



DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD, SUITE 4616
FT. BELVOIR, VIRGINIA 22060-6223

IN REPLY
REFER TO

DNCS-S

March 6, 2000

Dear Prospective Bidder:

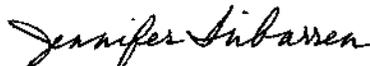
On Wednesday, March 29, 2000 at 10:30 AM, local time, the Defense Logistics Agency, Defense National Stockpile Center, will open and consider offers for the sale of approximately 1,000,000 pounds of contained cobalt (LBS(Co)) metal cathodes under Solicitation of Offers for Cobalt Metal DLA-COBALT-007.

The format of this solicitation is negotiated, which allows the Government to discuss issues regarding price, removal period, quantity or any other provisions of the solicitation. However, the Government may award a contract without discussion with offerors. Therefore, each initial offer should contain your best terms.

Additional copies of this Invitation are available upon request. Inquiries should be addressed to: ATTN: Cobalt Contracting Officer, DNCS-S, Defense National Stockpile Center, 8725 John J. Kingman Road, Suite 4616, Fort Belvoir, VA 22060-6223, Facsimile No. 703-767-5484.

Thank you for your interest in the Defense National Stockpile program. Should you have any questions or concerns regarding this sale of cobalt metal, please contact the undersigned at 703-767-5487.

Sincerely,


JENNIFER IRIBARREN
Contracting Officer



ISSUE DATE: March 6, 2000

DLA-COBALT-007

SOLICITATION OF OFFERS FOR COBALT METAL



DEFENSE LOGISTICS AGENCY

Defense National Stockpile Center
8725 John J. Kingman Road
Fort Belvoir, VA 22060-6223

Defense National Stockpile Center

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SECTION A - SOLICITATION

A.1 Introduction (JAN 00)

a. The Defense Logistics Agency (DLA), Defense National Stockpile Center (DNSC), is soliciting offers for the sale of approximately 1,000,000 pounds of contained cobalt metal (LBS(CO)) for one or more contracts with a contract period not to exceed one calendar year. The initial offering will be held on Wednesday, March 29, 2000 at 10:30 AM. Subsequent offerings will be held on the second Friday of the last month of each calendar quarter until all material is sold. Offers must be received at the address in Section **B.2.a.** by 10:30 AM, local time, Ft. Belvoir, VA. **In the event that DNSC is closed at the time set for receipt of offers, offers for that day will be received at 10:30 AM on the next DNSC business day.**

b. Delivery is F.O.B. carrier's conveyance. The Government will assist with outloading. (See **F.1.d.**)

c. For additional information, Offerors may contact the Directorate of Stockpile Contracts at (703) 767-6500.

A.2 Description (JUL 97)

a. The cobalt listed in Section **I.2**, Item Numbers 2009 through 2044, is in the form of broken electrolytic cathodes, Grade B, produced by Gecamines, at Luilu, Shaba, Zaire (c. 1981-1983), and packed in drums (approximately 551 pounds of cathode/drum). Copies of Certificates of Analysis from the producer and a Government contract laboratory for each item are provided in Section **J.1** as is DNSC Purchase Specification P-13-R4 covering refined cobalt metal. Some lots have been divided into sublots. These items are denoted by a parenthetical letter suffix of the lot number. However, the analytical data provided refer to the lot as a whole; sublots were not sampled and analyzed individually. The material is located at Warren, OH and New Haven, IN.

b. Government analyses indicate that the material conforms to the data listed in Paragraph **A.2.a**, Section **I.2**, and Section **J.1**; however, no warranty or guarantee is made that the material so conforms or that it will be suitable for any particular purpose.

SECTION B – PREPARATION AND SUBMISSION OF OFFERS**B.1 Submittals (NOV 99)**

Offerors shall submit **all** of the following documents along with the offer unless otherwise noted:

a. Section I.1 Sale of Government Property Negotiated Sales Contract (APR 99) with the section entitled “Execution by Contractor” completed.

b. Section I.2 Item Offer Pages – DLA-COBALT-007 (MAR 00) with the (1) offered unit price column; (2) total offered item price column; (3) total offered quantity; (4) total offered price; (5) company name; (6) telephone and facsimile numbers, (7) name and title; and (8) signature and date blocks completed.

c. Section I.3 Certificate of Independent Price Determination (JUL 97); and

d. Section I.4 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance and Other Responsibility Matters (JUL 97).

e. Representations, Certifications and Identifications at Sections I.5 through I.10. Offerors please note: If Annual Representations, Certifications and Identifications have previously been submitted they need not be resubmitted. However, Section I.3 Certificate of Independent Price Determination and I.4 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance and Other Responsibility Matters shall be submitted with each offer.

f. Any other terms the Offeror wishes to negotiate. (See Section B.7.c)

B.2 General Information (JUL 97)

a. Facsimile offers and modifications will be accepted in accordance with Section B.6. Offers may also be submitted by mail or hand delivered enclosed in a sealed envelope and addressed to:

ATTN: DNSC-L (Bid Custodian)
Defense National Stockpile Center
8725 John J. Kingman Road
Suite 4616 (Mail) or Suite 4528 (Hand Delivered)
Fort Belvoir, Virginia 22060-6223
Facsimile No. (703) 767-5541

Place the name and address of the Offeror in the upper left corner and the following information in the lower left corner on the face of the envelope:

SOLICITATION OF OFFERS
DLA-COBALT-007

b. The Offeror agrees, if its offer is accepted by the Government within **twenty (20)** working days from the date specified in the Solicitation for receipt of offers, to purchase any or all material on which offers are made at the price offered and to take delivery of the material within the time specified in the executed **Section I.1 Sale of Government Property Negotiated Sales Contract (APR 99)**.

c. Unless a designation of agent is on file at DNSC, an Offeror submitting an offer as agent for another party shall submit written proof, either prior to or with the offer, that it is authorized to act as agent and shall tender the offer in the name of the principal.

B.3 Minimum Quantity (JUL 97)

The minimum offer for material shall be for an entire line item. In no event will an offer on a portion of a line item be accepted.

B.4 Unit Pricing (JUL 97)

a. Offerors may submit an offer using a formula pricing method where the price offered for the material is derived from a formula based on a set of published price quotations, as described below, and where the contract period exceeds sixty (60) days. The pricing method selected must be used for an entire line item.

b. Offerors shall use the following guidelines when submitting a formula price.

(1) A pricing formula may be stated as a percentage of the base price or as a base price plus (or minus) a specified premium (or discount).

(2) The base price in a formula shall be determined by the average of the four consecutive weeks of published quotations for 99.8% cobalt contained immediately prior to the pricing date.

(3) The pricing date for formula priced material shall be the date the Contractor submits a **Section J.3 Shipping Instructions** for each item being priced. *Please note, in accordance with Section F.1.g., that shipment must commence within five (5) days of the pricing date.*

(4) The published quotations which establish the base price for a pricing formula shall be from only one of the following publications: Metal Bulletin or Ryan's Notes: Ferrous and Nonferrous News and Prices.

(5) No other formula pricing methods will be acceptable.

B.5 Late Submissions, Modifications, and Withdrawals of Offers (MAR 98)

a. Any offer received at the office designated in the solicitation after the exact time specified for receipt of offers will not be considered unless it is received before award is made and—

(1) It was sent by registered or certified mail not later than the fifth calendar day before the date specified for receipt of offers (e.g., an offer submitted in response to a solicitation requiring receipt of offers by the 20th of the month must have been mailed by the 15th);

(2) It was sent by mail (or telegram or facsimile, if authorized) or hand-carried (including delivery by a commercial carrier) if it is determined by the Government that the late receipt was due primarily to Government mishandling after receipt at the Government installation;

(3) It was sent by U.S. Postal Service Express Mail Next Day Service-Post Office to Addressee, not later than 5:00 p.m. at the place of mailing two working days prior to the date specified for receipt of offers. The term "working days" excludes weekends and U.S. Federal holidays; or

(4) It was transmitted through an electronic commerce method authorized by the solicitation and was received at the initial point of entry to the Government infrastructure not later than 5:00 p.m. one working day prior to the date specified for receipt of offers.

(5) There is acceptable evidence to establish that it was received at the activity designated for receipt of offers and was under the Government's control prior to the time set for receipt of offers, and the Contracting Officer determines that accepting the late offer would not unduly delay the sale; or

(6) It is the only offer received.

b. Notwithstanding paragraph a. of this provision, the only acceptable evidence to establish the time of receipt of a facsimile bid transmitted to a number other than that listed in Section B.5 is the time/date stamp manually recorded by Government personnel, other documentary evidence maintained by the installation, or oral testimony or statements of Government personnel. In no event will the time/date annotated by a facsimile machine located at a number other than that listed in Section B.5 be acceptable evidence to establish the timeliness of the offer.

c. Any modification of an offer, including a modification resulting from the Contracting Officer's request for "best and final" offer, is subject to the same conditions as in subparagraphs a.(1) through a.(5) of this provision.

d. The only acceptable evidence to establish the date of mailing of a late offer or modification sent either by U.S. Postal Service registered or certified mail is the U.S. or Canadian Postal Service postmark both on the envelope or wrapper and on the original receipt from the U.S. or Canadian Postal Service. Both postmarks must show a legible date or the offer or modification shall be processed as if mailed late. "Postmark" means a printed, stamped, or otherwise placed impression (exclusive of a postage meter machine impression) that is readily identifiable without further action as having been supplied and affixed by employees of the U.S. or Canadian Postal Service on the date of mailing. Therefore, offerors should request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

e. Acceptable evidence to establish the time of receipt at the Government installation includes the time/date stamp of that installation on the offer wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

f. The only acceptable evidence to establish the date of mailing of a late offer, modification, or withdrawal sent by Express Mail Next Day Service-Post Office to Addressee is the date entered by the post office receiving clerk on the "Express Mail Next Day Service-Post Office to Addressee" label and the postmark on both the envelope or wrapper and on the original receipt from the U.S. Postal Service. "Postmark" has the same meaning as defined in paragraph c. of this provision, excluding postmarks of the Canadian Postal Service. Therefore, offerors should

request the postal clerk to place a legible hand cancellation bull's eye postmark on both the receipt and the envelope or wrapper.

g. Notwithstanding paragraph a. of this provision, a late modification of an otherwise successful offer that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

h. Offers may be withdrawn by written notice or telegram (including mailgram) received at any time before award. If the solicitation authorizes facsimile offers, offers may be withdrawn via facsimile received at any time before award, subject to the conditions specified in the provision entitled "Facsimile Submissions". Offers may be withdrawn in person by an Offeror or an authorized representative, if the representative's identity is made known and the representative signs a receipt for the offer before award.

i. If an emergency or unanticipated event interrupts normal Government processes so that offers cannot be received at the office designated for receipt of offers by the exact time specified in the solicitation, and urgent Government requirements preclude amendment of the solicitation or other notice of an extension of the closing date, the time specified for receipt of offers will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal Government processes resume. If no time is specified in the solicitation, the time for receipt is 4:30 p.m., local time, for the designated Government office.

B.6 Facsimile Submissions (JUL 97)

Facsimile offers and modifications will be accepted any time prior to the exact time set for receipt of offers. Facsimile withdrawals will be accepted any time before award.

Offerors must use the facsimile number: (703) 767-5541.

a. Definition: "Facsimile submission," as used in this Solicitation, means an offer, modification of an offer, or withdrawal of an offer that is transmitted to and received by the Government via electronic equipment that communicates and reproduces both printed and handwritten material.

b. Offerors may submit facsimile submissions as responses to this Solicitation. These responses must arrive at the place, and by the time, specified in the Solicitation.

c. Facsimile submissions that fail to furnish required representations or information, that reject any of the terms, conditions, and provisions of the Solicitation, that contain garbled information, or are otherwise incomplete, may be excluded from consideration.

d. Facsimile submissions must contain the required signatures.

e. The Government reserves the right to make award solely on the facsimile submission. However, if requested to do so by the Contracting Officer, the apparently successful Offeror agrees to promptly submit the complete original signed submission.

f. If the Offeror chooses to transmit a facsimile submission, the Government will not be responsible for any failure attributable to the transmission or receipt of the facsimile submission including, but not limited to, the following:

- (1) Receipt of garbled or incomplete submission.
- (2) Availability or condition of the receiving facsimile equipment.

- (3) Incompatibility between the sending and receiving equipment.
- (4) Delay in transmission or receipt of submission.
- (5) Failure of the Offeror to properly identify the submission.
- (6) Illegibility of submission.
- (7) Security of submission data.

B.7 Consideration of Offers (FEB 98)

- a. The Government reserves the right to --
 - (1) Reject any or all offers;
 - (2) Waive any informalities and minor irregularities in an offer;
 - (3) Award a quantity less than the quantity offered on at the unit price offered;
 - (4) Accept any one item or group of items in an offer, as may be in the best interest of the Government.
 - (5) Award quantities in excess of that stated as being available for sale.
- b. Offerors may submit multiple offers at various unit prices and may specify a maximum quantity.
- c. The Government may request specific pricing documentation to support the offer submitted. Failure to provide the documentation, if requested, may result in the Offeror being ineligible for award. Pricing data will be treated as proprietary and will not be released by the Government.
- d. "All or none" offers will not be considered.

B.8 Evaluation of Offers (MAR 00)

- a. General - The evaluation factors are listed below in descending order of importance:
 - (1) Unit price.
 - (2) **Exposure to Economic Loss Due to Changing Prices (Price Risk).**
 - (3) Payment terms.
 - (4) Removal schedule.

All evaluation factors other than unit price **and price risk**, when combined, are significantly less important than unit price **and price risk**.

- b. To be considered, offers must meet the following minimum requirements:
 - (1) Submission of the information requested in Section **B.1**;
 - (2) Submission of pricing which complies with the provisions of Section **B.4**;
 - (3) Compliance with Section **B.7.d**.

- (4) Submission of a removal schedule which meets or exceeds the provisions of Section E.1.

c. Requests for payment terms will be considered only from offerors with a satisfactory performance and payment record with DNSC and a satisfactory current Dun & Bradstreet Report. The maximum acceptable payment term is Net 30 days.

