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Engineer's Report

KING TUTT MINING LEASE

EAST CARRIZO DISTRICT

for

Walter Duncan Mining Company

By

Fred C. Hohne

INTRODUCTION:

This report concerns property controlled by Walter Duncan in the East Carrizo District in the Four-Corners area. The ore bodies were drilled by the Atomic Energy Commission. From this drilling program enough information is available to carry on a profitable mining operation. There are four ore bodies which are of sufficient grade and tonnage to mine. Two of these however are more suited to large operations than the others. These two shall be referred to in this report as ore bodies C and D.

All values for calculating cost on drifting, inclining, and stoping have been purposely increased. These costs are as follows:

Inclining	$20/ft.
Stoping	$15/ton
Drifting	$15/ft.

With an efficient operation these costs can be cut 25%.

Two plans will be submitted. One for ore bodies D & E and one for ore bodies B & C, and suggestions as to what to do with the remaining ore. The profit from each plan will be shown. The number of miners and the equipment required will be discussed. A plan will be given concerning roads and ore bins.

INTRODUCTION:

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With an efficient operation these costs can be cut 25%.

RECOMMENDATIONS:

Plan #1 Ore Bodies D & E

The first operation should be done with a bulldozer and ripper. A cat equivalent to a TD-18 or D-7 is sufficient. After going as deep as possible, clean off all waste and drill remaining sandstone to grade level.

The drift should be driven with a mucking machine or an HD-5. A mucking machine crew consists of one driller, one mucking machine helper, one mucking machine operator, and a trammer. An HD-5 crew should consist of two drillers and loader operator.

If an HD-5 is rented, three shifts would pay off on rental. Use two drillers side by side on each shift. Blast as soon as the round is drilled, turn air valves from compressor and have a 6,000 cu. ft. fan on suction. Smoke should clear in less than thirty minutes. HD-5 bucket holds over a ton so two rounds should be made each shift.

An HD-5 is faster than a mucking machine except when the tramming distance exceeds 250 feet. The size of the drift required for each compares favorably. The mucking machine requires a 6X 7-ft. drift and an HD-5 requires an 8 X 7-ft. or one ton more per running foot of drift.

For driving drifts or inclining the HD-5 is cheaper and faster than the mucking machine, but for mining it cannot compare to car and track with a mucking machine or slusher.

After reaching ore body D, mining ore and driving the haulage to ore body E should proceed simultaneously. If a large blower is available 2 crews should be used on each shift, but if smoke conditions are bad the crews should alternate between working places. The

PROPOSED MAIN HAULAGE.

The drift can be started after the stripping is complete. The depth of this stripping depends upon the tram grade desired. The most desirable grade is .5% or six inches in 100ft. with the load, which means the track will rise approximately 1.5 ft. from portal to ore in ore body D.

The lowest ore in ore body D is 5,495 ft., which means the portal will start on an elevation of 5,492 plus or minus two feet.

The most economical ore body to mine also the most valuable is ore body E. It has a good thickness, relatively small area, and a good grade. This ore body should be mined by driving the main haulage level below the ore, then drive raises from this level and stope out by slushing into mill holes or chutes. The elevation of the bottom of this ore is 5,503 ft. Therefore allowing for a rise of two feet for tram grade and drift height of seven feet, the suggested portal elevation is perfect for this ore body.

In ore body D the ore is not blocked out toward the rim from holes 472T, 472H, & 472C (See Map A). By this is meant that between these holes and the rim there are no blank holes. Therefore if the initial drift were driven toward one of these holes, ore may be found many feet closer to the rim. Since the stripping will begin on the west side of the drainage (Map A) the recommended holes to drive for are T or H, with the crosscut to ore body E taking off at pt.A (Map A), passing through holes 472C and 472M, both are ore holes. The closest known ore then in ore body E will be at hole 68N, but again this hole has not been blocked out in

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AIR AND WATER LINES

Diesel compressors are often placed underground, especially when all available outdoor space is needed for storage and work room. But where this problem is not acute, building a compressor house is much cheaper.

To begin the operation air and water lines will come in the portal and advance with the drift. However, when hole 472M is reached, it should be ulitized for an air line. This hole is ideally located to get air to both ore bodies.

The water tank should be placed as close to the compressor as possible. If a two inch pipe is used from the water tank down to the mine, gravity pressure should be sufficient to operate the hammers. However if there is not enough pressure a small air line with a pressure control gauge can be used.

COST FOR PLAN NO 1

(Mining Ore Bodies D & E)

Drifting $15/ft.	$ 5,250
Mining $15/ton	63,000
Xs. Haulage .01/per ton mile	2,000
Royalty	18,900
Equipment	24,500 27,00
Ore Bin	2,000
	$115,650 12,500 118,150

VALUE OF ORE

Ore Body D	$73,400
Ore Body E	56,000
Bonus	35,000
	$164,400

PROFIT

Value of Ore	$164,400
Operating Cost	118 150 ~~115,650~~
PROFIT	$ ~~48,750~~ 46.250

PLAN NO 2

Ore Bodies B & C

These two ore bodies are of sufficient size to make a profit, however they can not be worked from the haulage used in Plan 1. The tram distance would be over 800 ft. Ore bodies C & D should be joined for ventilation purposes if the drift could be driven on ore, or if the distance between does not exceed 40 ft.

From available information on ore reserves and estimates of mining costs, it can be seen that the company cannot make a profit of one-quarter of the gross value of the ore body; therefore it is recommended the ore bodies B & C be leased out after driving the incline.

The plans for driving the incline are shown on Map B. If an HD-5 is not rented the plan should not be altered up to and including Step 3. The rest of the incline should be driven with a slusher.

If the incline is driven with a slusher the cost will be approximately $2,400 as compared to $1,350 if driven with a cat or HD-5.

An ore bin will be needed and a gasoline powered hoist. In this mine there should be one hoistman, 2 drillers, and 6 muckers on each shift. The average thickness of the ore is approximately 2 feet.

