STATE OF CALIFORNIA
ENVIRONMENTAL PROTECTION AGENCY
DEPARTMENT OF TOXIC SUBSTANCES CONTROL

In the Matter of: On Target Indoor Shooting Range, LLC 27692 Camino Capistrano Laguna Niguel, California 92677 ID No. CAL000307897 Respondent.	Docket HWCA 2012-4829 CONSENT ORDER Health and Safety Code Section 25187

1. INTRODUCTION

1.1. Parties. The California Department of Toxic Substances Control (Department) and On Target Indoor Shooting Range, LLC (Respondent) enter into this Consent Order (Order) and agree as follows:

1.2. Site. Respondent generates hazardous waste at the following site:

27692 Camino Capistrano, Laguna Niguel, California 92677 (Site).

1.3. Inspection. The Department inspected the Site on July 7 and 11, 2012. A Complaint Investigation Report dated September 14, 2012, was generated by the Department (Attached as **Exhibit A** is a copy of that Report).

1.4. Authorization Status. Respondent is a hazardous waste generator, ID number CAL000307897.

1.5. Jurisdiction. Health and Safety Code, section 25187, authorizes the Department to order action necessary to correct violations and to assess a penalty when the Department determines that any person has violated specified provisions of the Health and Safety Code or any permit, rule, regulation, standard, or requirement issued or adopted pursuant thereto.

1.6. Full Settlement. This Order shall constitute full settlement of the violations alleged below. The Parties, and each of them, agree that this Order, and all of the

terms contained herein, are fair, reasonable, and in the public interest. By agreeing to this Order, the Department does not waive any right to take other enforcement actions except as specifically provided in this Order.

1.7. Hearing. Respondent waives any and all rights to a hearing in this matter.

1.8. Admissions. Respondent admits the violations as alleged in Section 2 below.

2. VIOLATIONS ALLEGED

2.1. The Department alleges the following violations:

2.1.1. Respondent violated title 22, California Code of Regulations (CCR), sections 66262.34(a) and 66265.31, in that on or about July 11, 2012, Respondent failed to maintain and operate the facility in a manner that will minimize the possibility of unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water, to wit: the ventilation system exhaust released lead dust to the environment.

2.1.2. Respondent violated Health and Safety Code 25201 (a), in that on or about July 11. 2012, Respondent stored hazardous waste without an authorization from the Department, to wit: hazardous waste lead dust was accumulated in containers which failed to comply with the requirements of Article 9, Chapter 15, Division 4.5 of title 22, CCR.

2.1.3. Respondent violated title 22, CCR, section 66265.173(a), in that on or about July 11, 2012, Respondent stored hazardous waste in open containers, to wit: hazardous waste lead dust was accumulated in three open 5-gallon containers.

3. SCHEDULE FOR COMPLIANCE

3.1. Respondent shall comply with the following:

3.1.1. Respondent has adequately corrected the violations set forth above.

3.1.2. Respondent shall make all payments at the time(s) and in accord with any other conditions set forth in Section 5 (Penalty) below.

4. OTHER PROVISIONS

4.1. Liability. Nothing in this Order shall constitute or be construed as a

satisfaction or release from liability for any conditions or claims arising as a result of past, current, or future operations of Respondent, except as provided in this Order. Notwithstanding compliance with the terms of this Order, Respondent may be required to take such further actions as are necessary to protect public health or welfare or the environment.

4.2. Penalties for Noncompliance. Failure to comply with the terms of this Order may subject Respondent to costs, penalties and/or damages, as provided by Health and Safety Code, section 25188, and other applicable provisions of law.

4.3. Parties Bound. This Order shall apply to and be binding upon Respondent and its officers, directors, agents, employees, contractors, consultants, receivers, trustees, successors, and assignees, including but not limited to individuals, partners, and subsidiary and parent corporations, and upon the Department and any successor agency that may have responsibility for and jurisdiction over the subject matter of this Order.

4.8. Integration. This agreement constitutes the entire agreement between the parties and may not be amended, supplemented, or modified, except as provided in this Order.

5. PENALTY

5.1. Respondent shall pay the Department the total sum of $ 14,000 of which $11,424 is a penalty, and $ 2,576 as reimbursement of the Department's costs incurred in this matter.