B.9 Negotiation Procedures (JUL 97)

The Government intends to evaluate offers and award a contract after conducting discussions with all offerors whose offers have been determined to be within the competitive range. However, the Government reserves the right to award without discussions. Accordingly, offerors are advised to include their best possible terms in their initial offer.

If the Government determines that holding discussions is in its best interest, the following procedure will be utilized:

a. **Competitive Range** - The competitive range shall be determined on the basis of price and other factors that are stated in the solicitation and will include all offers which comply with Section B.8.b. that have a reasonable chance of being selected for award. Offers not included in the competitive range will not be given further consideration.

b. **Negotiations/Discussions** - Only offerors within the competitive range will be contacted to schedule the day and time for discussions to be conducted. Negotiations will be conducted only with the company official signing Section I.1 **Sale of Government Property Negotiated Sales Contract (APR 99)** or a specifically authorized individual identified in Section I.8 **Authorized Negotiators (JUN 95)**. The content and extent of the discussions is a matter of the Contracting Officer's judgment, based on the particular facts of the sale and each offeror's initial offer. *ALL NEGOTIATIONS WILL BE TELEPHONIC.*

c. **Discussion Session** - Only one discussion session per offeror is intended. In order to facilitate meaningful discussions, offerors should:

- (1) Be prepared to discuss:

- (A) Only those prices and terms included in the initial offer;
- (B) Supporting documentation and justification for the derivation of prices offered;
- (C) Payment terms;
- (D) Removal schedule; and

- (2) Arrange to have appropriate support personnel present during discussions, i.e., Purchasing, Marketing, etc.

d. **Best and Final Offer Requests** - At the conclusion of discussions, all offerors with which discussions were conducted will be requested to submit a best and final offer (BAFO). Oral requests for best and final offers will be confirmed in writing. Each individual BAFO request will include the following:

- (1) Notice that discussions are concluded;
- (2) Time and date by which BAFOs must be submitted;
- (3) Notice that BAFOs are subject to Section B.5 **Late Submissions, Modifications, and Withdrawals of Offers (MAR 98)**;
- (4) A record of negotiated issues and understandings between the Government and the

- offeror (as applicable);
- (5) A list of remaining questions/deficiencies (if any);
 - (6) A caution to offerors to provide supporting documentation for any changes to their prior offers as revised during discussions; and
 - (7) Notice that the Government intends to evaluate best and final offers and award a contract without further discussions.

e. Best and Final Offer Responses - BAFOs should strictly conform to the best and final offer request. If no response is received to the BAFO request, the initial offer will be considered as the best and final offer. Changes which are not fully supported by documentation may not be evaluated or considered.

f. Subsequent Discussions/BAFO Requests - Generally, only one best and final offer will be requested. After receipt of best and final offers, discussions will not be reopened unless the Government determines it is in its best interest to do so. If discussions are reopened, an additional request for best and final offers will be issued to all offerors still within the competitive range.

B.10 Disclosure of Information (DEC 97)

Proprietary or confidential information disclosed in offers/discussions/BAFOs will not be disclosed to the public or used by the Government except for evaluation purposes.

B.11 Responsibility Determination (JUN 95)

No award shall be made unless the Contracting Officer makes an affirmative determination of responsibility. To be determined responsible, an Offeror shall, at a minimum, have adequate financial resources, a satisfactory performance record, and a satisfactory record of integrity and ethics. For example, an Offeror may be determined to be non-responsible and therefore ineligible for award if there is a record of poor payment (e.g., checks returned for insufficient funds) or poor performance (e.g., failure to pay for or remove material on time).

B.12 Contract Award (JUL 97)

A written award or acceptance of an offer signed by the Contracting Officer and furnished to a successful Offeror within the time specified for acceptance shall result in a binding contract incorporating all the terms and conditions of this Solicitation unless otherwise stated in the executed Section **I.1 Sale of Government Property Negotiated Sales Contract (APR 99)**.

B.13 Unsuccessful Offerors (FEB 98)

The Contracting Officer will notify unsuccessful offeror(s) at the earliest practicable time of the basis for non-award.

SECTION C – INSPECTION (JUN 98)

- a.** An offeror may, at its own expense, visually inspect the material at the storage location. **No sampling of the material will be permitted.**
- b.** Requests for an appointment to visually inspect the material at the Warren, OH and New Haven, IN Depot(s) must be made in writing or by facsimile submission on company letterhead to the Point of Contract identified in **Section J.2 Storage Location**, at least five (5) working days prior to the date of the requested inspection. Requests shall include the name and title of each individual wishing to visually inspect the material. Offerors will be notified by telephone of the date the material will be available for inspection. The Government reserves the right to limit the number of individuals granted access to the depot.
- c.** Offerors, their agents and representatives shall comply at all times with the rules of the storage location.

SECTION D - PAYMENT

D.1 Payment (FEB 98)

a. Payment shall be made in U.S. dollars.

b. Payment shall be made by wire transfer, U.S. Postal Service money order, or company or bank check.

(1) Wire transfer payment shall be made in accordance with instructions in **Section J.5**. Fees for wire transfers are the responsibility of the Contractor. If payment is by wire transfer and the wrong account number is used, shipment of material may be delayed by up to one week or the wire transfer may be returned to the sender.

(2) All checks must be drawn on a U.S. domestic bank or on the United States branch of an acceptable foreign bank and must be payable in United States currency. **A service charge of \$100.00 will be applied to all returned checks.**

c. Payment shall be made to the **Defense Finance and Accounting Service - Columbus (DFAS-Columbus)**. If a check is not made payable to DFAS-Columbus, the check may be returned and the \$100.00 fee stated in **D.1.b.** charged. Payment shall be accompanied by **identifying information including the contract number, invoice number, and a description of the material purchased**. Payments without the required identification may be returned and shipment delayed. Payments shall be sent to:

ATTN: DNSC-DF, Accounts Receivable
Defense National Stockpile Center
8725 John J. Kingman Road
Suite 4616 (Mail) or Suite 4528 (Hand Delivered)
Fort Belvoir, VA 22060-6223

d. Invoices issued for adjustments for variations in quantity or weight, storage charges, or interest shall be paid promptly.

e. If payment is not made in full within 30 calendar days of issuance of an invoice, the Government will issue a "demand" letter, demanding payment of the outstanding amount. If all moneys due are not paid within 30 calendar days after the date of the Government's demand letter, the Contractor will be considered delinquent and any outstanding charges will be reduced by any subsequent payments. No material will be released until all delinquent charges are paid. (See Sections **F.1.a.** and **G.10.**)

D.2 Payment Due Date (JUL 97)

a. Unless otherwise specified in the contract, payment shall be made before shipment of material and before the time specified in the executed **Section I.1 Sale of Government Property Negotiated Sales Contract (APR 99)**. If payment is not received by 11:00 a.m., local time, on the payment due date, payment will not be credited until the next Government business day. Interest and storage charges will accrue accordingly.

b. In the event the payment due date falls on a Saturday, Sunday, or holiday, then the payment due date will be extended to the next Government business day.

D.3 Interest (JUL 97)

a. All amounts that become payable by the Contractor to the Government under this contract shall bear simple interest from the date due until paid. The interest rate shall be the interest rate established by the Secretary of the Treasury as provided in 41 U.S.C. 611, which is applicable to the period in which the amount becomes due, as provided in paragraph **b.**, below.

b. Amounts shall be due at the earliest of the following dates:

(1) The final day of the contract period specified in Section **I.1 Sale of Government Property Negotiated Sales Contract (APR 99)**; or

(2) The date of the first written demand for payment under the contract.

SECTION E - REMOVAL

E.1 Removal of Material (JUL 97)

a. The contract period is based on the quantity of material awarded and begins on the date of contract award. The contract periods are as follows:

<u>QUANTITY AWARDED</u>	<u>CONTRACT PERIOD IN CALENDAR DAYS</u>
0 - 167,000 LBS(Co)	60 Days
167,001 - 334,000 LBS(Co)	120 Days
334,001 - 501,000 LBS(Co)	180 Days
501,001 - 668,000 LBS(Co)	240 Days
668,001 - 835,000 LBS(Co)	300 Days
Over 835,001 LBS(Co)	365 Days/1 year

b. Within the contract period, the Contractor shall pay for and remove the material in accordance with the following schedule(s):

(1) For an award of a quantity of material up to 167,000 LBS(Co), the Contractor shall pay for and remove the entire quantity within 60 calendar days.

(2) For an award of a quantity of material between 167,001 and 334,000 LBS(Co), the Contractor shall remove a minimum of one-half (1/2) of the total quantity awarded within 60 calendar days, and the balance within the remainder of the 120-day contract period specified above.

(3) For an award of a quantity of material between 334,001 and 501,000 LBS(Co), the Contractor shall pay for and remove a minimum of one-third (1/3) of the total quantity awarded within each of the first two 60-calendar day periods, and the balance within the remainder of the 180-day contract period specified above.

(4) For an award of a quantity of material between 501,001 and 668,000 LBS(Co), the Contractor shall pay for and remove a minimum of one-fourth (1/4) of the total quantity awarded within each of the first two 60-calendar day periods, and the balance within the remainder of the 240-day contract period specified above.

(5) For an award of a quantity of material between 668,001 and 835,000 LBS(Co), the Contractor shall pay for and remove a minimum of one-fifth (1/5) of the total quantity awarded within each of the first two 60-calendar day periods, and the balance within the remainder of the 180-day contract period specified above.

(6) For an award of a quantity of material over 835,000 LBS(Co), the Contractor shall pay for and remove a minimum of one-sixth (1/6) of the total quantity awarded within each of the first three 60-calendar day periods, and the balance within the remainder of the 365-day contract period specified above.

c. If the Contractor fails to pay for and remove the material in accordance with the schedule(s) specified in the contract, the Contractor will be considered delinquent and no material will be shipped until payment has been made.

d. The contract period(s) includes Saturdays, Sundays, and Federal holidays. If the last day of the contract period is a Saturday, Sunday, or holiday, or the storage location is otherwise closed that day, the period of contract performance will be extended to the next Government workday.

E.2 Storage Charges (JUL 97)

a. Storage charges shall be assessed on all material remaining after the last day of the contract period. The Government reserves the right to remove any remaining material to a commercial storage facility and be reimbursed by the Contractor for any expenses incurred. Storage charges continue to accrue until all the material has been removed or the contract is terminated for default, in which case the Contractor will be liable for damages, as set forth in Section **G.7 Default** of the Solicitation..

b. The storage charge is the greater of the following: (1) **\$0.005 per pound** of contained weight (if a fraction of a pound remains, the charge will be for a full pound) per 30 day period regardless of whether the material remains in storage a period of 30 days or less than 30 days; or (2) commercial storage charges, if applicable.

c. Storage charges will be invoiced upon shipment. Payment shall be made promptly.

d. Payment of storage charges shall not relieve the Contractor of its obligation to remove the material in a timely manner. Acceptance of storage payments by the Government is not a waiver of the Government's right to default the Contractor for failure to remove the material (See Section **G.7 Default**).

SECTION F - SHIPPING

F.1 Request for Shipment (JAN 00)

a. Delivery is F.O.B. carrier's conveyance. At least five (5) working days prior to the date shipment is required to commence the Contractor shall furnish to the designated depot commercial bills of lading. Simultaneously the Contractor shall complete and fax the form in Section **J.3 Shipping Instructions (JAN 00)** to the Contracting Officer. The Government will only accept shipping instructions from those individuals designated in Section **I.9** as being authorized to release material on behalf of the Contractor. **No material will be released until all outstanding delinquent charges and payments have been satisfied.**

b. "Shipping Instructions" shall include the following:

- (1) Quantity of material to be released.
- (2) Designation of type and kind of conveyance.
- (3) Name of the carrier (please include a telephone number where this contact can be reached).
- (4) "Ship to" location.
- (5) Minimum load per conveyance (optional)
- (6) Desired shipping schedule.
- (7) Name and telephone number of an agent who can furnish additional shipping information if needed.
- (8) Any additional pertinent information.

c. The shipping schedule shall allow sufficient time for the Government to reasonably meet such schedule prior to the last day of the contract period commensurate with existing loading facilities and other commitments at the Government's storage locations. Information regarding Government commitments may be obtained from the address specified in Section **J.2**.

d. Outloading is to be accomplished by truck. The Government will provide lumber and nails from available depot stock if requested by the Contractor's designee/driver. The Contractor's designee shall perform any necessary procedure(s) to ensure the cargo is safely secured prior to leaving the depot. The Government will not block, chock, brace, lash, band, or in any manner secure the cargo on the Contractor's conveyance(s). The designee shall witness the loading. Any expenses over and above those normally incurred by the Government to meet the public carrier's requirements for loading like materials will be at the expense of the Contractor.

e. The Contractor, its agent and employees shall comply with all applicable rules at the storage depot; Federal, state and local load limitations; and all safety, health, and environmental requirements.

f. Requests for shipment shall be for a minimum of one line item, one truckload, or the remaining balance of a line item. Shipping instructions and information requested in paragraph a., above, are to be furnished to the following address:

Defense National Stockpile Center
ATTN: Cobalt Contracting Officer
8725 John J. Kingman Road
Suite 4616 (Mail) or Suite 4528 (Hand delivered)
Ft. Belvoir, VA 22060-6223
Facsimile Number: (703) 767--5504

g. Shipment must commence within five (5) days of the pricing date. The Government shall determine the order in which the material is scheduled, coordinated, and outloaded.

F.2 Insurance Requirements (APR 95)

The Contractor shall procure and maintain, and require any subcontractor to procure and maintain, during the entire period of performance under this contract, such insurance as stipulated herein.

a. Workers' compensation and employer's liability. The Contractor is required to comply with applicable Federal and State workers' compensation and occupational disease statutes. Employer's liability coverage of at least \$100,000 is required, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

b. General liability. Bodily injury liability insurance coverage written on the comprehensive form of policy of at least \$500,000 per occurrence.

c. Automobile liability insurance written on the comprehensive form of policy is required. The policy shall provide for bodily injury and property damage liability covering the operation of all automobiles used in connection with performing the contract. Policies covering automobiles operated in the United States shall provide coverage of at least \$200,000 per person and \$500,000 per occurrence for bodily injury and \$20,000 per occurrence for property damage. The amount of liability coverage on other policies shall be commensurate with any legal requirements of the locality and sufficient to meet normal and customary claims.