COST FOR PLAN NO 2

(Mining Ore Bodies B & C)

Incline $20/ft.	$ 2,000
Drift $15/ft.	750
Mining $15/ton	32,250
Equipment	8,400
Ore Bin	2,000
Royalty	11,500
Xs. Haulage .01/per ton mile	1,100
Miscellaneous	2,500
	$60,500

VALUE OF ORE

Ore Body B	$41,600
Ore Body C	31,950
	$73,550

PROFIT

Value of Ore	$73,550
Operating Cost	60,500
PROFIT	$13,050

PLAN NO 2

Map B

Incline to Ore Bodies B & C

Recommendations on Driving Incline with Cat & HD-5 or Slusher

Step 1. (Usually 8 to 10 ft. of solid rock is required above the drift height to go underground on an incline. Therefore, on a 3 to 1 incline with an 8 X 8 cross-section the length of outside incline is approximately 55 ft., the depth 18 ft.) Clean top soil off sandstone.

Step 2. Drill holes on 6 ft. center. Either 3 or 4 rows wide. Width is determined by blade.

Step 3. Muck as much as possible with cat. Muck rest with HD-5 or slusher.

Step 4. Drill back on reverse slope until there is enough good sand above drift to go underground.

COST OF INCLINE with 15 ft. width on surface and an 8x8 ft. drift

= Volume @ $1/yd.$300 plus ($15/ft of incline)$1050

= $1,350

my copy

RECOMMENDATIONS:

Plan #1 Ore Bodies D & E

The first operation should be done with a bulldozer and ripper. A cat equivalent to a TD-18 or D-7 is sufficient. After going as deep as possible, clean off all waste and drill remaining sandstone to grade level.

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COST OF INCLINE with 15 ft. width on surface and an 8x8 ft. drift

= Volume @ $1/yd.$300 plus ($15/ft of incline)$1050

= $1,350.

RECOMMENDATIONS:

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distaAn HD-5 is faster than a mucking machine except when the tramming

SUGGESTED EQUIPMENT:

1 HD-5 Loader (Rental)	800/mo.
1 Mucking Machine	3000
1 Slusher (double drum)	1500
Rail 20# or 18#	1000
6000 cu. ft. blower	500
Vent tube	300
Trammer (battery or air)	2000
2 Jack hammers & Jack legs	1000
1 200 gal. water tank	200
1 Receiver tank	250
2 Jack tanks	100
Pipe	500
1 315 Compressor	10000
1 Ore bin	2000
Hand Tools	200
Air and water hose	100
Pipe and hose fittings	50
4-6 Mine cars side dump @ $250	1000
Miscellaneous	2500
	$27000

GROSS VALUE OF ALL ORE BLOCKED OUT

ORE BODY	Ave. thickness	Ave. U_3O_8	Ave. V_2O_5	VALUE	TONNAGE
A	2.0	.18	.40	$20,000	1400
B	1.5	.227	1.78	$41,600	1400
C	1.65	.366	2.35	$31,950	750
D 1*	2.1	.192	1.83		
2**	1.65	.231	2.18	$73,400	2500
E	3.0	.253	2.20	$56,000	1750
		TOTAL VALUE		$222,950	

*Upper ore horizon of Orebody D

** Lower ore horizon of Orebody D

Two plans will be submitted

~~This report will contain two plans~~; one for orebodies D & E and one for orebodies B & C, and suggestions ~~on~~ to what to do with the remaining ore. The profit from each plan will be shown. The number of ~~men~~ miners ~~required~~; and the equipment required will be discussed. A plan will be given concerning roads and orebins.

Conclusion:

Plans have been submitted for orebodies D & E and for B & C. ~~The only orebody not planned~~. Orebody A has not been planned. From available information it is small and of low grade. If orebodies B & C are cleared, the lessee might also consider orebody A. But a small wagon drill program might be needed to block out more ore. or possibly connect it with orebody B.

Plan No 2. Orebodies B & C.

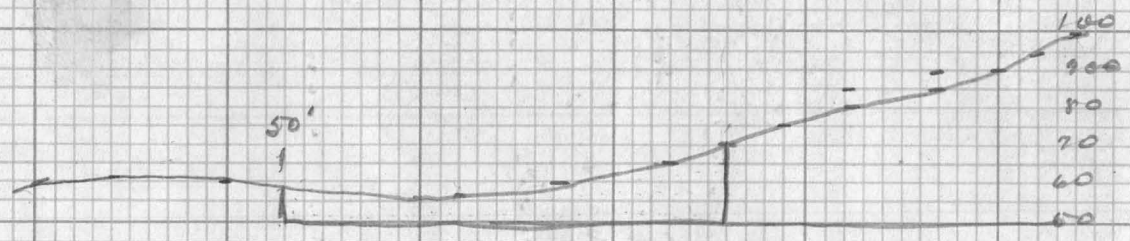
These two ~~ore~~ orebodies are of sufficient size to make a profit; however they can not be worked from the haulage used in Plan I. The tram distance would be over 800 ft. Orebodies C & D should be joined for ventilation purposes if the drift could be driven on ore, or if the distance between is not exceed 40 ft.

From available information on ore reserves and estimates of mining costs, it can be seen that the company can not make a profit of one-quarter of the gross value of the orebody, therefore it is recommended the orebodies B & C be leased out after driving the incline.

The plans (next sheet)

drift crew should consist of a driller and a mucking machine operator. The mining crew should consist of 2 drillers and 4 to 6 muckers, until enough working places are available for more men.

60 63 -60 57 60 65 70 75 80 85 90 95 100



45 ft²
95
90
230 ft²
12' wide
460
230
2760 ft³
27 = 1,000 yds

95 ft²

90 ft²

Drifting

1,000 yds @ $1.00/yd = $1,000

140 drifting @ $12/ft. = $1,680

Incline

158' @ $20/ft = $3,160

track 600' L

4 cars

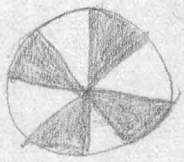
1 mucking mach

1 fan

vent tube 400'

Dorebody $48,600
22,000
$70,600
1.15
353000
70600
1459 0.00

70,600
10,590
$60,010 clear



the direction of the approaching drift so that ore may be found sooner than is shown.

AIR & WATERLINES -

omit

To begin the operation air & water lines will have to ~~come in~~ advance up the main haulage from the portal, ~~but~~ when hole 472-M is reached.

