)	106.98	NOT SUIT					
SEAL COAT B (P. OF M.)	19.74	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33,D448)	217.77	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	207.77	NOT SUIT					
COARSE AGGREGATE 33 (ASTM C33,D448)	215.90	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	203.22	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	171.79	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	212.20	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	167.53	NOT SUIT					
COARSE AGGREGATE 55 (ASTM C33,D448)	212.09	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	235.65	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	175.55	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	199.59	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	183.07	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	202.23	NOT SUIT					
COARSE AGGREGATE 73 (ASTM C33,D448)	169.23	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	199.69	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	181.23	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	133.06	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33,D448)	91.38	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	8.19	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	3.03	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	8.38	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	24.98	MARGINAL	YES				
MORTAR (ASTM C144)	9.86	MARGINAL	YES				
PORTLAND CEMENT (P.A.)	3.95	MARGINAL	YES				
BURFIELD ROOFS (ASTM D1863)	169.73	NOT SUIT					
DRIVE RIN (P. OF M.)	33.70	NOT SUIT					
SEPTIC FIELDS (U.M.A.)	8.57	MARGINAL	YES				
SHOULDERS (P. OF M.)	23.22	MARGINAL	YES				
	13.57	MARGINAL	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 5

SAMPLE IDENTIFICATION 021080 01617W02SBH-29A N BH 29

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3509.90 GMS. WASHED SAMPLE - WEIGHT BEFORE 1154.20 AFTER 1139.10 % LOSS 1.31

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1 1/2 IN		0.0	0.0	100.00	0.0
1 1/2 IN		203.00	5.09	94.91	5.09
1 1/2 IN		117.80	2.95	91.95	8.05
3/4 IN		156.30	3.92	86.03	11.97
5/8 IN	15.30	46.53	1.17	86.87	13.13
1/2 IN	19.30	58.69	1.47	85.39	14.61
3/8 IN	33.20	100.96	2.53	82.86	17.14
1/4 IN	82.80	251.79	6.32	76.55	23.45
1/4 IN	60.00	182.46	4.58	71.97	28.03
1/8 IN	184.80	561.97	14.10	57.88	42.12
10	68.50	208.31	5.22	52.65	47.35
15	184.90	562.28	14.16	38.55	61.45
30	300.00	912.29	22.88	15.67	84.33
40	66.60	202.53	5.08	10.59	89.41
50	43.20	131.47	3.29	7.29	92.71
80	61.90	188.24	4.72	2.57	97.43
100	6.40	19.46	0.49	2.08	97.92
200	12.20	37.10	0.93	1.15	98.85
<200 + W	15.10	45.92	1.15	0.0	100.00

TOTALS 1154.20 3987.00

SPLITTING FACTOR 3.04

FINENESS MODULUS 4.41

% COBBLES 0.0 % PEBBLES 28.03 % GRANULES 19.32 % SAND 51.50 % SILT/CLAY 1.15

INDUSTRIAL USAGE ASSESSMENT

021080 01617W02SBH-29A

NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	26.35	MARGINAL	YES	YES	YES	YES	YES
ASPHALT B (P. OF M.)	26.35	NOT SUIT	YES	YES	YES	YES	YES
BASE COURSE A (P. OF M.)	29.29	MARGINAL	YES	YES	YES	YES	
BASE COURSE B (P. OF M.)	29.29	MARGINAL	YES	YES	YES	YES	
SUB-BASE COURSE A (P. OF M.)	29.29	MARGINAL	YES	YES	YES	YES	
SUB-BASE COURSE B (ASTM D1241)	48.00	NOT SUIT					
SUB-BASE SURFACE COURSE A (ASTM D1241)	32.00	NOT SUIT					
SUB-BASE SURFACE COURSE B (ASTM D1241)	29.07	NOT SUIT					
SUB-BASE SURFACE COURSE C (ASTM D1241)	29.07	MARGINAL	YES	YES	YES	YES	
SUB-BASE SURFACE COURSE D (ASTM D1241)	29.07	MARGINAL	YES	YES	YES	YES	
SUB-BASE SURFACE COURSE E (ASTM D1241)	29.07	MARGINAL	YES	YES	YES	YES	
TRAFFIC GRAVEL A (P. OF M.)	50.26	NOT SUIT					
TRAFFIC GRAVEL B (P. OF M.)	13.39	MARGINAL	YES	YES	YES	YES	YES
TRAFFIC GRAVEL C (P. OF M.)	18.27	MARGINAL	YES	YES	YES	YES	
SEAL COAT A (P. OF M.)	9.40	NOT SUIT					
SEAL COAT B (P. OF M.)	14.28	MARGINAL	YES	YES	YES	YES	
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES	YES	YES	YES	
COARSE AGGREGATE 1 (ASTM C33, D448)	203.09	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	193.09	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	193.49	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	182.41	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	124.47	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	188.00	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	158.11	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	200.25	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	216.08	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	152.00	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	152.50	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	161.57	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	168.49	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	151.93	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	178.72	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	152.54	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	106.08	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	70.56	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	7.88	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE (P. OF M.)	7.82	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	29.07	MARGINAL	YES	YES	YES	YES	
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	39.12	NOT SUIT					
MORTAR (ASTM C1441)	14.58	MARGINAL	YES	YES	YES	YES	
PORTLAND CEMENT (P.C.A.)	10.44	MARGINAL	YES	YES	YES	YES	
BUILT-UP ROOFS (ASTM D1863)	152.43	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	11.64	MARGINAL	YES	YES	YES	YES	
PIT RUN (P. OF M.)	0.83	MARGINAL	YES	YES	YES	YES	
SEPTIC FIELDS (U.N.A.)	22.76	MARGINAL	YES	YES	YES	YES	
SHOULDERS (P. OF M.)	1.97	MARGINAL	YES	YES	YES	YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021080 01517W35SNBH-31A N BH 31

