

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

INSPECTION REPORT

Report No. 999-90001/96-005

Docket No. 999-9001

License No. General License

Licensee: North American Refractories Co.
251 East Memorial Avenue
Womelsdorf, Pennsylvania 19576-9603

Facility Name: North American Refractories Co.

Inspection At: Womelsdorf, Pennsylvania

Inspection Conducted: August 30, 1996

Inspector:

C. Thor Oberg, Health Physicist

10/6/96
date

Approved By:

John D. Kinneman, Chief
Nuclear Materials Safety Branch 2
Division of Nuclear Materials Safety

10/11/96
date

Inspection Summary: Special, Announced Inspection Conducted August 30, 1996, of activities performed pursuant to the general license in 10 CFR 40.22, and to review the status of disposition of source material in excess of 10 CFR 40.22 limits (Inspection Report No. 999-90001/96-005).

Areas Inspected: Organization and scope of activities; personnel training and radiation protection; material inventory; and independent measurements.

Results: No violations were identified. One non-cited violation was identified: the licensee identified that they exceeded the possession limits for source material specified in the general license of 10 CFR 40.22, and began immediate corrective actions which were completed following the inspection. The licensee reduced the amount of source material on site by shipping the raw material, baddeleyite (zirconium dioxide), containing uranium and thorium to a licensed facility and to warehouses for distribution to customers (Sections 4. and 6.).

RETURN ORIGINAL TO
REGION I

9610290224 961015
REG1 GA999 E*****
99990001 PDR

9610290224

DETAILS

1. Persons Contacted

- * George S. Robinson, Plant Manager
- * Mark R. Cauffman, Manager Training-Safety-Health Environmental
Leider Kleinfelder, Union Representative
Various plant workers
- * those present at the exit interview

2. Organization and Scope of Licensed Activities

NARCO produces refractories from various metallic ores and oxides as raw materials. One of these is baddeleyite, a form of zirconium dioxide, that contains about 595 parts-per-million (ppm) of source material. Baddeleyite is sintered (pressed and heated or "fired") to form zirconia (another form of zirconium dioxide) products as heat resistant items used in furnaces and smelting operations. The zirconia and products contain about 480 ppm of uranium (U) and thorium (Th). These materials are possessed and used pursuant to the general license described in 10 CFR 40.22.

Mr. George Robinson is the Plant Manager for North American Refractories Co. (NARCO). Mr. Mark Cauffman, Manager of Training for Safety, Health, and the Environment, reports to Mr. Robinson and provides training for the NARCO workers.

No safety issues or violations were identified.

3. Personnel Training and Radiation Protection

During June of 1995, Mr. Cauffman provided training to all of the hourly, and most of the salaried, employees. The training was entitled ZETTRAL INSTRUCTIONS AND PRECAUTIONS (see outline presented in EXHIBIT A) and provided information on the baddeleyite raw material, named ZETTRAL by the licensee. The training consisted of specifying that there is radioactivity in the baddeleyite on site, the types of radiation and that which is given off by the raw material, and the major hazards from this radioactive material (inhalation or ingestion of dust). Typical dust levels were discussed for air samples taken during press compacting operations. For a breathing period of one year, 2000 hours, an individual could be exposed to about 25% of the Derived Air Concentration (DAC) or less depending on the time necessary for a given operation. Several instructional items were specified to reduce possible radiation exposure to source material, such as not to sweep or use compressed air to clean up ZETTRAL, vacuum cleaning should be used instead. Mr. Kleinfelder stated that personnel do not always vacuum clean the presses but use compressed air to remove residual ZETTRAL.

Some additional training has been provided as necessary since June 1995.

Mr. Cauffman has worked with a consultant from Penn State University who assisted with the training and air sampling, and who has conducted some radiation surveys in the plant.

No safety issues or violations were identified.