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D

HOLE	THICKNESS	U3O8	V2O5	T X U3O8	T X V2O5
57A	0.5	0.28	2.21	0.140	1.150
57I	5.0	0.13	1.24	0.650	6.200
57G	2.5	0.11	1.41	0.275	3.525
57M	3.3	0.30	2.47	0.990	8.151
~~57O~~	~~[illegible]~~				
57L	1.3	0.13	1.22	0.169	1.586
~~57~~	~~1.0~~				
~~[illegible]~~	~~2.1~~				
472V	.4	0.09	1.06	0.036	0.424
~~[illegible]~~	~~1.0~~				
~~[illegible]~~					
~~[illegible]~~	~~1.3~~				
472I	2.5	0.12	1.66	0.060	0.850
~~472H~~					
472D	1.7	0.34	3.05	0.578	5.185
~~472F~~					
472Q	0.7	0.22	3.00	0.154	2.100
~~[illegible]~~	15.9	0.192	1.83	3.052	29.151
~~[illegible]~~	1.65	~~$13.44~~	~~$11.35~~		
		~~$24.79~~ / ton	D'		
57O	2.8	0.31	2.48	0.868	6.948
57	1.0	0.10	.07	0.100	0.070
472I	1.7	0.14	1.55	0.238	2.635
472A	2.5	0.22	0.75	0.550	1.875
L	2.6	0.37	2.75	0.962	7.145
E	1.8	0.34	2.82	0.612	5.076
V	0.8	0.25	0.98	0.200	0.784
C	4.0	0.17	1.80	0.680	7.200
H	1.8	.13	1.96	0.234	3.528
T	1.7	0.47	5.54	0.799	9.428
472	3.1	0.11	1.83	0.341	5.675
K	1.3	0.17	1.99	0.255	2.587
	25.1	0.231	2.18	5.805	52.951
	2.1'	~~$18.15~~	13.52		
		~~$29.62~~ 31.67			

$\frac{.065}{2500} = \frac{.170}{x}$

6,540

$A = \frac{3.40}{1.72} = 6,540 ft^2 \times 2' = 13,080 ft^3$

$A' = \frac{0.95}{2}$ 48 $1,850 ft^2 = \frac{6,650 ft^3}{14} = 475$ Tons

$B = \frac{672}{2} = 336$ $12,950 ft^2$

$C = \frac{328}{2}$ $164 = 6,340 ft^2$

$\frac{.065}{2500} = 3846.1$

D west $\frac{388}{2} = 194 = 7,480 ft^2$

D east. $\frac{560}{2} = 280 = 10,800 ft^2$

E $\frac{425}{2} = 212 = 8,170 ft^2$

3.8' .15 1.50

$F = \frac{.085}{2}$ ~~162~~ $= .045 = 730 ft^2$

2

14600 100 tons

$1 in^2 = 0.71$

138

209

730

2

1460

100

E

Hole	Thickness	U_3O_8	V_2O_5	$T \times U_3O_8$	$T \times V_2O_5$
68	3.5	0.19	1.80	0.665	6.300
68B	4.0	0.12	0.25	0.480	1.000
68E	3.7	0.07	0.67	0.259	2.479
68G	7.9	0.23	2.44	1.817	19.280
68H	2.4	0.22	1.75	0.528	4.200
68N	5.4	0.34	4.00	1.866	21.600
68O	3.2	0.25	1.72	0.800	5.540
68P	0.7	0.20	0.97	0.140	0.679
68S	2.9	0.40	2.87	1.160	8.325
68R	1.0	0.12	0.03	0.120	0.030
68OO	1.0	.21	1.76	0.210	1.760
68EE	1.1	.22	1.50	0.242	1.650
68J	1.4	0.12	1.37	0.168	1.920
68K	3.8	0.35	2.64	1.330	10.002
				5 54	3 4
	42.0	.233	2.20	9.785	84.765
	3.0'				

~~$29.75~~ / ton

$32

4.25
1.06
2550
425
4.5050

$ 5.06

2000
53
10.6000

4.40
31
440
1320
13.64

14
4.50
18.50
13.64
32.14

3.50/lb

4.25/lb abo 20'

3.50
4
14.00
14.11
.166
2000 28.11
3.3,2000 14.57
4.25 42.68
1660
664
1328
$14,1100 42.66
750
3195

9
108

108
9
8 | 97
12
7 | 8.5
12

D H	Collar Elev.	Base	Top	Thickness	U_3O_8	V_2O_5	Remarks
38 J	5568.3	31.3	32.3	1.0	.32	1.14	
38	5572.3	33.6	34.6	1.0	.13	1.19	
38 B	5568.8	27.8	28.8	1.0	.16	.64	
38 D	5575.2	29.1	33.5	4.4	.34	2.87	
38 F	5575.7	35.8	37.4	1.4	.22	1.36	
38 Z	5564.0	20.8	23.2	2.4	.30	2.40	
38 X	5566	23.3	25.3	2.0	.22	1.67	
38 W	5571	26.3	28.4	2.1	.24	1.91	
38 V	5569.9	29.8	31.2	1.4	.21	1.48	
38 P	5566.0	29.6	30.7	1.1	.26	1.34	
38 N	5566.3	29.7 28.3	31.3 28.7	1.6 .4	.09 .15	1.14 1.36	
38 L	5567.5	30.4	31.1	.7	.12	2.19	
38 G	5570.9	29.4	34.4	.5	.31	2.19	
38 E	5573.0	31.2	33.0	1.8	.23	1.69	
38 I	5567.9	30.4	31.1	.7	.20	1.39	
145 A	5585.5	39.8	41.8	2.0	.13	.20	
145 B	5584.2	33.7 19.2	37.4 28.2	3.7 9.0	.10 .17	.03 .08	4.3' core sampled other lost.
145	5584.1	31.3 25.1	32.3 26.2	1.0 1.1	.09 .18	.80 1.05	
145 I	5585.6	34.5	36.1	1.6	.25	1.01	
145 Q	5582.1	36.6	37.6	1.0	.12	.02	
145 R	5579.8	37.1	38.6	1.5	.17	.01	
145 II	5583.1	38.7	40.4	1.7	.27	—	Trace
145 EE	5586.5	41.5	42.4	.9	.11	.07	
145 Y	5584.5	28.8	29.4	.6	.45	.89	
145 Z	5584.6	30.0	31.7	1.7	.13	1.17	
145 DD	5584.9	32.0	34.9	2.9	.15	0.89	

