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18. Abstract (Limit: 200 words) This report provides data concerning the potential occupational exposures of individuals involved in the mining of lithium. Four sample sites were selected from the active lithium mining facilities. All four were surveyed between July 18 and July 27, 1988. Potential exposures and the associated numbers of workers, the occupations of those workers, and the locations on the mining property where the potential exposures were observed were identified. The products and conditions to which workers were potentially exposed included: three Mine Safety and Health Administration (MSHA) regulated chemicals; one chemical with a NIOSH recommended exposure limit which is not regulated by MSHA; three chemicals with no NIOSH or MSHA limits; 152 trade name products; two physical agent conditions; seven musculoskeletal overload conditions; and four welding processes. Estimated annual usage information is provided for chemical substances, both generic and trade names.				
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NOTE : TRADE SECRET DATA HAVE BEEN REMOVED FROM THIS REPORT.

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INTRODUCTION

This is one of a series of reports on the National Occupational Health Survey of Mining (NOHSM), which has been carried out by the National Institute for Occupational Safety and Health (NIOSH). The NOHSM began in May, 1984, as an effort by NIOSH to obtain representative data related to occupational health from the mining industry. This particular report provides NOHSM data for the Lithium commodity. Four (4) sample sites were selected from the Lithium population of active mining facilities. All four of these sites were surveyed between July 18 and July 27, 1988. The data collected were similar to the information previously obtained in non-mining studies. Specifically, NOHSM data include:

- a. Occupational health program and policy information;
- b. An inventory of all health-related substances found on mine property; and
- c. A series of worksite observations which detail potential exposure to chemical and physical agents.

These data were collected by surveyors who traveled to each mine site. The survey sites were chosen so as to provide a statistically valid representation of each commodity at the time of the NOHSM sample selection. With this representative sample, NIOSH can project survey data to the entire mining industry.

The NOHSM is being carried out primarily as a service to the Mine Safety and Health Administration (MSHA), and secondarily as a source of information for NIOSH investigators and other interested parties. MSHA plans to use the data for three purposes:

1. To set regulatory priorities and write improved health standards;
2. To improve compliance with existing standards; and
3. To identify and determine research needs and priorities.

This transfer of information to MSHA is mandated by Section 201 of the 1977 Federal Mine Safety and Health Amendments Act.

This report identifies potential exposures and provides the associated numbers of workers, the occupations of those workers, and the locations on the mine property where the potential exposures were observed. This information is categorized into seven tables: four concerning chemical agents; one concerning musculoskeletal overload conditions; one concerning physical exposure conditions; and one concerning welding processes. Estimated annual usage information is provided for chemical substances, both generic and trade names.

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This report lists the survey findings in a number of individual tables representing the different products and conditions to which workers in the commodity were found to be potentially exposed. The following is a breakdown of these tables, including the number of agents associated with each table, for the Lithium commodity:

Table 1 -- 3 MSHA-regulated chemicals.
Table 2 -- 1 Chemical that has a NIOSH recommended exposure limit but is not MSHA-regulated.
Table 3 -- 3 Chemicals that have no NIOSH recommended exposure limit and are not MSHA-regulated.
Table 4 -- 152 Trade name products.
Table 5 -- 2 Physical agent conditions.
Table 6 -- 7 Musculoskeletal overload conditions.
Table 7 -- 4 Welding processes.

It is extremely important that the limitations of the reported data be recognized. The data do not in any way document exposures or exposure levels. The data only indicate potential exposures. The term "potential exposure" means the agent was observed to be present at one or more worksites in such a way that there was a possibility of workers being exposed to the agent.

Likewise, the usage data presented in some of the tables are only a guide to the projected magnitude of usage and should not be taken as precise information. The usage data are based on estimates provided by mine management. It is expected that these estimates have widely varying accuracy. Occasionally, an item may be represented as having an annual usage of zero with workers observed to be potentially exposed. This may occur because annual usage estimates are generally based on purchases of the 12 months immediately preceding a survey. Therefore, items purchased prior to that 12 month period may be represented as having a zero annual usage rate even though potential exposures were observed during the survey. Other zero annual usage occurrences could involve recyclable items such as some catalysts and desiccants, items such as paints and coatings which are applied prior to the 12 month period but which are present in the workplace in such a way as to present a potential exposure, and obsolete items which are no longer actively used on the property but to which employees could still be potentially exposed in the course of their work. Furthermore, all the estimates were rounded to the nearest whole number, with all quantities between 0 and 1 being reported as 1. Thus, extremely small usage levels may actually be lower than estimated. With this possible exception, NIOSH believes the relative magnitude to be appropriately represented.

Another limitation to be observed is the terminology associated with the commodity, occupation, and location. These terms were adapted directly from MSHA information and applied by NIOSH. NIOSH recognizes that other parties may prefer other commodity, occupation, or location terminology. The MSHA terms were used because of MSHA's close interest in the data.

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A separate report will be prepared for each commodity surveyed as a part of the NOHSM. During each segment of the NOHSM, approximately 120 mining operations were surveyed as the sample from a number of selected commodities. A different set of commodities was surveyed during each segment.

NIOSH plans for use of these data in the future include:

- a. Encourage MSHA use of the data, as outlined above;
- b. Determine the ranges of exposure to various agents, as required by Section 201 of the 1977 Federal Mine Safety and Health Amendments Act;
- c. Assist in setting priorities for mine-related occupational health research; and
- d. Respond to questions from other parties regarding occupational health aspects of the mining industry.

Information beyond that presented in this report has been collected during the NOHSM. All of the information not protected by trade secret claims is available to the public upon detailed written request. Other categories of available information include:

- a. Management policies related to occupational health;
- b. Duration of potential exposures;
- c. Operations associated with potential exposures;
- d. Controls employed with potential exposures; and
- e. Results of bulk dust analyses for silica, metals, and fibers.