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 4234.50 GMS. WASHED SAMPLE - WEIGHT BEFORE 1498.20 AFTER 1463.90 % LOSS 2.29

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	0.0	0.0	0.0	100.00	0.0
3 1/2	0.0	0.0	0.0	100.00	0.0
3	0.0	0.0	0.0	100.00	0.0
2 1/2	0.0	0.0	0.0	100.00	0.0
2	0.0	0.0	0.0	100.00	0.0
1 1/2	0.0	0.0	0.0	100.00	0.0
1	0.0	0.0	0.0	100.00	0.0
5/8	62.90	220.60	2.39	29.51	70.49
1/2	68.10	124.20	2.47	23.15	76.85
3/8	82.30	204.40	2.66	24.08	75.92
1/4	166.00	245.30	4.90	24.10	75.89
#4	85.50	232.61	2.63	22.20	77.80
#8	300.30	469.18	2.53	20.87	79.13
#10	99.10	241.80	2.49	19.96	80.04
#16	200.00	565.28	1.24	24.40	75.60
#30	70.90	683.42	1.59	10.81	89.19
#40	38.90	200.39	3.98	6.83	93.17
#50	27.20	109.95	2.19	4.64	95.36
#80	15.40	76.88	1.53	3.11	96.89
#100	15.70	15.26	0.30	2.81	97.19
<200 + W	34.30	44.37	0.88	1.93	98.07
		96.95	1.93	0.0	100.00

TOTALS 1498.20 5029.98

SPLITTING FACTOR 2.83

FINENESS MODULUS 5.09

% COBBLES 0.0 % PEBBLES 41.92 % GRANULES 22.44 % SAND 33.71 % SILT/CLAY 1.93

INDUSTRIAL USAGE ASSESSMENT

021080 01517W35SNBH-31A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	6.89	MARGINAL	YES				
ASPHALT B (P. OF M.)	60.90	NOT SUIT					
BASE COURSE A (P. OF M.)	12.60	MARGINAL	YES				
BASE COURSE B (P. OF M.)	9.60	MARGINAL	YES				
BASE COURSE C (P. OF M.)	1.98	MARGINAL	YES				
SUB-BASE COURSE A (P. OF M.)	1.11	MARGINAL	YES				
SUB-BASE COURSE B (P. OF M.)	12.10	MARGINAL	YES				
SUB-BASE SURFACE COURSE C (ASTM D1241)	10.37	MARGINAL	YES				
SUB-BASE SURFACE COURSE D (ASTM D1241)	23.17	MARGINAL	YES				
SUB-BASE SURFACE COURSE E (ASTM D1241)	16.17	MARGINAL	YES				
SUB-BASE SURFACE COURSE F (ASTM D1241)	47.97	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	17.85	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	8.86	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	2.83	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	6.00	SUITABLE	YES				
SEAL COAT A (P. OF M.)	69.80	NOT SUIT					
SEAL COAT B (P. OF M.)	5.60	MARGINAL	YES				
SEAL COAT C (P. OF M.)	5.00	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	198.26	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	183.87	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	180.08	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33, D448)	169.98	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33, D448)	119.91	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33, D448)	182.74	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	120.32	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	181.44	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	183.79	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	115.14	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	158.65	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	123.66	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	116.05	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	114.99	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	118.97	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	117.50	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	68.99	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	40.99	NOT SUIT					
COARSE AGGREGATE 19 (ASTM C33, D448)	122.32	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE I (P. OF M. - 33, C404)	229.39	MARGINAL	YES				
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	66.39	NOT SUIT					
PORTLAND CEMENT C34 (C.A.)	262.52	MARGINAL	YES				
BUILT UP ROOFS (P. OF M.)	116.64	NOT SUIT					
ATRFIELD RUNWAYS (P. OF M.)	100.00	SUITABLE	YES				
PIT RUN (P. OF M.)	100.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	20.38	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021080 01517W26SWBH-32A N BH 32