D H	Collar Elev.	Base	Top	Thickness	U_3O_8	V_2O_5	Remarks
476 D	5559.8	26.4	27.5	1.1	.35	2.04	
		23,2	24.2	1.0	.16	1.38	
476 F	5560	21.6	22.7	1.1	.23	1.50	
476 C	5559.0	22.1	26.2	4.1	.53	3.17	
476 H	5560	20	20.7	.7	.54	3.32	
476	5558.9	20.6	21.6	1.0	.10	.89	
401	5560.7	21.4	22.3	.9	.31	2.04	
57 A	5556.6	23.8	24.3	.5	.28	2.21	
57 I	5553.0	13.8	18.8	5.0	.13	1.24	
57 G	5554.6	17.8	20.6	2.5	.11	1.41	
57 M	5555	12.6	15.9	3.3	.30	2.47	
57 O	5554	8.0	10.8	2.8	.31	2.48	
57 L	5555	15.7	17.0	1.3	.13	1.22	
57	5553.7	2.2	3.2	1.0	.10	.07	
472 I	5552.0	15.1	15.6	.5	.12	1.66	
		8.4	10.1	1.7	.14	1.55	
472 A	5552.5	6.5	7.5	1.0	.10	1.64	
		-3.6	-2.1	1.5	.30	.11	
472 L	5555	9.1	10.1	1.0	.41	3.33	
		-4.2	-2.6	1.6	.35	.13	
472 E	5553.3	12.3	14.1	1.8	.34	2.82	
472 V	5552.0	18.3	18.7	.4	.09	1.06	
		12.8	13.6	.8	.25	.98	
472 C	5550.8	8.6	11.8	3.2	.18	1.71	
		6.6	7.3	.7	.12	1.96	
472 K	5555	13.2	14.5	1.3	.17	1,99	
472 Q	5551	18.3	18.8	.5	.16	3.19	
		13.6	15.6	.2	.41	2.33	
472	5552.5	12.7	15.8	3.1	.11	1.83	
472 H	5552.8	9.9	11.7	1.8	.13	1.96	
472 D	5551.9	16.9	18.6	1.7	.34	3.05	
472 T	5549.0	11.3	13.0	1.7	.47	5.54	

D H	Collar Elev.	Base	Top	Thickness	U_3O_8	V_2O_5	Remarks
68	5550.2	3.2	6.7	3.5	.19	1.80	
		-7.8	-6.1	1.7	.52	0.19	
68 B	5549.0	11.1	11.4	.3	.10	2.04	
		4.3	8.0	3.7	.12	0.01	
68E	5550.7	11.1	11.4	3.7	.07	0.67	
		04.3	08.0				
68G	5549.0	3.8	11.9	7.9	.23	2.44	
68H	5550.4	13.4	15.7	1.9	.23	1.62	
		8.1	8.6	.5	.15	2.30	
68J	5547.6	12.9	14.3	1.4	.12	1.37	
68K	5548.1	11.1	15.3	3.8	.35	2.64	
68N	5550.1	7.0	9.6	2.6	.31	6.96	
		2.7	5.5	2.8	.37	2.90	
68-O	5551.4	2.8	6.0	3.2	.25	1.72	
68P	5551.0	7.0	7.7	.7	.20	.97	
68S	5552.1	5.2	8.1	2.9	.40	2.87	
68R	5548.4	16.2	17.2	1.0	.12	.03	
68-OO	5547.6	11.6	12.6	1.0	.21	1.76	
68MM	5542.8	-0.4	1.6	2.0	.10	1.64	
68TT	5540.4	0	1.5	1.5	.43	1.04	
68EE	5547.6	13.2	14.3	1.1	.22	1.50	

Hole No.	th	U_3O_8	V_2O_5
147A	1.0	.12	1.25
38J	1.0	.32	1.14
38	1.0	.13	1.19
38B	1.0	.16	0.64
38D	4.4	.34	2.87
38F	1.4	.22	1.36
38Z	2.4	.30	2.40
38X	2.0	.22	1.67
38W	2.1	.24	1.91
38V	1.4	.21	1.48
38P	1.1	.26	1.34
38N	2.0	.10	1.25
38L	0.7	.12	2.19
38G	0.5	.31	2.19
38E	1.8	.23	1.69
38I	0.7	.20	1.39
	24.5		
Ave	1.5'	.227	1.78
		$15.90	$11.04

$29.95/Ton

.198

1400
30
$42,000

148

12,950 ft² x 1.5 = 19,400 ft³ / 14 = 1390 Ton

1390 Ton @ $30 = $41,600

478I

BB

493

6,340 ft² x 1.65 = 10,450 ft³ / 14 750 Ton

750 Ton @ $39 = $29,100

$42.66/ton

	th	U_3O_8	V_2O_5
401	0.9	.31	2.04
401A			
476H	0.7	.54	3.32
476F	1.1	.23	1.50
476C	4.1	.53	3.17
476D	2.1	.21	1.71
476	1.0	.10	.89
	9.9		
ave	1.65'	.366	2.35
		$24.63	14.57