Interested parties should direct their requests to:

Project Officer
National Occupational Health Survey of Mining
NIOSH
Division of Respiratory Disease Studies
944 Chestnut Ridge Road, Room 140
Morgantown, WV 26505-2888

NOTE: TRADE SECRET DATA HAVE BEEN REMOVED FROM THIS REPORT.

TABLE DEFINITIONS

<u>AGENT NAME</u>	(1) # WORKERS POTENTIALLY EXPOSED <u>(OBSERVED)</u>	(2) # WORKERS POTENTIALLY EXPOSED <u>(PREDICTED)</u>	(3) % WORKERS POTENTIALLY EXPOSED <u>(PREDICTED)</u>	(4) PREDICTED ANNUAL <u>USAGE</u>	(5) <u>OCCUPATIONS</u>	(6) <u>LOCATIONS</u>
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Column (1) represents the total number of workers in occupations within this commodity in which a potential exposure to an agent was observed or identified through questioning of mine management or workers. This number only includes workers from the NOHSM sample sites. A "potential exposure" means the agent was observed to be present at the worksite in such a way that there was a possibility of workers being exposed to the agent. The potential exposures do not imply any exposure level, nor do they imply the absence or presence of controls.

Column (2) represents the number of workers within this commodity predicted to be potentially exposed to each agent. This number reflects a projection to this entire commodity, based on data obtained at NOHSM sample sites.

Column (3) represents the percentage of workers within this commodity predicted to be potentially exposed to each agent. Column (3) is obtained by dividing column (2) by the projected total population of workers in the commodity.

Column (4) represents the number of gallons (GAL) or the number of pounds (LBS) of each chemical that NIOSH has estimated to be used per year. This number is obtained from projections based on estimates of usage provided by mine management, and should only be used in determining the order of magnitude of usage. It should not be used as a precise figure. This number reflects a projection to this entire commodity, based on data obtained at NOHSM sample sites. In some cases, where usage data was unavailable, a "*" appears in this column.

Column (5) contains the occupations observed to have a potential for exposure to this agent. In each occupation, the percentage of workers with a potential for exposure to the agent is given in parentheses. This number only includes data obtained at NOHSM sample sites.

Column (6) contains the locations where workers were observed to have a potential for exposure to this agent at the NOHSM sample sites. The percentage of workers in each listed location with a potential exposure to the agent is given in parentheses. This number only includes data obtained at NOHSM sample sites.

RUN DATE: 09/11/90

TABLE 1, PAGE 1 NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

MSHA REGULATED CHEMICALS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

CHEMICAL NAME	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
ACETYLENE	40	40	24	448,764 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (90%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)	619 WELDER (100%)		005 SURFACE SHOP (79%) 010 SURFACE MILL (32%)	
NITROGEN	22	22	13	61,337 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
SODIUM HYDROXIDE	31	31	18	91,092 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (63%) 602 ELECTRICIAN (100%) 618 GREASER; OILER (20%) 679 FLOTATION/CONCTR OPTR (67%)	514 LABORATORY TECHNICIAN (100%) 604 MECHANIC (24%) 649 ADMN, SUPERVISORY, MGT PERSNL (29%)		010 SURFACE MILL (54%)	

RUN DATE: 09/11/90

TABLE 2, PAGE 1.a NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

CHEMICALS FOUND ON MINE PROPERTY THAT HAVE A NIOSH RECOMMENDED EXPOSURE LIMIT BUT ARE NOT REGULATED BY MSHA

COMMODITY NAME: LITHIUM

CHEMICAL NAME	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
DIESEL FUEL NO. 2	114	114	67	845,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%)	367 SHOVEL OPTR (67%)		005 SURFACE SHOP (100%)	
368 BULLDOZER OPTR (100%)	376 TRUCK DRIVER (100%)		009 SURFACE MISC (100%)	
379 DRYER OPTR; KILN OPTR (100%)	534 JACKLEG OR STOPER DRILL OPTR (100%)		004 SURFACE MINE (97%)	
604 MECHANIC (76%)	616 LABORER; BULLGANG (100%)		010 SURFACE MILL (46%)	
618 GREASER; OILER (80%)	619 WELDER (100%)			
649 ADMN, SUPERVISORY, MGT PERSNL (71%)	674 WAREHOUSEMAN; SUPPLY HANDLER (100%)			
679 FLOTATION/CONCTR OPTR (33%)	782 FRONT-END LOADER OPTR (100%)			
807 POWDER GANG; BLASTER (100%)	879 BAGGING OR PACKING WRKR (100%)			