F.3 Weighing (JUL 97)

a. Each pallet shall be gross weighed by the Government at the time of outloading and a weight certificate shall be issued accordingly. The weight certificate shall, in addition to the weight, also state the number of containers on each pallet. Outbound Storage Reports will be issued by the Government and will be final for payment purposes.

b. In the event that any broken containers are detected at time of shipment, they will be overpackaged by the Government at the Government's expense prior to outloading. If no loss is discernible, the Government's weight of record shall govern for that item and shall be final for payment.

F.4 Weight Discrepancy (JAN 95)

a. If the Contractor's weights for the material delivered vary from the Government's certified weights by more than one-half of one percent, the Contractor may give notice of such difference to the Contracting Officer within two working days (exclusive of Saturdays, Sundays, and Government holidays) after receipt of the material at destination, requesting that the material be reweighed. In that case, the Contractor shall segregate the shipment in question and hold it intact pending reweighing. The entire shipment shall be reweighed by the Contractor at its expense, in the presence of and in the manner approved by a Government representative, using scales approved by the Government representative. If the weight varies from the Government's certified weight by greater than one-fourth of one percent, plus or minus, that weight shall govern for payment purposes. If the weight determined by reweighing does not vary from the Government's certified weight by greater than one-fourth of one percent, plus or minus, the Government's certified weight shall be final for payment purposes.

b. No adjustment shall be considered or made in accordance with the above paragraph unless notice is given by the Contractor to the Contracting Officer within the time specified above and all other requirements of the paragraph are complied with.

F.5 Assumption of Risk and Disclaimer of Liability (JUL 97)

The Contractor, its assigns or agents, assumes full responsibility for all injury or damage to persons or property occasioned by or occurring in connection with or incident to any use or possession of this material. The Government assumes no liability for any damages to the property of the Contractor or any other person or property, or for any personal injury, illness, disability or death to the Contractor, Contractor's employees or any other person subject to Contractor's control, or for any other consequential damages arising from or incident to the purchase, use, loading, processing, disposition, or any subsequent operation performed upon, exposure to or contact with any component, part, constituent or ingredient of this item, material or substance.

F.6 Adjustment for Variation in Quantity or Weight (JAN 95)

The Government reserves the right to vary the quantity or weight delivered by 2% from the quantity or weight listed in the Solicitation and the Contractor agrees to accept delivery of any quantity or weight within these limits. The contract price will be adjusted upward or downward in accordance with the unit price and on the basis of the quantity or weight actually delivered.

F.7 Environmental Protection (JUN 95)**a. Transportation Requirements**

(1) The transportation of hazardous material is governed by Department of Transportation (DOT) Hazardous Materials Regulations (Title 49 Code of Federal Regulations, Parts 170-189). If the material being transported is covered by DOT Regulations, the Contractor or its agent is responsible for certifying to DOT that hazardous materials are properly classified, described, packaged, marked, and labeled and are in a condition safe to transport based on the Contractor's or its agent's own examination of the material. (See especially 49 CFR 173.7(a)(1).)

(2) The Government reserves the right to conduct reasonable inspection of the Contractor's or its agent's transportation conveyances or other equipment utilized to effect removal of the material purchased under this Solicitation. Inspection may occur prior to, during, or subsequent to removal of the material from Government storage locations. The Contractor or its agent shall provide Government representatives with access and any reasonable assistance required to conduct this inspection.

b. Material Safety Data Sheets

(1) Offerors are warned that unprotected exposure to hazardous substances, hazardous materials and hazardous chemicals may significantly increase the risk of health problems. The Contractor shall comply with all applicable Occupational Safety and Health Administration (OSHA) and any other Federal, state or local laws, codes, ordinances, and regulations (including obtaining any required licenses or permits) governing exposure to, and storage, handling, transportation, and disposition of, this material.

(2) Material Safety Data Sheets as required by OSHA Hazard Communication Standard - 29 CFR 1910.1200 are incorporated herein. (See Section **J.4**) This data provides specific toxicity and health related data for the protection of human health and the environment. Offerors should review this information carefully. It is the responsibility of the Contractor to further communicate this information to the distributor, manufacturer, user and/or transporter of this material as may be required by Federal regulations.

(3) Offerors shall also refer to 29 CFR 1910 Occupational Safety and Health Standards, specifically sections 1910.1000 through 1050. These occupational standards set standards for permissible exposures, methods of compliance, personal protective equipment, and other measures that must be taken when working with, or in proximity to, hazardous materials, chemicals and substances in the United States and its territories and possessions.

c. Use and Disposition

(1) The Contractor certifies that it shall use and ultimately dispose of any hazardous material purchased under this Solicitation in accordance with all applicable Federal, state, local and international laws and regulations and in a manner safe for the public and the environment.

(2) The material offered under this Solicitation is not, in its present form, subject to EPA Hazardous Waste Regulations (40 CFR Part 260, et seq.) issued under the Resource Conservation and Recovery Act. However, it is possible that use of this material will lead to the creation of a hazardous waste. 40 CFR Part 260, et seq., details the responsibilities of generators, transporters, treaters, storers, and disposers of hazardous waste. Failure to comply with these regulations can lead to civil and criminal penalties.

(3) The wood pallets or materials used to package the commodity sold under this Solicitation may have been treated with a wood preservative to protect it from insect attack and decay. These preservatives penetrate and remain in the wood for a long time and may pose certain hazards if precautions are not taken during the handling, use, and disposal of these treated wood products. Treated wood products should not be burned in open fires. Contractors are encouraged to seek advice on proper disposal from the local environmental protection agency.

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 Amendments and Modifications (JAN 95)

a. Changes in terms and conditions of this Solicitation shall be accomplished by written amendment only.

b. Changes in terms and conditions of any resulting contract shall be accomplished only by written modification signed by the Contracting Officer.

G.2 Title (JAN 98)

Title to the material shall pass to the Contractor upon execution of the contract; however, removal is subject to the remaining terms and conditions of the solicitation and any resulting contract.

G.3 Risk of Loss (JAN 98)

a. Prior to the date specified for removal, the Government shall be responsible only for the exercise of reasonable care for the protection of the material.

b. After the date specified for removal, or any extension approved in writing by the Contracting Officer, all risk of loss, damage, or destruction from any cause whatsoever, shall be borne by the Contractor.

G.4 Limitation on Government's Liability (JAN 95)

a. Except as provided in paragraph b. in any case where liability of the Government to the Contractor has been established, the measure of the Government's liability shall not exceed refund of whatever portion of the purchase price the Contractor has paid.

b. Where specifically authorized in writing by the Contracting Officer, the Contractor may recover reasonable costs of packing, loading, and transportation incurred in connection with return of material to the Government.

G.5 Agency Protests (FEB 00)

a. Companies protesting any resultant sale under this solicitation may file a protest 1) with the Contracting Officer (see paragraph d.1) , or 2) with the General Accounting Office (see paragraph d.3), or 3) pursuant to Executive Order 12979, with the activity for a decision at a level above the Contracting Officer (see paragraph d.2). Protests filed with the activity should be addressed to the Contracting Officer, but should clearly state that they are an "Agency Level Protest under Executive Order 12979." (This process allows for a higher level decision on the initial protest; it is not a review of a Contracting Officer's decision on a protest filed with the Contracting Officer.) Absent a clear indication of the intent to file an agency level protest, protests will be presumed to be protests to the Contracting Officer.

PROCEDURES FOR FILING PROTESTS**b. Protests Based on Alleged Solicitation Improprieties**

Protests based upon alleged improprieties in a solicitation which are apparent prior to bid opening or the time set for receipt of initial proposals shall be filed prior to bid opening or the time set for receipt of initial proposals. In sales conducted on the basis of competitive proposals, alleged improprieties which do not exist in the initial solicitation but which are subsequently incorporated into the solicitation must be protested not later than the next closing time for receipt of proposals following the incorporation.

c. Other Protests

Protests after award shall be filed not later than 10 calendar days after the basis of protest is known or should have been known, whichever is earlier, with the exception of protests challenging a sale conducted on the basis of competitive proposals under which a debriefing is requested and, when requested, is required. In such cases, the initial protest shall not be filed before the debriefing date offered to the protester, but shall be filed not later than 10 calendar days after the date on which the debriefing is held.

d. Service of Protest

1. Protests for decision by the Contracting Officer shall be served in writing at the following address:

Attn: DNSC-P - (Insert name of the Contracting Officer)
Defense National Stockpile Center
8725 John J. Kingman Road
Suite 4616 (Mail) or Suite 4528 (Hand delivered)
Ft. Belvoir, VA 22060-6223

2. Protests for decision at a level above the Contracting Officer shall be served in writing at the following address:

Attn: DNSC-P, Director, Directorate of
Stockpile Contracts
Defense National Stockpile Center
8725 John J. Kingman Road
Suite 4616 (Mail) or Suite 4528 (Hand delivered)
Ft. Belvoir, VA 22060-6223

3. Protests for decision by the GAO shall be filed in writing at the following address:

General Counsel
Attn: Procurement Law Control Group
U.S. General Accounting Office
441 G Street, NW
Washington, DC 20548

A copy of any such protest shall be received by the Contracting Officer at the address in paragraph d.1, above, within one day of filing the protest.

G.6 Disputes (JAN 95)

a. This contract is subject to the Contract Disputes Act of 1978 (41 U.S.C. 601-613) (the Act).

b. Except as provided in the Act, all disputes arising under or relating to this contract shall be resolved under this clause.

c. "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract. A claim arising under a contract, unlike a claim relating to that contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. However, a written demand or written assertion by the Contractor seeking the payment of money exceeding \$100,000 is not a claim under the Act until certified as required by subparagraph **d.(2)** below. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim under the Act. The submission may be converted to a claim under the Act, by complying with the submission and certification requirements of this paragraph, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

d. (1) A claim by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the Government against the Contractor shall be by written decision of the Contracting Officer.

(2) For Contractor claims exceeding \$100,000, the Contractor shall submit with the claim a certification that-

(i) The claim is made in good faith;

(ii) Supporting data are accurate and complete to the best of the Contractor's knowledge and belief; and

(iii) The amount requested accurately reflects the contract adjustment for which the Contractor believes the Government is liable.

(3) (i) If the Contractor is an individual, the certification shall be executed by that individual.

(ii) If the Contractor is not an individual, the certification shall be executed by -

(A) A senior company official in charge at the Contractor's plant or location involved; or

(B) An officer or general partner of the Contractor having overall responsibility for the conduct of the Contractor's affairs.

e. For Contractor claims of \$100,000 or less, the Contracting Officer must, if requested in writing by the Contractor, render a decision within 60 days of the request. For Contractor-certified claims over \$100,000, the Contracting Officer must, within 60 days, decide the claim or notify the Contractor of the date by which the decision will be made.

f. The Contracting Officer's decision shall be final unless the Contractor appeals or files a suit as provided in the Act.

g. At the time a claim by the Contractor is submitted to the Contracting Officer or a claim by the Government is presented to the Contractor, the parties, by mutual consent, may agree to use alternative means of dispute resolution. When using alternative dispute resolution procedures, any claim, regardless of amount, shall be accompanied by the certificate described in paragraph **d(2)** of this clause, and executed in accordance with paragraph **d(3)** of this clause.

h. The Government shall pay interest on the amount found due and unpaid from (1) the date the Contracting Officer receives the claim (properly certified if required), or (2) the date payment otherwise would be due, if that date is later, until the date of payment. Simple interest on claims shall be paid at the rate, fixed by the Secretary of the Treasury as provided in the Act, which is applicable to the period during which the Contracting Officer receives the claim and then at the rate applicable for each 6-month period as fixed by the Treasury Secretary during the pendency of the claim.

i. The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under the contract, and comply with any decision of the Contracting Officer.

G.7 Default (JUL 97)

a. (1) The Government may, by written notice of default to the Contractor, terminate this contract in whole or in part if the Contractor fails to -

(i) Make payment and remove the material within the time specified in this contract or any extension;

(ii) Remove the material within the time specified in this contract irrespective of whether or not payment has been made;

(iii) Make progress, so as to endanger performance of this contract; or

(iv) Perform any of the other provisions of this contract.

(2) The Government's right to terminate this contract under **(1)(i)** through **(1)(iv)** above, may be exercised if the Contractor does not cure such failure within 10 days (or more if authorized in writing by the Contracting Officer) after receipt of the notice from the Contracting Officer specifying the failure. If at any time prior to the expiration of this contract, the Contractor makes it clear either by words, actions or circumstances, that the Contractor is unwilling or unable to perform under this contract, the Government shall not be required to furnish the Contractor notice specifying a failure under this contract, prior to exercising its right to terminate this contract for default and seek damages.

(3) Upon the Contractor's failure to cure such default within that period (or such further period as the Contracting Officer may allow), the Contractor shall lose all right, title and interest

which it might otherwise have acquired in and to the material as to which a default has occurred.

b. If the Government terminates the contract, the Contractor shall be held liable for damages as described below. However, in no event will damages exceed the original contract price.

c. If the Government terminates the contract for default, it may subsequently resell the material for the Contractor's account, under the terms and in the manner the Contracting Officer considers appropriate, and assess the Contractor the difference between the contract price and the price obtained on resale. In no event will the Contractor be refunded any money if the Government obtains a greater price on resale, nor will an accounting of money be made until resale is complete. In the event that the Government does not succeed in reselling the material within 12 months, the Contractor may be held liable for the full contract price for the quantity of material on which the default has occurred. In order to calculate the Government's damages on contracts where the contract price is determined on a formula-price basis, the Government will establish the contract price for the quantity of material on which the default has occurred as follows: Using the pricing mechanism set forth in Section **I.1 Sale of Government Property Negotiated Sales Contract (APR 99)**, the Government will set the price as though the material had been priced on the last day of the contract contract period or the date of the termination notice, whichever is earlier.

d. The rights and remedies of the Government in this clause are in addition to any other rights and remedies provided by law or under this contract.

G.8 Termination for Convenience of the Government (DEC 97)

a. The Contracting Officer, by written notice, may terminate this contract, in whole or in part, when it is in the Government's interest. If this contract is terminated, the Government shall only be liable for actual costs incurred by the Contractor before the effective date of termination.

b. If a bona fide requirement for the material develops or exists prior to removal of the material from Government control, the Government may withdraw that material from the sale. In the event of a withdrawal under this condition, the Government shall be liable only for the refund of the contract price of the withdrawn material or such portion of the contract price as it may have received plus simple interest at the rate established by the Secretary of the Treasury.

G.9 Excusable Delays (MAY 95)

a. In the event either party should be prevented from performing under this contract by reason of any unforeseeable cause beyond its control and without its fault or negligence, including, but not restricted to, acts of God or of the public enemy, sovereign acts of the United States, acts of a foreign Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes and unusually severe weather, performance under the contract shall be suspended in whole or in part until the cause ceases to exist and thereafter the time for fulfillment of the contract shall be extended by the length of time during which the cause prevented performance under the contract.

b. This section shall also apply to an excusable delay condition that prevents delivery at a consignee's plant if-

(1) the delay meets the criteria in paragraph **a.** above; and

(2) the identity of the consignee is known to the Government prior to commencement of the excusable delay condition.

c. The Contractor shall notify the Contracting Officer, in writing, of the nature and extent of the excusable delay condition promptly after the commencement thereof, but in any event prior to outloading of the material from the storage location from which it is to be shipped. The Contractor shall notify the Contracting Officer, in writing, within ten (10) calendar days when the excusable delay condition ceases to exist.

G.10 Setoff of Funds (JUL 98)

The Contractor agrees that the Government may use all or a portion of any monies received by Government to satisfy, in whole or in part, any debt (e.g., delinquent payments, interest or storage charges), arising out of this or any other transaction.

G.11 Indemnification Agreement (JUN 96)

The Contractor shall save and hold harmless and indemnify the Government against any and all liabilities, claims, and costs of whatsoever kind and nature for injury to or death of any person or persons and for loss or damage to any property (Government or otherwise) occurring in connection with or in anyway incident to or arising out of the occupancy, use, service, operations, or performance of work in connection with the contract. Whether due to negligence or not of the Contractor, the Contractor agrees to defend any and all claims or suits against the United States, whether well founded or not, in any way whatsoever alleged to have arisen from or been connected with performance of this contract and to reimburse the United States for any legal expenses (including salaries of attorneys) incurred by the United States in defending such suits.

G.12 Covenant Against Contingent Fees (JAN 95)

a. The Contractor warrants that no person or agency has been employed or retained to solicit or obtain this contract upon an agreement or understanding for a contingent fee, except a bona fide employee or agency. For breach or violation of this warranty, the Government shall have the right to annul this contract without liability or, in its discretion, to add to the contract price or consideration, or otherwise recover, the full amount of the contingent fee.

b. "Bona fide agency," as used in this paragraph, means an established commercial or selling agency, maintained by a Contractor for the purpose of securing business, that neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds itself out as being able to obtain any Government contract or contracts through improper influence.

c. "Bona fide employee," as used in this paragraph, means a person, employed by a Contractor and subject to the Contractor's supervision and control as to time, place, and manner of performance, who neither exerts nor proposes to exert improper influence to solicit or obtain Government contracts nor holds out as being able to obtain any Government contract or contracts through improper influence.

d. "Contingent fee," as used in this paragraph, means any commission, percentage, brokerage, or other fee that is contingent upon the success that a person or concern has in securing a Government contract.

e. "Improper influence," as used in this paragraph, means any influence that induces or tends to induce a Government employee or officer to give consideration or to act regarding a Government contract on any basis other than the merits of the matter.

SECTION H - DEFINITIONS (JUN 95)

As used throughout this Solicitation, the following terms shall have the meaning set forth below:

- a.** The term "Contracting Officer" means a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings.
- b.** The term "small business concern" for the purpose of this Solicitation, is a concern, including its affiliates, which is independently owned and operated, is not dominant in the field of operation in which it is offering on Government contracts, and qualified as a small business under the criteria and size standards in 13 CFR Part 121.
- c.** The terms "Offeror", "Purchaser", or "Contractor" may be used interchangeably.

SECTION I - SUBMITTALS

COMPLETE AND RETURN ALL OF THE FOLLOWING WITH YOUR OFFER, UNLESS ANNUAL REPRESENTATIONS, CERTIFICATIONS, AND IDENTIFICATIONS HAVE BEEN SUBMITTED THEN SUBMIT I.1, I.2, I.3 AND I.4 ONLY:

- I.1 Sale of Government Property Negotiated Sales Contract (APR 99)**
- I.2 Item Offer Page - DLA-COBALT-007 (MAR 00)**
- I.3 Certificate of Independent Price Determination (JUL 97)**
- I.4 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance, and Other Responsibility Matters (JUL 97)**
- I.5 Type of Business Organization (APR 96)**
- I.6 Small Business Concern Certification (JAN 95)**
- I.7 Clean Air and Water Certification (JUN 95)**
- I.8 Authorized Negotiators (JUN 95)**
- I.9 Persons Authorized to Request Shipment of Material (JUL 95)**
- I.10 Offeror's Billing Address (JUL 96)**

I.1 Sale of Government Property Negotiated Sales Contract(APR 99)

SALE OF GOVERNMENT PROPERTY NEGOTIATED SALES CONTRACT	CONTRACT NUMBER SPO833-00-S-	PAGE 1 of Pages
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This contract is entered into by and between the United States of America, hereinafter called the "Government," represented by the Contracting Officer executing this contract and the Contractor below identified. The Government agrees to sell and the Contractor agrees to buy the material described below in accordance with the terms and conditions of DLA-COBALT-007. In the event of a conflict between the terms of the Solicitation and this Negotiated Sale Contract, the terms of the Negotiated Sales Contract govern

ITEM	PROPERTY DESCRIPTION AND LOCATION	QUANTITY (No. of Unit(s))	UNIT	UNIT PRICE	AMOUNT
	COBALT				
	CONTRACT PERIOD EXPIRES ON:				

EXECUTION BY CONTRACTOR	EXECUTION BY GOVERNMENT
DATE (Day, Month, Year)	UNITED STATES OF AMERICA
NAME OF CONTRACTOR	BY:
ADDRESS (Street, City, State & Zip Code) (Type or Print)	NAME AND TITLE OF CONTRACTING OFFICER
Telephone Number: _____	
Facsimile Number: _____	
SIGNATURE AND TITLE OF PERSON AUTHORIZED TO SIGN THIS CONTRACT (Type or print name and title under signature)	<hr/> Contracting Officer <u>DNOSC-P</u> (Agency)

ITEM	STORAGE LOCATION	TYPE	COUNTRY OF ORIGIN	LOT NO.	NO. OF UNITS	BULK WEIGHT LBS	STKPILE WEIGHT LBS(CO)	OFFERED UNIT PRICE	TOTAL OFFERED ITEM PRICE
2009	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-77(A)	11	6,061.22	6,055.16		
2010	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-77(B)	8	4,408.16	4,403.75		
2011	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-77(C)	8	4,408.16	4,403.75		
2012	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-77(D)	8	4,408.16	4,403.75		
2013	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-77(E)	8	4,408.16	4,403.75		
2015	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-81(A)	40	22,044.40	22,022.36		
2016	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-81(B)	40	22,044.40	22,022.36		
2017	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-83(A)	56	30,862.16	30,825.12		
2018	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-83(B)	64	35,271.04	35,228.71		
2019	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-84(A)	56	30,862.16	30,831.30		
2020	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-84(B)	64	35,271.04	35,235.77		
2021	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-85	120	66,133.20	66,067.07		
2022	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-86	120	66,133.20	66,067.07		
2023	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-87	120	66,133.20	66,067.07		
2024	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-75	120	66,133.20	66,067.07		
2025	WARREN, OH	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-76	120	66,133.20	66,067.07		
2026	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-36(A)	8	4,408.88	4,402.27		
2027	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-36(B)	8	4,408.88	4,402.27		
2028	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-36(C)	8	4,408.88	4,402.27		
2029	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-36(D)	8	4,408.88	4,402.27		
2030	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-36(E)	8	4,408.88	4,402.27		
2031	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-36(F)	40	22,044.40	22,011.33		
2032	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-36(G)	40	22,044.40	22,011.33		
2033	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-37	120	66,133.20	66,067.07		
2034	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-38	120	66,133.20	66,067.07		
2035	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-39	120	66,133.20	66,067.07		
2036	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-40	120	66,133.20	66,067.07		
2037	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-41	120	66,133.20	66,067.07		
2038	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-44	120	66,133.20	66,067.07		
2039	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-47(A)	16	8,817.76	8,805.42		

ITEM	STORAGE LOCATION	TYPE	COUNTRY OF ORIGIN	LOT NO.	NO. OF UNITS	BULK WEIGHT LBS	STKPILE WEIGHT LBS(CO)	OFFERED UNIT PRICE	TOTAL OFFERED ITEM PRICE
2040	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-47(B)	16	8,817.76	8,805.42		
2041	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-47(C)	16	8,817.76	8,805.42		
2042	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-47(D)	16	8,817.76	8,805.42		
2043	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-47(E)	24	13,226.64	13,208.12		
2044	NEW HAVEN, IN	BROKEN CATHODE	ZAIRE	GS-D00xx-81C-0001-47(F)	32	17,635.52	17,610.83		
					TOTAL		1,058,648.19		

TOTAL OFFERED QUANTITY: _____

TOTAL OFFERED PRICE: _____

COMPANY NAME: _____

NAME AND TITLE: _____

Authorized Company Official

SIGNATURE: _____

DATE: _____

I.3 Certificate of Independent Price Determination (JUL 97)

a. The offeror certifies that:

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to (i) those prices, (ii) the intention to submit an offer, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

b. Each signature on the offer is considered to be a certification by the signatory that the signatory:

(1) Is the person in the offeror's organization responsible for determining the prices being offered in this bid or offer, and that the signatory has not participated and will not participate in any action contrary to subparagraphs **a.**(1) through **a.**(3) above; or

(2)(i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs **a.**(1) through **a.**(3), above

(insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or offer, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision **b.**(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs **a.**(1) through **a.**(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs **a.**(1) through **a.**(3) above.

c. If the offeror deletes or modifies subparagraph **a.**(2) above, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

I.4 Certification Regarding Debarment, Suspension, Proposed Debarment, Environmental Compliance and Other Responsibility Matters (JUL 97)

a. (1) The Offeror certifies, to the best of its knowledge and belief, that -

(i) The Offeror and/or any of its Principals -

(A) Are (____) are not (____) presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have (____) have not (____), within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property; and

(C) Are (____) are not (____) presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision a. (1)(i)(B) of this provision.

(D) Are ___ are not ___ presently indicted for or otherwise criminally or civilly charged by a Federal, state or local entity with violation of any environmental laws;

(E) Have ___ have not ___ within the three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for violation of a Federal, state or local environmental statute or regulation.

(ii) The Offeror has (____) has not (____), within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

(3) If the Offeror answers affirmatively to anything in a.(1), above, the Offeror shall include in its offer an explanation of the circumstances, including the outcome.

This certification concerns a matter within the jurisdiction of an agency of the United States and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under section 1001, title 18, United States Code.

b. The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

c. A certification that any of the items in paragraph a. of this provision exists will not necessarily result in withholding of an award under this Solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional

information as requested by the Contracting Officer may render the Offeror nonresponsible.

d. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph **a.** of this provision. The knowledge and information of a Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

e. The certification in paragraph **a.** of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to the other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this Solicitation for default.

I.5 Type of Business Organization (APR 96)

The Offeror represents that--

a. It operates as a corporation incorporated under the laws of the State of _____, an individual, a partnership, a nonprofit organization, or a joint venture.

b. If the offeror is a foreign entity, it operates as an individual, a partnership, a nonprofit organization, a joint venture, or a corporation registered for business in _____(country)

c. If the offeror is a corporation, it is independent (not owned or controlled by another company), owned or controlled by _____corporation company registered for business in _____(state/country).

d. If the offeror is owned or controlled by another, state the relationship (e.g., wholly owned subsidiary, etc.): _____

e. The offeror agrees to provide additional information relating to the above representations if requested to do so by the Contracting Officer.

I.6 Small Business Concern Certification (JAN 95)

The Offeror represents and certifies as part of its offer that it _____ is, _____ is not a small business concern. (See Section **H.b.**, for the definition of a small business concern.)

I.7 Clean Air and Water Certification (JUN 95)

a. The Offeror certifies that it is _____ is not _____ listed on the Environmental Protection Agency (EPA) List of Violating Facilities and that it will not knowingly resell this material to any company that is on the EPA List; and

b. The Offeror will immediately notify the Contracting Officer, before award, of the receipt of any communication from EPA indicating that any facility at which the Offeror plans to use material purchased under this solicitation is under consideration to be listed on the EPA List of Violating Facilities.

I.8 Authorized Negotiators (JUN 95)

The Offeror represents that the following individuals are authorized to negotiate on its behalf.

Name

Title Telephone

Name

Title Telephone

I.9 Persons Authorized to Request Shipment of Material (JUL 95)

The Offeror shall provide the name(s), title(s), signature(s), and telephone number(s) of representative(s) authorized to sign Section **J.3 Shipping Instructions**:

Typed Name Title

Signature Telephone

Typed Name Title

Signature Telephone

Typed Name Title

Signature Telephone

I.10 Offeror's Billing Address (JUL 96)

The Offeror shall provide its billing address and billing facsimile number below, if different from the address in Section **I.1 Sale of Government Property Negotiated Sales Contract (APR 99)**.

SECTION J - LIST OF ATTACHMENTS

J.1 Certificates of Analyses and Purchase Specifications

J.2 Storage Locations (MAR 00)

J.3 Shipping Instructions (JAN 00)

J.4 Material Safety Data Sheet

J.5 Fedwire Procedures

**J.1 CERTIFICATES OF ANALYSIS AND
PURCHASE SPECIFICATIONS (DEC 99)**

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 19/02 19 82

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 11 GSA
..

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,92	0,04	0,003	0,0003	0,002	0,0001	0,001	0,001	0,0001

S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,007	0,0003	0,007	0,0001	0,001	0,001	0,0001	0,001

Sn	Se	Ag	Zn + Cd					
0,001	0,0002	0,0001	0,002					

2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines

C. MULLER

CONTROLLER OF
LABORATORIES

J. POLLONI

DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
1LX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: July 29, 1982

JOB NO. 23347

AUTHORIZATION: PO#M21976553

SAMPLE: cobalt

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW, Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #77
Government Sample #70
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven, IND
Contract # GS-00-DM(S)-82004
Sales Contract #GS-D00xx-81C-0001

	concentration, %
Cobalt	> 99.90
Nickel	.031
Iron	.0008
Manganese	.0003
Copper	.0017
Lead	< .0001
Zinc	.0009
Silicon	.0015
Aluminum	.0015
Sulfur	.001
Carbon	< .01
Hydrogen	< .0005
Oxygen	.0091
Bismuth	< .00005
Arsenic	< .00003
Nitrogen	.0005
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0010

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

William F. Pickup, Director

RMCC:na

< - less than < . . ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected

0 0 821230

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N GS --- DOOXX --- 81C --- 001
 PRODUCT : COBALT --- Broken Cathodes
 ORIGIN : LUILU, Shaba
 LOT N : *Reylant* 81 bis

1. CHEMICAL CHARACTERISTICS : Percent by weight

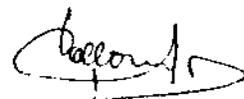
Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,004	0,0003	0,002	0,0001	0,002	0,001	0,0001
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0001	0,001
Sn	Se	Ag	Zn + Cd					
0,001	0,0002	0,0001	0,003					

2. RESULT SCREEN TEST. OF
 > 2" SQUARE OPENINGS 0
 < STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
 La Générale des Carrières et des Mines

C. MULLER
 CONTROLLER OF
 LABORATORIES


J. PÖLLONI
 DIRECTOR, RESEARCH
 DEPARTMENT

princeton
testing
laboratory

DATE: Dec 7, 1982

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW, Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 25394

AUTHORIZATION: PO#M21976553

SAMPLE: cobalt

REPORT OF ANALYSIS

Cobalt-Broken Cathodes
GSA Lot #81 *replacement*
Government Sample #80
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - ~~CASAD DEPOT - WARREN, OH.~~ ~~New Haven, IND~~
Contract #GS-00-DM(S)-82004
Sales Contract #GS-D00xx-81C-0001

concentration, %

Cobalt	> 99.9
Nickel	.038
Iron	.0014
Manganese	.0002
Copper	.0020
Lead	< .0001
Zinc	.0012
Silicon	.0015
Aluminum	.0010
Sulfur	.001
Carbon	< .01
Hydrogen	.0007
Oxygen	.010
Bismuth	< .00005
Arsenic	< .00003
Nitrogen	.0007
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc & Cadmium	.0013

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

0 1 E 88(202)

RMCC:na

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 26/07/ 1982

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 83 GSA

*replacement
accepted*

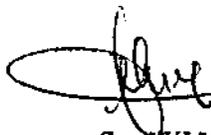
1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,90	0,06	0,004	0,0003	0,002	0,0003	0,002	0,001	0,0001
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0001	0,001
Sn	Se	Ag	Zn + Cd					
0,001	0,0002	0,0001	0,003					

2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines


G. MULLER

CONTROLLER OF
LABORATORIES


T. SHUNGU

DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: November 22, 1982

TO: [

General Services Administration
Office of Stockpile Management
18th and F Street, NW Room 5218
Washington, DC 20405
ATT: Quality Assurance Division

JOB NO. 23350

AUTHORIZATION: PO# M21976553

SAMPLE: cobalt - 1

REPORT OF ANALYSIS

Cobalt - Broken Cathodes

GSA Lot 83

Government Sample #83 - REPLACEMENT

Societe Zairoise de Commercialisation de Minerals

Wagner
JAT
~~GSA/FPDS - Casad Depot - New Haven, IND~~
Contract # GS-00--DM(S)-82004
Sales Contract #GS-D00xx-81C-0001

Concentration, %

Cobalt	99.88
Nickel	.030
Iron	.0013 ✓
Manganese	.0002
Copper	.0022 ✓
Lead	< .0001
Zinc	.0008
Silicon	.0012 ✓
Aluminum	.0010
Sulfur	.002
Carbon	< .01 ✓
Hydrogen	< .0005 ✓
Oxygen	.0072 ✓
Bismuth	< .00005 ✓
Arsenic	< .00003 ✓
Nitrogen	.0006 ✓
Antimony	< .0001 ✓
Phosphorus	< .0001 ✓
Tin	< .0001 ✓
Selenium	< .0001 ✓
Silver	< .0001 ✓
Zinc and Cadmium	.0008 ✓

0. E 830202
Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

William F. Pickup, Director

RMC:clp

< - less than < . ND - element is less than the value given and not detected by the technique employed > greater than ND not detected

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N GS --- DOOXX --- 81C --- 001
 PRODUCT : COBALT --- Broken Cathodes
 ORIGIN : LUHLU, Shaba
 LOT N : *Reploum* 34 bis

1. CHEMICAL CHARACTERISTICS : Percent by weight

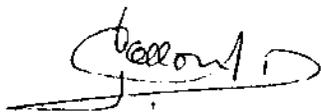
Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,003	0,0004	0,003	0,0001	0,002	0,001	0,0001
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,009	0,0001	0,001	0,001	0,0001	0,001
Sn	Se	Ag	Zn + Cd					
0,001	0,0002	0,0001	0,003					

2. RESULT SCREEN TEST. OF
 > 2" SQUARE OPENINGS 0
 < STANDARD SEIVE N° 6 0

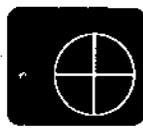
3. REMARKS

for and on behalf of
 La Générale des Carrières et des Mines

G. MULIER
 CONTROLLER OF
 LABORATORIES


J. POLLONI
 DIRECTOR, RESEARCH
 DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
TLX84-3492



princeton
testing
laboratory



P.O. Box 3108, Princeton, N.J. 08540

DATE: Dec 7, 1982

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW, Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 25392

AUTHORIZATION: PO#M21976553

SAMPLE: cobalt

REPORT OF ANALYSIS

Cobalt-Broken Cathodes

GSA Lot #84 *placement*

Government Sample #81

Societe Zairoise de Commercialisation de Minerals

GSA/FPRS - Casad Depot - New Haven, IND

Contract #GS-00-DM(S)-82004

Sales Contract #GS-D00xx-81C-0001

concentration, %

Cobalt	> 99.90
Nickel	.036
Iron	.0012
Manganese	.0002
Copper	.0025
Lead	< .0001
Zinc	.0010
Silicon	.0015
Aluminum	.0014
Sulfur	.001
Carbon	< .01
Hydrogen	< .0005
Oxygen	.018
Bismuth	< .00005
Arsenic	< .00003
Nitrogen	.0009
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0011

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

William F. Pickup, Director

RMCC:na

E 830202

< - less than < . ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected



VAC AIR ALLOYS

CORPORATION

BOX 477 • FREWSBURG, NEW YORK 14738 • TELEPHONE 716/664-4910 • TELEX 91-528

December 23, 1982

General Services Administration, FPRS
Office of Stockpile Management
Director, Quality Assurance Division (DMI)
18th and F Streets, NW Room 5230
Washington, DC 20405

Report on Analyses of two (2) samples of Cobalt Broken Cathodes

Requester: GSA/FPRS Office of Stockpile Management
Order No. D00XX-816-0001
M25040236
Contract No. GS-00-DM-(S)-8303

Contractor: Vac Air Alloys Corporation
GSA Designation Sample #79 - Lot 76
Phase/Series GSA 3/20
Lab Identifier 122C231

Results:

Sulphur (S) .0005%

GSA Designation Sample #81 - Lot 81 84 jml
Phase/Series 3/21
Lab Identifier 122C289

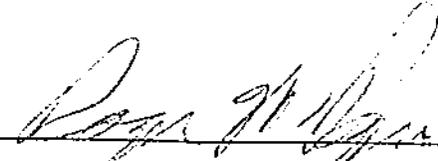
Results:

Oxygen (O) .0098%

Remarks:

Approximately 6.5 lbs. of crushed cathode was induction melted under a positive pressure of Argon.

I hereby certify these analyses to be true and accurate to the best of our knowledge.


Roger M. Payne
Vice President - Technical Director

RMP/rap

030202

CENTRAL LABORATORIES
 Panda, Likasi,

Likasi, 6 juin 19 83

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS -- DOOXX -- 81C -- 001
 PRODUCT : COBALT -- Broken Cathodes
 ORIGIN : LUJILU, Shaba
 LOT N° : 85 GSA

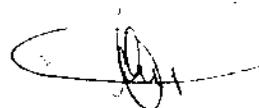
1. CHEMICAL CHARACTERISTICS : Percent by weight

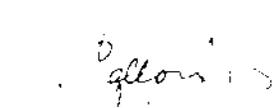
Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,004	0,0003	0,002	0,0001	0,002	0,001	0,0001
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,008	0,0001	0,001	0,001	0,0001	0,002
Sn	Se	Au	Zn + Cd					
0,001	0,0002	0,0001	0,003					

2. RESULT SCREEN TEST OF
 > 2" SQUARE OPENINGS : 0
 < STANDARD SEIVE N° 6 : 0

3. REMARKS

for and on behalf of
 La Générale des Carrières et des Mines


 G. MULLER


 J. POLLCHI

PRINCETON SERVICE CENTER
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: Nov 6, 1983

TO: General Services Administration
Inspection Division, OMI, GSA/FPDS
1000 and F Streets NW Room 5230
Washington D.C. 20405

JOB NO. 30843

AUTHORIZATION: 825040333

SAMPLE: cobalt

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #85
Government Sample #82
Societe Zairoise de Commercialisation des Mineraux
GSA/FPDS - Warren Depot, Warren, OH
Contract #GS-00-DM-(S)-82004
Sales contract #GS-000xz-81C-0001

concentration, %

Cobalt	> 99.90
Nickel	.032 ✓
Iron	.0020 ✓
Manganese	.0002 ✓
Copper	.0013 ✓
Lead	< .0001 ✓
Zinc	.0010 ✓
Silicon	.0017 ✓
Aluminum	< .0010 ✓
Sulfur	.001 ✓
Carbon	< .01 ✓
Hydrogen	.0005 ✓
Oxygen	.0002 ✓
Antimony	< .00005 ✓
Arsenic	< .00005 ✓
Nitrogen	< .0010 ✓
Antimony	< .0001 ✓
Phosphorus	< .0001 ✓
Tin	< .0001 ✓
Selenium	< .0001 ✓
Silver	< .0001 ✓
Zinc and Cadmium	.0011 ✓

Richard M. ...
Richard M. ...
Inorganic Laboratory

William F. Pickup, Director

POSTED 840328

< - less than < . . ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 6 juin 19 83

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS -- DOOXX -- 810 -- 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUHLU, Shaba
LOT N : 86 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,004	0,0003	0,002	0,0001	0,002	0,001	0,0001

S	C	H ₂	O ₂	Bi	As	N ₂	Sn	P
0,001	0,008	0,0003	0,001	0,0001	0,001	0,001	0,0001	0,002

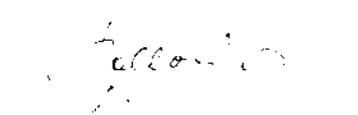
Sn	Se	Ag	Zn	Cd				
0,001	0,0002	0,0001	0,003					

2. RESULT SCREEN TEST OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N 6 0

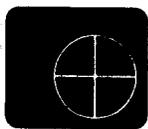
3. REMARKS

for and on behalf of
La Générale des Carrières et de Mines


C. MULLER.


J. POLLONI

PRINCETON SERVICE CENTER
U.S. Route 1
609-452-9050
TLX84-3492



princeton
testing
laboratory



P.O. Box 3108, Princeton, N.J. 08540

DATE: Nov 3, 1983

TO: General Services Administration
Inspection Division, DMI, GSA/FPRS
18th and F Streets NW Room 5230
Washington D.C. 20405

JOB NO. 30843

AUTHORIZATION: M25040333

SAMPLE: cobalt

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #86
Government Sample #84
Societe Zairoise de Commercialisation des Minerals
GSA/FPRS - Warren Depot, Warren, OH
Contract #GS-00-18-(2)-82-04
Sales Contract #GS-DOUxx-SIC-0001

	concentration, %
Cobalt	> 99.90
Nickel	.033 ✓
Iron	.0022 ✓
Manganese	.0002 ✓
Copper	.0010 ✓
Lead	< .0001 ✓
Zinc	.0014 ✓
Silicon	.0018 ✓
Aluminum	.0010 ✓
Sulfur	.001 ✓
Carbon	.017 ✓
Hydrogen	.0019 ✓
Oxygen	.015 ✓
Lithium	< .0005 ✓
Arsenic	< .00005 ✓
Nitrogen	.0010 ✓
Antimony	< .0001 ✓
Phosphorus	< .0001 ✓
Tin	< .0001 ✓
Selenium	< .0001 ✓
Silver	< .0001 ✓
Zinc & Cadmium	.0016

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

William F. Pickup, Director

~~POSTED~~ 840328

< - less than < . . ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected



CORPORATION

BOX 650 • FREWSBURG, NEW YORK 14738 • TELEPHONE 716/664-4910 • TELEX 91-528

February 3, 1984

General Services Administration, FPRS
Office of Stockpile Management
Director, Quality Assurance Division (DMI)
18th and F Streets, NW Room 5230
Washington, DC 20405

Report on Analysis of One (1) sample Cobalt Broken Cathodes

Requester: GSA/FPRS Office of Stockpile Management
Order No. D00XX-81C-0001 (M25040566)
Contract No. GS-00-DM-(S)-82008

Contractor: Vac Air Alloys Corporation
Phase/Series: 3/20
Lab Identifier: 14X15
GSA Designation: Lot 86, Sample 84

Results:

Hydrogen (H) .0002%

Remarks:

Approximately 6.5 lbs of crushed cathode was induction melted under a positive pressure of Argon.

I hereby certify this analysis to be true and accurate to the best of our knowledge.

Roger M. Payne
Vice President
Technical Director

RMP:kw

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 1 juin 1983

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS -- DOOXX -- SIC -- 004
PRODUCT : COBALT -- Broken Cathodes
ORIGIN : LUHLU, Shaba
LOT N : 87 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,004	0,0003	0,001	0,0001	0,002	0,001	0,0001

S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0001	0,001

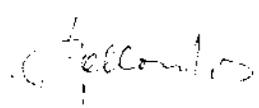
Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0001	0,003					

2. RESULT SCREEN TEST OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines


C. MULLER


J. POLLONI

PRINCETON SERVICE CENTER
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: Nov 8, 1983

TO: [General Services Administration
Inspection Division, DMI, GSA/FPRS
10th and F Streets NW Room 5230
Washington, D.C. 20405

JOB NO. 30843

AUTHORIZATION: M25040333

SAMPLE: cobalt

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #87
Government Sample 185
Cathode Division of Commercialization, GSA
GSA/FPRS - Warren Depot, Warren, MI
Contract #GS-01-44-(P)-82000
Sales contract #GS-D00X-810-8001

concentration, %

Cobalt	> 99.99 ✓
Nickel	.025 ✓
Iron	.0025 ✓
Manganese	.0002 ✓
Copper	.0035 ✓
Lead	< .0001 ✓
Zinc	.0010 ✓
Silicon	.0016 ✓
Aluminum	.0016 ✓
Sulfur	.001 ✓
Carbon	< .01 ✓
Hydrogen	.0006 ✓
Oxygen	.013 ✓
Bismuth	< .00005 ✓
Arsenic	< .00005 ✓
Nitrogen	< .001 ✓
Antimony	< .0001 ✓
Phosphorus	< .001 ✓
Tin	< .0001 ✓
Selenium	< .0001 ✓
Silver	< .0001 ✓
Zinc & Cadmium	.001 ✓

Donald McCloskey
Donald McCloskey, Manager
Inorganic Laboratory

William F. Pickup, Director

POSTED 840328

< - less than < . ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 19/02 19 82

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
 PRODUCT : COBALT — Broken Cathodes
 ORIGIN : LUJILU, Shaba
 LOT N° : 15 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

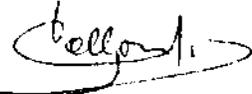
Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,92	0,04	0,004	0,0003	0,002	0,0002	0,001	0,001	0,0001
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,001	0,0001	0,001	0,001	0,0001	0,001
Sn	Se	Ag	Zn + Cd					
0,001	0,0002	0,0001	0,002					

2. RESULT SCREEN TEST. OF
 > 2" SQUARE OPENINGS 0
 < STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines

C. MULLER
 CONTROLLER OF
 LABORATORIES


J. POLLONI
 DIRECTOR, RESEARCH
 DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
FLX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: July 29, 1982

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW, Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 23349
AUTHORIZATION: PO#M21976553
SAMPLE: cobalt

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #75
Government Sample #72
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven, IND
Contract # GS-00-DM(S)-82004
Sales Contract #GS-D00xx-81C-0001

concentration, %

Cobalt	> 99.90
Nickel	.041
Iron	.0016
Manganese	.0003
Copper	.0019
Lead	< .0001
Zinc	.0013
Silicon	.0015
Aluminum	.0015
Sulfur	.001
Carbon	< .01
Hydrogen	< .0005
Oxygen	.0094
Bismuth	< .00005
Arsenic	< .00003
Nitrogen	.0006
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0014

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

William F. Pickup, Director

RMCC:na

< - less than

< . ND - element is less than the value given and not detected by the technique employed

VE

>

821230

> - greater than ND - not detected

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N GS - DDOXX -- 81C -- 001
 PRODUCT : COBALT — Broken Cathodes
 ORIGIN : LUHLU, Shaba
 LOT N° : *Replément 76 bis*

1. CHEMICAL CHARACTERISTICS : Percent by weight

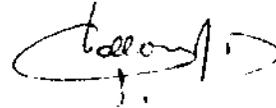
Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,92	0,04	0,005	0,0003	0,003	0,0001	0,003	0,001	0,0001
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,009	0,0003	0,009	0,0001	0,001	0,001	0,0001	0,001
Sn	Se	Ag	Zn + Cd					
0,001	0,0002	0,0001	0,004					

2. RESULT SCREEN TEST. OF
 > 2" SQUARE OPENINGS 0
 < STANDARD SEIVE N 6 0

3. REMARKS

for and on behalf of
 La Générale des Carrières et des Mines

G. MULIER
 CONTROLLER OF


J. PÖLLONI
 RESEARCH

Princeton Service Center
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: Dec 7, 1982

TO: [General Services Administration
Off ice of Stockpile Management
18th and F Street, NW, Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 25393

AUTHORIZATION: PO#M21976553

SAMPLE: cobalt

REPORT OF ANALYSIS

Cobalt-Broken Cathodes
GSA Lot #76 replacement
Government Sample #79
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven, IND
Contract #GS-00-DM(S)-82004
Sales Contract #GS-D00xx-81C-0001

	concentration, %
Cobalt	> 99.90 ✓
Nickel	.042 ✓
Iron	.0010 ✓
Manganese	.0002 ✓
Copper	.0028 ✓
Lead	< .0001 ✓
Zinc	.0011 ✓
Silicon	.0015 ✓
Aluminum	.0010 ✓
Sulfur	.002 ✓
Carbon	< .01 ✓
Hydrogen	< .0005 ✓
Oxygen	.0099 ✓
Bismuth	< .00005 ✓
Arsenic	< .00003 ✓
Nitrogen	.0005 ✓
Antimony	< .0001 ✓
Phosphorus	< .0001 ✓
Tin	< .0001 ✓
Selenium	< .0001 ✓
Silver	< .0001 ✓
Zinc and Cadmium	.0012 ✓

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

William F. Pickup, Director

DONE

830202

< - less than RMCC:na < . ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected



VAC AIR

CORPORATION

BOX 477 • FREWSBURG, NEW YORK 14738 • TELEPHONE 716/664-4910 • TELEX 91-528

December 23, 1982

General Services Administration, FPRS
Office of Stockpile Management
Director, Quality Assurance Division (DMI)
18th and F Streets, NW Room 5230
Washington, DC 20405

Report on Analyses of two (2) samples of Cobalt Broken Cathodes

Requester: GSA/FPRS Office of Stockpile Management
Order No. D00XX-816-0001
M25040236
Contract No. GS-00-DM-(S)-8303

Contractor: Vac Air Alloys Corporation
GSA Designation Sample #79 - Lot 76
Phase/Series GSA 3/20
Lab Identifier 122C231

Results:

Sulphur (S) .0005%

GSA Designation Sample #81 - Lot 81 *84 JML*
Phase/Series 3/21
Lab Identifier 122C289

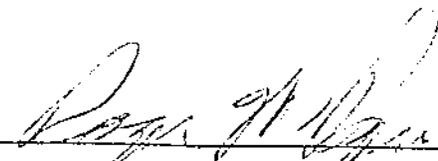
Results:

Oxygen (O) .0098%

Remarks:

Approximately 6.5 lbs. of crushed cathode was induction melted under a positive pressure of Argon.

I hereby certify these analyses to be true and accurate to the best of our knowledge.


Roger M. Payne
Vice President - Technical Director

RMP/rap

DATE 830202

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 36 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,92	0,04	0,003	0,0007	0,002	0,0003	0,002	0,001	0,0001
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,002
Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,003					

2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines


C. MULLER

CONTROLLER OF
LABORATORIES


J. POLLONI

DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
11.884-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: March 23, 1982

TO: General Services Administration
Office of Stockpile Management
18th and F Street, NW Room 5218
Washington DC 20405
ATT: Quality Assurance Division

JOB NO. 21631

AUTHORIZATION: PO #M-21976353

SAMPLE: cobalt cathodes

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #36
Contract #GS-00-DM(S)82004
Sales Contract #GS-D00xx-81C-0001

CONCENTRATION, %

Cobalt	99.85
Nickel	.039
Iron	.0018
Manganese	.0002
Copper	.0015
Lead	.0002
Zinc	.0018
Silicon	.0014
Aluminum	.0010
Sulfur	< .001
Carbon	< .01
Hydrogen	.0015
Oxygen	.0069
Bismuth	< .00005
Arsenic	< .00003
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0020

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

State of New York, Director

McC:na

ND = element less than the value given and not detected by the technique employed > greater than value not detected

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 37 GSA

I. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,003	0,0007	0,002	0,0003	0,002	0,001	0,0001

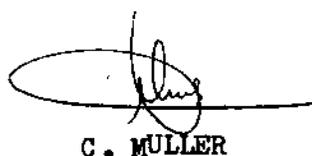
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,002

Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,003					

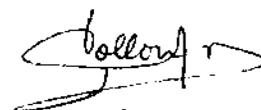
2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines



C. MULLER
CONTROLLER OF
LABORATORIES



J. POLLONI
DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
TX 84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: March 19, 1982

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 21526

AUTHORIZATION: PO#M-21976553

SAMPLE: cobalt - 1

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #37
Government Sample #42
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven IND
Contract #GS-00-DM(S)-82004

Sales Contract #GS-D00xx-81C-0001
concentration, %

Cobalt	> 99.90
Nickel	.035
Iron	.0023
Manganese	.0002
Copper	.0020
Lead	< .0001
Zinc	.0015
Silicon	.0013
Aluminum	.0010
Sulfur	< .001
Carbon	< .01
Hydrogen	.0004
Oxygen	.0065
Bismuth	.00008
Arsenic	< .0003
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0018

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

Sam E. Gump, Director

McC:na

less than < ND - element is less than the value given and not detected by the technique employed > greater than ND - not detected

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 38 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,004	0,0007	0,002	0,0003	0,002	0,001	0,0001

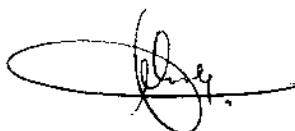
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,009	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,001

Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,003					

2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

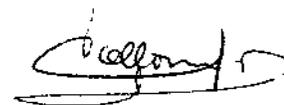
3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines



G. MULLER

CONTROLLER OF
LABORATORIES



J. POLLONI

DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540



DATE: March 19, 1982

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 21498

AUTHORIZATION: PO #M-21976553

SAMPLE: cobalt - 1

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #38
Government Sample #39
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven, IND
Contract #GS-00-DM(S)-82004
Sales Contract #GS-DOOxx-81C-0001

concentration, %

Cobalt	> 99.90
Nickel	.040
Iron	.0022
Manganese	.0002
Copper	.0020
Lead	< .0001
Zinc	.0018
Silicon	.0015
Aluminum	.0010
Sulfur	< .001
Carbon	< .01
Hydrogen	.0002
Oxygen	.013
Bismuth	< .00005
Arsenic	< .00003
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc & Cadmium	.0020


Ronald McClöskey, Manager
Inorganic Laboratory

Tom E. Mackay, Director

RMCC:na

less than < , ND -- element is less than the value given and not detected by the technique employed > greater than > , ND -- not detected

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS -- DOOXX -- 81C -- 001
PRODUCT : COBALT -- Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 39 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,004	0,0007	0,002	0,0003	0,003	0,001	0,0001

S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,001

Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,004					

2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines



C. MULLER
CONTROLLER OF
LABORATORIES



J. POLLONI
DIRECTOR, RESEARCH
DEPARTMENT

Post Office Service Center
P.O. Box 3108
Princeton, N.J. 08540
Tel. 609-452-9050
Telex 84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: March 19, 1982

TO: General Services Administration
 Office of Stockpile Management
 18th and F Street, NW Room 5218
 Washington, DC 20405
 ATF: Quality Assurance Division

JOB NO. 21497

AUTHORIZATION: PO #M-21976553

SAMPLE: cobalt - 1

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #39
Government Sample #41
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven, INO
Contract #GS-00-DM(S)-82004
Sales Contract #GS-DOOxx-81C-0001

concentration, %

Cobalt	> 99.90 ✓
Nickel	.038
Iron	.0024
Manganese	.0002
Copper	.0020
Lead	< .0001
Zinc	.0016
Silicon	.0012
Aluminum	.0010
Sulfur	< .001
Carbon	< .01
Hydrogen	.0002
Oxygen	.015
Bismuth	.00006
Arsenic	.00005
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0017

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

John E. Skup, Director

RMCC:na

ND - element less than the value given and not detected by the technique employed > - greater than ND - not measured

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 7/11/ 19 81

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 40 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,004	0,0007	0,002	0,0003	0,002	0,001	0,0001

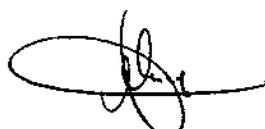
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,001

Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,003					

2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

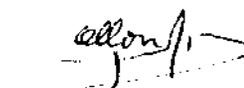
3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines



C. MÜLLER

CONTROLLER OF
LABORATORIES



J. POLLONI

DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U. S. Route 1
609-452-9050
GLX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: March 19, 1982

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 21499

AUTHORIZATION: PO #M-21976553

SAMPLE: cobalt - 1

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #40
Government Sample #40
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven, IND
Contract #GS-00-DM(S)-82004
Sales Contract #GS-DOOxx-81C-0001

concentration, %

Cobalt	> 99.90
Nickel	.042
Iron	.0026
Manganese	.0002
Copper	.0022
Lead	< .0001
Zinc	.0014
Silicon	.0012
Aluminum	.0010
Sulfur	< .001
Carbon	< .01
Hydrogen	.0001
Oxygen	.010
Bismuth	.00008
Arsenic	< .00003
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc & Cadmium	.0016

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

William F. Kirkup, Director

RMCC:na

< - ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 9/11/ 1981

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 41 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,003	0,0007	0,002	0,0003	0,002	0,001	0,0001

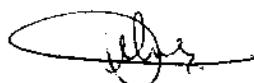
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,009	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,002

Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,003					

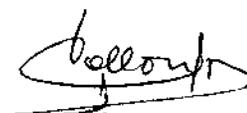
2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines


C. MULLER

CONTROLLER OF
LABORATORIES


J. POLLONI

DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
ILX84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: March 23, 1982

TO: General Services Administration
Office of Stockpile Management
18th and F Street, NW Room 5218
Washington DC 20405
ATT: Quality Assurance Division