5.2. Payment of the total sum specified in paragraph 5.1 is due within 30 days from the effective date of this Order.

5.3. Respondent's check(s) shall be made payable to Department of Toxic Substances Control, shall identify the Respondent and Docket Number, as shown in the caption of this case, and shall be delivered together with the attached Payment Voucher to:

Department of Toxic Substances Control
Accounting Office
1001 I Street, 21st floor
P. O. Box 806
Sacramento, California 95812-0806

A photocopy of the check(s) shall be sent to:

Carmelita E. Lampino, Unit Chief
Enforcement and Emergency Response Program
Enforcement Branch
Department of Toxic Substances Control
5796 Corporate Avenue
Cypress, California 90630

5.4. If Respondent fails to make payment as provided above, Respondent agrees to pay interest at the rate established pursuant to Health and Safety Code, section 25360.1, and to pay all costs incurred by the Department in pursuing collection including attorney's fees.

6. EFFECTIVE DATE

6.1. The effective date of this Order is the date it is signed by the Department.

Dated: 3/8/13

Original signed by Gregg Bouslog
Mr. Gregg Bouslog, Owner
Respondent

Dated: 3/8/13

Original signed by Carmelita E. Lampino
Carmelita E. Lampino, Unit Chief
Department of Toxic Substances Control

EXHIBIT A

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Deborah O. Raphael, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

COMPLAINT INVESTIGATION REPORT

LOG NUMBER: 12-0412-0237

SUBJECT OF INVESTIGATION: On Target Indoor Shooting Range

ADDRESS: 27692 Camino Capistrano
Laguna Nigel, California 92677

TELEPHONE NUMBER: (949) 348-0352

LOCATION OF ACTIVITY: 27692 Camino Capistrano
Laguna Niguel, California 92677

MAILING ADDRESS: 27692 Camino Capistrano
Laguna Niguel, California 92677

ID NUMBER: CAL000307897

DATE INVESTIGATION STARTED: April 25, 2012

DATE OF REPORT: September 14, 2012

NARRATIVE OF FINDINGS:

A. STATEMENT OF THE ALLEGATION:

The complainant alleged the facility failed to operate in a manner that minimized the possibility of release of hazardous waste and hazardous waste constituents to air, soil, or surface water which could threaten human health and the environment.

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B. CHRONOLOGICAL NARRATIVE OF THE FINDINGS:

On April 19, 2012, DTSC received a complaint alleging an employee was exposed to arsenic while working at the facility.

On April 25, 2012, I was assigned the complaint. I checked the Hazardous Waste Tracking System (HWTS) to see the type and quantity of hazardous waste generated by the facility. I observed that from 2009 through 2011, the facility had shipped between 225 and 750 pounds per year of lead containing hazardous waste (Attachment 1).

I researched arsenic poisoning through an internet search. One article stated that arsenic is used up to 2% to alloy lead in bullets (http://wikipedia.org/wiki/Arsenic, Attachment 2). A second article had a map showing that arsenic poisoning from drinking groundwater contaminated with naturally occurring arsenic has occurred in southern California (http://en.wikipedia.org/wiki/File:Weltekarte_arsenrisikoebiete.gif, Attachment 3).

On May 31, 2012, the complainant met with me at DTSC's Cypress office to provide me the evidence he had collected to support his allegation. The complainant showed me satellite photos of the facility's roof. The complainant pointed out the ventilation system intake and exhaust. He also pointed out areas of the roof that we gray from what he claimed was lead dust from the ventilation system exhaust. The complainant claimed that the ventilation system had holes in it that allowed lead dust from the shooting bays into the attic space. The complainant described the facility's layout and provided hand-drawn maps of the interior, attic and roof of the facility. The complainant described the firing bay backstop as made of a sloped metal plate covered with chopped tire rubber. The complainant described the process for removing bullet slugs from the chopped tire rubber. The complainant also showed me his blood test results that showed his blood was high in arsenic but not in lead.

On June 1, 2012, Joyce Krall, of Orange County Environmental Health, provided me her hazardous waste generator inspection report, for the inspection she had conducted November 29, 2011. Ms. Krall observed no violations during her inspection.