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 2908.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 880.20 AFTER 820.90 % LOSS 6.74

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	0.0	0.0	100.00	0.0
1/2	IN	42.3	10.00	89.10	10.90
1/4	IN	29.9	7.00	82.25	17.75
1/8	IN	29.9	7.00	77.18	22.82
1/16	IN	29.9	7.00	73.08	26.92
1/32	IN	29.9	7.00	69.98	30.02
1/64	IN	29.9	7.00	67.88	32.12
1/128	IN	29.9	7.00	64.78	35.22
1/256	IN	29.9	7.00	61.68	38.32
1/512	IN	29.9	7.00	58.58	41.42
1/1024	IN	29.9	7.00	55.48	44.52
1/2048	IN	29.9	7.00	52.38	47.62
1/4096	IN	29.9	7.00	49.28	50.72
1/8192	IN	29.9	7.00	46.18	53.82
1/16384	IN	29.9	7.00	43.08	56.92
1/32768	IN	29.9	7.00	40.98	59.02
1/65536	IN	29.9	7.00	37.88	62.12
1/131072	IN	29.9	7.00	34.78	65.22
1/262144	IN	29.9	7.00	31.68	68.32
1/524288	IN	29.9	7.00	28.58	71.42
1/1048576	IN	29.9	7.00	25.48	74.52
1/2097152	IN	29.9	7.00	22.38	77.62
1/4194304	IN	29.9	7.00	19.28	80.72
1/8388608	IN	29.9	7.00	16.18	83.82
1/16777216	IN	29.9	7.00	13.08	86.92
1/33554432	IN	29.9	7.00	10.98	89.02
1/67108864	IN	29.9	7.00	7.88	92.12
1/134217728	IN	29.9	7.00	4.78	95.22
1/268435456	IN	29.9	7.00	1.68	98.32
1/536870912	IN	29.9	7.00	0.58	100.00
TOTALS		881.27	3886.44		
SPLITTING FACTOR		3.30			
FINENESS MODULUS		5.37			
% COBBLES	0.0		% PEBBLES	52.51	
			% GRANULES	16.44	
			% SAND	26.00	
			% SILT/CLAY	5.05	

INDUSTRIAL USAGE ASSESSMENT

021080 01517W26SWBH-32A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	0.21	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	44.40	NOT SUIT					
BASE COURSE A (P. OF M.)	1.47	MARGINAL	YES				
BASE COURSE B (P. OF M.)	2.56	MARGINAL	YES		YES		
BASE COURSE C (P. OF M.)	0.00	SUITABLE					
SUB-BASE/BASE COURSE A (ASTM D1241)	0.00	SUITABLE					
SUB-BASE/BASE COURSE B (ASTM D1241)	1.92	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	1.42	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	15.22	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	8.40	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	47.05	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	4.65	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	1.26	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	1.23	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	30.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	72.66	NOT SUIT					
SEAL COAT B (P. OF M.)	6.42	MARGINAL	YES				
SEAL COAT C (P. OF M.)	3.57	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33,D448)	185.07	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33,D448)	178.07	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33,D448)	153.75	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33,D448)	151.47	NOT SUIT					
COARSE AGGREGATE 357 (ASTM C33,D448)	94.87	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33,D448)	148.14	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33,D448)	88.98	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33,D448)	162.75	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33,D448)	156.05	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33,D448)	100.09	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33,D448)	145.47	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33,D448)	111.29	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33,D448)	105.60	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33,D448)	108.65	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33,D448)	115.59	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33,D448)	120.70	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33,D448)	80.17	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33,D448)	70.91	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33,D448)	15.11	MARGINAL	YES				
FINE CONCRETE AGGREGATE (P. OF M.)	28.77	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	61.14	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	44.43	NOT SUIT					
MORTAR (ASTM C1441)	22.59	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	39.14	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	103.15	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	14.09	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE				YES	

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021081 01517W35SERL024A NO20

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 6038.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 1122.10 AFTER 1097.30 % LOSS 2.21