RUN DATE: 09/11/90

TABLE 3, PAGE 1.6 NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

CHEMICALS FOUND ON MINE PROPERTY THAT HAVE NO NIOSH RECOMMENDATION OR MSHA EXPOSURE LIMIT

COMMODITY NAME: LITHIUM

CHEMICAL NAME	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
GASOLINE-UNLEADED	8	8	5	2,400 GALS.
(5) OCCUPATIONS	-----		(6) LOCATIONS	-----
604 MECHANIC (10%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)	619 WELDER (100%)		005 SURFACE SHOP (21%) 004 SURFACE MINE (3%)	
KEROSENE	8	8	5	155 GALS.
(5) OCCUPATIONS	-----		(6) LOCATIONS	-----
376 TRUCK DRIVER (21%)	604 MECHANIC (10%)		004 SURFACE MINE (7%) 005 SURFACE SHOP (14%)	
NATURAL GAS	20	20	12	201,960,000 GALS.
(5) OCCUPATIONS	-----		(6) LOCATIONS	-----
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%) 679 FLOTATION/CONCTR OPTR (33%)	379 DRYER OPTR; KILN OPTR (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (29%)		010 SURFACE MILL (35%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 1. NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
AMERICAN CYANAMID CO.				
AERO 844 PROMOTER	16	16	9	3,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%)	379 DRYER OPTR; KILN OPTR (100%) 679 FLOTATION/CONCTR OPTR (33%)		010 SURFACE MILL (28%)	
SUPERFLOC 1128 FLOCCULANT				
	16	16	9	4,800 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%)	379 DRYER OPTR; KILN OPTR (100%) 679 FLOTATION/CONCTR OPTR (33%)		010 SURFACE MILL (28%)	
AMSCO WELDING PRODUCTS				
AMSCO 77	2	2	1	300 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
367 SHOVEL OPTR (33%)			004 SURFACE MINE (3%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 2 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
ARCAIR				
CODE-ARC 7018 MR	2	2	1	150 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
619 WELDER (100%)			005 SURFACE SHOP (7%)	
COPPERCLAD POINTED ELECTRODES	9	9	5	75 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)	619 WELDER (100%)			010 SURFACE MILL (12%) 005 SURFACE SHOP (7%)
ARM & HAMMER DIV. OF CHURCH & DWIGHT CO., INC.				
PURE BAKING SODA	22	22	13	24 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 3 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
ARMAK CHEMICALS DIV.				
AMROFLOTE 5293	16	16	9	7,800 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%)	379 DRYER OPTR; KILN OPTR (100%) 679 FLOTATION/CONCTR OPTR (33%)		010 SURFACE MILL (28%)	
TALLOW-AMINE				
TALLOW-AMINE	16	16	9	125,000 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%)	379 DRYER OPTR; KILN OPTR (100%) 679 FLOTATION/CONCTR OPTR (33%)		010 SURFACE MILL (28%)	
ATLAS POWDER CO.				
APEX 615	1	1	1	180,000 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (13%)			004 SURFACE MINE (2%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 4 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
ATLAS POWDER CO.				
ATLAS HIPRIME	1	1	1	2,400 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (13%)			004 SURFACE MINE (2%)	
ATLAS ROCKMASTER+MASTERDETS	1	1	1	17 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (13%)			004 SURFACE MINE (2%)	
ATLAS SUPPLY CO.				
PERMA-GUARD ANTI-FREEZE/COOLANT 640001	6	6	4	720 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
367 SHOVEL OPTR (33%)	604 MECHANIC (10%)		004 SURFACE MINE (3%) 005 SURFACE SHOP (14%)	

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TABLE 4, PAGE 5 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
BAR'S INC.				
BAR'S LEAK	22	22	13	36 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
CATERPILLAR TRACTOR CO.				
CAT ANTI-SEIZE COMPOUND SP3931	22	22	13	15 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
CC1-SUPER OPERATIONS				
CC1 109 SHOTSHELL PRIMERS	4	4	2	15 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	

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TABLE 4, PAGE 6 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
DIAMOND SHAMROCK CHEMICALS CO.				
50 % CAUSTIC SODA-DB	16	16	9	190,000 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%)	379 DRYER OPTR; KILN OPTR (100%) 679 FLOTATION/CONCTR OPTR (33%)		010 SURFACE MILL (28%)	
DOW CHEMICAL U.S.A				
1,1,2,2-TETRABROMOETHANE PRODUCT CODE 00457	16	16	9	500 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%)	379 DRYER OPTR; KILN OPTR (100%) 679 FLOTATION/CONCTR OPTR (33%)		010 SURFACE MILL (28%)	
DRYDENE OIL CO.				
DRYDENE EP LUBRICANT PART NO. 51253	16	16	9	3,500 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
602 ELECTRICIAN (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (29%)	604 MECHANIC (24%)		010 SURFACE MILL (28%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 7 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
DRYDENE OIL CO.				
EP 30 ROCK DRILL OIL	7	7	4	200 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (88%)			004 SURFACE MINE (12%)	
EP-4 OIL	22	22	13	400 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
HEAVY DUTY PERMANENT ANTIFREEZE	22	22	13	1,100 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
HYD BLUE 20	22	22	13	4,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 8 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
DRYDENE OIL CO.				
LITHIUM EP-2 GREASE	26	26	15	820 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)	618 GREASER; OILER (80%)		004 SURFACE MINE (7%) 005 SURFACE SHOP (79%)	
PAR 32	22	22	13	2,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
PARADENE R & O 200	7	7	4	2,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (88%)			004 SURFACE MINE (12%)	
PARADENE 220 R&O	7	7	4	600 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (88%)			004 SURFACE MINE (12%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 9 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
DRYDENE OIL CO.				
PYROPLEX EP # 2 LUBRICANT	26	26	15	12,000 LBS.
(5) OCCUPATIONS	618 GREASER; OILER (80%)		(6) LOCATIONS	
604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)			004 SURFACE MINE (7%) 005 SURFACE SHOP (79%)	
R & O 150				
R & O 150	7	7	4	500 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (88%)			004 SURFACE MINE (12%)	
80W 90				
80W 90	22	22	13	8,000 GALS.
(5) OCCUPATIONS	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 10 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
DUPONT				
DETALINE CORD	4	4	2	16 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
DETONATORS INSTANT DELAY	4	4	2	3 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
SURFACE DELAYS DETALINE	4	4	2	4 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
TOVEN	4	4	2	441,771 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 11 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
DUPONT				
VA-1 DETAPRIMES	4	4	2	7 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
30 FT ELECTRIC CAPS	4	4	2	3 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
40 FT ELECTRIC CAPS	4	4	2	3 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
50 FT ELECTRIC CAPS	4	4	2	3 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 12 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE

EASTMAN KODAK CO.				
N-BUTYL ACETATE (TECHN.)	16	16	9	350 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%) 604 MECHANIC (17%)	379 DRYER OPTR; KILN OPTR (100%) 679 FLOTATION/CONCTR OPTR (33%)		010 SURFACE MILL (28%)	