On July 5, 2012, Roger Kintz, David Matsumoto and I went to On Target Indoor Shooting Range (OTISR), 27692 Camino Capistrano, Laguna Niguel, California 92677 to conduct a complaint inspection and to survey the site using an X-ray Fluorescence (XRF) device to detect lead and arsenic contamination. We were joined by Terry Carrier, Supervising Hazardous Materials Specialist with the Orange County Fire Authority (CUPA).

When we arrived, I noticed a rain gutter downspout at the northeast corner of the OTISR building. The downspout drained water the northern portion of the roof. The concrete at the downspout outfall was stained gray. Roger Kintz tested the gray concrete stain with the XRF. The XRF reading for this location was 172,184 mg/kg lead and 18,763 mg/kg arsenic. Mr. Kintz also tested the blacktop pavement near the gutter

and the readings were 32,509 mg/kg lead and Less Than Level of Detection (<LOD) for arsenic.

We entered the OTISR store and I informed an employee that I wished to conduct a hazardous waste compliance inspection. The employee informed me that the owner, Mr. Gregg Bouslog, was not at the facility. The employee called Mr. Bouslog to inform him of our intent to conduct an inspection. Mr. Bouslog said that he would return to the facility and assist us with the inspection. When Mr. Bouslog returned to the facility, I introduced myself and informed him that we were there to conduct a complaint inspection. Mr. Bouslog gave consent to conduct the inspection.

We observed that the Range was an indoor shooting range with a 25 yard distance to the backstop, primarily designed for hand guns. The Range contained a total of 20 individual shooting bays with plastic enclosures, concrete side walls and flooring, and acoustic tile ceilings and baffles. The sections of shooting bays were divided into Bays 1 and 2. Mr. Kintz asked Mr. Bouslog how long the Range has been in business. Mr. Bouslog replied 20 years, since 1992. Mr. Kintz asked what types of munitions were used at the Range. Mr. Bouslog stated that all kinds were used, that the common types of calibers were 9, 45, 40, and 22 mm hand guns and some rifles. Mr. Bouslog stated that his business had increased in recent years significantly, and that he increased his maintenance four times more often than years before.

Mr. Kintz asked what type of backstop was used at the Range. Owner replied a metal backstop with 2 feet of shredded rubber on top. Kintz asked if the Range had a Range Management Plan and how his employees managed the Range waste, such as un-reacted powders, and fragments. Owner replied, no they didn't have a Range Plan. He stated that he designed a special machine (hopper) to process and mine the backstop rubber for the bullet fragments. He added that the floors were not swept, but brass casings were squeegeed and recycled in 5 gallon buckets. He added that the unreacted or partially burned powders were collected and placed in a bucket with water. The solids were then placed in a supersack plastic bag with the spent ventilation filters. Mr. Kintz asked if the Range conducted a blood monitoring program for its employees. Owner replied no, but that he offered blood testing at no cost to his employees.

We decided to do the facility walk-through and XRF survey first and then review documents later. First we went to the equipment storage area behind the Bay 1 backstop. Mr. Bouslog showed us the hopper device he had designed and built to remove the bullet slugs and fragments from the chopped rubber backstop material. Mr. Kintz took XRF readings in the area behind the backstop. The first XRF reading was at the back door access to Bay 1 and the results were 4,863 mg/kg lead and <LOD for arsenic. Mr. Kintz took a reading of a gray acoustic tile and the results were 9,539 mg/kg lead and 2,235 mg/kg arsenic. Mr. Kintz took a third reading on the concrete floor and the reading was 54,315 mg/kg lead and 6,990 mg/kg arsenic.

Meanwhile, I observed a large white super sack on the ground behind the building. The super sack had no hazardous waste labels on it. I asked Mr. Bouslog about the super sack. Mr. Bouslog said that it contained filters from the ventilation exhaust system.

Next we went on top of the roof to examine the area around the ventilation system intake and exhaust. Mr. Bouslog explained that ventilation system was designed to create a negative pressure in the shooting bays. The ventilation system intakes 14,000 cubic feet of air per minute (cfm) and exhausts 17,000 cfm. Mr. Bouslog said that the air filters on the exhaust must be changed after the bullet slugs and fragments are removed from chopped rubber backstop material.

While on the rooftop I observed gray staining on the exhaust system and on the roof downwind in the pattern of the exhaust. I observed a white 5-gallon bucket a few feet west of the north corner of the exhaust system platform (Photos 7 & 9). The bucket was full of a gray powder. The bucket was cracked. No hazardous waste label was on the bucket. This bucket was later identified by the facility as Lead #3.

