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NATIONAL LEAD COMPANY  
OF CHIC  
Cincinnati 39, Ohio

June 16, 1960

**CENTRAL FILES**

SUBJECT TRIP REPORT TO TOLHURST CENTRIFUGALS DIVISION, AMERICAN MACHINE & METALS,  
INC., E. MCCLINE, ILLINOIS, ON MAY 24 - 26, 1960  
TO J. A. Quigley, M.D.  
FROM E. M. Chenault

OBJECTIVE OF TRIP

The purpose of this trip was to observe a proposed method for the dehydration of green salt and to determine that all health and safety measures were being carried out. Surveillance of this nature provided protection against excessive personnel exposure, insured compliance with ICC shipping regulations, and determined when adequate decontamination of the equipment had been achieved.

CONCLUSIONS AND RECOMMENDATIONS

The results of a radiation survey conducted after the operations showed that the plant area used and all equipment had been thoroughly decontaminated.

The air dust samples taken during the tests showed that all personnel exposures were below the maximum allowable concentration.

The contaminated water which was removed from the green salt by the centrifuge was returned to NLO at my recommendation. The can containing approximately 150 pounds of green salt was also returned to NLO.

The results of the tests indicated that the centrifuge was not a satisfactory method for dehydrating the green salt.

BACKGROUND FOR TRIP

A proposal to install a Winlo green salt process in Plant 8 is presently being considered. One of the problems associated with the proposed plan was the removal of water from the green salt. Representatives of the Tolhurst Centrifugals Division conducted tests to determine if centrifugation of the green salt would adequately remove the water.

PERSONS VISITED

- R. Hammes - General Sales Manager, Tolhurst Centrifugals Division
- W. C. Smith - Chief Application Engineer, Tolhurst Centrifugals Division
- L. Jauhola - Sales Manager, Tolhurst Centrifugals Division
- T. McViatty - Laboratory Technician, Tolhurst Centrifugals Division

TRIP REPORT TO TOLHURST CENTRIFUGALS DIVISION, AMERICAN MACHINE  
& METALS, INC., E. MOLINE, ILLINOIS, ON MAY 24 - 26, 1960  
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Page 2

DESCRIPTION OF TRIP

Approximately 18 gallons of water was slurried with 25 pounds of green salt and agitated in a 55-gallon drum. The green salt slurry was hand scooped from the drum into a small centrifuge where it was centrifuged at various speeds and for various lengths of time. The green salt was analyzed for moisture once it was thought that the water had been sufficiently removed.

A filtration method was also tested for the dehydration of green salt. The green salt slurry was poured into a filter where the water filtered through a nylon cloth and the green salt was retained. An infra-red lamp was placed directly above the filtered green salt to aid in the drying process. After the drying process a sample of the green salt was analyzed for moisture. This method appeared more efficient and economical than centrifugation if it is practical to use on a routine basis.

MISCELLANEOUS COMMENTS

Complete cooperation was evident between representatives of the Tolhurst Centrifugals Division and NLO.

COMMITMENTS

None

  
E. M. Chenault

EMC:bg

cc: J. A. Quigley, M.D.  
J. H. Noyes (2x)  
R. H. Starkey  
M. A. Komitor  
E. D. Rutendroger

Central File ✓

NATIONAL LEAD COMPANY OF OHIO  
HEALTH AND SAFETY DIVISION - ANALYTICAL DEPT.

ANALYTICAL DATA SHEET

OFFSHORE - 750

NLO

AMERICAN MACHINE & METALS

INDUSTRIAL HYGIENE AND RADIATION DEPT.				ANALYTICAL CHEMISTRY SECTION			
I. H. NO. 235	SAMPLE NOS.: 6	DATE COLLECTED: 5/26/60	BY: BC	ROUTE TO: BC	DATE RECEIVED: 5-31-60	BY:	
LOCATION: E. MOLINE, ILLINOIS		TYPE OF SAMPLE: air dust	ANALYZED FOR		DATE REPORTED: 6-3-60	BY:	
REMARKS: Samples taken while processing UF <sub>4</sub> in a slurry.		F		<input checked="" type="checkbox"/> Alpha	METHOD OF ANALYSIS: ASC # 3		
		U		Beta			
		NO <sub>3</sub>		Ra			
		Oil		pH			
		Be		Th			
COUNTING DATA:					BKGD .20 c/m	GEO 43 %	BY:

SAMPLE NO.	HOUR	SAMPLE DESCRIPTION	R	T	Q	Count	Time	c/m	d/m/m <sup>3</sup>
6505		GA In area on lab bench while UF <sub>4</sub> slurry is being filtered through flask and dacron filter.	.03	30	.90	15	39.38	.18	1
6506		BZ While emptying moist UF <sub>4</sub> from filter on towel on lab bench.	.03	1	.03	14	34.39	.21	23
6507		BZ Same as 6506	.03	1	.03	21	36.53	.37	41
6508	1525	GA While agitating a beaker of UF <sub>4</sub> solution.	.03	15	.45	19	40.00	.28	2
6509		GA Same as 6508	.03	15	.45	11	30.00	.17	1
6510		BZ Same as 6506	.03	2	.06	48	34.00	1.21	7

NO.	DISTRIBUTION OF COPIES
1	Analytical Laboratory (RECORD COPY)
2	Industrial Hygiene & Radiation Dept.
3	Water Treatment Plant (For Water Samples Only)

NATIONAL LEAD COMPANY OF OHIO  
HEALTH AND SAFETY DIVISION - ANALYTICAL DEPT.  
**ANALYTICAL DATA SHEET**

INDUSTRIAL HYGIENE AND RADIATION DEPT.					ANALYTICAL CHEMISTRY SECTION				
I. H. NO. <b>234</b>	SAMPLE NOS.: <b>5</b>	DATE COLLECTED: <b>5/25/60</b>	BY: <b>BC</b>	ROUTE TO: <b>BC</b>	DATE RECEIVED: <b>5-31-60</b>	BY:			
LOCATION: <b>E. MOLINE, ILLINOIS</b>		TYPE OF SAMPLE: <b>air dust</b>		ANALYZED FOR		DATE REPORTED: <b>6-3-60</b>		BY:	
REMARKS: <b>Samples taken while UF4 is being centrifuged.</b>						F	<input checked="" type="checkbox"/>	Alpha	
				U		Beta			
				NO <sub>2</sub>		Ra			
				Oil		pH			
				Be		Th			
						COUNTING DATA:			
						BKGD	<b>.20 c/m</b>	GEO	<b>43%</b>

SAMPLE NO.	HOUR	SAMPLE DESCRIPTION	R	T	Q	COUNTING DATA			
						Count	Time	c/m	d/m/mi
6573	1130	BZ Technician hand scooping wet UF4 from 55-gallon drum into centrifuge.	.03	3	.09	18	30.00	.40	15
6501	1140	BZ Same as 6573	.03	3	.09	32	32.15	.80	30
6503	1145	BZ Same as 6573	.03	3	.09	11	31.15	.15	6
6502	1115	GA Sample taken approx. 2.5' from centrifuge while it is in operation.	.03	15	.45	39	36.00	.88	6
6504	1145	GA Same as 6502	.03	15	.45	29	35.85	.61	5

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