ENSIGN-BICKFORD CO.				
E-CORD PRIMACORD	4	4	2	33 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	

NOVEL PRIMADEX	4	4	2	27 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 13 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
-----				-----
ENSIGN-BICKFORD CO.				
RE-INFORCED PRIMACORD	4	4	2	67 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
-----			-----	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
EXXON CO. USA				
PETROLEUM SOLVENT VERSOL 18	2	2	1	800 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
-----			-----	
619 WELDER (100%)			005 SURFACE SHOP (7%)	
EXXON CO., USA				
EXXON SPARTAN EP-68	1	1	1	110 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
-----			-----	
618 GREASER; OILER (20%)			010 SURFACE MILL (2%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 14 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
<hr/>				
EXXON CO., USA				
EXXON XD-3 30	1	1	1	440 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
618 GREASER; OILER (20%)			010 SURFACE MILL (2%)	
<hr/>				
EXXON 10W HYDRAULIC OIL	7	7	4	375 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
<hr/>				
EXXON 15W-40 MOTOR OIL	7	7	4	975 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
<hr/>				
EXXON 30W MOTOR OIL	11	11	6	300 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 15 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
<hr/>				
EXXON CO., USA				
EXXON 40 W	11	11	6	300 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	
<hr/>				
GASOLINE UNLEADED	7	7	4	12,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
<hr/>				
SURRETTA FLUID 4-K	15	15	9	5,760 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%) 649 ADMN, SUPERVISORY, MGT PERSNL (29%)	618 GREASER; OILER (20%)		010 SURFACE MILL (26%)	
<hr/>				
TERESSTIC 100	12	12	7	165 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%) (CONTINUED NEXT PAGE)	618 GREASER; OILER (20%)			

RUN DATE: 09/11/90

TABLE 4, PAGE 16 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
EXXON CO., USA				
TERESSTIC 100 (CONTINUED)	12	12	7	165 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
649 ADMN, SUPERVISORY, MGT PERSNL (7%)			010 SURFACE MILL (21%)	
TERESSTIC 68	1	1	1	825 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
618 GREASER; OILER (20%)			010 SURFACE MILL (2%)	
EXXON COMPANY, USA				
EXXON 10W HYDRAULIC OIL	9	9	5	750 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
367 SHOVEL OPTR (33%) 604 MECHANIC (10%)	534 JACKLEG OR STOPER DRILL OPTR (13%) 619 WELDER (100%)			004 SURFACE MINE (5%) 005 SURFACE SHOP (21%)

RUN DATE: 09/11/90

TABLE 4, PAGE 17 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
----- EXXON COMPANY, USA				
EXXON 15W-40 MOTOR OIL	10	10	6	1,175 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
----- 376 TRUCK DRIVER (21%) 619 WELDER (100%)	604 MECHANIC (10%)		004 SURFACE MINE (7%) 005 SURFACE SHOP (21%)	
EXXON USA				
EP-2	4	4	2	410 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
----- 618 GREASER; OILER (80%)			004 SURFACE MINE (7%)	
SPARTAN EP-150	26	26	15	800 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
----- 604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)	618 GREASER; OILER (80%)		004 SURFACE MINE (7%) 005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 18 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
EXXON USA				
10 W OIL	22	22	13	2,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
30W MOTOR OIL	26	26	15	10,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)	618 GREASER; OILER (80%)		004 SURFACE MINE (7%) 005 SURFACE SHOP (79%)	
FEDERAL-MOGUL CORP./BRILLIANT ABRASIVE DIV.				
BRILL-TEX 4 1/2 IN. GP27A24R	20	20	12	60 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 19 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
FEDERAL-MOGUL CORP./BRILLIANT ABRASIVE DIV.				
BRILL-TEX 7 IN. XL27H24U	20	20	12	120 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	
FEL PRO INC.				
HI-TEMP CS-A ANTI-SEIZE LUBRICANT PART NO. 51003	11	11	6	24 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)			010 SURFACE MILL (19%)
FEL-PRO INC.				
HI-TEMP C5-A ANTI-SEIZE LUBRICANT PART NO. 51002	7	7	4	14 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 20 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
GENTLE BEN CLEANING SYSTEMS, INC.				
# 1 TRUCK WASH	4	4	2	165 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (10%)			005 SURFACE SHOP (14%)	
GB 416 DEGREASER	4	4	2	275 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (10%)			005 SURFACE SHOP (14%)	
GLIDDEN PAINT CO.				
4540 SAFETY YELLOW	11	11	6	15 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 21 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
GO-JO INDUSTRIES				
1109 HAND CLEANER	28	28	16	144 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
079 CRUSHER OPTR (25%)	376 TRUCK DRIVER (21%)		006 SURFACE CRUSHING (25%)	
534 JACKLEG OR STOPER DRILL OPTR (13%)	604 MECHANIC (27%)		004 SURFACE MINE (9%)	
619 WELDER (100%)	679 FLOTATION/CONCTR OPTR (33%)		005 SURFACE SHOP (21%)	
879 BAGGING OR PACKING WRKR (100%)			010 SURFACE MILL (28%)	
GRC CO.				
ENGINE STARTING FLUID (AEROSOL)	5	5	3	124 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
376 TRUCK DRIVER (21%)	534 JACKLEG OR STOPER DRILL OPTR (13%)		004 SURFACE MINE (9%)	
HERCULES INC.				
PINE OIL	16	16	9	2,800 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%)	379 DRYER OPTR; KILN OPTR (100%)		010 SURFACE MILL (28%)	
604 MECHANIC (17%)	679 FLOTATION/CONCTR OPTR (33%)			