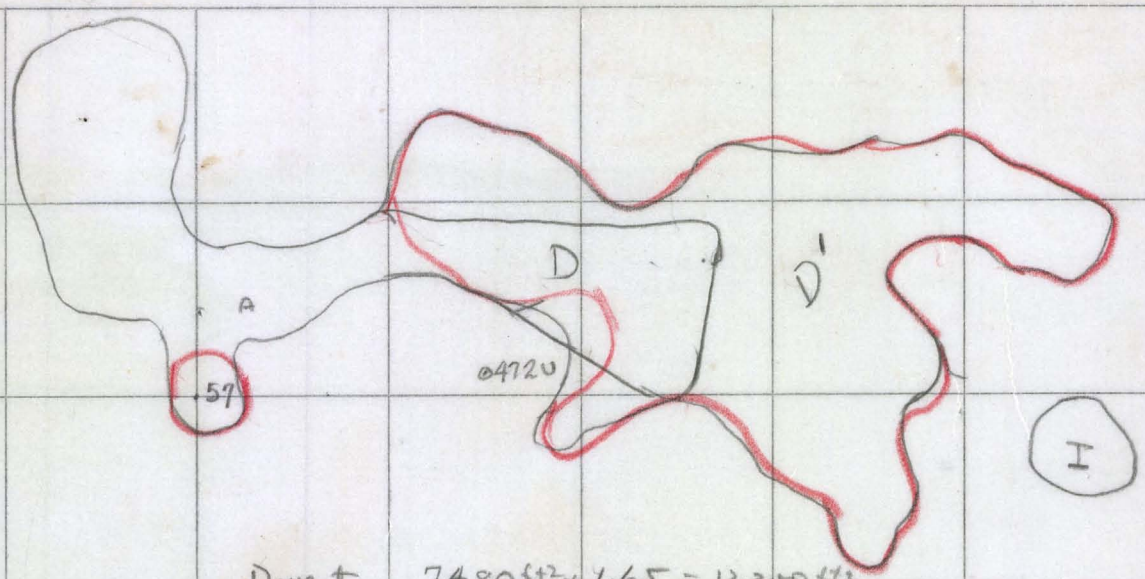
$39.20/Ton

MINE _____ LOCATION _____ LEVEL _____

GEOLOGY BY _____ SURVEY _____ SCALE _____ DATE _____

DUNKIN BLUE PRINT CO. - GRAND JUNCTION - 199M

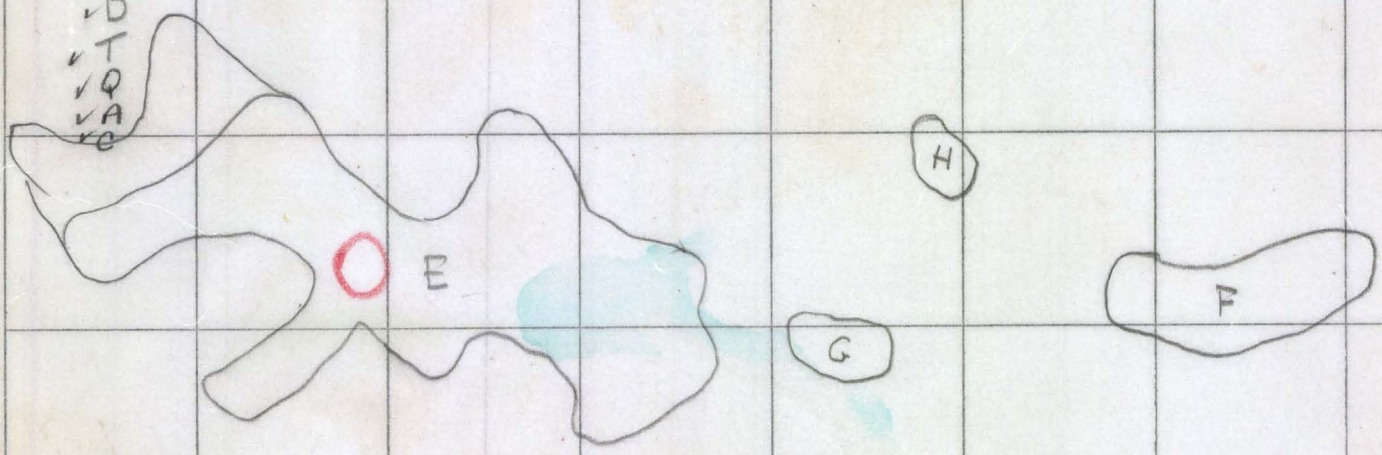
DUNKIN BLUE PRINT CO. · GRAND JUNCTION · 1966