4. Material Inventory

In a letter to Region I dated July 14, 1995, Mr. Cauffman stated that the source material contained in raw material on hand at the NARCO, Womelsdorf, PA, site was in excess of the limit specified in Part 40 of the NRC regulations because of a misunderstanding of 10 CFR 40.22. To meet the regulatory requirements and avoid the need for an NRC Source Material License, NARCO began to dispose of the material containing the source material to other licensed facilities.

On August 30, 1996, an NRC Region I inspector conducted an inspection at the NARCO plant. The inspector toured the plant, accompanied by NARCO personnel, Messrs. Cauffman and Kleinfelder, and observed both baddeleyite and zirconia products staged at various locations throughout the plant. According to the accounting by Mr. Cauffman, on the day of the inspection the material on site included 28.5 tons of baddeleyite, containing 34 pounds of source material, to be shipped to a licensed facility, and more than 15 tons of zirconia products, containing 14 pounds of U and Th, that would be shipped to the licensed facility and to two warehouse locations for storage/staging and distribution to customers.

In a letter dated September 10, 1996, (EXHIBIT B) NARCO submitted to NRC Region I an inventory of baddeleyite and source material as of August 30, 1996. The letter also contained information on the baddeleyite, and U and Th, shipped to a facility licensed to receive and possess this form of source material, and to warehouses for subsequent distribution to customers. On September 4 and 5, 1996, a total of 72114 pounds (36.06 tons) of baddeleyite, containing 34.61 pounds of source material, were shipped to ZIRCOA, Inc., Solon, Ohio, a facility licensed to receive and possess source material. On September 4, 1996, 5.97 tons of baddeleyite finished product (zirconia) containing 5.73 pounds of U and Th were shipped to a warehouse in Birmingham, AL. On September 6, 1996, 0.55 tons of zirconia as Nozzle Inserts, containing 0.52 pounds of U and Th, were shipped to Curwensville, PA, for storage and distribution. Thus, as of September 7, 1996, a total of 13.87 pounds of U and Th remained on site at the NARCO plant in Womelsdorf, PA.

One non-cited violation was identified, failure to maintain source material within the limit authorized by 10 CFR 44.22(a). However, the licensee identified the violation and has taken appropriate corrective action. No response to the violation is required.

5. Independent Measurements

During the inspection on August 30, 1996, the inspector conducted radiation surveys using a Ludlum Measurements, Inc., Model 19, Micro R Meter (NRC No. 33512, calibrated March 14, 1996), throughout the NARCO plant. This included many locations at which palletized, 55 gallon drums of baddeleyite and zirconia were staged. Staged pallets containing stacked finished products and packaged products, including bricks, rings, flow gates, nozzles, etc., were also surveyed as well as waste material in the form of "batts" and "furniture". A batt is material that is not usable and is pressed into blocks and fired in the plant kiln or furnace. The furniture is unusable products that are employed as seats and weights for new products during the firing or heating process.

The general background activity level in the plant was determined to be 5 to 10 micro R per hour ($\mu\text{R/hr}$). Survey measurements obtained from palletized drums of raw material, between stacked pallets at about 4 inches from the drum surfaces on either side of the meter, were about 340 $\mu\text{R/hr}$. Measurements at about 4 to 6 inches from packaged and palletized finished products, ready for shipment to warehouses, were 350 $\mu\text{R/hr}$. This was the highest measurement obtained during the inspection. Measurements made at 24 inches from the finished products were about 100 $\mu\text{R/hr}$ and at 12 inches from the palletized drums, were about 160 $\mu\text{R/hr}$. Measurements made at a meter from various staged baddeleyite and zirconia materials and items were between 75 and 125 $\mu\text{R/hr}$. No residual radiation levels were identified in the vicinity of presses and other machines in which these materials were previously used.