RUN DATE: 09/11/90

TABLE 4, PAGE 22 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
HYDROTEX				
SYN-AIR ISO 68	12	12	7	220 GALS.
(5) OCCUPATIONS	618 GREASER; OILER (20%)		(6) LOCATIONS	010 SURFACE MILL (21%)
604 MECHANIC (24%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)				
HYDROTEX INC.				
ESSENTIALUBE	4	4	2	495 GALS.
(5) OCCUPATIONS	618 GREASER; OILER (20%)		(6) LOCATIONS	005 SURFACE SHOP (14%)
604 MECHANIC (10%)				
HYDRUTEX				
DELUXE 712 90W	26	26	15	1,200 LBS.
(5) OCCUPATIONS	618 GREASER; OILER (80%)		(6) LOCATIONS	004 SURFACE MINE (7%) 005 SURFACE SHOP (79%)
604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)				

RUN DATE: 09/11/90

TABLE 4, PAGE 23 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
HYDRUTEX				
ESSENTIALUBE	22	22	13	1,400 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
HY-TORQUE	3	3	2	600 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
079 CRUSHER OPTR (75%)			006 SURFACE CRUSHING (75%)	
LC-65 GREASE	26	26	15	3,300 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)	618 GREASER; OILER (80%)		004 SURFACE MINE (7%) 005 SURFACE SHOP (79%)	
M-50 GREASE	30	30	18	3,300 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
367 SHOVEL OPTR (67%) (CONTINUED NEXT PAGE)	604 MECHANIC (49%)			

RUN DATE: 09/11/90

TABLE 4, PAGE 24 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
HYDRUTEX				
M-50 GREASE (CONTINUED)	30	30	18	3,300 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
618 GREASER; OILER (80%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		004 SURFACE MINE (14%) 005 SURFACE SHOP (79%)	
MT-55	30	30	18	6,000 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
367 SHOVEL OPTR (67%) 618 GREASER; OILER (80%)	604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)		004 SURFACE MINE (14%) 005 SURFACE SHOP (79%)	
726 140 GEAR OIL	22	22	13	1,200 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 25 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
HYDRUTEX				
930 INDUSTRIAL GEAR LUBE 150 100 NO. 726	22	22	13	1,200 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
I. EXPLOSIVE CO.				
SPILTEX 1X24 PRESPLIT POWDER	4	4	2	24,000 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
IMPERIAL OIL & GREASE CO.				
42 MEDIUM BRICK GREASE	3	3	2	98 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%)			010 SURFACE MILL (5%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 26 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
IMPERIAL OIL & GREASE CO.				
659 BRICK GREASE	3	3	2	98 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%)			010 SURFACE MILL (5%)	
936 HEAVY OPEN GEAR COMPOUND	7	7	4	720 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
LINCOLN ELECTRIC CO.				
LINCOLN NS-3M	20	20	12	300 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 27 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
MID-STATES ABRASICE				
TYPE 27 4-1/2X1/4X7/8 GRADE A-24SBF	11	11	6	50 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	
MIDATLANTIC EXPLOSIVE INC.				
AMMONIUM NITRATE-FUEL OIL MIXTURE	1	1	1	60,000 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (13%)			004 SURFACE MINE (2%)	
MOBIL OIL CO.				
PREMIUM UNLEADED GASOLINE	32	32	19	48,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%) 618 GREASER; OILER (80%)	616 LABORER; BULLGANG (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (29%)		004 SURFACE MINE (17%) 005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 28 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
MOBILE OIL CO.				
PREMIUM UNLEADED GASOLINE	1	1	1	745 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
618 GREASER; OILER (20%)			010 SURFACE MILL (2%)	
MOLTON				
SAFETY ABSORBENT	4	4	2	7,500 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (10%)			005 SURFACE SHOP (14%)	
MOLTON CO.				
SAFETY ABSORBENT	22	22	13	3,000 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 29 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
NORTON CO.				
DIAMOND OR CUBIC BORDON NITRIDE GRINDING WHEEL	7	7	4	55 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
7X1/4 GENERAL PURPOSE DISC	9	9	5	55 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)	619 WELDER (100%)			010 SURFACE MILL (12%) 005 SURFACE SHOP (7%)
NORTON COMPANY				
JET-LH 78 MR	2	2	1	600 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
619 WELDER (100%)			005 SURFACE SHOP (7%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 30 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
PATTERSON OIL CO.				
VERSOL	13	13	8	20 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
602 ELECTRICIAN (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)	604 MECHANIC (24%)		010 SURFACE MILL (23%)	
PIEDMONT EXPLOSIVES				
ANFO	4	4	2	887,538 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	
HOP-1	4	4	2	5,313 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
807 POWDER GANG; BLASTER (100%)			004 SURFACE MINE (7%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 31 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
----- PLASTI-COTE INC. PLASTI-COTE SUPER ENAMEL SPRAY PAINT T-9 YELLOW	13	13	8	23 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
602 ELECTRICIAN (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)	604 MECHANIC (24%)		010 SURFACE MILL (23%)	
T-1 GLOSS BLACK	13	13	8	23 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
602 ELECTRICIAN (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)	604 MECHANIC (24%)		010 SURFACE MILL (23%)	
T-37	13	13	8	23 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
602 ELECTRICIAN (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)	604 MECHANIC (24%)		010 SURFACE MILL (23%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 32 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
PLASTI-KOTE CO., INC.				
BATTERY CLEANER NO. 279 (AEROSOL)	22	22	13	28 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
T-13 BABY BLUE	22	22	13	113 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
T-37 FEDERAL SUPER ENAMEL GRAY	22	22	13	113 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
T-9 SUPER ENAMEL YELLOW	22	22	13	113 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 33 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
----- PRECISIONAIRE, INC. SILICONE RUBBER SEALANT	4	4	2	30 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
----- 604 MECHANIC (10%)			----- 005 SURFACE SHOP (14%)	
PRECISIONAIRE, INC. SILICONE RUBBER SEALANT	7	7	4	300 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
----- 604 MECHANIC (17%)			----- 010 SURFACE MILL (12%)	
QUALITY OIL CO. ANTIFREEZE	22	22	13	1,500 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
----- 604 MECHANIC (49%)		649 ADMN, SUPERVISORY, MGT PERSNL (14%)	----- 005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 34 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
QUALITY OIL CO.				
VAR SOL	22	22	13	2,000 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
RADIATOR SPECIALTY CO.				
CARBURETOR CHOKE AND VALVE CLEANER (AEROSOL)	4	4	2	10 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (10%)			005 SURFACE SHOP (14%)	
RUST-OLEUM CORP.				
CLEAR-SELE 711 CLEAR (AEROSOL)	6	6	4	103 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (10%)	619 WELDER (100%)		005 SURFACE SHOP (21%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 35 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
SHELBY SUPPLIES				
DELUX OIL BASE SWEEPING COMPOUND	4	4	2	200 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (10%)			005 SURFACE SHOP (14%)	
SPRAYON PRODUCTS				
HI-TECH 02002 (AEROSOL)	7	7	4	12 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
STOODY DELORO STELLITE CO.				
NICRU-MANG	20	20	12	50 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 36 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
SUMBELT EXPLOSIVE CO.				
SUPER PRIME NO. 16-25	1	1	1	1,145 LBS.
(5) OCCUPATIONS				(6) LOCATIONS
534 JACKLEG OR STOPER DRILL OPTR (13%)				004 SURFACE MINE (2%)
SUNBELT EXPLOSIVE CO.				
DYNAMITES	1	1	1	1,800 LBS.
(5) OCCUPATIONS				(6) LOCATIONS
534 JACKLEG OR STOPER DRILL OPTR (13%)				004 SURFACE MINE (2%)
IRECO ELECTRIC DETONATORS IREDET SUPER SP	1	1	1	17 LBS.
(5) OCCUPATIONS				(6) LOCATIONS
534 JACKLEG OR STOPER DRILL OPTR (13%)				004 SURFACE MINE (2%)
IRECO J1135	1	1	1	180,000 LBS.
(5) OCCUPATIONS				(6) LOCATIONS
534 JACKLEG OR STOPER DRILL OPTR (13%)				004 SURFACE MINE (2%)

