

PETROTOMICS COMPANY



TIDEWATER OIL COMPANY • MANAGING PARTNER
P. O. DRAWER 3450
CASPER, WYOMING

January 23, 1963

Mr. Donald A. Nussbaumer, Chief
Source & Special Materials Branch
Division of Licensing and Regulation
U. S. Atomic Energy Commission
Washington 25, D. C.

DOCKET NO. 40-6659

LAB FILE CORL

Dear Mr. Nussbaumer:

Thank you for your letter we received January 14, 1963, which acknowledged the receipt of our quarterly survey from September through November, 1962.

With regard to the question you raised about the single MPC limit specified on the job exposure sheets for the packaging operator, I would like to point out that this MPC limit is a weighted average based on the fact that this operator is scheduled work in the bucking room for four of his twelve hours worked each day. In order to clarify this discrepancy I am enclosing revised job exposure evaluations, for this operator, for October and November, 1962. You will note that the figures used for TXC are the totals in both cases. I have made and enclosed separate evaluations for each of the two different exposure areas and adjusted the MPC for each area in respect to the time spent in each area. I hope that this will meet with your approval. If it does, I will continue to evaluate this job exposure in this manner.

WATER SAMPLING RESULTS

The averages of the results of the survey samples taken below the Tailings area continue to be about the same for September, October, and November as previously, which is 16 per cent equivalent MPC.

The Potable Water Samples taken during September, October and November show quite varied results, with a high reading in October due almost entirely to Radium 226. The average for this three month period is 98 per cent equivalent MPC.

Enclosed you will find a tabulation of these results.

D. S. Hutchinson
D. S. Hutchinson

DSH: lam

Enclosures

ACKNOWLEDGE

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1/28/63
8507290694 850530
PDR FOIA
BURR85-229 PDR

A/43

PETROTOMICS COMPANY

JOB EXPOSURE EVALUATION

Survey Period NOV., 1962

BUILDING MILL PROCESS AREA FINAL PRODUCT PACKAGING

OPERATOR PACKAGING 1 men/shift 1 shift/day 1 men/day

Operation or Operating Area	Time Per Oper.	Oper. Per Shift	Time Per Shift (T)	Sample No.	Concentration d/m/m ³				TXC
					High	Low	Avg.	(C)	
Final Product Areas (Total)			480						787.96

Σ(T) 480

Σ(TXC) 787.96

$$\frac{\Sigma(TxC)}{\Sigma(T)} = \frac{1.64}{1} \times \frac{uc/ml \times 10^{-11}}{d/m/m^3} =$$

0.19

MPC

MPC= 8.6 uc/ml x 10⁻¹¹ (28 hr./week)

650

4/0-665

PETROTOMICS COMPANY

JOB EXPOSURE EVALUATION

Survey Period NOV., 1962

BUILDING MILL PROCESS AREA _____
 OPERATOR PACKAGING 1 men/shift 1 shift/day 1 men/day

Operation or Operating Area	Time Per Oper.	Oper. Per Shift	Time Per Shift (T)	Sample No.	Concentration d/m/m ³			TXC
					High	Low	Avg. (C)	
Bucking Room (Ore Areas)			240					19.20

$\Sigma(T) = 240$

$\Sigma(TXC) = 19.20$

$$\frac{\Sigma(TXC)}{\Sigma(T)} = 0.08$$

$$\frac{\text{uc/ml} \times 10^{-11}}{\text{XXXXXX}} =$$

0.01

MPC

$$MPC = 6.9 \text{ uc/ml} \times 10^{-11} \text{ (14 hrs./week)}$$

650

4/10-6-659

PETROTOMICS COMPANY

JOB EXPOSURE EVALUATION

Survey Period OCTOBER, 1962

BUILDING MILL PROCESS AREA FINAL PRODUCT PACKAGING

OPERATOR PACKAGING 1 men/shift 1 shift/day 1 men/day

Operation or Operating Area	Time Per Oper.	Oper. Per Shift	Time Per Shift (T)	Sample No.	Concentration d/m/m ³				TXC
					High	Low	Avg.	(C)	
Final Product Areas			480						653.71