Next we went to the northeast corner of the roof. We observed two more 5-gallon buckets with lead powder and fragments (Photos 10 & 11). The buckets were cracked and badly deteriorated.

Mr. Kintz resumed taking XRF readings. Mr. Kintz took a reading in the rain gutter near the inlet to the northeast corner downspout (Photos 15 & 16). This was the downspout shown in Photos 1 -3. The XRF gave a reading of 43,192 mg/kg lead and 6,999 mg/kg arsenic. Mr. Kintz took another reading in the rain gutter near the northeast corner (Photo 17). The XRF reading was 50,237 mg/kg lead and 3,462 mg/kg arsenic.

Mr. Kintz then took two readings of roof sweepings shown in Photos 14 & 18. The XRF readings were 154,734 mg/kg lead and 13,741 mg/kg arsenic, and 139,948 mg/kg lead and 12,243 mg/kg arsenic, respectively.

Then Mr. Kintz took readings of the two 5-gallon buckets of range waste. OTISR staff later put these buckets in overpack buckets, labeled Lead # 1 and Lead # 2. The XRF reading for Lead # 1 was 363,829 mg/kg lead and <LOD for arsenic, with an arsenic error of 33,773 mg/kg. The reading for Lead # 2 was 353,181 mg/kg lead and 17,461 mg/kg.

Next, Mr. Kintz took two readings near the ventilation system exhaust. The first reading was taken in the location shown in Photo 20. The lead concentration was 402,896 mg/kg and the arsenic concentration was 35,035 mg/kg. The second location is shown in Photos 21 and 23. The XRF readings were 567,620 mg/kg lead and 30,908 mg/kg arsenic.

Mr. Kintz then took a reading in the southeast corner of the roof (Photo 24). The readings were 12,716 mg/kg lead and <LOD for arsenic. Mr. Bouslog commented that when he bought the property he had been advised that there was residual lead

contamination on the property due to its proximity to the I-5 freeway and the former use of leaded gasoline.

Next Mr. Kintz took a reading in the southwest corner. This location was the furthest from both the ventilation system exhaust and the freeway. Also the location was out of the flow of rainwater that would have picked up lead from the ventilation system exhaust. For these reasons we believed this location would best represent background conditions. The XRF reading was 536.33 mg/kg lead and 82.02 mg/kg arsenic.

Mr. Kintz took a reading on the roof between the ventilation system air intakes. The readings came back as 5,600 mg/kg lead and 994 mg/kg arsenic.

We entered the building to take two final XRF readings. The interior of the building was divided into two separate areas. The store, offices and classroom comprised one area. The two shooting bays comprised the other area.

We entered Bay # 1 and inspected the shooting lanes for any accumulation of lead dust or unreacted gunpowder. Mr. Bouslog told us that the floor is cleaned daily. I asked Mr. Bouslog what was done with the sweepings. Mr. Bouslog said the sweepings consisted of confetti from the targets, lead dust and unreacted gunpowder. The sweepings were put in with the lead contaminated air filters and sent for disposal. I inspected the backstop. I noticed that at the bottom of the backstop the rubber chunks were larger than towards the top. Mr. Bouslog explained that when the bullets impact the rubber the larger pieces roll to the bottom.

Mr. Kintz went to Bay 1 Shooting Lane #10. He took a reading on the top edge of a panel separating the Lane #10 and Lane # 9 firing points. The reading was 2,199 mg/kg lead and 819 mg/kg arsenic.

Then we went into the store area. I noticed an air vent screen that appeared dirty. Mr. Kintz took an XRF reading of the screen (Photo 25). The reading was 895 mg/kg lead and <LOD arsenic. That was the final XRF reading.

The XRF survey results are summarized in a table in Attachments 5.

At this point we ended the facility walk-through. Due to time constraints we could not conduct a documents review. I scheduled a second site visit for July 11, 2012 to sample various waste streams and to review the hazardous waste documents.

On July 11, 2012, I returned to OTISR with David Matsumoto. Mr. Bouslog met us and informed us of the efforts OTISR had taken to clean up lead contamination in the facility. The three buckets of lead waste on the roof had been over-packed and placed in the storage area behind Bay # 1. The floor sweepings from the two shooting bays had been wetted and placed in a 5-gallon bucket, stored behind Bay # 1. OTISR had found a cleaning solution designed to decontaminate surfaces contaminated with lead. The

solution had been used to mop the shooting bay floors. The dirty solution was placed in a 55-gallon polyethylene container, stored behind Bay #1.