RUN DATE: 09/11/90

TABLE 4, PAGE 37 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
<hr/>				
SUNBELT EXPLOSIVE CO.				
PRECAST BOOSTERS	1	1	1	2,400 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (13%)			004 SURFACE MINE (2%)	
<hr/>				
SUNOX				
ARGON 75125	20	20	12	26,180 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	
<hr/>				
TECHALLOY MARYLAND				
RACO 6010	20	20	12	80 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 38 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
TECHALLOY MARYLAND				
RACO 7018	20	20	12	250 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	
RACO 8018	20	20	12	60 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)			005 SURFACE SHOP (71%)	
6010	11	11	6	120 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	
7018	11	11	6	200 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 39 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
TELEDYNE MCKAY				
E-6011	9	9	5	500 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)	619 WELDER (100%)		010 SURFACE MILL (12%) 005 SURFACE SHOP (7%)	
E-7018	2	2	1	300 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
619 WELDER (100%)			005 SURFACE SHOP (7%)	
TENNESSEE CHEMICAL				
SULFURIC ACID 93%	31	31	18	228,368 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (63%) 602 ELECTRICIAN (100%) 618 GREASER; OILER (20%) 679 FLOTATION/CONCTR OPTR (67%)	514 LABORATORY TECHNICIAN (100%) 604 MECHANIC (24%) 649 ADMN, SUPERVISORY, MGT PERSNL (29%)		010 SURFACE MILL (54%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 40 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
TEXACO INC.				
MEROPA 220	10	10	6	1,320 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
179 BALL, ROD, PEBBLE MILL OPTR (38%)	604 MECHANIC (17%)		010 SURFACE MILL (18%)	
MULTIFAK EP 2	20	20	12	6,480 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
079 CRUSHER OPTR (25%)	367 SHOVEL OPTR (33%)		006 SURFACE CRUSHING (25%)	
379 DRYER OPTR; KILN OPTR (100%)	534 JACKLEG OR STOPER DRILL OPTR (13%)		004 SURFACE MINE (5%)	
604 MECHANIC (27%)	619 WELDER (100%)		010 SURFACE MILL (18%)	
			005 SURFACE SHOP (21%)	
MULTIGEAR LUBT EP SAE 80W-90	3	3	2	185 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
379 DRYER OPTR; KILN OPTR (100%)			010 SURFACE MILL (5%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 41 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
TEXACO INC.				
MULTIGEAR LUBT EP SAE 85W-140	4	4	2	440 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
376 TRUCK DRIVER (21%)			004 SURFACE MINE (7%)	
REGAL OIL R&O 220	7	7	4	275 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
REGAL OIL R&O 68	7	7	4	110 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
ROCKDRILL LUBE 100	1	1	1	660 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (13%)			004 SURFACE MINE (2%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 42 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
TEXACO INC.				
TEXAMATIC FLUID 9226	1	1	1	240 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (13%)			004 SURFACE MINE (2%)	
THE LINCOLN ELECTRIC CO.				
FLEETWELD SP	7	7	4	150 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
FLEETWELD 5P	11	11	6	600 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	
JET-LH 78 MR.	7	7	4	500 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 43 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
WD-40 CO.				
WD-40 (AEROSOL)	6	6	4	271 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (10%)	619 WELDER (100%)		005 SURFACE SHOP (21%)	
WD-40 COMPANY				
WD-40 (AEROSOL)	7	7	4	270 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (17%)			010 SURFACE MILL (12%)	
ZEP MANUFACTURING CO.				
ZEP BEAD-IT HAND CLEANER	14	14	8	29 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (29%)		010 SURFACE MILL (25%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 44 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE

ZEP MANUFACTURING CO.				
ZEP LINCH HAND CLEANER	3	3	2	66 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
602 ELECTRICIAN (100%)	618 GREASER; OILER (20%)		010 SURFACE MILL (5%)	

ZEP PENETRANT SUPER (AEROSOL)	11	11	6	52 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	

ZIP GROOVY ANTI-SEIZE LUBRICANT FOR THREADED METAL PARTS	11	11	6	12 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (24%)	649 ADMN, SUPERVISORY, MGT PERSNL (7%)		010 SURFACE MILL (19%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 45 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
ZEP MANUFACTURING CO./DIV. OF NATIONAL SERVICE INDUSTRIES				
BIG Z	22	22	13	350 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
FAST GASKET BLUE	22	22	13	24 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
GLASS CLEANER	22	22	13	422 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
MVP	22	22	13	150 GALS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 46 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE
ZEP MANUFACTURING CO./DIV. OF NATIONAL SERVICE INDUSTRIES				
PLS PROTECTIVE LUBRICANT SPRAY	25	25	15	375 LBS.
(5) OCCUPATIONS	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		(6) LOCATIONS	
604 MECHANIC (49%) 782 FRONT-END LOADER OPTR (100%)			005 SURFACE SHOP (79%) 004 SURFACE MINE (5%)	
VETO	26	26	15	120 LBS.
(5) OCCUPATIONS	618 GREASER; OILER (80%)		(6) LOCATIONS	
604 MECHANIC (49%) 649 ADMN, SUPERVISORY, MGT PERSNL (14%)			004 SURFACE MINE (7%) 005 SURFACE SHOP (79%)	
ZEP BEAD-IT HAND CLEANER	11	11	6	50 LBS.
(5) OCCUPATIONS	807 POWDER GANG; BLASTER (100%)		(6) LOCATIONS	
534 JACKLEG OR STOPER DRILL OPTR (88%)			004 SURFACE MINE (19%)	

RUN DATE: 09/11/90

TABLE 4, PAGE 47 NOTE: TRADE SECRET DATA HAVE BEEN EXCLUDED FROM THIS TABLE.

TRADENAME PRODUCTS FOUND ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MANUFACTURER'S NAME AND TRADENAME PRODUCTS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)	(4) PREDICTED ANNUAL USAGE

ZEP MANUFACTURING CO./DIV. OF NATIONAL SERVICE INDUSTRIES				
ZEP BRAKE PART CLEANER	22	22	13	525 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
ZEP START ENGINE START PRODUCT NO. 0306	22	22	13	138 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	
ZEP 9862	22	22	13	820 LBS.
(5) OCCUPATIONS			(6) LOCATIONS	
604 MECHANIC (49%)	649 ADMN, SUPERVISORY, MGT PERSNL (14%)		005 SURFACE SHOP (79%)	

RUN DATE: 09/11/90

TABLE 5, PAGE 1 NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

PHYSICAL AGENT CONDITIONS IDENTIFIED ON MINE PROPERTY

COMMODITY NAME: LITHIUM

PHYSICAL AGENT CONDITION	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)
NOISE	147	147	86
(5) OCCUPATIONS			(6) LOCATIONS
079 CRUSHER OPTR (100%)	179 BALL, ROD, PEBBLE MILL OPTR (100%)		006 SURFACE CRUSHING (100%)
367 SHOVEL OPTR (100%)	368 BULLDOZER OPTR (100%)		005 SURFACE SHOP (100%)
376 TRUCK DRIVER (100%)	379 DRYER OPTR; KILN OPTR (100%)		004 SURFACE MINE (100%)
514 LABORATORY TECHNICIAN (100%)	534 JACKLEG OR STOPER DRILL OPTR (100%)		010 SURFACE MILL (100%)
602 ELECTRICIAN (100%)	604 MECHANIC (100%)		
616 LABORER; BULLGANG (100%)	618 GREASER; OILER (100%)		
619 WELDER (100%)	649 ADMN, SUPERVISORY, MGT PERSNL (100%)		
679 FLOTATION/CONCTR OPTR (100%)	782 FRONT-END LOADER OPTR (100%)		
807 POWDER GANG; BLASTER (100%)	879 BAGGING OR PACKING WRKR (100%)		
SEGMENTAL BODY VIBRATION	24	24	14
(5) OCCUPATIONS			(6) LOCATIONS
604 MECHANIC (59%)			005 SURFACE SHOP (86%)

RUN DATE: 09/11/90

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TABLE 6, PAGE 1 NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

MUSCULOSKELETAL OVERLOAD CONDITIONS IDENTIFIED ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MUSCULOSKELETAL CONDITION	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)
AWKWARD LIFTING	56	56	33
(5) OCCUPATIONS			(6) LOCATIONS
602 ELECTRICIAN (100%) 618 GREASER; OILER (80%) 649 ADMN, SUPERVISORY, MGT PERSNL (21%)	604 MECHANIC (100%) 619 WELDER (100%) 807 POWDER GANG; BLASTER (100%)		005 SURFACE SHOP (100%) 010 SURFACE MILL (35%) 004 SURFACE MINE (14%)
FOREARM, ARM, AND SHOULDER	90	90	53
(5) OCCUPATIONS			(6) LOCATIONS
079 CRUSHER OPTR (100%) 379 DRYER OPTR; KILN OPTR (100%) 602 ELECTRICIAN (100%) 616 LABORER; BULLGANG (100%) 619 WELDER (100%) 674 WAREHOUSEMAN; SUPPLY HANDLER (100%) 807 POWDER GANG; BLASTER (100%)	179 BALL, ROD, PEBBLE MILL OPTR (100%) 534 JACKLEG OR STOPER DRILL OPTR (13%) 604 MECHANIC (100%) 618 GREASER; OILER (100%) 649 ADMN, SUPERVISORY, MGT PERSNL (21%) 679 FLOTATION/CONCTR OPTR (33%) 879 BAGGING OR PACKING WRKR (100%)		006 SURFACE CRUSHING (100%) 005 SURFACE SHOP (100%) 009 SURFACE MISC (100%) 004 SURFACE MINE (22%) 010 SURFACE MILL (72%)
DIMINISHED LIGHT	9	9	5
(5) OCCUPATIONS			(6) LOCATIONS
179 BALL, ROD, PEBBLE MILL OPTR (38%) 679 FLOTATION/CONCTR OPTR (33%)	379 DRYER OPTR; KILN OPTR (100%)		010 SURFACE MILL (16%)

RUN DATE: 09/11/90

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TABLE 6, PAGE 2 NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

MUSCULOSKELETAL OVERLOAD CONDITIONS IDENTIFIED ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MUSCULOSKELETAL CONDITION	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)
FREQUENT LIFTING	47	47	28
(5) OCCUPATIONS			(6) LOCATIONS
079 CRUSHER OPTR (100%) 604 MECHANIC (66%) 807 POWDER GANG; BLASTER (100%)	534 JACKLEG OR STOPER DRILL OPTR (13%) 618 GREASER; OILER (100%) 879 BAGGING OR PACKING WRKR (100%)		006 SURFACE CRUSHING (100%) 005 SURFACE SHOP (71%) 004 SURFACE MINE (16%) 010 SURFACE MILL (25%)
HEAVY LIFTING	96	96	56
(5) OCCUPATIONS			(6) LOCATIONS
079 CRUSHER OPTR (100%) 379 DRYER OPTR; KILN OPTR (100%) 602 ELECTRICIAN (100%) 616 LABORER; BULLGANG (100%) 619 WELDER (100%) 674 WAREHOUSEMAN; SUPPLY HANDLER (100%) 807 POWDER GANG; BLASTER (100%)	179 BALL, ROD, PEBBLE MILL OPTR (100%) 534 JACKLEG OR STOPER DRILL OPTR (13%) 604 MECHANIC (100%) 618 GREASER; OILER (100%) 649 ADMN, SUPERVISORY, MGT PERSONL (21%) 679 FLOTATION/CONCTR OPTR (100%) 879 BAGGING OR PACKING WRKR (100%)		006 SURFACE CRUSHING (100%) 005 SURFACE SHOP (100%) 009 SURFACE MISC (100%) 004 SURFACE MINE (22%) 010 SURFACE MILL (82%)
LOWER LIMB	30	30	18
(5) OCCUPATIONS			(6) LOCATIONS
604 MECHANIC (73%)			005 SURFACE SHOP (71%) 010 SURFACE MILL (18%)

RUN DATE: 09/11/90

TABLE 6, PAGE 3 NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

MUSCULOSKELETAL OVERLOAD CONDITIONS IDENTIFIED ON MINE PROPERTY

COMMODITY NAME: LITHIUM

MUSCULOSKELETAL CONDITION	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)
NECK AND/OR BACK	82	82	48
(5) OCCUPATIONS			(6) LOCATIONS
079 CRUSHER OPTR (100%)	179 BALL, ROD, PEBBLE MILL OPTR (63%)		006 SURFACE CRUSHING (100%)
379 DRYER OPTR; KILN OPTR (100%)	534 JACKLEG OR STOPER DRILL OPTR (13%)		005 SURFACE SHOP (93%)
602 ELECTRICIAN (100%)	604 MECHANIC (100%)		009 SURFACE MISC (100%)
616 LABORER; BULLGANG (100%)	618 GREASER; OILER (100%)		004 SURFACE MINE (22%)
649 ADMN, SUPERVISORY, MGT PERSNL (21%)	674 WAREHOUSEMAN; SUPPLY HANDLER (100%)		010 SURFACE MILL (61%)
807 POWDER GANG; BLASTER (100%)	879 BAGGING OR PACKING WRKR (100%)		

RUN DATE: 09/11/90

TABLE 7, PAGE 1 NOTE: THIS TABLE DOES NOT CONTAIN TRADE SECRET DATA.

WELDING POTENTIAL EXPOSURE

COMMODITY NAME: LITHIUM

WELDING PROCESS	(1) #WORKERS POTENTIALLY EXPOSED (OBSERVED)	(2) #WORKERS POTENTIALLY EXPOSED (PREDICTED)	(3) %WORKERS POTENTIALLY EXPOSED (PREDICTED)
ARC CUTTING	9	9	5
(5) OCCUPATIONS			(6) LOCATIONS
604 MECHANIC (17%)	619 WELDER (100%)		010 SURFACE MILL (12%) 005 SURFACE SHOP (7%)
SHIELD METAL ARC WELDING	40	40	24
(5) OCCUPATIONS			(6) LOCATIONS
604 MECHANIC (90%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)	619 WELDER (100%)		005 SURFACE SHOP (79%) 010 SURFACE MILL (32%)
ELECTROGAS WELDING	20	20	12
(5) OCCUPATIONS			(6) LOCATIONS
604 MECHANIC (49%)			005 SURFACE SHOP (71%)
OXYFUEL GAS CUTTING	40	40	24
(5) OCCUPATIONS			(6) LOCATIONS
604 MECHANIC (90%) 649 ADMN, SUPERVISORY, MGT PERSNL (7%)	619 WELDER (100%)		005 SURFACE SHOP (79%) 010 SURFACE MILL (32%)

