

# KILBORN

020474

DESIGN CALCULATION NO.

AREA	SECT.	NO.
820	03	-

CLIENT CURRAGH RESOURCESSHEET No 51 OF     PROJECT FARO MINEPROJ. No. 3509DATE MAR 7/86 BY EIJAREA WATER DAM RAISINGDIV. No. 16CHECKED     SUBJECT QUANTITY ESTIMATEREF. DWG. No.     EXISTING DAM.

<u>CORE</u>	<u>MINE WASTE ROCK</u>	<u>TRAN. FILTER</u>	<u>FILTER</u>	<u>RIPP RAP</u>
<u>ZONE 1</u>	<u>ZONE 4</u>	<u>ZONE 5</u>	<u>ZONE 6</u>	<u>ZONE 7</u>
<u>32,450</u>	<u>155,270</u>	<u>7,305</u>	<u>12,930</u>	<u>17,045</u>

SPILLWAY EXCAVATION = 12,000 M<sup>3</sup>

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AREA	SECT.	NO.
820	03	-

CLIENT CURRAN RESOURCES  
 PROJECT FARO MINE  
 AREA WATER DAM  
 SUBJECT FILL QUANTITIES

SHEET No. 1 OF \_\_\_\_\_  
 DATE \_\_\_\_\_ BY E/J  
 CHECKED \_\_\_\_\_

PROJ. No. 3509  
 DIV. No. 16  
 REF. DWG. No. \_\_\_\_\_

REQUIRED: DETERMINE VOLUME OF EARTH FILL FOR WATER DAM FOR VARIOUS TYPES OF FILL

SPLIT INTO "MAIN SECTION DAM" - RAMP - SPILLWAY FILL  
 PERIMETER 0.064 = 10,000 ft

## TOTAL FILL

CONTOUR ft	AREA ft <sup>2</sup>	AVG. AREA ft <sup>2</sup>	HEIGHT ft	VOLUME ft <sup>3</sup>	Σ VOLUME ft <sup>3</sup>	Σ VOLUME yds <sup>3</sup>	MA <sup>3</sup>
3540	.020	3125	5	35,156	35,156	1,302	995
3545	.070	10,937					
3550	.165	25,781	5	91,795	126,695	4,702	3,595
3555	.201	31,406					
3560	.320	50,000	5	275,390	748,568	27,725	21,196
3565	.385	60,156					
3570	.460	71,875	5	375,000	1,453,645	53,839	41,161
3575	.500	78,125					
3577	.528	82,500	2	160,625	1,614,270	59,788	45,709
3577	.300	46,875	3	146,484	1,760,754	65,213	49,857
3580	.325	50,781					
3585	.385	60,156	5	277,568	2,038,322	75,493	57,717
3590	.432	67,500					
			5	319,190	2,357,462	87,313	66,753

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AREA	SECT.	NO.
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CLIENT CUTBURN RESOURCES  
 PROJECT FARO MINE  
 AREA WATER DAM  
 SUBJECT QUANTITIES

SHEET No. 2 OF \_\_\_\_\_  
 PROJ. No. 3509 DATE \_\_\_\_\_ BY EIT  
 DIV. No. 16 CHECKED \_\_\_\_\_  
 REF. DWG. No. \_\_\_\_\_

CONTOUR ft	AREA ft <sup>2</sup>	AVG. AREA ft <sup>2</sup>	HEIGHT ft	VOLUME ft <sup>3</sup>	Σ VOLUME ft <sup>3</sup>	yd <sup>3</sup>	m <sup>3</sup>	
(Cont'd)					2,357,462	87,313	66,753	
3590 (.432)	67,500	72,422	5	362,109	2,719,571	100,725	77,007	
3595 (.495)	77,399		5	408,204	3,127,775	115,844	88,565	
3600 (.550)	85,937		5	464,843	3,592,618	133,060	101,728	
3605 (.640)	100,000		5	578,125	4,170,743	154,472	118,098	
3610 (.840)	131,280		5	608,669	4,779,412	177,015	135,333	
3615 (.718)	112,188		5	512,892	5,292,304	196,011	149,856	
3620 (.595)	92,969		5	398,438	5,690,742	210,768	161,138	
3625 (.425)	66,406		5	267,578	5,958,320	220,678	168,714	
3630 (.260)	40,625		3	99,922	6,053,242	224,194	171,402	
3633 (.195)	22,686							
3590 (.010)	1,562		4,297	5	21,483	21,483	796	608
3595 (.045)	7,031			5	78,124	99,607	3,689	2,820
3600 (.155)	24,219			5	166,016	265,623	9,838	7,521
3605 (.270)	42,187	5		212,889	478,512	17,723	13,549	
3610 (.275)	42,969	35,156		5	175,780	654,292	24,233	18,527
3610 (.250)	39,062			5				
3615 (.200)	31,250			5				

MIN  
FILL

EXTRA  
FILL  
SECTION

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820	03	-

CLIENT CURRAGA RESOURCES  
 PROJECT FARO MINE  
 AREA WATER DAM  
 SUBJECT QUANTITIES

SHEET No 3 OF \_\_\_\_\_  
 PROJ. No. 3509 DATE \_\_\_\_\_ BY EIT  
 DIV. No. 16 CHECKED \_\_\_\_\_  
 REF. DWG. No. \_\_\_\_\_

CONTOUR ft	AREA ft <sup>2</sup>	AUG. AREA ft <sup>2</sup>	HEIGHT ft	VOLUME ft <sup>3</sup>	ft <sup>3</sup>	Σ VOLUME yds <sup>3</sup> m <sup>3</sup>	
					654,292	29,233	18,527
3615 (.200)	31,250	27,734	5	138,672	792,964	29,369	22,453
3620 (.155)	24,219						
3625 (.115)	17,969						
3630 (.070)	10,938						
3633 (.045)	7,031						
						+ 224,194	171,902
TOTAL EMBANKMENT						261,144	199,651
3580 (0)	0	1,582	10	15,625	15,625	578	442
3590 (.020)	3,125						
3600 (.040)	14,062						
3605 (.105)	16,906						
3610 (.070)	10,938						
3633 (0)	0						
TOTAL FILL						274,917	210,181
CREST EXCAVATION 460ft <sup>2</sup> x 1000ft						17,037	13,025
						291,954	223,206
						<u>295,000 yds<sup>3</sup></u>	<u>225,000 m<sup>3</sup></u>

ZAMP

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CLIENT CURRAGA RESOURCES  
 PROJECT FARO MINE  
 AREA WATER DAM  
 SUBJECT FILL QUANTITIES

SHEET No. 4 OF         
 DATE        BY         
 DIV. No. 16 CHECKED         
 REF. DWG. No.       

## TOTAL FILL

<u>yds<sup>3</sup></u>	<u>m<sup>3</sup></u>
295,000	225,000

### LESS ZONE 6

- AREA COVERED ON

EXISTING DAM TO EVEN. 3600

$$\text{Planimeter } \left( \frac{0.615 + 0.020}{0.004} \right) \times 10,000 \times 3 \text{ ft thick} = 297,656 \text{ ft}^3$$

$$\equiv 11,024 \text{ yds}^3$$

+ slope section

$$\left( 40' \times 3' \times 1100' \right) + \left( \frac{450 \times 40' \times 3'}{2} \right) = \frac{159,000}{450,656 \text{ ft}^3}$$

}	-16,900	-12,930
	<u>BALANCE</u> 278,100    212,070	

### LESS ZONE 5

$$70' \times 3' \times 1100' + \frac{450' \times 40' \times 3'}{2} = 258,000 \text{ ft}^3$$

}	-9,555	7,305
	<u>BALANCE</u> 268,545    204,765	

### LESS ZONE 1

$$\left( \frac{18+42}{2} \times 23 \right) + \left( \frac{32+18}{2} \times 7 \right) \times \left( \frac{1100 + 450}{2} \right) = 1,146,125 \text{ ft}^3$$

$$(690 + 175) \times 1325 = 1,146,125 \text{ ft}^3$$

}	-42,449	32,453
	<u>BALANCE</u> 226,096    172,312	

### LESS ZONE 7

RAMP 13,773 yds<sup>3</sup>

U/S RAMP

$$(70' \times 2') \times \left( \frac{1000 + 450}{2} \right) = 171,500 \text{ ft}^3$$

$$\equiv 6,352 \text{ yds}^3$$

D/S SPILLWAY

$$225' \times 20' \times 13' = 58,500 \text{ ft}^3$$

$$2,167 \text{ yds}^3$$

}	22,292	17,093
	<u>BALANCE</u> 203,804    155,219	