No safety issues or violations were identified

6. Exit Interview

The inspector conducted an exit interview with the licensee personnel indicated in Section 1 of this report. The inspector presented his findings stating that the radiation levels encountered did not present a significant hazard but, as discussed in the training outline, employees should not inhale or ingest any dust created from the baddeleyite or zirconia. The licensee should reinforce control of the use of compressed air to clean baddeleyite and/or zirconia residues from and about machinery after use.

Mr. Cauffman assured the inspector that the baddeleyite and zirconia shipments would leave the plant for shipment to a licensed facility and to warehouses by September 7, 1996. The licensee committed to submit to the NRC Region I Staff an inventory of baddeleyite and zirconia on site prior to the shipment on August 30, 1996. In addition, the licensee agreed to submit an invoice inventory of each shipment of these materials from the plant.



North American Refractories Co.

TEL: (610) 589-2535 • FAX: (610) 589-4772

ADDRESS REPLY TO:
WOMELSDORF PLANT
251 EAST MEMORIAL AVE.
WOMELSDORF, PA 19567-9603

Ms. Betsy Ullrich
Division of Nuclear Materials Safety
Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19401-1415

September 10, 1996

RE: Report of Source Material On Hand

Dear Ms. Ullrich:

During his visit, Mr. T. Oberg requested that we send an inventory of Source Material as of August 30, 1996 along with a copy of the bills of lading for the material shipped. These two items are enclosed along with the inventory taken on September 6, 1996.

The inventory of 9/6/96 showed that 13.86 pounds were on site. An additional shipment was sent to Curwensville on 9/9/96 reducing the material on hand to 10.43 pounds.

The small press, which Mr. Oberg saw, will be removed and shipped out in the next few weeks as the Nozzle business is being transferred to Zircoa who is licensed. This plant will temporarily continue to keep the capability to make larger shapes, however the total business is lower volume than the Nozzles and we will stay under the 15 pound limit and the 150 pound yearly limit. A system is being developed to account for the material on hand. This also should be working in a few weeks, at the present time, I am keeping the total in a cruder form.

Please contact me if you have any comments or questions.

Sincerely,

M. R. Cauffman
Mgr. Plant Environmental

cc: G. S. Robinson
K. A. Nelson - Curwensville

**RETURN ORIGINAL TO
REGION I**



A Member of The **DIER** Group

ZETTRAL INVENTORY

ZETTRAL INVENTORY		30-Aug-96		TOTAL	TOTAL	TONS	TOTAL	GREEN	FIRE
	AMOUNT	GREEN	FIRE	TONS	TONS	FIRE TO	TONS	ppm U,Th	ppm U,Th
<u>S/G PRESS ROOM</u>		POUNDS	POUNDS	PROD	BATS	SHIP		595	480
MATL TO BE PRESSED								# U,Th	
DRUMS @ 750# EACH	6	4500		2.3				2.68	
DRUM @ 500# FROM ZIRCOA	12.5	6250.0		3.1				3.72	
BLUE DRUMS @ 250 # EA	14	3500.0		1.8				2.08	
PALLETS PRESSED NOZZLES									
225PCS X 2.25 # EACH	0	0.0		0.0				0.00	
COOKIES, PRESSED, .3#	882	264.6		0.1				0.16	
GREEN BATS IN BAGS									
PRESSED BATS, DRUM	0	0.0		0.0		0.00			
TOTAL					7.3			8.64	
<u>KILN AREA</u>									
DRUMS OF GREEN	0	0		0.0		0.00		0.00	
DRUMS TO BE SET	0.3	210		0.1		0.11		0.12	
GREEN RINGS	124	458.8		0.2		0.23		0.27	
COOKIES, BOX @ 270 PER BOX	2	162.0		0.1				0.10	
<u>TOTAL GREEN</u>								9.13	
<u>CAT III AREA</u>									
DRUMS BURNED BATS ~ 1100#	14		15400		7.7	7.70		7.39	
FIRE RINGS	177		938.1		0.5	0.47		0.45	
FIRE S/G's, 9.5# PCS									
PALLET = 4 X 10 X 10 HI=400	0		0		0.0	0.00			
BOXES, PIECES @ 2.25# ea	1716		3432	1.7	1.7	1.72		1.65	
FIRE BRICK	18	12600		6.3		6.30		6.05	
PRODUCT, @ 2.25# ea			0.0	0.0	0.0	0.00		0.00	
FIRE BRICK	30918	30918.0		15.5		15.46		14.84	
PRODUCT, NOZZ, 1.0#			0.0	0.0	0.0	0.00		0.00	
<u>KILN DEPT</u>									
FIRE COOKIES ~ 1100#/DM	0		0		0.0	0.00		0.00	
RINGS FIRE	0		0		0.0	0.00		0.00	
DRUMS FIRE	0		0		0.0	0.00		0.00	
<u>CASING AREA</u>									
FIRE NOZZLE & INSERTS									
3.05# 3"14"11	0		0	0.0	0.0	0.00		0.00	

ZETTRAL INVENTORY

ZETTRAL INVENTORY		30-Aug-96		TOTAL	TOTAL	TONS	TOTAL	GREEN	FIRED
	AMOUNT	GREEN	FIRED	TONS	TONS	FIRED TO	TONS	ppm U,Th	ppm U,Th
<u>SIG PRESS ROOM</u>		POUNDS	POUNDS	PROD	BATS	SHIP		595	480
65 PCS	0		0.0	0.0	0.0	0.00		0.00	
16 BOX @ 12 EA	0		0.0	0.0	0.0	0.00		0.00	
400 PCS PALLETS, STOCK	0		0.0	0.0	0.0	0.00		0.00	
26 BOX @ 12 RETURN	0		0.0	0.0	0.0	0.00		0.00	
OUTER SHELLS, 2.47# Z-65									
11"14"7.5 HI	0		0.0	0.0	0.0	0.00		0.00	
BOX FIRED BATS @ 2900	0		0		0.0	0.00		0.00	
SMALL NOZZLES INSERTS	1289		747.62	0.4	0.4	0.37		0.36	
<u>RAW MATERIALS</u>									
GROUND BATS FOR USE			7150		3.6	3.00		3.43	
<u>SHIPPING AREA</u>									
DRUMS, FIRED	4		4400	0.0	2.2	2.20		2.11	
FINISHED GOODS PALLET	21		19400	0.0	9.7	9.70		9.31	
<u>TOTAL, POUNDS</u>		58863.4	27667.7	31.5	21.1	35.4		54.72	
<u>TOTAL, TONS</u>		29.4	13.8	0.0	0.0		43.3		

ZETTRAL SHIPMENTS

SHIPMENTS TO PLANTS - ZETTRAL									
	AMOUNT	GREEN	FIRE	TOTAL	TOTAL	TONS	TOTAL	GREEN	FIRE
		POUNDS	POUNDS	TONS	TONS	FIRED TO	TONS	ppm U,Th	ppm U,Th
				PROD	BATS	SHIP		595	480
SHIPPING MANIFESTS	<u>CURWENSVILLE</u>								
NOZZLE INSERTS & J-65, 9/6/96	1885		1093.3		0.5	0.55		0.52	

ZETTRAL INVENTORY 9/6/96

[illegible]

North American Refractories Co.

Cleveland, Ohio 44115-1809

A Member of The Didier Group

INVOICES PRICED		INVOICES NOT PRICED		CUSTOMS INVOICES	BILL OF LADING	TERRITORIAL CREDIT					
SHIPPED FROM WOMELSDORF		DATE OF SHIPMENT 09/05/96		FOR DELIVERY DATE ASAP HR		MANIFEST NUMBER 20-4786					
SOLD TO ZIRCOA, INC. 31501 SOLON ROAD, DOCK #1 ADDRESS SOLON, OH 44139				PALLETIZING DATA CXL ARR'G PALLET PROTECTION TYPE C NO. PALLETS 7 PALLET GATES OTHER EQUIPMENT		REMARKS:					
CONSIGNED TO SAME				TOTAL SHIPPED 9' EQUIV. TONS		RAILROAD WEIGHT - NET					
DESTINATION SAME				FREIGHT RATE		SHIPPED					
VIA TMC TRANSPORTATION				PRICES		COLLECT <input type="checkbox"/> PREPAID <input checked="" type="checkbox"/>					
CAR NO.				F.O.B. OUR WORKS <input type="checkbox"/>		INCLUDE FREIGHT <input type="checkbox"/>					
CUSTOMER'S ORDER NUMBER	OUR ORDER NUMBER	BRAND	SIZE	OUR DWG. NO.	PIECES SHIPPED	WEIGHT PER PIECE	TOTAL WEIGHT	EQUIV. PER PIECE	TOTAL 9' EQUIV.	PRICE	AMOUNT
		ZETTRAL BATS			25		28,921				
		7-36"X48" DF PALLETS @77# EA.					539				
					25		29,460				
B/L NO. APPLYING ON ABOVE: 960020-09-035											

North American Refractories Co.

Cleveland, Ohio 44115-1809

A Member of The Didier Group

SHIPPED FROM WOMELSDORF	DATE OF SHIPMENT 09/04/96	FOR DELIVERY DATE 09/05/96 HR	MANIFEST NUMBER 20-4781
-----------------------------------	-------------------------------------	---	-----------------------------------

INVOICES PRICED	INVOICES NOT PRICED	CUSTOMS INVOICES	BILL OF LADING	TERRITORIAL CREDIT

SOLD TO ZIRCOA, INC.

31501 SOLON ROAD, DOCK #1

ADDRESS SOLON, OH 44139

CONSIGNEE TO SAME

DESTINATION _____ SAME

VIA TMC TRANSPORTATION, INC.

CAR NO.

PALLETIZING DATA	
CAL. ARRIV.	
PALLET PROTECTION TYPE	NO. PALLETS
C	11
PALLET GATES	
OTHER EQUIPMENT	

REMARKS:

PRICES:

F.O.B. OUR WORKS

TOTAL SHIPPED	9' ECKH
---------------	---------

TDMR

RAILROAD WEIGHT - NET

FREIGHT RATE

SHIPPED

COLLECT ☐PREPAID ☒

INCLUDE FREIGHT	
-----------------	--

CUSTOMER'S ORDER NUMBER	OUR ORDER NUMBER	BRAND	SIZE	OUR DWG. NO.	PIECES SHIPPED	WEIGHT PER PIECE	TOTAL WEIGHT	EQUIV. PER PIECE	TOTAL 9" EQUIV.	PRICE	AMOUNT
		ZETTRAL SCRAP			44		43,173				
		11-36"X48" DF PALLETS @77# EA.					847				
					44		44,020				
		B/L NO. APPLYING ON ABOVE: 960020-09-016									

North American Refractories Co.

A Member of The Didier Group

Cleveland, Ohio ^{PAGE 1} 44115-1809

PAGE 1

INVOICES PRICED	INVOICES NOT PRICED	CUSTOMS INVOICES	BILL OF LADING	TERRITORIAL CREDIT
				D
REMARKS:			TOTAL SHIPPED 5' EQUIV TONS	
			RAILROAD WEIGHT - NET	
			FREIGHT RATE	
PRICES			SHIPPED	
			COLLECT <input type="checkbox"/> PREPAID <input checked="" type="checkbox"/>	
F.O.B. OUR WORKS <input type="checkbox"/>			INCLUDE FREIGHT <input type="checkbox"/>	

SHIPPED FROM WOMELSDORF	DATE OF SHIPMENT 09/04/96	FOR DELIVERY DATE ASAP	MANIFEST NUMBER 0020070512ST
----------------------------	------------------------------	---------------------------	---------------------------------

SOLD TO WOMELSDORF NORTH AMERICAN REFRACTORIES CO ROUTE 419		PALLETIZING DATA	
ADDRESS WOMELSDORF PA 19567-0038		C/L ARR'G	
CONSIGNED TO BIRMINGHAM WAREHOUSE NORTH AMERICAN REFRACTORIES CO c/o DeCARLO WAREHOUSE		PALLET PROTECTION TYPE	NO. PALLETS
DESTINATION ENSLEY AL 35218		C	19
		PALLET GATES	
		OTHER EQUIPMENT	

VIA NATIONAL CAR NO.

CUSTOMER'S ORDER NUMBER	OUR ORDER NUMBER	BRAND	SIZE	OUR DWG. NO.	PIECES SHIPPED	WEIGHT PER PIECE	TOTAL WEIGHT	EQUIV. PER PIECE	TOTAL S ^Y EQUIV.	PRICE	AMOUNT
		RELEASE #: CUST. REQ#:									
		BOL #:									
		THRU:									
	01280010	01.00.01-050174-0020-0020		NONE	900		1620				
		ZETTRAL 95S NOZZLE MODEL 56098 15.5MM BORE									
		AMERICAN STEEL BALDWIN 273733 - LINES 2, 3 & 4									
		36" X 48" - DOUBLE FACE			3		231				
	01280010	02.00.01-053229-0020-0020		NONE	2060		3996				
		ZETTRAL 95S NOZZLE MODEL 56098 15.1MM BORE									
		AMERICAN STEEL BALDWIN 262226 LINES 4, 5, 6, 7 & 8									
		36" X 48" - DOUBLE FACE			5		385				
	01280010	03.00.01-053552-0020-0020		NONE	800		1448				
		ZETTRAL 95S NOZZLE MODEL 5748 16.5MM BORE									
		AMERICAN STEEL CHARLOTTE 269636 LINE 7 PACKAGED 1 @ 300 / 1 @ 500									
		36" X 48" - DOUBLE FACE			2		154				
	01280010	04.00.01-073518-0020-0020		NONE	180		360				
		ZETTRAL 95S NOZZLE MODEL 5748 /16.7mm									
		AMERICAN STEEL CHARLOTTE									

North American Refractories Co.

Cleveland, Ohio ^{PAGE 2} 44 15-1809

PAGE. 2

A Member of The Didier Group

1 of 5	REF FROM WOMELSDORF	DATE OF SHIPMENT 09/04/96	FOR DELIVERY DATE ASAP HR	MANIFEST NUMBER 0020070512ST
--------	------------------------	------------------------------	------------------------------	---------------------------------

INVOICES PRICED	INVOICES NOT PRICED	CUSTOMS INVOICES	BILL OF LADING	TERRITORIAL CREDIT
				D

SOLD TO <u>WOMELSDORF</u> <u>NORTH AMERICAN REFRACTORIES CO</u> <u>ROUTE 419</u>		PALLET/ING DATA C/L ARR'D		REMARKS.	TOTAL SHIPPED 9' EQUIV.		TCMS		
ADDRESS <u>WOMELSDORF</u> <u>PA 19667-0038</u>		PALLET PROTECTION TYPE			RAIL ROAD WEIGHT - NET				
		PALLET GATES			FREIGHT RATE				
CONSIGNED TO <u>BIRMINGHAM WAREHOUSE</u> <u>NORTH AMERICAN REFRACTORIES CO</u> <u>c/o DeCARLO WAREHOUSE</u>		OTHER EQUIPMENT			SHIPPED				
DESTINATION <u>3114 AVENUE B</u> <u>ENSLEY</u> <u>AL 35218</u>				PRICES: F.O.B. OUR WORKS		COLLECT <input type="checkbox"/>		PREPAID <input checked="" type="checkbox"/>	
VIA <u>AIR</u> <u>CAR NO.</u>						INCLUDE FREIGHT			