✓57A
✓I
✓G
✓M
✓O
✓L
✓57
✓472
✓472V
✓E
✓G
✓K
✓I
✓H
✓D
✓T
✓Q
✓A
✓C

D west 7480 ft² x 1.65 = 12,300 ft³ / 14 = 880 tons

880 tons @ $25 = $22,000



D east – 10,800 ft² x 2.1 = 22,680 ft³ / 14 = 1,620 tons

1620 tons @ $30 = $48,600

E orebody 8170 x 24,500 ft³ / 14 = 1,750 tons

1750 @ $30 = $52,500

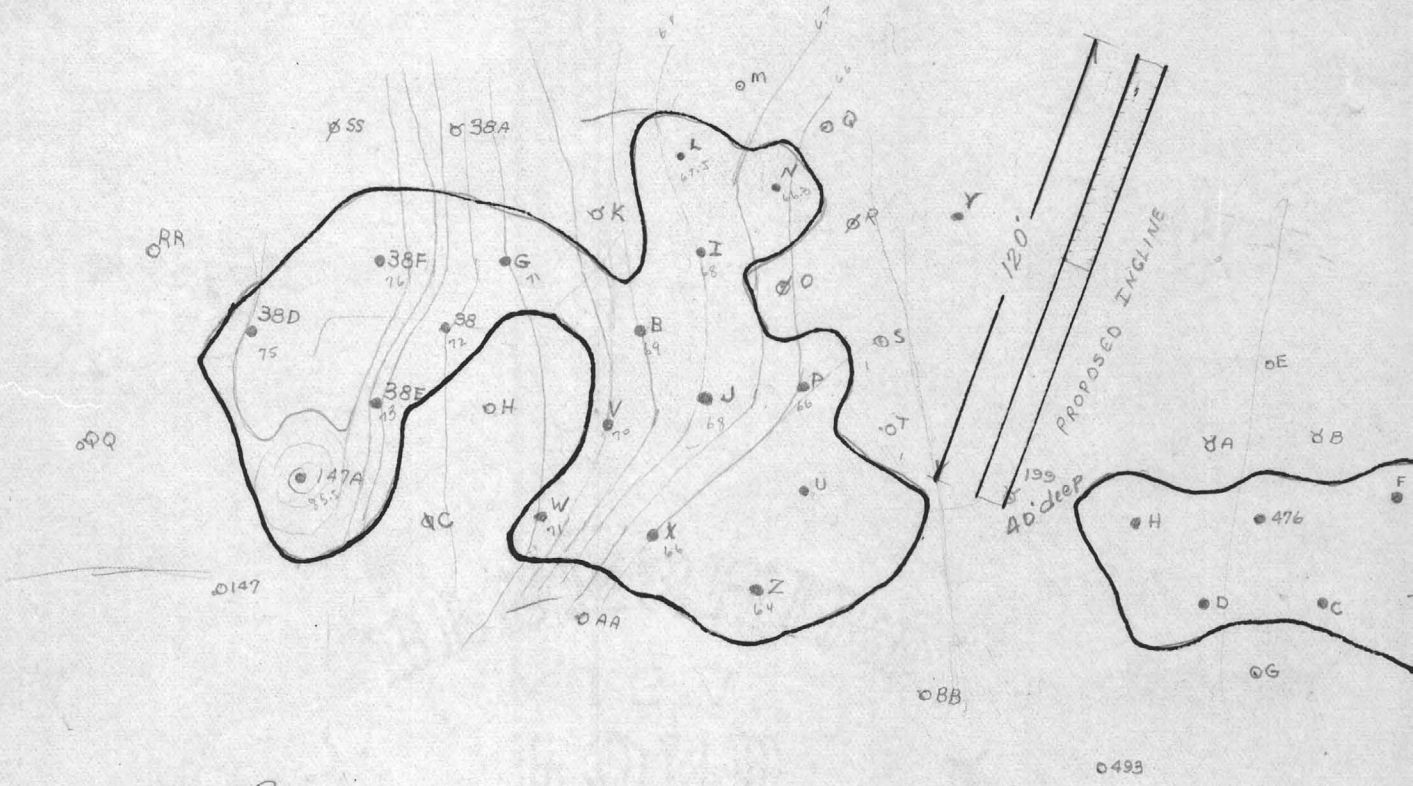
MINE _____ LOCATION _____ LEVEL _____

GEOLOGY BY _____ SURVEY _____ SCALE _____ DATE _____

MAP B.

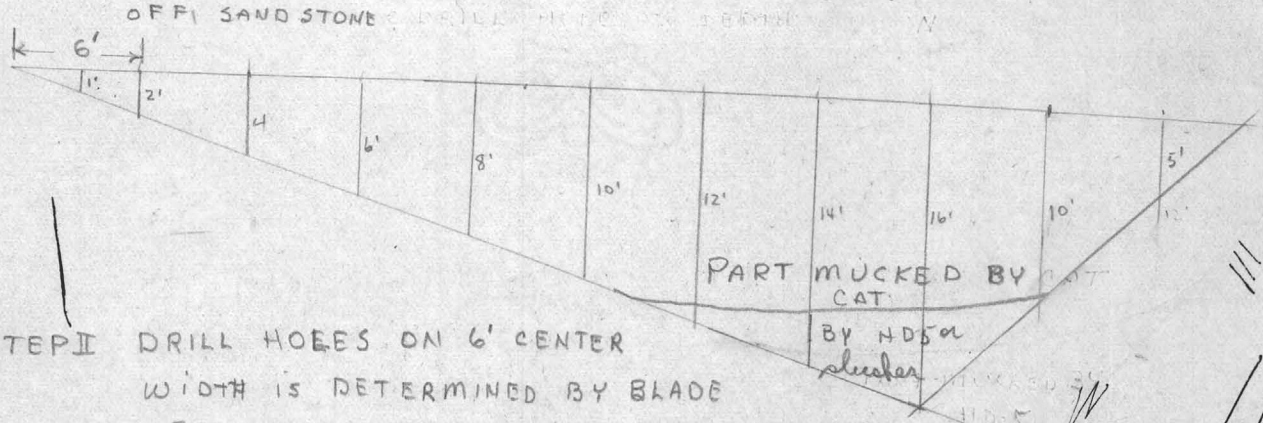
Plan II ~~SECOND DEVELOPEMENT~~

INCLINE TO ORE BODIES B & C.



RECOMMENDATIONS ON DRIVING INCLINE WITH CAT & HD-5

STEP I. (USUALLY 8 TO 10 FT OF SOLID ROCK IS REQUIRED ABOVE THE DRIFT HEIGHTH TO GO UNDERGROUND ON AN INCLINE. THEREFORE, ON A 3 to 1 INCLINE WITH AN 8 X 8 CROSS-SECTION THE LENGTH OF OUTSIDE INCLINE IS APPROX. 55', THE DEPTH 18.) CLEAN TOP SOIL OFF SAND STONE



STEP II DRILL HOLES ON 6' CENTER
WIDTH IS DETERMINED BY BLADE
EITHER 3 OR 4 ROWS WIDE

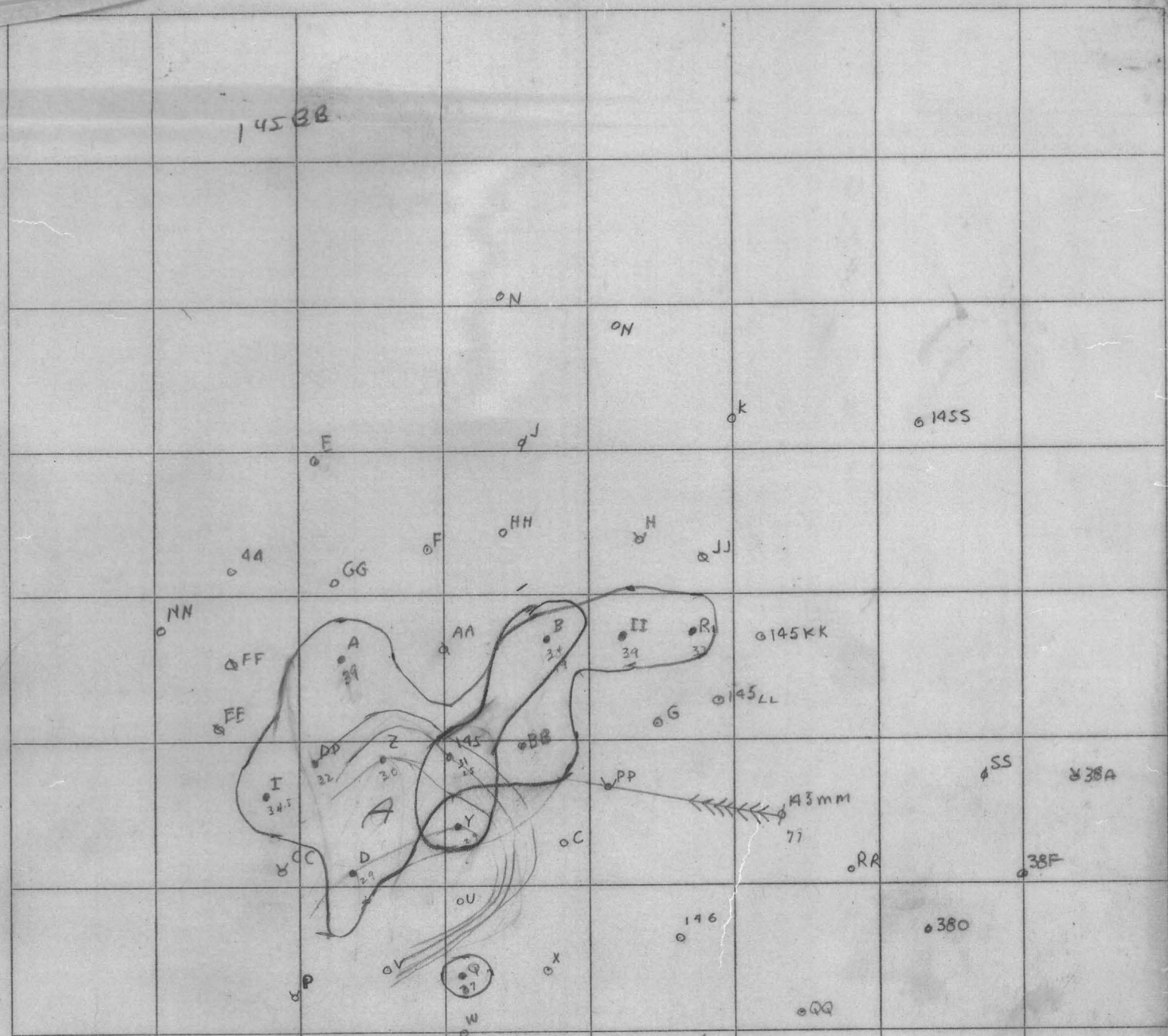
STEP III MUCK AS MUCH AS POSSIBLE WITH CAT ~~[illegible]~~
MUCK REST WITH HD-5 or SLUSHER