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	0.0	0.0	0.0	100.00	0.0
1/2 IN	2190.80	16.85	83.15	16.85	
1/2 IN	2071.90	15.93	67.22	32.78	
1/2 IN	884.40	6.80	60.42	39.58	
1/2 IN	1152.50	5.86	51.55	48.45	
5/8 IN	664.60	5.11	46.44	53.56	
5/8 IN	470.79	2.85	43.59	56.41	
5/8 IN	477.78	2.91	40.68	59.32	
5/8 IN	479.40	2.92	37.77	62.23	
1/4 IN	105.00	4.15	33.42	66.58	
1/4 IN	44.40	1.84	31.58	68.42	
1/8 IN	181.50	9.51	24.07	75.93	
1/16 IN	48.90	2.02	22.05	77.95	
1/32 IN	176.30	7.30	14.75	85.25	
1/64 IN	194.20	8.04	6.71	93.29	
1/128 IN	57.40	2.38	4.54	95.66	
1/256 IN	57.60	1.60	2.34	97.26	
1/512 IN	25.70	1.06	1.68	98.32	
1/1024 IN	4.10	0.17	1.51	98.49	
<200 + W	11.50	0.48	1.03	98.97	
<200 + W	24.80	1.03	0.0	100.00	

TOTALS 1122.10 13002.77

SPLITTING FACTOR 5.38

FINENESS MODULUS 6.74

% COBBLES 16.85 % PEBBLES 51.57 % GRANULES 9.54 % SAND 21.02 % SILT/CLAY 1.03

INDUSTRIAL USAGE ASSESSMENT

021081 01517W35SERL024A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	6.80	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.66	MARGINAL	YES				
ASPHALT C (P. OF M.)	59.84	NOT SUIT					
BASE COURSE A (P. OF M.)	11.45	MARGINAL	YES				
BASE COURSE B (P. OF M.)	10.12	MARGINAL	YES				
BASE COURSE C (P. OF M.)	2.47	MARGINAL	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	2.02	MARGINAL	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	12.02	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE C (ASTM D1241)	9.60	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE D (ASTM D1241)	22.60	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE E (ASTM D1241)	15.60	MARGINAL	YES				
SUB-BASE/BASE/SURFACE COURSE F (ASTM D1241)	48.57	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	16.93	MARGINAL	YES				
TRAFFIC GRAVEL B (P. OF M.)	6.45	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	6.50	MARGINAL	YES				
TRAFFIC GRAVEL D (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT A (P. OF M.)	82.01	NOT SUIT					
SEAL COAT B (P. OF M.)	7.63	MARGINAL	YES				
SEAL COAT C (P. OF M.)	0.0	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	110.03	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33, D448)	93.73	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	79.41	NOT SUIT					
COARSE AGGREGATE 45 (ASTM C33, D448)	102.98	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	56.31	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	127.60	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	75.00	NOT SUIT					
COARSE AGGREGATE 95 (ASTM C33, D448)	142.00	NOT SUIT					
COARSE AGGREGATE 95 (ASTM C33, D448)	104.00	NOT SUIT					
COARSE AGGREGATE 97 (ASTM C33, D448)	79.00	NOT SUIT					
COARSE AGGREGATE 97 (ASTM C33, D448)	139.00	NOT SUIT					
COARSE AGGREGATE 98 (ASTM C33, D448)	105.00	NOT SUIT					
COARSE AGGREGATE 98 (ASTM C33, D448)	102.00	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	122.00	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	125.00	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33, D448)	108.00	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	9.10	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (P. OF M.)	20.00	MARGINAL	YES				
FINE CONCRETE AGGREGATE I (ASTM C33, C404)	48.00	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C404)	52.00	NOT SUIT					
MORTAR (ASTM C144)	58.70	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	23.50	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	115.00	NOT SUIT					
AIRFIELD RUNWAYS (ASTM D1863)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	6.87	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.00	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021081 01517W25NWL026A NO22

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 5024.40 GMS. WASHED SAMPLE - WEIGHT BEFORE 795.30 AFTER 747.30 % LOSS 6.04

SIEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN	0.0	0.0	100.00	89.50	0.0
1/2 IN	890.40	10.50	89.50	89.50	10.50
1/2 IN	0.0	13.93	75.57	24.43	
1/2 IN	106.40	13.25	74.32	25.68	
1/2 IN	217.10	12.96	71.76	28.24	
1/2 IN	591.20	12.96	64.78	35.22	
1/2 IN	468.50	12.96	59.26	40.74	
1/2 IN	253.97	12.96	52.27	47.73	
1/2 IN	202.61	12.96	49.50	50.50	
1/2 IN	42.50	12.96	43.60	56.40	
1/2 IN	43.00	12.96	43.60	56.40	
1/2 IN	102.00	12.96	39.03	59.97	
1/2 IN	105.90	12.96	37.36	62.64	
1/2 IN	108.80	12.96	37.36	62.64	
1/2 IN	114.70	12.96	32.78	67.22	
1/2 IN	114.70	12.96	32.78	67.22	
1/2 IN	114.00	12.96	30.24	69.76	
1/2 IN	114.00	12.96	30.24	69.76	
1/2 IN	22.00	12.96	26.93	33.07	
1/2 IN	47.00	12.96	26.93	33.07	
1/2 IN	17.00	12.96	26.93	33.07	
1/2 IN	22.00	12.96	26.93	33.07	
<200 + M	48.01	303.29	3.58	0.08	100.00

TOTALS 795.41 8479.14

SPLITTING FACTOR 6.32

FINENESS MODULUS 6.31

% COBBLES 24.43 % PEBBLES 37.91 % GRANULES 12.88 % SAND 21.20 % SILT/CLAY 3.58

INDUSTRIAL USAGE ASSESSMENT

021081 01517W25NWL026A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <8200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	ADDITION OF FINES MATERIAL NOT ON SITE	(MATERIAL <84)
ASPHALT A (P. OF M.)	4.69	MARGINAL	YES				
ASPHALT B (P. OF M.)	0.0	SUITABLE	YES				
ASPHALT C (P. OF M.)	51.98	NOT SUIT					
BASE COURSE (P. OF M.)	9.61	MARGINAL	YES				
BASE COURSE (P. OF M.)	0.0	SUITABLE					
BASE COURSE (P. OF M.)	0.0	MARGINAL					
BASE COURSE (P. OF M.)	0.0	SUITABLE					
BASE COURSE (P. OF M.)	0.0	MARGINAL					
BASE COURSE (P. OF M.)	0.0	SUITABLE					
BASE COURSE (P. OF M.)	0.0	MARGINAL					
BASE COURSE (P. OF M.)	0.0	SUITABLE					
COARSE AGGREGATE (ASTM C33-D448)	125.47	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	127.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	128.63	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	164.04	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	104.32	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	162.32	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	195.84	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	159.00	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	151.39	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	97.39	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	145.41	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	111.29	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	101.57	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	109.35	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	111.76	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	114.99	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	69.97	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	58.85	NOT SUIT					
COARSE AGGREGATE (ASTM C33-D448)	46.41	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	24.81	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTM C33-C404)	72.02	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33-C404)	58.71	NOT SUIT					
MORTAR (ASTM C144)	222.46	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	48.84	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	109.85	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	12.59	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021081 01517W36NERL027A N BH 27

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - NONE

WEIGHT OF SAND 3374.20 GMS. WASHED SAMPLE - WEIGHT BEFORE 713.00 AFTER 694.60 % LOSS 2.58

SIEVE SIZE	FINE FRACTION (GMS.)	SIEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
7/16 IN		0.0	0.0	100.00	0.0
1/2 IN	7.00	674.60	10.70	89.30	10.70
5/8 IN	21.60	197.00	4.60	84.84	15.16
3/8 IN	26.80	309.10	4.77	76.07	23.93
1/4 IN	66.20	1022.32	4.45	75.32	24.68
#4	22.90	3133.28	7.06	73.02	26.98
#8	143.00	2034.02	15.26	58.82	41.90
#10	44.00	676.73	15.56	44.30	55.70
#16	21.60	2115.06	10.56	38.90	61.10
#30	126.20	4245.79	10.46	78.95	85.01
#50	24.00	597.23	13.46	10.38	89.62
#80	7.60	1204.24	4.61	7.61	92.39
#100	0.60	1233.06	4.17	3.69	95.51
<200 + H	18.40	223.06	0.83	1.96	97.04
TOTALS	713.00	4435.59		1.96	98.04
SPLITTING FACTOR	4.73				
FINENESS MODULUS	5.09				
% COBBLES	0.0	% PEBBLES	41.48	% GRANULES	20.02
				% SAND	36.54
				% SILT/CLAY	1.96

INDUSTRIAL USAGE ASSESSMENT

021081 01517W36NERL027A

***** NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *****

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <200 MATERIAL	CRUSHING MATERIAL ON SITE	REQUIRED MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <84)
ASPHALT A (P. OF M.)	10.51	MARGINAL	YES			YES	
ASPHALT B (P. OF M.)	51.93	MARGINAL	YES			YES	
ASPHALT C (P. OF M.)	54.19	NOT SUIT					
BASE COURSE A (P. OF M.)	13.70	MARGINAL	YES			YES	
BASE COURSE ABC (P. OF M.)	5.18	MARGINAL	YES			YES	
BASE COURSE BC (P. OF M.)	22.04	MARGINAL					
SUB-BASE/BASE COURSE A (ASTM D1241)	8.72	MARGINAL					
SUB-BASE/BASE COURSE B (ASTM D1241)	7.66	MARGINAL	YES			YES	
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	9.42	MARGINAL	YES			YES	
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	15.53	MARGINAL	YES			YES	
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	31.93	MARGINAL	YES			YES	
TRAFFICK GRAVEL A (P. OF M.)	33.25	NOT SUIT					
TRAFFICK GRAVEL B (P. OF M.)	10.34	MARGINAL	YES			YES	
TRAFFICK GRAVEL C (P. OF M.)	59.24	MARGINAL	SUITABLE				
SEAL COAT A (P. OF M.)	78.29	NOT SUIT					
SEAL COAT B (P. OF M.)	10.14	MARGINAL	YES			YES	
COARSE AGGREGATE #1 (ASTM C33, D448)	160.54	NOT SUIT					
COARSE AGGREGATE #2 (ASTM C33, D448)	172.32	NOT SUIT					
COARSE AGGREGATE #3 (ASTM C33, D448)	160.39	NOT SUIT					
COARSE AGGREGATE #4 (ASTM C33, D448)	159.85	NOT SUIT					
COARSE AGGREGATE #5 (ASTM C33, D448)	179.32	NOT SUIT					
COARSE AGGREGATE #6 (ASTM C33, D448)	162.51	NOT SUIT					
COARSE AGGREGATE #6 (ASTM C33, D448)	170.97	NOT SUIT					
COARSE AGGREGATE #7 (ASTM C33, D448)	172.23	NOT SUIT					
COARSE AGGREGATE #7 (ASTM C33, D448)	121.60	NOT SUIT					
COARSE AGGREGATE #8 (ASTM C33, D448)	121.30	NOT SUIT					
COARSE AGGREGATE #9 (ASTM C33, D448)	124.31	NOT SUIT					
COARSE AGGREGATE #10 (ASTM C33, D448)	124.85	NOT SUIT					
COARSE AGGREGATE #10 (ASTM C33, D448)	122.61	NOT SUIT					
COARSE AGGREGATE #78 (ASTM C33, D448)	130.02	NOT SUIT					
COARSE AGGREGATE #8 (ASTM C33, D448)	145.05	NOT SUIT					
COARSE AGGREGATE #89 (ASTM C33, D448)	140.47	NOT SUIT					
COARSE AGGREGATE #9 (ASTM C33, D448)	61.47	NOT SUIT					
COARSE AGGREGATE #10 (ASTM C33, D448)	9.18	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	16.03	MARGINAL					
FINE CONCRETE AGGREGATE I (ASTH C33, C404)	43.01	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTH C33, C404)	43.83	NOT SUIT					
MORTAR (ASTM C144)	21.07	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	18.01	MARGINAL	YES				
BUILT-UP ROOFS (ASTM D1863)	138.11	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.00	SUITABLE	YES				
PIT RUN (P. OF M.)	0.00	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	15.18	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021081 01617W01SEHG262A

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 2533.80 GMS. WASHED SAMPLE - WEIGHT BEFORE 800.60 AFTER 742.30 % LOSS 7.28

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
4 IN		0.0	0.0	100.00	0.0
3 1/2 IN		0.0	0.0	100.00	0.0
3 IN		0.0	0.0	100.00	0.0
2 1/2 IN		0.0	0.0	100.00	0.0
2 IN		276.30	7.94	92.06	7.94
1 1/2 IN		0.0	0.0	92.06	7.94
1 1/4 IN		370.80	10.65	81.41	18.59
3/4 IN		300.20	8.62	72.79	27.21
5/8 IN	55.30	175.02	5.03	67.76	32.24
1/2 IN	82.10	253.84	7.46	60.30	39.70
5/8 IN	107.00	338.64	9.73	50.57	49.43
1/2 IN	131.50	416.18	11.96	58.61	61.39
3/8 IN	114.30	361.75	10.39	51.31	78.69
10	23.00	172.79	2.09	19.22	80.78
16	47.50	150.33	4.32	14.90	85.10
30	37.50	118.68	4.21	11.49	88.51
50	14.50	128.89	4.32	10.17	89.83
50	13.10	41.46	1.19	1.08	91.02
80	15.50	48.42	1.39	4.59	92.41
100	4.50	14.87	0.43	7.16	92.84
200	20.50	24.88	0.86	5.30	94.70
<200 + W	58.30	184.51	5.30	0.0	100.00
TOTALS	800.60	3481.10			
SPLITTING FACTOR	3.16				
FINENESS MODULUS	5.89				
% COBBLES	0.0	% PEBBLES	68.30	% GRANULES	12.48
				% SAND	13.92
				% SILT/CLAY	5.30

INDUSTRIAL USAGE ASSESSMENT

021081 01617W01SEHG262A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	18.50	MARGINAL	YES				
ASPHALT B (P. OF M.)	15.57	MARGINAL	YES				
ASPHALT C (P. OF M.)	45.59	NOT SUIT					
BASE COURSE A (P. OF M.)	1.74	MARGINAL	YES		YES		
BASE COURSE B (P. OF M.)	8.64	MARGINAL	YES				
BASE COURSE C (P. OF M.)	0.0	SUITABLE	YES				
SUB-BASE/BASE COURSE A (ASTM D1241)	0.0	SUITABLE	YES				
SUB-BASE/BASE COURSE B (ASTM D1241)	3.95	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE C (ASTM D1241)	3.90	MARGINAL	YES				
SUB-BASE/BASE SURFACE COURSE D (ASTM D1241)	41.44	NOT SUIT					
SUB-BASE/BASE SURFACE COURSE E (ASTM D1241)	39.95	NOT SUIT					
SUB-BASE/SURFACE COURSE F (ASTM D1241)	81.44	NOT SUIT					
TRAFFIC GRAVEL A (P. OF M.)	2.10	MARGINAL	YES		YES		
TRAFFIC GRAVEL B (P. OF M.)	2.10	MARGINAL	YES				
TRAFFIC GRAVEL C (P. OF M.)	6.65	MARGINAL	YES				
SEAL COAT A (P. OF M.)	0.0	SUITABLE	YES				
SEAL COAT B (P. OF M.)	48.18	NOT SUIT					
SEAL COAT C (P. OF M.)	9.66	MARGINAL	YES				YES
SEAL COAT D (P. OF M.)	9.66	MARGINAL	YES				
COARSE AGGREGATE 1 (ASTM C33; D448)	189.17	NOT SUIT					
COARSE AGGREGATE 2 (ASTM C33; D448)	171.20	NOT SUIT					
COARSE AGGREGATE 3 (ASTM C33; D448)	154.45	NOT SUIT					
COARSE AGGREGATE 4 (ASTM C33; D448)	148.07	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33; D448)	79.65	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33; D448)	152.10	NOT SUIT					
COARSE AGGREGATE 4467 (ASTM C33; D448)	160.10	NOT SUIT					
COARSE AGGREGATE 4468 (ASTM C33; D448)	159.00	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33; D448)	150.00	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33; D448)	159.40	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33; D448)	109.00	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33; D448)	49.00	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33; D448)	99.00	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33; D448)	43.00	NOT SUIT					
COARSE AGGREGATE 99 (ASTM C33; D448)	69.16	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33; D448)	69.16	NOT SUIT					
FINE CONCRETE AGGREGATE (P. OF M.)	104.02	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTM C33; C404)	102.00	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33; C404)	60.00	NOT SUIT					
MORTAR (ASTM C144)	24.50	NOT SUIT					
PORTLAND CEMENT (P.C.A.)	80.00	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	66.00	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PTT RUN (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.M.A.)	9.06	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE	YES				YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4

SAMPLE IDENTIFICATION 021082 01517W25NERL073A N057

AVAILABILITY OF CRUSHABLE MATERIAL ON SITE - YES

WEIGHT OF SAND 3958.60 GMS. WASHED SAMPLE - WEIGHT BEFORE 1011.20 AFTER 994.10 % LOSS 1.69

STEVE SIZE	FINE FRACTION (GMS.)	STEVE WEIGHTS (GMS.)	PERCENT	PERCENT PASSING	PERCENT RETAINED
# 4	TN	0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		0.0	0.0	100.00	0.0
1/2 IN		246.00	4.77	95.23	4.77
3/4 IN		512.40	9.93	85.50	14.70
5/8 IN	80.00	418.20	8.11	77.19	22.81
5/8 IN	49.90	195.35	6.07	71.34	28.88
5/8 IN	80.40	314.75	3.79	67.34	32.66
5/8 IN	149.80	566.45	11.37	61.24	38.76
5/8 IN	61.90	242.35	4.70	49.87	50.13
5/8 IN	165.70	648.67	12.57	32.60	67.40
# 10	32.90	128.80	2.50	30.10	69.90
# 16	105.70	413.79	8.02	22.08	77.92
# 30	167.10	654.16	12.68	9.40	90.60
# 40	56.90	222.75	4.32	5.08	94.92
# 50	27.70	108.44	2.10	2.98	97.02
# 80	13.60	53.24	1.03	1.95	98.05
# 100	1.90	7.44	0.14	1.81	98.19
# 200	6.60	25.84	0.50	1.31	98.69
<200 + M	17.20	67.35	1.31	0.0	100.00