I told Mr. Bouslog that I wanted to sample the contents of the four 5-gallon buckets and the floor area behind the Bay # 2 backstop. Mr. Bouslog agreed to the sampling and he directed his staff to clear a path to the area behind the Bay # 2 backstop. The four buckets were staged in the east parking lot near the back door.

I asked Mr. Bouslog how he intended to dispose of the shooting bay floor sweepings. Mr. Bouslog said they would be disposed along with the lead contaminated air filters in a landfill. I informed Mr. Bouslog that the unspent gunpowder in the floor sweepings made the waste a D003 reactive waste that must be deactivated by incineration under RCRA land disposal restrictions. Mr. Bouslog said that when he first bought the facility in 2006, he had directed a staff member to get rid of the floor sweepings. The staff member took the bucket to the parking lot and lit the floor sweepings. The gunpowder sent a large column of smoke in the air. Somebody reported the fire to the fire department. When the fire engine arrived on-scene, a live bullet in the bucket exploded. Mr. Bouslog said that was the last time the floor sweepings were burned in the parking lot.

I then proceeded to sample. During the sampling I wore PPE, an air purifying respirator with P-100 particulate filters, and boot covers. I wore neoprene gloves and changed the gloves for each sample to avoid cross-contamination. Mr. Matsumoto placed an air particulate monitor on me to monitor particulates in the breathing zone.

The first sample I collected was bullet fragments, copper jacketing, shredded tire rubber and powder from the floor behind Bay #2. I used a plastic scoop packaged in a plastic bag. I opened the plastic bag and removed the scoop immediately prior to sampling to avoid cross-contamination. I placed the sample in a 4-oz. certified clean clear glass sampling jar. I labeled the sample jar OTISR # 1. I exited the building. I then sealed the sample jar with evidence tape and placed the sample in an ice chest.

Next I sampled the shooting range floor sweepings bucket using the same procedure as with the first sample. The floor sweepings consisted of unreacted gunpowder, spent casings, target confetti, paper, and bullet particles. The sample was labeled OTISR # 2, sealed with evidence tape and placed in the ice chest.

The third sample was taken from the overpack container labeled Lead #1. The material was bullet fragments, bullet powder and clumps of bullet powder gathered from the northeast corner of the roof apparently gathered several years prior and placed in a 5-gallon bucket. I collected the sample and placed it in a sample jar labeled OTISR # 3. Mr. Matsumoto sealed the sample jar with evidence tape and placed it in the ice chest.

The fourth sample was taken from the overpack container labeled Lead#2. The material was the same as Lead #1. I collected the sample and placed it in a sample jar

labeled OTISR # 4. Mr. Matsumoto sealed the sample jar with evidence tape and placed it in the ice chest.

The fifth sample was taken from the overpack container labeled Lead#3. The material was the same as Lead #1. I collected the sample and placed it in a sample jar labeled OTISR # 5. Mr. Matsumoto sealed the sample jar with evidence tape and placed it in the ice chest.

At this point I concluded the sampling portion of the inspection. I placed the samples in a locked compartment in the sampling truck. Mr. Matsumoto returned to the Cypress office. I proceeded to the document review with Mr. Bouslog.

While reviewing the manifests, I asked Mr. Bouslog how OTISR disposed of the shooting bay floor sweepings. Mr. Bouslog said the floor sweepings were placed in the super sacks along with the lead contaminated exhaust filters. I noticed from the manifests that the filters were disposed in the U.S. Ecology hazardous waste landfill in Beatty, Nevada. I also noticed that no Land Disposal Restrictions notifications were attached to the copies of the manifests.

I mentioned that during the July 5, 2012 XRF survey Mr. Kintz had taken a reading of the air vent screen in the gun shop near the entrance. I explained that the complainant had said the attic was heavily contaminated with dust from the shooting bays. Mr. Bouslog said that the gun shop has its own separate air conditioning/ventilation system. The air vent screen that Mr. Kintz surveyed was the air return vent for the gun shop's air conditioning system. Mr. Bouslog said that the shooting bay ventilation system is separate from the air conditioning system for the gun shop and offices. Photo 26 shows both air conditioning/ventilation systems. Attachment 6 satellite photo shows both systems.