CUSTOMER'S ORDER NUMBER	OUR ORDER NUMBER	BRAND	SIZE	OUR DWG. NO.	PIECES SHIPPED	WEIGHT PER PIECE	TOTAL WEIGHT	EQUIV. PER PIECE	TOTAL S" EQUIV.	PRICE	AMOUNT
		RELEASE #: CUST. REQ#:									
		BOL#:									
		THRU:									
		269636 LINE 6									
		36" X 48" - DOUBLE FACE			1		77				
01280010	05.00.01-050007-0020-0020	NONE			1200		1992				
		ZETTRAL 95S NOZZLE MODEL 5609B 14.5MM BORE(.571")									
		AMERICAN STEEL BALDWIN 267047 LINES 2, 3, 4 & 5									
		36" X 48" - DOUBLE FACE			4		308				
01280010	06.00.01-060949-0020-0020	NONE			500		945				
		ZETTRAL 95S NOZZLE MODEL 5748 15.8MM (.625) BORE									
		AMERICAN STEEL CHARLOTTE 269636 LINE 5									
		36" X 48" - DOUBLE FACE			1		77				
01280010	07.00.01-060948-0020-0020	NONE			500		945				
		ZETTRAL 95S NOZZLE MODEL 5748 15.5MM (.610) BORE									
		AMERICAN STEEL CHARLOTTE 269636 LINES 1 & 2									
		36" X 48" - DOUBLE FACE			2		154				
01280010	08.00.01-049734-0020-0020	NONE			360		637				
		ZETTRAL 95S NOZZLE									

INVOICES PRICED	INVOICES NOT PRICED	CUSTOMS INVOICES	BILL OF LADING	TERRITORIAL CREDIT
				00

REMARKS:	TOTAL SHIPPED 5" EQUIV.	TONS
	RAILROAD WEIGHT - NET	

PALLET GATES

1991

OTHER EQUIPMENT	
-----------------	--

POSTAGE ☐ COLLECT ☐ PREPAID ☒

F.O.B. OUR WORKS	INCLUDE FREIGHT
------------------	-----------------

CUSTOMER'S ORDER NUMBER	OUR ORDER NUMBER	BRAND	SIZE	OUR DWG. NO.	PIECES SHIPPED	WEIGHT PER PIECE	TOTAL WEIGHT	EQUIV. PER PIECE	TOTAL 9" EQUIV.	PRICE	AMOUNT
		RELEASE #: CUST. REQ#:									
		BOL#:									
		THRU:									
	01280170	01.00.01-050069-0020-0020	NONE		536		1592				
		JUSTAL 65S/95S TUNDISH NOZZLE 93-039/15.0 METER NOZZLE ASSY									
		CONSISTS OF ITEM									
		536 050063	NONE					1.00	536.00		
		ZETTRAL 65S TUNDISH NOZZLE 93-039-1 ZIRCON OUTER SHELL									
		CONSISTS OF ITEM									
		536 050066	NONE					1.00	536.00		
		ZETTRAL 95S NOZZLE 93-039-2/15.0 INSERT									
		36" X 48" - DOUBLE FACE			2		154				
	01280170	02.00.01-050066-0020-0020	NONE		201		121				
		ZETTRAL 95S NOZZLE 93-039-2/15.0 INSERT									
		36" X 48" - DOUBLE FACE			1		77				
	01280170	03.00.01-069696-0020-0020	NONE		124		64				
		ZETTRAL 95S NOZZLE 93-039-2/17.5 INSERT									
	01280170	04.00.01-068030-0020-0020	NONE		97		52				
		ZETTRAL 95S NOZZLE 93-039-2/16.5 INSERT									
	01280170	05.00.01-050068-0020-0020	NONE		927		2707				
		JUSTAL 65S/95S TUNDISH NOZZLE 93-039/14.5 METER NOZZLE ASSY									