STEP IV. DRILL BACK ON REVERSE SLOPE UNTIL THERE IS ENOUGH GOOD SAND ABOVE DRIFT TO GO UNDERGROUND

COST OF INCLINE WITH 15' WIDTH ON SURFACE & AN 8X8' DRIFT
= VOLUME @ \$1/yd³ \$300 + (\$15/ft of incline) \$1050 = \$1,350.

slusher \$2,400

DUNKIN BLUE PRINT CO. - GRAND JUNCTION - 1958



A= 935 TONS @ $14.25 = $13,300
A'=475 TONS @ $13.10 = $6,200
$19,500

	T	U_3O_8	V_2O_5	T x U_3O_8	T x V_2O_5
145	1.1	.09	0.80	.099	.880
145A	2.0	.13	0.20	.26	.400
145B	3.7	.10	0.03	.37	.111
+45BB					
~~145D~~					
145DD	2.9	.15	0.89	.435	2.581
145I	1.6	.25	1.01	.400	1.616
145II	1.7	.27	0.00	.459	.000
145R	1.5	.17	0.01	.255	.015
~~145Y~~					
145Z	1.7	.13	1.17	.221	1.989
	16.2	ave th 2.0'		.154	0.48
				$10.78	$3.50

A'

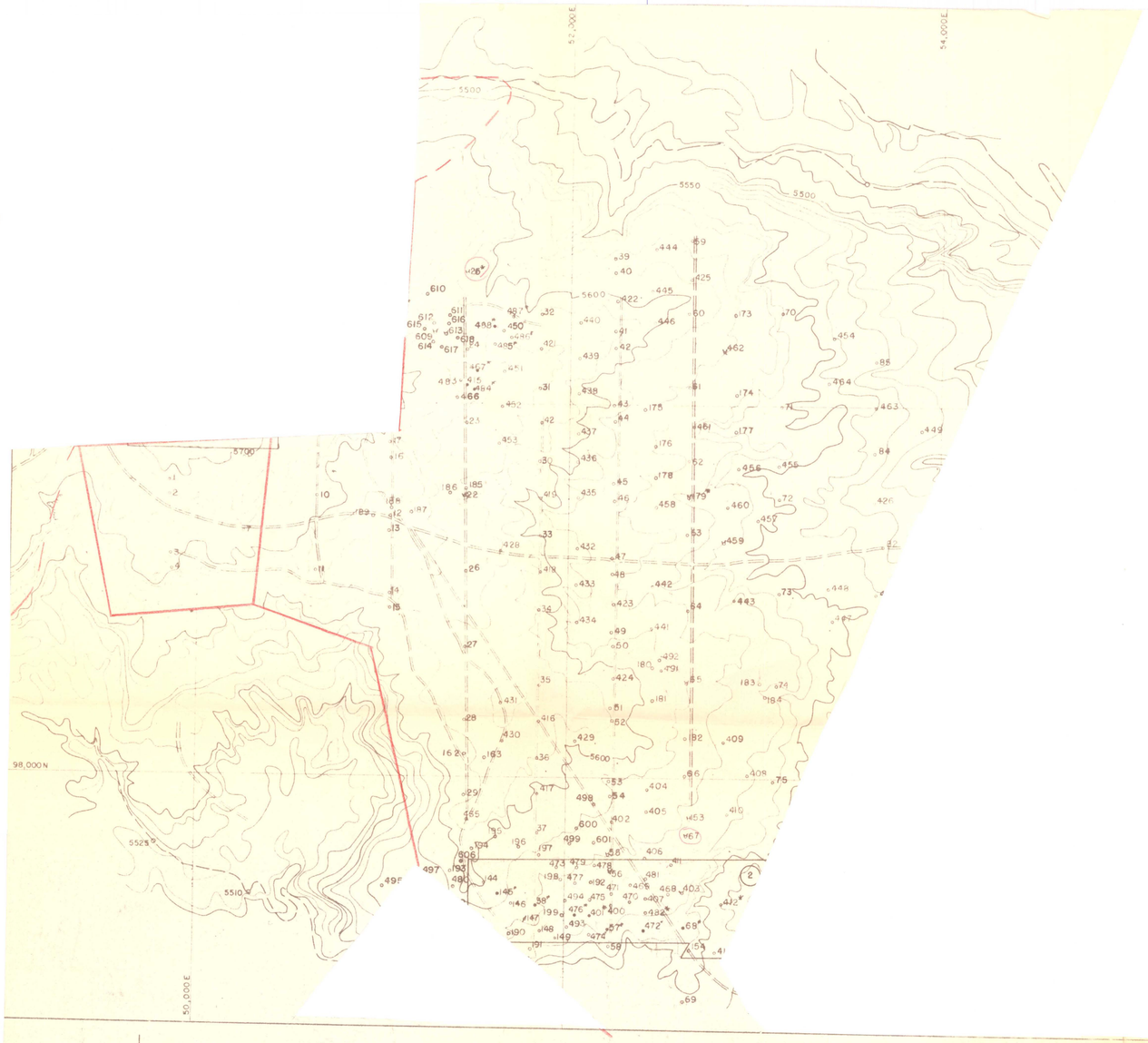
	T	U_3O_8	V_2O_5
145Y	.6	.45	.89
145B	9.0	.17	.09
145	1.1	.18	1.05