Mr. Bouslog said that there had been a great deal of construction work on the Amtrak rail line across the street. A third set of rails had been laid and Camino Capistrano had been worked on. Several of the employees were concerned about the dust and heavy construction equipment exhaust generated by the construction. I told Mr. Bouslog that the soil in the area can be high in arsenic, but I had no proof that it was high in this specific case. Mr. Bouslog asked how the level of arsenic in the attic dust could be determined. I suggested he hire a consultant to sample and analyze the attic dust.

At this point I concluded the inspection and conducted an exit interview. I cited OTISR for the three violations listed below and gave a compliance schedule to correct the violations. I issued a Summary of Violations (SOV). Mr. Bouslog signed the SOV.

I returned to the Cypress office. I photographed the samples (Photo 37) and placed them in a refrigerator in the sample storage room. On July 19, 2012 I delivered the samples to the DTSC Environmental Chemistry Laboratory (ECL), 1449 W. Temple Street, Los Angeles, California 90026. The samples were received by Barbara Bush.

ECL analyzed the samples and provided me a detailed report dated August 8, 2012 (Attachment 7).

The sample analytical results are summarized below. All five samples had fine powders <100 µm. All five samples exceeded California's Total Threshold Limit Concentration (TTLC) for antimony, copper and lead. Two samples, OTISR#1 and OTISR#5 exceeded the TTLC for arsenic. Sample OTISR#2 exceeded the TTLC for barium and zinc.

Sample #	OTISR#1	OTISR#2	OTISR#3	OTISR#4	OTISR#5	
Location	Behind Bay 2	Floor Sweepings	Lead #1 NE corner of roof, left	Lead #2 NE corner of roof, right	Lead # 3 between intake & exhaust	TTLC Limit
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Antimony - Sb	14,260	19,650	15,350	17,005	24,890	500
Arsenic-As	707.8	319.0	279.4	334.4	762.9	500
Barium-Ba	3,375	36,420	124.9	80.2	4,925	10000
Copper-Cu	19,840	48,040	3,966	3,739	8,346	2500
Lead-Pb	304,500	309,800	313,100	280,700	259,500	1000
Zinc-Zn	2,943	5,579	422.7	332.7	746.8	5000
% Particle size <100µm	8.70	8.72	3.00	4.51	45.78	
Ratio Pb:As	430:1	971:1	1,121:1	839:1	340:1	

There is no laboratory analytical test for the hazardous characteristic of reactivity. The definition of reactivity includes explosives. Sample OTISR#2 included unreacted gunpowder, an explosive by design. The anecdotal evidence given by Mr. Bouslog also supports classifying the shooting bay floor sweepings as reactive hazardous waste (D003).

C. VIOLATIONS:

1. On July 11, 2012, OTISR violated title 22, California Code of Regulations (CCR), sections 66262.34(a) and 66265.31, in that OTISR failed to maintain and operate the facility in a manner to minimize the possibility of unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to the air, soil, or surface water, to wit: the ventilation system exhaust released lead dust to the environment.

2. On July 11, 2012, OTISR violated title 22 CCR section 66268.7(a)(1), in that OTISR failed to determine if reactive (D003) dusts and floor sweepings are restricted from land disposal.

3. On July 11, 2012, OTISR violated title 22 CCR sections 66262.31 and 66262.34(a)(3), in that OTISR failed to label hazardous waste containers use for onsite hazardous waste accumulation with the following:

    a. HAZARDOUS WASTE
    b. Composition and physical state of the hazardous waste
    c. Particular hazardous property of the hazardous waste (i.e. lead, reactive)
    d. Name and address of the person producing the waste
    e. Date of initial accumulation and date that the 100 kilogram threshold was exceeded

D. ATTACHMENTS:

1. HWTS EPA ID Profile: On Target Indoor Shooting Range
2. http://wikipedia.org/wiki/Arsenic p. 9
3. http://en.wikipedia.org/wiki/File:Weltekarte_arsenrisikoebiete.gif
4. Photos
5. XRF Survey Results for Lead and Arsenic
6. Bing.com satellite picture of the OTISR roof.
7. