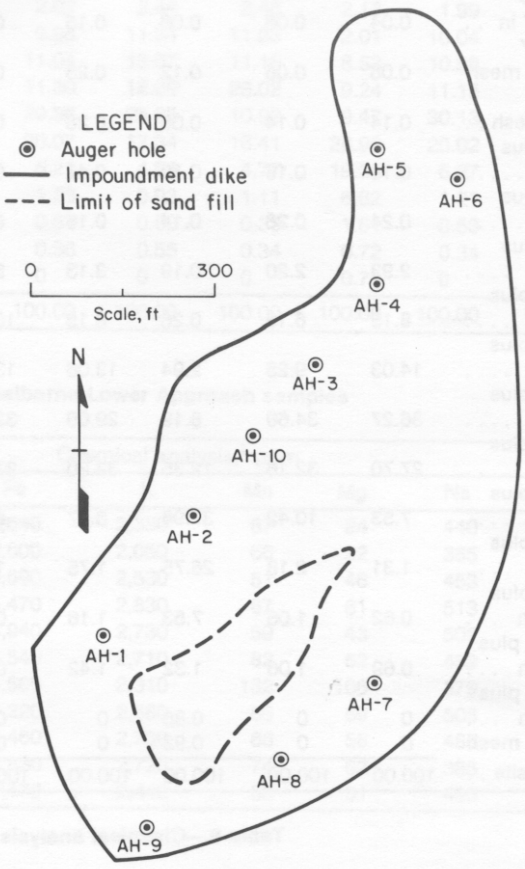
SUNFLOWER

The Sunflower site is located at mile 78 on the Tombigbee River in sec. 20, T. 5N., R. 2E., Clarke County, AL. The site lies approximately 400 ft from the edge of the river and covers approximately 80 acres. The site presently contains approximately 835,610 yd³ of material and it is estimated that an additional 85,000 yd³ will be added to the disposal area each year. Heavy minerals identified, in decreasing order of occurrence, include zircon, ilmenite, rutile, kyanite, hematite, tourmaline, and garnet. Figure 6 shows the approximate location and depth of each sample hole. The material consists of 4.37 pct coarse aggregate, 94.66 pct fine aggregate, 0.97 pct undersize, and contains 0.45 pct heavy minerals. Table 10 gives the screen analysis of each sample. Table 11 gives the chemical analysis for the minor impurities present in the sample. Table 12 gives the results of the TCLP for a composite sample from the site.

Figure 6



Sample locations in Sunflower test site.

Table 10.—Screen analysis of Sunflower samples

Size	Hole 1	Hole 2	Hole 3	Hole 4	Hole 5 0-5 ft	Hole 5 5-10 ft	Hole 5 10-15 ft	Hole 5 15-20 ft	Hole 6	Hole 7	Hole 8	Hole 9	Hole 10
Plus 1.0 in	0	0	0	0	0	0	0	0	0	0	0.62	0	0
Minus 1.0 plus 0.75 in	0	0.22	0.61	0	0	0	0	0	0	0	0.31	0.12	0.32
Minus 0.75 plus 0.50 in	0.81	0.50	1.78	0.04	0.49	0.54	0.26	0	0.15	0.88	0.64	1.52	1.28
Minus 0.50 plus 0.37 in	1.34	0.64	2.34	0.38	0.82	0.90	0.84	0.56	0.32	1.74	0.59	1.33	1.54
Minus 0.37 in plus 3 mesh . .	1.62	0.82	2.35	0.58	0.70	0.87	1.63	1.15	0.60	2.43	0.84	1.80	1.61
Minus 3 plus 4 mesh	1.42	0.66	1.63	0.55	0.97	0.74	1.51	0.89	0.74	2.61	0.66	1.62	1.35
Minus 4 plus 6 mesh	1.36	0.76	1.41	0.61	1.06	0.50	1.82	1.12	0.76	2.49	0.64	1.60	1.19
Minus 6 plus 8 mesh	1.13	0.60	1.18	0.62	0.75	0.47	1.92	1.08	0.57	2.15	0.55	1.22	1.11
Minus 8 plus 10 mesh	0.85	0.43	0.94	0.46	0.40	0.25	1.60	0.89	0.47	1.49	0.44	0.74	0.89
Minus 10 plus 14 mesh	0.76	0.45	0.94	0.52	0.28	0.19	1.52	1.00	0.41	1.31	0.48	0.77	0.93
Minus 14 plus 20 mesh	4.41	3.32	4.02	3.04	1.73	1.74	8.80	6.21	2.18	5.80	2.63	3.08	3.88
Minus 20 plus 28 mesh	6.52	5.17	4.35	4.59	2.60	2.80	14.94	12.12	4.00	6.72	4.97	5.43	7.29
Minus 28 plus 35 mesh	10.24	12.52	9.27	9.65	4.81	4.23	14.29	21.77	7.48	7.11	11.22	10.47	10.28
Minus 35 plus 48 mesh	23.84	32.59	35.38	26.19	28.74	25.19	24.17	16.35	28.55	34.26	45.10	39.72	38.18
Minus 48 plus 65 mesh	25.03	27.53	21.70	33.07	38.50	40.86	16.33	22.88	33.15	18.78	18.61	17.98	17.36
Minus 65 plus 100 mesh . . .	14.93	10.44	8.48	14.10	13.07	14.71	6.95	10.59	14.64	8.15	8.18	8.38	8.70
Minus 100 plus 150 mesh . . .	3.29	2.18	1.98	3.24	2.86	3.69	1.64	2.03	3.35	2.00	1.82	2.14	2.10
Minus 150 plus 200 mesh . . .	1.26	0.69	0.79	1.21	1.24	1.25	0.84	0.68	1.38	1.08	0.79	1.04	0.94
Minus 200 mesh	1.19	0.48	0.85	1.15	0.98	1.07	0.94	0.68	1.25	1.00	0.91	1.04	1.05
Composite . .	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table 11.—Chemical analysis of minor elements in Sunflower samples

Hole	Depth, ft	Chemical analysis,[1] ppm Al	Ca	Fe	K	Mn	Mg	Na	Ti
1	0-24	1,550	<35	3,540	1,250	55	<22	216	611
2	0-23	1,350	<34	3,100	877	54	<22	127	484
3	0-21	1,340	<34	3,160	721	51	<22	171	469
4	0-23	1,900	<44	3,570	1,270	62	<22	207	733
5	0- 5	1,910	41	3,750	1,200	67	<22	314	776
5	5-10	2,190	66	3,930	1,620	60	<22	301	771
5	10-15	1,490	<35	3,380	879	59	<22	203	479
5	15-20	1,290	<34	3,180	989	48	<22	202	464
6	0-19	1,950	<34	3,370	1,310	49	<22	167	505
7	0-22	1,720	<34	3,220	811	48	<22	65	499
8	0-21	1,360	<35	3,230	844	53	<22	69	534
9	0-22	1,970	59	3,430	1,120	59	25	187	503
10	0-22	1,760	<35	3,290	1,060	50	<22	132	507

[1] <0.02 ppm Hg for all holes.

Table 12.—TCLP results for Sunflower test site

Contaminant	*Conc, ppm*	*Contaminant*	*Conc, ppm*
Ag	<0.014	Cr	<0.037
As	0.556	Hg	<0.001
Ba	0.262	Pb	0.332
Cd	<0.005	Se	<0.300