TOTALS 1017.30 5159.08

SPLITTING FACTOR 3.91

FINENESS MODULUS 5.52

% COBBLES 0.0 % PEBBLES 54.83 % GRANULES 15.07 % SAND 28.80 % SILT/CLAY 1.31

INDUSTRIAL USAGE ASSESSMENT

021082 01517W25NERL073A

* NOTE - SUITABILITY OF SAMPLE IS BASED ONLY ON GRADING SPECIFICATIONS *

INDUSTRIAL USE	TOTAL RESIDUAL	RATING	SCREENING REQUIRED	REMOVAL OF <#200 MATERIAL	CRUSHING REQUIRED MATERIAL ON SITE	MATERIAL NOT ON SITE	ADDITION OF FINES (MATERIAL <#4)
ASPHALT A (P. OF M.)	11.59	MARGINAL	YES	YES	YES		
ASPHALT A (P. OF M.)	62.65	MARGINAL	YES	YES			
ASPHALT COURSE A (P. OF M.)	12.15	MARGINAL	YES	YES			
ASPHALT COURSE A (P. OF M.)	12.25	MARGINAL	YES	YES			
ASPHALT COURSE A (P. OF M.)	12.99	MARGINAL	YES	YES			
ASPHALT COURSE A (P. OF M.)	12.94	MARGINAL	YES	YES			
SUB-BASE COURSE SURFACE D (ASTM D1241)	12.94	MARGINAL	YES	YES			
SUB-BASE COURSE SURFACE D (ASTM D1241)	12.94	MARGINAL	YES	YES			
SUB-BASE COURSE SURFACE D (ASTM D1241)	12.94	MARGINAL	YES	YES			
SUB-BASE COURSE SURFACE D (ASTM D1241)	12.94	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	9.42	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	9.42	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	9.42	MARGINAL	YES	YES			
TRAFFIC GRAVEL A (P. OF M.)	9.42	MARGINAL	YES	YES			
SEAL COAT A (P. OF M.)	62.92	NOT SUIT					
SEAL COAT B (P. OF M.)	62.92	SUITABLE	YES				
SEAL COAT C (P. OF M.)	62.92	SUITABLE	YES				
COARSE AGGREGATE 1 (ASTM C33, D448)	192.73	NOT SUIT					
COARSE AGGREGATE 12 (ASTM C33, D448)	192.73	NOT SUIT					
COARSE AGGREGATE 24 (ASTM C33, D448)	162.07	NOT SUIT					
COARSE AGGREGATE 35 (ASTM C33, D448)	162.17	NOT SUIT					
COARSE AGGREGATE 457 (ASTM C33, D448)	92.11	NOT SUIT					
COARSE AGGREGATE 46 (ASTM C33, D448)	149.03	NOT SUIT					
COARSE AGGREGATE 467 (ASTM C33, D448)	78.91	NOT SUIT					
COARSE AGGREGATE 5 (ASTM C33, D448)	146.87	NOT SUIT					
COARSE AGGREGATE 56 (ASTM C33, D448)	134.30	NOT SUIT					
COARSE AGGREGATE 57 (ASTM C33, D448)	83.17	NOT SUIT					
COARSE AGGREGATE 6 (ASTM C33, D448)	129.22	NOT SUIT					
COARSE AGGREGATE 67 (ASTM C33, D448)	93.49	NOT SUIT					
COARSE AGGREGATE 68 (ASTM C33, D448)	84.38	NOT SUIT					
COARSE AGGREGATE 7 (ASTM C33, D448)	93.53	NOT SUIT					
COARSE AGGREGATE 78 (ASTM C33, D448)	97.14	NOT SUIT					
COARSE AGGREGATE 8 (ASTM C33, D448)	104.23	NOT SUIT					
COARSE AGGREGATE 89 (ASTM C33, D448)	54.23	NOT SUIT					
COARSE AGGREGATE 9 (ASTM C33, D448)	51.66	NOT SUIT					
COARSE AGGREGATE 10 (ASTM C33, D448)	19.42	MARGINAL	YES				YES
FINE CONCRETE AGGREGATE (P. OF M.)	35.30	NOT SUIT					
FINE CONCRETE AGGREGATE I (ASTM C33, C604)	76.72	NOT SUIT					
FINE CONCRETE AGGREGATE II (ASTM C33, C604)	56.54	NOT SUIT					
MORTAR (ASTM C144)	22.83	MARGINAL	YES				
PORTLAND CEMENT (P.C.A.)	51.73	NOT SUIT					
BUILT-UP ROOFS (ASTM D1863)	94.03	NOT SUIT					
AIRFIELD RUNWAYS (P. OF M.)	0.0	SUITABLE	YES				
PIT RUNNERS (P. OF M.)	0.0	SUITABLE	YES				
SEPTIC FIELDS (U.H.A.)	11.06	MARGINAL	YES				
SHOULDERS (P. OF M.)	0.0	SUITABLE					YES

OVERALL SAMPLE RATING (SCALE 1 - 9) IS 4