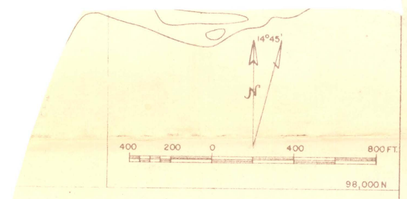
AVE U_3O_8 = .18
" V_2O_5 = .25
Th = 3.6
$13.10/ton

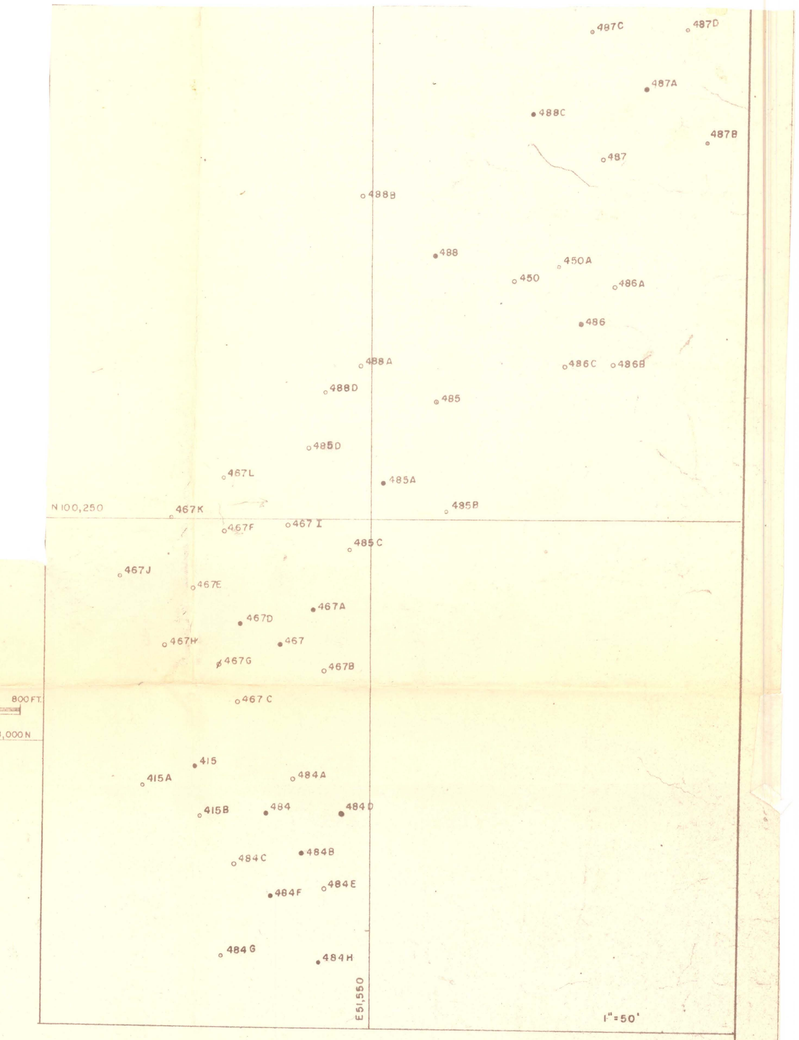
$14.25/ton

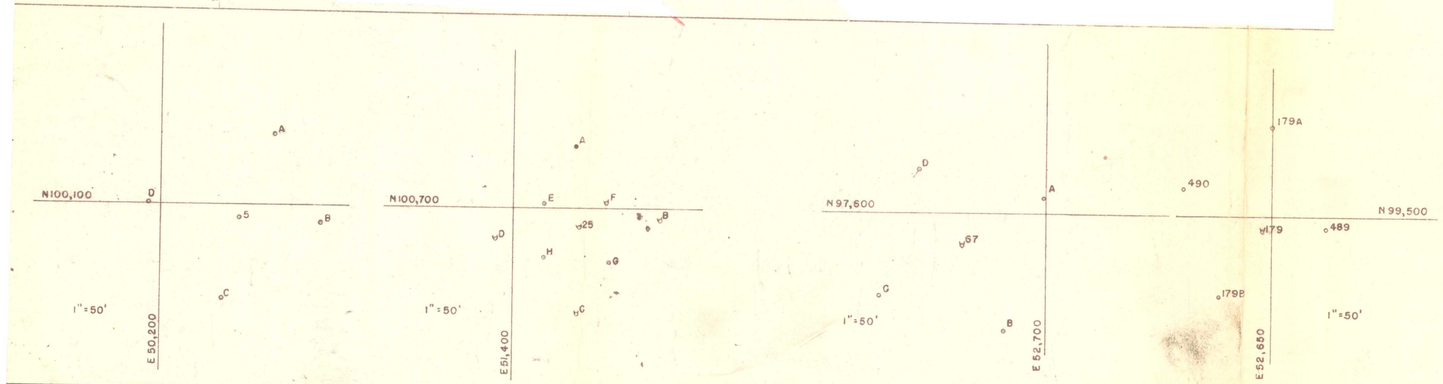
MINE _____ LOCATION _____ LEVEL _____

GEOLOGY BY _____ SURVEY _____ SCALE _____ DATE _____









EXPLANATION

- ● Ore hole
- ⊘ Mineralized hole
- ▽ Weakly mineralized hole
- ○ Barren hole
- 45° Hole has offsets – see inset

U. S. ATOMIC ENERGY COMMISSION
GRAND JUNCTION EXPLORATION BRANCH DIVISION OF RAW MATERIALS

KING TUTT MESA DRILLING PROJECT
PROGRESS MAP

SCALE:	DATE: JULY 1952	CONTOUR INTERVAL:	
TOPO. BY:	CHECKED:	ACCOMPANIES:	
GEOL. BY:	CORRECT:		
DRAWN BY: L. ROBERTS	REVISED:		
TRACED BY:	APPROVED:	SHEET:	FILE INDEX: