

ENTERED

22 July 1996

MEMO FROM:
377 ABW/EMC
2000 Wyoming Blvd SE
Albuquerque NM 87117-5659

MEMO TO:
New Mexico Environment Department
P.O. Box 26110
2044A Galisteo
Santa Fe NM 87502

RE: KAFB Skeet Range Incident
Answers to your questions from July 11, 1996 Memo are as follows:

When was this debris actually laid down on the roadway? 13 May 1996.

What is the actual depth to groundwater in the area of concern? 400' to 470'.

open still investigating
How many times has this practice of scraping the range and disposing of the debris occurred in the past? According to the Civil Engineering Squadron, this was done 3 different times (see attachment 1) once in 1980, 1989 and in 1996.

Were records kept from past cleanups? We have found no records of previous cleanups.

What was the final disposition of the 84 thousand pounds of lead shot removed from the range in 1993? This lead was sent to Illinois for reclamation.

Who removed it and where did it go? The lead was removed by Gene Sears Supply Co. and the lead was reclaimed by Taracorp Industries, Granite City, IL (see attachment 2).

open
At what depth were the roadway samples actually taken? Samples were taken on the range and at the east exit road (not roadway) at surface level.

Have you located a MSDS on the chemical composition of the clay target used on the range? Yes, see attachment 3.

KAFB1792



Has the range purchased other types of targets whose chemical composition may be different? Environmental Personnel contacted the President of the Sandia Skeet Range and the president said only Winchester or Remington skeet has been used, sometimes the color of the skeets would change, but the chemical composition would be the same. We have no stock number/part number or documentation to this effect, to check or provide MSDSs.

How many years has the range actually been in operation? Environmental Management personnel spoke to the Historian for the Skeet Range and found it to be in operation since before 1967 (see memo, attachment 4).

What is the leachability of the lead shot sampled in the roadway? At present, we do not know. We are having a local lab take samples to perform TCLP to see if this can be determined as of 7-22-96.

What are the actual lead levels in the portions of the roadway not yet sampled? We are having samples taken as of 7-22-96, we do not know the answer at this time.

Is there a potential groundwater problem? No, ground water depth at landfill roadway and skeet range is 400' to 470' below ground level.

Is there a potential surface water problem? No, stormwater samples collected by Department Of Energy (DOE) at spillway east of skeet range do not show elevated levels of lead (see attachment 5).

Is there a potential problem from runoff into the Tijeras Arroyo floodplain? Sheet flow from skeet range and landfill roadway flows to Tijeras Arroyo. Elevated lead levels have not been observed in storm water samples.


WALTER S. DARR III
Chief of Compliance
Environmental Management Division

Attachments:

1. CE Letter, 19 Jul 96
2. Sandia Skeet Club Letter, no date
3. MSDS for Skeet
4. Memo for Record Sandia Skeet Range
5. Spill Way Samples

For Walt & Marsha

7-11-96

Draft Report - KAFB skeet range incident

As a result of a letter from Mr. Walter Darr, Chief of Environmental Compliance at Kirtland Air Force Base (KAFB), dated 28 May, 1996 (see attached), regarding the base skeet range and the removal of lead shot which was used as road bedding, Frank Sanchez and Jim Seubert arranged to meet with KAFB and investigate. Mr. Muckelroy also contacted Mr. Piatt of the Surface Water Quality Bureau (SWQB) to see if he may want to send someone from his bureau. On Monday June 3, 1996 we met with Mr. Darr, Ms. Marsha Carra and Major Martin, Acting Director to evaluate the self-reported incident. During the course of our initial discussion we determined that the range, although owned by the Morale, Welfare and Recreation (MWR) Section which is a DOD entity, it is actually operated by a privately owned group or club the Sandia Skeet Range. The range has been in operation on base since at least 1980 but Mr. Darr will find out for sure. Mr. Darr indicated that they were surprised at this incident and were proceeding to gather information about the incident. As a result, many questions have yet to be answered and Mr. Darr is proceeding as quickly as he can. He requested that perhaps we, in our initial response to them, ask some of the same questions which may help their inquiries move along more quickly. We were told that sometime in 1993, a permit for Soil Disturbance at the range was issued so that work on removing the lead shot could be done. As a result, 84 thousand pounds of lead shot were sifted out and evidently reclaimed, although Mr. Darr has no more information re: the final disposition of this lead shot. He will continue to investigate.