$\Sigma(T) = 480$

$\Sigma(TXC) = 653.71$

$$\frac{\Sigma(TXC)}{\Sigma(T)} = 1.36$$

$$\frac{\text{uc/ml} \times 10^{-11}}{\text{MPC}} =$$

$$= 0.16$$

MPC

$$\text{MPC} = 8.6 \text{ uc/ml} \times 10^{-11} \quad (28 \text{ hrs./week})$$

44-4059

PETROTOMICS COMPANY

JOB EXPOSURE EVALUATION

Survey Period OCTOBER, 1962

BUILDING MILL PROCESS AREA BUCKING ROOM
 OPERATOR PACKAGING 1 men/shift 1 shift/day 1 men/day

Operation or Operating Are.	Time Per Oper.	Oper. Per Shift	Time Per Shift (T)	Sample No.	Concentration d/m/m ³			TXC
					High	Low	Avg. (C)	
Bucking Room (Ore Area)			240					7.20

$\Sigma(T)$ 240

$\Sigma(TXC)$ 7.20

$$\frac{\Sigma(TXC)}{\Sigma(T)} = 0.03$$

$$\frac{\text{uc/ml} \times 10^{-11}}{\text{XXXXXX}} =$$

0.004

MPC

MPC= 6.9 uc/ml x 10⁻¹¹ (14 hrs./week)

46-6659

76-6659

POTABLE WATER RESELTS

	<u>uc/ml</u>		
	<u>Ra 226</u>	<u>Th 230</u>	<u>U₂₃₈</u>
SEPTEMBER:	2.7×10^{-9}	$<5 \times 10^{-9}$	6.9×10^{-7}
OCTOBER :	2.2×10^{-8}	6.5×10^{-9}	5.5×10^{-7}
NOVEMBER :	3.8×10^{-9}	$<5 \times 10^{-9}$	6.1×10^{-7}

NATURAL WATER SOURCES BELOW TAILINGS DAM

SEPTEMBER: RTH #1	2.5×10^{-9}	$<5 \times 10^{-9}$	9×10^{-8}
RTH #2	2.1×10^{-9}	6.7×10^{-9}	1.6×10^{-7}
RTH #3	1.0×10^{-9}	$<5 \times 10^{-9}$	$<1 \times 10^{-8}$
Creek Below Dam	2.6×10^{-9}	$<5 \times 10^{-9}$	9.6×10^{-7}
Behind Secondary Dam	2.8×10^{-9}	$<5 \times 10^{-9}$	1.4×10^{-6}
OCTOBER: RTH #1	2.6×10^{-9}	6.0×10^{-9}	$<1 \times 10^{-8}$
RTH #2	1.5×10^{-9}	6.8×10^{-9}	$<1 \times 10^{-8}$
RTH #3	9×10^{-10}	6.5×10^{-9}	$<1 \times 10^{-8}$
Creek Below Dam	2.5×10^{-9}	5.0×10^{-9}	9×10^{-8}
Behind Secondary Dam	1.5×10^{-9}	2.5×10^{-8}	1.6×10^{-6}
NOVEMBER: RTH #1	6×10^{-10}	$<5 \times 10^{-9}$	$<1 \times 10^{-8}$
RTH #2	1.3×10^{-9}	$<5 \times 10^{-9}$	$<1 \times 10^{-8}$
RTH #3	7×10^{-10}	$<5 \times 10^{-9}$	$<1 \times 10^{-8}$
Creek Below Dam	1.0×10^{-9}	$<5 \times 10^{-9}$	6.1×10^{-7}
Behind Secondary Dam	9×10^{-10}	1.79×10^{-7}	3.9×10^{-6}

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