JOB NO. 21632

AUTHORIZATION PO #M-21976553

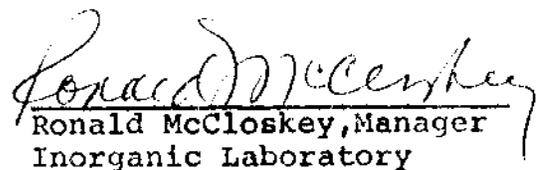
SAMPLE: cobalt cathodes

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #41
Contract #GS-00-DM(S)82004
Sales Contract #GS-D00xx-81C-0001

concentration, %

Cobalt	> 99.90
Nickel	.037
Iron	.0022
Manganese	.0002
Copper	.0017
Lead	.0002
Zinc	.0014
Silicon	.0010
Aluminum	.0010
Sulfur	< .001
Carbon	< .01
Hydrogen	.0002
Oxygen	.0059
Bismuth	< .00005
Arsenic	< .00003
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0016


Ronald McCloskey, Manager
Inorganic Laboratory

Director
RMCC:na

< - traceable < - ND - element is less than the value given and not detected by the technique employed > - greater than ND - not detected

CENTRAL LABORATORIES

Panda, Likasi,

Likasi, 9/11/ 19 81

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 44 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,92	0,04	0,003	0,0007	0,002	0,0003	0,002	0,001	0,0001

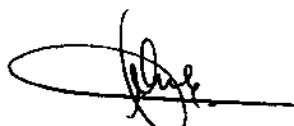
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,002

Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,003					

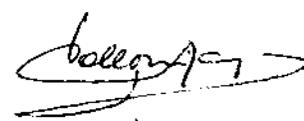
2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines


C. MÜLLER

CONTROLLER OF
LABORATORIES


J. POLLONI

DIRECTOR, RESEARCH
DEPARTMENT

DATE: March 19, 1982

TO: General Services Administration
 Office of Stockpile Management
 18th and F Street, NW Room 4218
 Washington DC 20405
 ATT: Quality Assurance Division

JOB NO. 21495

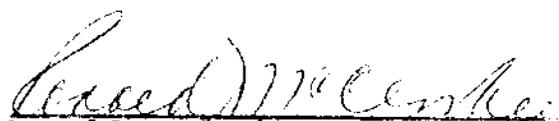
AUTHORIZATION: PO #M-21976553

SAMPLE: cobalt - 1

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #44
Government Sample #38
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven, IND
Contract #GS-00-DM(S)-82004
Sales Contract #GS-DOOxx-81C-0001

	concentration, %
Cobalt	> 99.90
Nickel	.035
Iron	.0022
Manganese	.0002
Copper	.0030
Lead	< .0001
Zinc	.0017
Silicon	.0011
Aluminum	.0008
Sulfur	< .001
Carbon	< .01
Hydrogen	.0002
Oxygen	.0071
Bismuth	.00007
Arsenic	< .00003
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0020


Ronald McCloskey, Manager
Inorganic Laboratory

Sup. Director

RMCC:na

< ND - element less than the value given and not detected by the technique employed > greater than ND - not detected

ANALYSIS REPORT

REFERENCE : G.S.A. Contract N° GS — DOOXX — 81C — 001
PRODUCT : COBALT — Broken Cathodes
ORIGIN : LUILU, Shaba
LOT N° : 47 GSA

1. CHEMICAL CHARACTERISTICS : Percent by weight

Co	Ni	Fe	Mn	Cu	Pb	Zn	Si	Al
99,91	0,05	0,003	0,0007	0,002	0,0003	0,002	0,001	0,0001

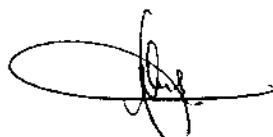
S	C	H ₂	O ₂	Bi	As	N ₂	Sb	P
0,001	0,008	0,0003	0,007	0,0001	0,001	0,001	0,0005	0,002

Sn	Se	Ag	Zn + Cd					
0,001	0,0001	0,0005	0,003					

2. RESULT SCREEN TEST. OF
> 2" SQUARE OPENINGS 0
< STANDARD SEIVE N° 6 0

3. REMARKS

for and on behalf of
La Générale des Carrières et des Mines



C. MÜLLER
CONTROLLER OF
LABORATORIES



J. POLLONI
DIRECTOR, RESEARCH
DEPARTMENT

Princeton Service Center
U.S. Route 1
609-452-9050
11 X84-3492



P.O. Box 3108, Princeton, N.J. 08540

DATE: March 19, 1982

TO: [General Services Administration
Office of Stockpile Management
18th and F Street, NW Room 5218
Washington DC 20405
ATT: Quality Assurance Division]

JOB NO. 21500

AUTHORIZATION: PO#M-21976553

SAMPLE: cobalt - 1

REPORT OF ANALYSIS

Cobalt - Broken Cathodes
GSA Lot #47
Government Sample #36
Societe Zairoise de Commercialisation de Minerals
GSA/FPRS - Casad Depot - New Haven IND
Contract #GS-00-DM(S)-82004
Sales Contract #GS-D00xx-81C-0001

concentration, %

Cobalt	99.86
Nickel	.035
Iron	.0027
Manganese	.0002
Copper	.0021
Lead	.0002
Zinc	.0019
Silicon	.0014
Aluminum	.0010
Sulfur	< .001
Carbon	< .01
Hydrogen	.0001
Oxygen	.0058
Bismuth	.00007
Arsenic	.00003
Nitrogen	< .001
Antimony	< .0001
Phosphorus	< .0001
Tin	< .0001
Selenium	< .0001
Silver	< .0001
Zinc and Cadmium	.0021

Ronald McCloskey
Ronald McCloskey, Manager
Inorganic Laboratory

W. J. ... Director

RMCC:na

< less than < ND - element is less than the value given and not detected by the technique employed > greater than ND - not detected

P-13-R4
March 27, 1981
(Supersedes
P-13-R3
February 1, 1980)

NATIONAL STOCKPILE
PURCHASE SPECIFICATION

Published by
U.S. Department of Commerce

With Approval of
Federal Emergency Management Agency

COBALT

I. DESCRIPTION

This specification covers refined cobalt metal suitable for use in the production of ferrous and nonferrous alloys and chemical compounds.

II. CHEMICAL AND PHYSICAL REQUIREMENTS

Each lot of cobalt metal purchased under this specification shall conform to the following chemical and physical requirements:

A. Chemical Requirements:

Percent by Weight

		Electrolytic Broken Cathodes		
		<u>Grade A</u>	<u>Grade B</u>	<u>Granules</u>
Cobalt (Co)	Min.	99.90	99.65	99.50
Nickel (Ni)	Max.	0.040	0.30	0.15
Iron (Fe)	Max.	0.004	0.01	0.14
Manganese (Mn)	Max.	0.0007	0.001	0.013
Copper (Cu)	Max.	0.0015	0.002	0.015
Lead (Pb)	Max.	0.0003	0.0005	0.001
Zinc (Zn)	Max.	0.0030	0.003	0.005
Silicon (Si)	Max.	0.0010	0.005	0.025
Aluminum (Al)	Max.	-	0.01	0.030
Sulfur (S)	Max.	0.0010	0.001	0.007
Carbon (C)	Max.	0.0050	0.01	0.010
Hydrogen (H ₂)	Max.	0.0003	0.001	0.001
Oxygen (O ₂) ²	Max.	0.0070	0.007	0.030
Bismuth (Bi)	Max.	0.0001	0.0001	0.0001
Arsenic (As)	Max.	0.0010	0.0010	0.0010
Nitrogen (N ₂)	Max.	0.0005	0.010	0.0005
Antimony (Sb)	Max.	0.0001	0.0005	-----
Phosphorus (P)	Max.	0.0005	0.005	-----

A. Chemical Requirements: (Cont'd)

		<u>Percent by Weight</u>		
		<u>Electrolytic Broken Cathodes</u>		
		<u>Grade A</u>	<u>Grade B</u>	<u>Granules</u>
Tin (Sn)	Max.	0.001	0.001	-----
Selenium (Se)	Max.	0.0005	0.0005	-----
Silver (Ag)	Max.	0.0005	0.0005	-----
Zinc (Zn) plus Cadmium (Cd)	Max	0.004	0.004	-----

B. Physical Requirements:

All cobalt metal shall be supplied in broken cathodes or granules. All material shall pass a screen with 2-inch square openings, and none shall pass a U.S. Standard Sieve No. 6. All material in any lot shall be approximately the same size.

NOTE: Other forms of cobalt may be considered if they meet each of the chemical requirements of any one of the cobalt types listed above.

III. PACKAGING, MARKING, IDENTIFICATION, AND SHIPPING

A. Packaging:

Cobalt metal shall be packed in new 15-gallon, 18-gauge steel drums (or nearest metric equivalent), hot-dipped galvanized after fabrication. Each drum shall contain approximately 550 pounds (250 kilos) of cobalt metal. The drums shall be equivalent to the requirements of National Stockpile Container Specification C-1, latest revision: Drums, Steel, Hot-Dip, Galvanized.

B. All markings shall be in English. Each drum shall have attached, adhesively, three aluminum tags 3 by 5 inches by 0.010 inch thick. Tags will be glued to each flat side of the cover and one to the side of the drum midway between the locking ring and the upper rolling hoop. Prepare the tags by embossing with information regarding the following items:

Cobalt
Name of Producer
Country of Origin
Name and Location of Mine (Including State or Province)
Month and Year Packed
Form
Gross and Net Weights
Government Contract Number
Lot Number and Drum Serial Number
(e.g., 1/20, 2/20, etc.)
The Notice "Duplicate Tag Inside Drum"
Purchase Specification Number and Date

The following procedures shall be used to affix tags:

1. Preform the tag to be attached to the side of the drum to the same curvature as the container so that the tag will adhere properly.
2. Use dry cleaning solvent, Federal Specification P-D-680, latest revision, to clean surface dirt and grease from those sections of the lid and drum to which tags are to be affixed.
3. Apply Class I stabilized chloroprene polymer adhesive (neoprene WRT), Federal Specification MMM-A-121, latest revision, to the sections described in III. B. above, and wait for sufficient time to elapse so that the bonding material becomes "tacky" enough to ensure proper adhesion before affixing the identification tags.

The marking shall not include a security classification or anything indicating National Stockpile ownership other than the contract number and purchase specification number and date.

C. Identification:

Appropriate identifying documents shall accompany each shipment.

D. Shipping:

All drums containing cobalt metal shall be loaded, braced, and blocked in the carrier's conveyance in compliance with the applicable rules and regulations set forth in the carrier's classifications and other tariffs. For rail shipments, the applicable rules and regulations (AAR) in Pamphlet Nos. 4 and 14, and Circular No. 42,

latest revision, shall be observed. All drums shall be carefully handled to prevent damage and ensure safe delivery.

IV. SAMPLING, INSPECTION, AND TESTING

Each lot of cobalt metal shall be subject to sampling, inspection, and testing by the Government or its designee.

J.2 Storage Locations (MAR 00)

Site	Days	Hours	Transportation Available
New Haven, IN	M - F	7:30 AM - 4:00 PM	Truck
Warren, OH	M - F	7:30 AM - 4:00 PM	Truck

Operations and Logistics Division Point of Contact:

Lance Kualii
Defense Logistics Agency
Defense National Stockpile Center
ATTN: DNSC-~~14~~ M
8725 John J. Kingman Road, Suite 4616
Fort Belvoir, VA 22060-6223
Telephone 703-767-7611

Shipping Request Number: _____

SHIPPING INSTRUCTIONS

1. a. Contractor: _____

b. Point of Contact: _____ c. Telephone No.: _____

d. Facsimile No.: _____

2. a. DNSC Contract No.: SPO833-00-S- b. Commodity: COBALT

3. Item/Pile: _____

4. Depot: _____

5. a. Quantity: _____

b. Unit Price: _____ c. Total Dollar Value: _____

6. Shipping Method: _____

7. a. Carrier Name: _____

b. Point of Contact: _____ c. Telephone No.: _____

8. Date Shipment Desired: _____

9. Ship To: _____

10. Minimum Load: _____

11. a. Outloader: _____ b. Telephone No.: _____

12. a. Sampler: _____ b. Telephone No.: _____

13. Copy of Payment Attached: Yes _____ No _____

14. Remarks: _____

15. Contractor's Signature: _____

Date

Telephone

16. Shipment Approved and Authorized: _____

Contracting Officer

Date

J.4 MATERIAL SAFETY DATA SHEET

DLA05251

Page 001 of 009

SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

DEFENSE LOGISTICS AGENCY
DEFENSE NATIONAL STOCKPILE CENTER
8725 JOHN J. KINGMAN ROAD
SUITE 3339
FORT BELVOIR, VA 22060-6223

EMERGENCY TELEPHONE NUMBER:
1-800-424-9300 (NORTH AMERICA)
1-703-527-3887 (INTERNATIONAL)

SUBSTANCE: COBALT

TRADE NAMES/SYNONYMS:

C.I.77320; COBALT-59; C-363; COBALT ELEMENT; Co; DLA05251; RTECS GF8750000

CHEMICAL FAMILY: metal

CREATION DATE: Mar 27 1995

REVISION DATE: Mar 12 1998

SECTION 2 COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: COBALT
CAS NUMBER: 7440-48-4
EC NUMBER (EINECS): 231-158-0
EC INDEX NUMBER: 027-001-00-9
PERCENTAGE: 100.0

SECTION 3 HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2 FIRE=0 REACTIVITY=0

EC CLASSIFICATION (ASSIGNED):
Sensitizing

R 42/43

EC Classification may be inconsistent with independently-researched data.

EMERGENCY OVERVIEW:

PHYSICAL DESCRIPTION: Odorless, silver-gray or bluish-white metal in pig, ingot or tub form.

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation, allergic reactions, suspect cancer hazard (in animals)

PHYSICAL HAZARDS: Negligible fire and explosion hazard in bulk form.

Dust/air mixtures may ignite or explode.