We then inspected the range and surrounding area. Numerous photos were taken and accompany this draft. The range itself is still active. As we moved about on the range we noticed the usual skeet type of debris laying about which included spent shotgun shells, whole and broken clay targets, shotgun shell wads and lead shot. The ant hills were of particular interest. The ants are actually dredging lead shot from their holes! These leaded ant hills were visible throughout the range, at the far northeast reaches of the range, in the bottom of the arroyo that runs along the eastern side of the range and on the other side of the east bordering arroyo. We walked the entire length of the portion of the arroyo that borders the range on the east side and then proceeded to follow the roadway where apparently the debris from the range had been laid down as road bedding. The approximate length of the road involved is 2.5 miles in length (as registered by our vehicles odometer) and extends from the range along a paved roadway on through what Mr. Darr said is the main Tijeras Arroyo floodplain and ending in the KAFB C and D landfill. It is unknown at this time, when the range debris was actually laid down on the roadway. Again, Mr. Darr is investigating. After the physical inspection, a close out with Mr. Darr, Major Martin and Ms. Carra completed the inspection.

Draft Report - KAFB skeet range incident
page 2

Some of the unanswered questions are as follows:

When was this debris actually laid down on the roadway?
What is the actual depth to groundwater in the area of concern?
How many times has this practice of scraping the range and disposing of the debris occurred in the past? Were records kept from past cleanups?
What was the final disposition of the 84 thousand pounds of lead shot removed from the range in 1993? Who removed it and where did it go?
At what depth were the roadway samples actually taken?
Have you located a MSDS on the chemical composition of the clay target used on the range (ie. the fluorescent orange coating)?
Has the range purchased other types of targets whose chemical composition may be different?
How many years has the range actually been in operation?
What is the leachability of the lead shot sampled in the roadway?
What are the actual lead levels in the portions of the roadway not yet sampled?
Is there a potential groundwater problem?
Is there a potential surface water problem?
Is there a potential problem from runoff into the Tijeras Arroyo floodplain?

JES 6/6/96

DEPARTMENT OF THE AIR FORCE
377th Civil Engineer Squadron (AFMC)

19 Jul 96

MEMORANDUM FOR 377 ABW/EMC

FROM: 377 CES/CE

SUBJECT: Lead Shot at Skeet Range

1. In early 1980, MWR requested the Civil Engineer's (CE) take action to remove the clay pigeons from the skeet range. Based on this request, our first occurrence of placing clay pigeons on the roadway leading to the landfill was accomplished in 1980. The volume of clay pigeons in the past have covered approximately 100 yards with an average depth of less than 1/8 inch. This process was accomplished once more in 1989, in the same area using the same procedures.
2. The present laying of clay pigeons occurred on 13 May 1996. We used the scraper to remove the clay pigeons from the range. However, we traveled along the north road shoulder from the skeet range to the landfill access road and some debris dropped from the scraper cup and was inadvertently deposited along the shoulder. When we were informed by EM about the environmental concerns of the clay pigeons, we immediately stopped removing the debris and are awaiting the state inspection results and recommended corrective actions.
3. Request you provide us a copy of the samples with locations and findings taken from the roadway leading to the landfill. We are ready to assist in whatever manner necessary.


YORK D. THORPE, Lt Col, USAF
Commander

OUT OF STATE WATS:
1-330-654-4529

OKLAHOMA STATE WATS:
1 800 622-5314

GENE SEARS SUPPLY CO.

P.O. BOX 38 • 2003 S. SHEPARD
EL RENO, OKLAHOMA 73036
405-262-2647 • FAX # 405-262-2811

May 28, 1998

Sandia Skeet Club
2430 Juan Tabo, Suite # 150
Albuquerque, NM 87112

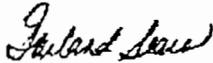
ATTENTION: Bob Flint

Dear Mr. Flint,

In response to your request, I have enclosed a copy of the payout sheet for the reclamation of lead from your club in 1993.

Lead reclaimed from your club had a gross weight of 87,340. This lead was sold on a 200,000 pound contract to Taracorp Industries, Granite City, IL. Their purchase order number was GC6522.

Sincerely,



Garland Sears

GS/ms

FEDERAL SAFETY DATA SHEET
For Coatings, Resins and Related Materials

08/06/90

Prepared: 08/06/90

SECTION I - PRODUCT IDENTIFICATION

Manufacturer: DAY-GLO COLOR CORP 4515 ST CLAIR AVE CLEVELAND OH 44103		Information Phone: (216)391-7070 Emergency Phone: (216)391-7070
Product Class: PAINT Trade Name: RED ORANGE TARGET COATING Product Code: 128-1562 C.A.S. Number: MIXTURE	Hazard Ratings: none -> extreme 0 ---> 4	Health - 1 Fire - 1 Reactivity - 0

SECTION II - HAZARDOUS INGREDIENTS

Ingredients	CAS #	Weight %	Exposure Limits		VF HC
			ACGIH/TLV	OSHA/PEL	
BASIC RED 1	00989-38-8	< 1.	Undetermined		0
SUBJECT TO THE REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING & COMMUNITY RIGHT-TO-KNOW ACT OF 1986 & OF 40 CFR 372.					

SECTION III - PHYSICAL DATA

Boiling Range: 212 F	Vapor Density: Lighter than Air.
Evap. Rate: Slower than n-Butyl Acetate	Liquid Density: Heavier than Water.
Volatiles volume: 62 %	Wgt per gallon: 10.00 Pounds.
Appearance: ORANGE, NO ODOR	
V.O.C.: NONE	

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flammability Class: NA Flash Point: NONE LEL: NONE

-EXTINGUISHING MEDIA:
Based on the NFPA guide, use dry chemical, foam, or other extinguishing agent. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.

-SPECIAL FIREFIGHTING PROCEDURES:
Keep unnecessary people away, isolate area, stay upwind, wear self-contained breathing apparatus. Use emergency response guidelines (DOT P5800.4 GUIDE 26).

-USUAL FIRE & EXPLOSION HAZARDS:
Water based. Difficult to ignite unless directly involved in flame. Exposure to heat will produce irritating vapors. Isolate from heat and open flame. Closed containers may explode when subject to high heat. Dense smoke and toxic fumes will result during combustion creating a health hazard.

1705 = 44% Solids/wt.
1562

Page: 2

DAY-GLO COLOR CORP
Material Safety Data Sheet for: RED ORANGE TARGET COATING (128-1562)

SECTION V - HEALTH HAZARD AND PERSONAL PROTECTION INFORMATION

-FIRST AID:

EYES: Immediately flush for at least 15 minutes while holding eyelids open. Call a physician at once.

SKIN: Immediately flush with water for at least 15 minutes. For a large splash flood body under a shower. Call a physician.

INGESTION: Do not induce vomiting. Give water. Call a physician.

INHALATION: Remove to fresh air. Treat symptoms. Call a physician at once.

-TOXICOLOGY INFORMATION:

ACUTE TOXICITY STUDIES: No toxicity studies have been conducted on this product.

-PRIMARY ROUTE(S) OF EXPOSURE:

EYE CONTACT: Can cause irritation.

SKIN CONTACT: Can cause irritation.

INHALATION: Outgassing of formaldehyde vapors can be irritating.

-SYMPTOMS OF EXPOSURE:

ACUTE: Unusual use practices and/or poor ventilation can cause irritation of eyes and respiratory tract.

-CHRONIC:

CARCINOGENICITY: NTP? (N) IARC MONOGRAPHS? (N) OSHA REGULATED? (N)

This product contains less than 0.1% of formaldehyde. Vapor may contain formaldehyde in excess of ACGIH TLV (1ppm) Formaldehyde is an animal carcinogen and is a suspected human carcinogen.

-AGGRAVATION OF EXISTING CONDITIONS:

A review of available data does not identify any worsening of existing conditions not elsewhere mentioned in this MSDS.

-RESPIRATORY PROTECTION:

If it is possible to generate significant levels of vapors or mists, a NIOSH approved or equivalent respirator is recommended.

-VENTILATION:

General ventilation is recommended. Additional local exhaust ventilation is recommended where vapors, mists or aerosols may be released.

-PROTECTIVE EQUIPMENT:

Wear impervious gloves, apron, and splash goggles where exposure is possible.
Launder contaminated clothing before reuse.

Page: 3

117

DAY-GLO COLOR CORP
Material Safety Data Sheet for: RED ORANGE TARGET COATING (128-1562)

SECTION VI - REACTIVITY DATA

STABILITY: [] Unstable [x] Stable
HAZARDOUS POLYMERIZATION: [] May occur [x] Will not occur

-INCOMPATIBILITY:

Avoid contact with strong oxidizers (eg. chlorine, peroxides, chromates, nitric acid, perchlorates, concentrated oxygen, permanganates) which can generate heat, fires, explosions and the release of toxic fumes.

-CONDITIONS TO AVOID:

High temperatures

-HAZARDOUS DECOMPOSITION PRODUCTS:

In the event of combustion carbon dioxide, carbon monoxide and oxides of sulfur and nitrogen will be formed. Do not breath smoke or fumes. Wear suitable protective equipment.

SECTION VII - SPILL OR LEAK PROCEDURES

-SPILL CONTAINMENT AND RECOVERY:

Contain with absorbant material, such as clay, soil or any commercially available absorbent. Shovel reclaimed paint and absorbent into recovery or salvage drums for disposal.

This is not a RCRA hazardous waste per TITLE 40 CFR 261.

-DISPOSAL:

Either incinerate or land fill in accordance with local, state, and federal regulations.

SECTION VIII - REGULATORY INFORMATION

-FEDERAL REGULATIONS:

See Section II for the ingredients in this product which are hazardous as defined by OSHA Hazard Communication Rule, 29 CFR 1910.1200.

-CERCLA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (TITLE III)

This not a regulated material under 40 CFR 117, 302
Notification of spills not required.

-SARA/SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT (TITLE III):

This is not a regulated material under sections 302, 311, 312, or 313.

-SECTIONS 311 AND 312 - MATERIAL SAFETY DATA SHEET REQUIREMENTS:

The product (XIX) should not () should be reported under the following EPA hazard categories:

- () Immediate (acute) health hazard
- () Delayed (chronic) health hazard
- () Fire hazard
- () Sudden release of pressure hazard
- () Reactive hazard

Under Section 311, submittal of MSDSs or a list of product names to the local emergency planning commission, state emergency response commission & local fire department is required if you have
- 10,000 pounds or more of a "hazardous substance", OR
- 500 pounds or the threshold planning quantity, whichever is less, of an "extremely hazardous substance".

Page: 4

RAY-GLO COLOR CORP
 Material Safety Data Sheet for: RED ORANGE TARGET COATING (128-1562)

SECTION VIII - REGULATORY INFORMATION (cont.)

-SECTION 313 - LIST OF TOXIC CHEMICALS (40 CFR 372):

This product contains BASIC RED 1 (CAS #00989-38-8) which appears on the List of Toxic Chemicals subject to the reporting requirements of section 313 of the Emergency Planning & Community Right-To-Know Act of 1986 & of 40 CFR 372. This information must be included in all MSDSs that are copied & distributed for this material.

-TOXIC SUBSTANCES CONTROL ACT (TSCA):

All chemical ingredients in this product are on the TSCA Inventory List 40 CFR 710.

-FEDERAL WATER POLLUTION CONTROL ACT, CLEAN WATER ACT, 40CFR401.15:

None of the ingredients in this product are specifically listed.

-CLEAN AIR ACT, 40 CFR 60, SECTION 111, 40 CFR 61, SECTION 112:

-STATE REGULATIONS:

CALIFORNIA PROPOSITION 65: This product complies with the MSDS and labeling requirements of the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).

MICHIGAN CRITICAL MATERIALS: This product does not contain ingredients listed on the Michigan Critical Register.

SECTION IX - PRECAUTIONARY & LABEL INFORMATION

-HMS LABEL STATEMENT:

FLUORESCENT TARGET COATING

HEALTH - 1 FLAMMABILITY - 1 REACTIVITY - 0

PRECAUTIONS: For industrial use only. Keep from freezing. Avoid contact with skin and eyes. Do not swallow. Use appropriate respirator when spray painting.

FIRST AID: EYES: Flush for 15 minutes. SKIN: Wash with soap and water. INGESTION: Give water, do not induce vomiting. Call a physician.

FIRE FIGHTING USE: Water, dry chemical, CO2, foam (water miscible).

SPILL CONTROL: Dike to prevent spread or entry to sewer. Remove ignition sources. Absorb on inert material and incinerate.

CONTAINS:

BASIC RED 1

MORPHOLINE

WATER

ACRYLIC POLYMER/COPOLYMER

MAGNESIUM SILICATE

A/AX/D/T/GT PIGMENT

CALCIUM CARBONATE

CAS NO. OR NJ TSN#:

00989-38-8

00110-91-8

07732-17-5

MIXTURE

14807-96-6

39277-28-6

01317-65-3

TARGET ORGANS:

NO ORGANS AFFECTED.

COATING V.O.C. : NONE

MATERIAL V.O.C. : NONE

(cont.)

Page: 5

LAY-GLO COLOR CORP

Material Safety Data Sheet for: RED ORANGE TARGET COATING (128-1562)

SECTION IX - PRECAUTIONARY & LABEL INFORMATION (cont.)

-THIS LABEL STATEMENT: (cont.)

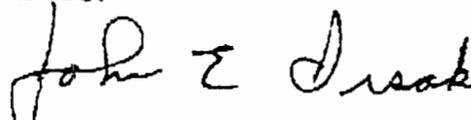
-OTHER PRECAUTIONS:

-DISCLAIMER:

The information contained herein is believed to be accurate, but is not warranted. Nothing contained herein constitutes a specification nor is it intended to warrant suitability for the intended use.

-PREPARED BY:

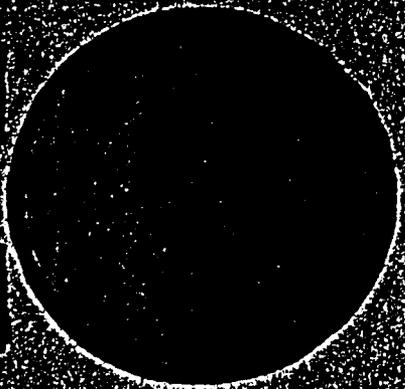
-JOHN E. IRSAK



-MANAGER ENVIRONMENTAL HEALTH & SAFETY

135 COUNT

WHITE



FLYER®

AVA



ASPLATMTCI GISY 052424
CARCIN CHROMAIB 052424

WHITEFLYER DIVISION
REGENCHEMICAL & RESEARCHING
ADDRESS 4111



**MEMO FOR RECORD
SANDIA SKEET CLUB**

Begin operation at its present site around 1967 with two fields (shooting areas), numbers one and two. Field three was added to the east of field two in 1972, and field four to the east of that in 1977.

There have been two lead removal operations by private contractors since 1967. The first operation was done in 1978, by The Dick Steffey Co. from Arizona. From conversations with the skeet personnel, Mr. Steffey died several years ago and the company no longer exist. The last lead removal was done in early 1993, by the Geno Sears Co., El Reno OK (405-262-2647). The Sears Co. removed 83,000 lb. of lead which was shipped to a company in Illinois (invoice supplied).

President: Roger Thorp 292-0169
Historian: Bill Hunt 299-6692
Past President: John Ballard 299-3486
Past President: John Clark 898-8083



ROBERT P. FLINT
Environmental Protection Specialist

Post-It* Fax Note 7671		Date: 7-15	# of pages: 2
To: Terry Cooper	From: Charles Fink		
Co./Dept.	Co.: Sandia		
Phone #: 846-8546	Phone #: 848-0977		
Fax #: 846-0400	Fax #: 848-0998		

Metals
Total Metals

Client Name: Sandia National Laboratory
 Client ID: SNL/NM016291-3
 Lab ID: 035747-0006-SA
 Matrix: AQUEOUS
 Authorized: 27 MAY 94

Sampled: 25 MAY 94
 Prepared: See Below

Received: 27 MAY 94
 Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cadmium	0.00076	mg/L	0.0020	213.2	24 JUN 94	01 JUL 94 J
Antimony	ND	mg/L	0.060	200.7	09 JUN 94	21 JUN 94
Arsenic	0.0033	mg/L	0.010	206.2	29 JUN 94	01 JUL 94 J
Lead	0.014	mg/L	0.0050	239.2	24 JUN 94	29 JUN 94
Selenium	ND	mg/L	0.0050	270.2	29 JUN 94	01 JUL 94
Chromium	0.0031	mg/L	0.0050	218.2	24 JUN 94	01 JUL 94 J
Mercury	ND	mg/L	0.00020	245.1	02 JUN 94	03 JUN 94
Beryllium	ND	mg/L	0.0020	200.7	09 JUN 94	21 JUN 94
Copper	0.0078	mg/L	0.0030	200.7	09 JUN 94	21 JUN 94
Nickel	ND	mg/L	0.040	200.7	09 JUN 94	21 JUN 94
Silver	ND	mg/L	0.010	200.7	09 JUN 94	21 JUN 94
Zinc	0.066	mg/L	0.0040	200.7	09 JUN 94	21 JUN 94 B



*sample at top of spill way
 Sanded short range*

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected
 NA = Not applicable

Reported By: Doug Gomer

Approved By: Richard Persichitte

000008

8/6/92						
BOD	-	5.3 mg/L	-	57.6 kg	1	NA
?	-	22.9 mg/L	-	249 kg	1	NA
SS	-	93.0 mg/L	-	1,011 kg	1	NA
TKN	-	0.73 mg/L	-	7.94 kg	1	NA
NO ₃ +NO ₂	-	0.56 mg/L	-	6.09 kg	1	NA
Total Phosphorous	-	0.24 mg/L	-	2.61 kg	1	NA
Fluoride (soluble)	-	0.21 mg/L	-	2.28 kg	1	NA
Barium	-	0.13 mg/L	-	1.41 kg	1	NA
Copper	-	0.034 mg/L	-	370 g	1	NA
Lead	-	0.0065 mg/L	-	70.7 g	1	NA
Manganese	-	0.096 gm/L	-	1.04 kg	1	NA
Zinc	-	0.069 mg/L	-	750 g	1	NA
Total Dissolved Solids	-	146 mg/L	-	1,587 kg	1	NA

Part D - Provide data for the storm event(s) which resulted in the maximum values for the flow weighted composite sample.

1. Date of Storm Event	2. Duration of Storm (in minutes)	3. Total rainfall during storm event (in inches)	4. Number of hours between beginning of storm measured and end of previous measurable rain event	5. Maximum flow rate during rain event (gallon/minutes or specify units)	6. Total flow from rain event (gallons or specify units)	7. Season samples were taken	8. Form of precipitation (rainfall, snowmelt)
7/23/92	75	0.43	312 hrs	113.4 cfs	1,568,000 gal	Summer	Rainfall
1/92	205	0.25	77 hrs	10.4 cfs	4,810,000 gal	Summer	Rainfall
8/92	120	0.50	96 hrs	187.5 cfs	2,872,000 gal	Summer	Rainfall
8/15/92	425	0.33	480 hrs	NA	NA	Summer	Rainfall

9. Provide a description of the method of flow measurement or estimate.

ISCO Model 3210 flow meters were programmed with a calculated discharge rate at an assumed mid-channel flow height and measured cross sectional area of the channel using the Manning Equation. The meter output is a continuous strip chart hydrograph with periodic printed summaries showing calculated maximum flow rate and total flow.

Terry,

This data was taken at 9th street where the pavement ends ~ 2,000 ft north of the existing station.

Charles Fink, SNL