POTENTIAL HEALTH EFFECTS:

INHALATION:

SHORT TERM EXPOSURE: irritation, allergic reactions, lung damage, tumors

LONG TERM EXPOSURE: digestive disorders, chest pain, difficulty breathing,

J.4 MATERIAL SAFETY DATA SHEET

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headache, lung damage, paralysis, reproductive effects

SKIN CONTACT:

SHORT TERM EXPOSURE: irritation, allergic reactions, rash

LONG TERM EXPOSURE: same as effects reported in short term exposure

EYE CONTACT:

SHORT TERM EXPOSURE: irritation

LONG TERM EXPOSURE: same as effects reported in short term exposure

INGESTION:

SHORT TERM EXPOSURE: vomiting, diarrhea

LONG TERM EXPOSURE: rash, ringing in the ears, digestive disorders, difficulty breathing, hearing loss, bluish skin color

CARCINOGEN STATUS:

OSHA: N

NTP: N

IARC: Y

SECTION 4 FIRST AID MEASURES

INHALATION: Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

SKIN CONTACT: Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

EYE CONTACT: Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

INGESTION: If vomiting occurs, keep head lower than hips to help prevent aspiration. Get medical attention, if needed.

ANTIDOTE: calcium disodium edetate/dextrose, intravenous; calcium disodium edetate/procaine, intramuscular. Get medical attention immediately.

SECTION 5 FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Negligible fire and explosion hazard in bulk form. Dust/air mixtures may ignite or explode. Finely divided material may ignite spontaneously.

EXTINGUISHING MEDIA: dolomite, dry powder for metal fires, sand, graphite, soda ash, sodium chloride

Do not get water directly on material.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool

J.4 MATERIAL SAFETY DATA SHEET

DLA05251 Page 003 of 009

containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Use extinguishing agents appropriate for surrounding fire. Avoid inhalation of material or combustion by-products.

SECTION 6 ACCIDENTAL RELEASE MEASURES

WATER RELEASE:

Subject to California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). Keep out of water supplies and sewers.

SECTION 7 HANDLING AND STORAGE

Store and handle in accordance with all current regulations and standards. Store in a cool, dry place. Ventilation required. Store in a tightly closed container. Keep separated from incompatible substances.

SECTION 8 EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:

COBALT:

COBALT METAL, DUST, AND FUME (as Co):

0.1 mg/m³ OSHA TWA

0.05 mg/m³ OSHA TWA (vacated by 58 FR 35338, June 30, 1993)

0.02 mg/m³ ACGIH TWA

0.05 mg/m³ NIOSH recommended TWA 10 hour(s)

MEASUREMENT METHOD: Particulate filter; Acid; Atomic absorption spectrometry; NIOSH III # 7027

VENTILATION: Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

RESPIRATOR: The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

Measurement Element:

Cobalt (Co)

0.25 mg/m³

Any dust and mist respirator.

0.5 mg/m³

Any dust and mist respirator.

J.4 MATERIAL SAFETY DATA SHEET

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Any dust, mist, and fume respirator.
Any supplied-air respirator.
Any self-contained breathing apparatus.

1.25 mg/m³

Any supplied-air respirator.
Any powered, air-purifying respirator with a dust and mist filter.
Any powered, air-purifying respirator with a dust, mist, and fume filter.

2.5 mg/m³

Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.
Any self-contained breathing apparatus with a full facepiece.
Any supplied-air respirator with a full facepiece.

20 mg/m³

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying respirator with a full facepiece and a high-efficiency particulate filter.
Any appropriate escape-type, self-contained breathing apparatus.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.
Any self-contained breathing apparatus with a full facepiece.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL DESCRIPTION: Odorless, silver-gray or bluish-white metal in pig, ingot or tub form.

MOLECULAR WEIGHT: 58.93

MOLECULAR FORMULA: Co

BOILING POINT: 5198 F (2870 C)

MELTING POINT: 2723 F (1495 C)

VAPOR PRESSURE: Not applicable

VAPOR DENSITY: Not applicable

SPECIFIC GRAVITY (water=1): 8.92

WATER SOLUBILITY: insoluble

PH: Not applicable

VOLATILITY: 0%

ODOR THRESHOLD: Not available

EVAPORATION RATE: 0 (butyl acetate=1)

COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available

SOLVENT SOLUBILITY:

Soluble: dilute nitric acid, hydrochloric acid, sulfuric acid

SECTION 10 STABILITY AND REACTIVITY

REACTIVITY: Stable at normal temperatures and pressure.

CONDITIONS TO AVOID: None reported.

J.4 MATERIAL SAFETY DATA SHEET

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INCOMPATIBILITIES: combustible materials, acids, oxidizing materials, halogens

COBALT:

ACETYLENE: Incandescent reaction.
ACIDS (STRONG): Incompatible.
AMMONIUM NITRATE: Violent or explosive reaction.
BROMINE PENTAFLUORIDE: Violent reaction with possible ignition.
BROMINE TETRAFLUORIDE: Violent reaction with possible ignition.
HYDRAZINIUM NITRATE: Possible explosion above 70 C.
NITRATES: Incompatible.
NITRYL FLUORIDE: Incandescent reaction.
OXIDIZERS (STRONG): Fire and explosion hazard.
1,3,4,7-TETRAMETHYLISOINDOLE: Possible explosion on heating.

HAZARDOUS DECOMPOSITION:

Thermal decomposition products: oxides of cobalt

POLYMERIZATION: Will not polymerize.

SECTION 11 TOXICOLOGICAL INFORMATION

COBALT:

TOXICITY DATA:

6171 mg/kg oral-rat LD50; 100 mg/kg intraperitoneal-rat LD50; 100 mg/kg intravenous-rat LDLo; 25 mg/kg intratracheal-rat LDLo; 100 mg/kg intraperitoneal-mouse LDLo; 750 mg/kg oral-rabbit LDLo; 100 mg/kg intravenous-rabbit LDLo; 200 mg/m3/17 week(s) intermittent inhalation-rat TCLo; 100 ug/m3/6 hour(s)-13 week(s) intermittent inhalation-pig TCLo

CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Sufficient Evidence, Group 2B; ACGIH: A3 -Animal Carcinogen (Cobalt and cobalt compounds); TRGS 905: K 3

A significant increase in the risk for lung cancer was reported among workers in cobalt production who were also exposed to nickel and arsenic and hard-metal workers with documented exposure to cobalt-containing dusts. A significant increase in lung cancer risk was seen in people exposed for more than 10 years whose exposure had begun more than 20 years previously. A number of single cases of malignant tumors, mostly sarcomas, have been reported at the site of orthopaedic implants containing cobalt. Intramuscular and intrathoracic injections of cobalt metal powder in rats produced sarcomas at the injection site.

LOCAL EFFECTS:

Irritant: inhalation, skin, eye

ACUTE TOXICITY LEVEL:

Slightly Toxic: ingestion

TARGET ORGANS: immune system (sensitizer)

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: respiratory disorders, skin disorders and allergies

TUMORIGENIC DATA:

126 mg/kg intramuscular-rat TDLo; 75 mg/kg implant-rabbit TDLo; 126 mg/kg intramuscular-rat TD

ADDITIONAL DATA: Alcohol may enhance the toxic effects.

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HEALTH EFFECTS:

INHALATION:

ACUTE EXPOSURE:

COBALT: May cause upper respiratory tract irritation, rhinitis, conjunctivitis and tracheitis. Sensitization reactions may occur in previously exposed individuals. An obliterative bronchiolitis adenomatosis has been produced in guinea pigs intratracheally injected with the dust at doses of 50, 25, and 10 mg. Intratracheal administration of 12.5 mg/kg caused lethargy and death in rats in 15 minutes to 6 hours.

CHRONIC EXPOSURE:

COBALT: Prolonged or repeated exposure may cause respiratory irritation, discharge from respiratory or digestive mucous membranes, nasal obstruction, sneezing, clear secretions sometimes containing blood, an intense burning sensation when swallowing, exertional dyspnea, gastrointestinal distress, appetite and weight loss, peripheral neuritis, headache, weakness, irritability, partial or complete loss of the sense of smell, auditory nerve problems, and an increased incidence of spontaneous abortions in women workers and in the wives of men workers. Several cases of cardiomyopathy have been reported in workers. The onset of the disease may begin gradually with steadily increasing chest discomfort and sharp pains near the heart. Other symptoms may include dry cough, mucoid sputum, general malaise, drop in blood pressure, right sided hemiparesis, sleeplessness, and weight loss. Fragmented myocardial fibers, vacuolar change, diffused thickening of the endocardium and absence of an inflammatory reaction were signs of cardiomyopathy. Studies from workers chronically exposed to cobalt in tungsten carbide manufacturing of hard metal revealed three types of respiratory disease: Airways obstruction may occur from simple irritation and appears to be related to an allergic response. It has been reported to occur at a level of 0.06 mg/m³ and is characterized by wheezing, cough, and shortness of breath while at work with symptoms improving when exposure ceases. This syndrome may not develop until 6 to 18 months of exposure has occurred and is not thought to be progressive. However once sensitized a worker could probably not tolerate inhalation of even small amounts; interstitial pneumonitis, a syndrome similar to extrinsic allergic alveolitis has been reported in workers. The signs and symptoms are compatible with transient pneumonitis. Basal crackles and radiographic abnormalities occur but symptoms improve and respiratory impairment is decreased or resolved once the subject is removed from exposure for a period of time; interstitial fibrosis has been observed to occur in workers exposed to 0.1 to 0.2 mg/m³ for usually 10 years. Symptoms included cough, scanty mucoid sputum, and shortness of breath which progressively worsens. Tachypnea is frequent, and clubbing of the digits, and basal crackles are late features of this condition. Pulmonary function is decreased and death is usually due to pulmonary hypertension and cor pulmonale.

SKIN CONTACT:

ACUTE EXPOSURE:

COBALT: May cause irritation. Sensitization dermatitis may occur in persons who have been previously exposed. Both urticarial eruptions and erythematous papular types have been described and usually occur in skin areas subjected to friction, such as the elbow flexures, ankles, and neck.

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CHRONIC EXPOSURE:

COBALT: Repeated or prolonged contact may lead to sensitization dermatitis.

EYE CONTACT:

ACUTE EXPOSURE:

COBALT: May cause irritation. Workers in the cobalt-cemented tungsten industry have not experienced eye irritation at concentrations below 1 mg/m³.

CHRONIC EXPOSURE:

COBALT: Repeated or prolonged exposure may cause conjunctivitis.

INGESTION:

ACUTE EXPOSURE:

COBALT: Vomiting, diarrhea, and a sensation of hotness may occur after the ingestion of large amounts.

CHRONIC EXPOSURE:

COBALT: Cardiomyopathy has been caused by excessive intake of cobalt. Signs and symptoms of this illness included gastrointestinal disturbances with nausea, vomiting and diarrhea, shortness of breath, dry and persistent cough, thoracic and right upper quadrant abdominal pain, ankle edema, cyanosis, lowered blood pressure, heart enlargement, pericardial effusion, rapid heart rate, electrocardiographic abnormalities and death. Sequela following this illness included recurrent chronic heart failure, and neurologic and mental deterioration. Therapeutic administration has caused nausea, vomiting, skin rash, tinnitus, nerve deafness, thyroid hyperplasia, myxedema, polycythemia, congestive heart failure, and death. Administration to humans at 1 mg daily for three days resulted in prolonged time for blood clot formation. Degenerative changes have occurred in the liver, kidneys, and pancreas of animals. Administration in drinking water produced erythropoietic effects, immunosuppression, and inhibited reflex learning in rats.

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

FISH TOXICITY: 112.5 ug/L 30 hour(s) (Growth) Fathead minnow (*Pimephales promelas*)

INVERTEBRATE TOXICITY: 10 ug/L 14 week(s) (Growth) Pacific oyster (*Crassostrea gigas*)

ALGAL TOXICITY: 58900 ug/L 0.5 hour(s) (Biochemical) Blue-green algae (*Anabaena variabilis*)

FATE AND TRANSPORT:

BIOCONCENTRATION: 4000 M 24 week(s) BCF (Residue) Blue-green algae (*Coccochloris* sp) 1E-8.4 M

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SECTION 13 DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable regulations.

SECTION 14 TRANSPORT INFORMATION

No classification assigned.

LAND TRANSPORT ADR/RID: No classification assigned.

AIR TRANSPORT IATA/ICAO: No classification assigned.

MARITIME TRANSPORT IMDG: No classification assigned.

SECTION 15 REGULATORY INFORMATION

U.S. REGULATIONS:

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CERCLA SECTION 103 (40CFR302.4): N

SARA SECTION 302 (40CFR355.30): N

SARA SECTION 304 (40CFR355.40): N

SARA SECTION 313 (40CFR372.65): Y

 Cobalt

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):

 ACUTE: Y

 CHRONIC: Y

 FIRE: N

 REACTIVE: N

 SUDDEN RELEASE: N

OSHA PROCESS SAFETY (29CFR1910.119): N

STATE REGULATIONS:

 California Proposition 65: Y

 Known to the state of California to cause the following:

 Cobalt

 Cancer (Jul 01, 1992)

EUROPEAN REGULATIONS:

 EC NUMBER (EINECS): 231-158-0

EC RISK AND SAFETY PHRASES:

 R 42/43 May cause sensitization by inhalation and skin contact.

 S 2 Keep out of reach of children.

 S 22 Do not breathe dust.

 S 24 Avoid contact with skin.

 S 37 Wear suitable gloves.

GERMAN REGULATIONS:

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WATER HAZARD CLASS (WGK): 0 (Official German Classification)
WATER HAZARD CLASS (WGK): 1 (Self Classification by Manufacturers and
Distributors)

SECTION 16 OTHER INFORMATION

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J.5 FEDWIRE PROCEDURES

The Sender should use a bank that offers wire transfer capability. The Federal Reserve Bank of New York will then process the money for deposit to the Defense National Stockpile Account with the Department of the Treasury.

PROCEDURES FOR DEPOSIT SLIP(S) FOR FEDWIRE:

To ensure the funds are credited to the Defense National Stockpile Center the following information is required on any wire transfer of funds.

1. Treasury Dept. Code - Routing No. to the Treasury
MUST BE ON SLIP "021030004".
2. Amount of funds to be transferred.
3. Treasury Department Name - **This item is critical -**
MUST APPEAR EXACTLY AS SHOWN BELOW
TREAS NYC/(CTR/BNF=/AC-00006355)
4. Third Party Information - Purchaser's Name,
Commodity, and Contract Number.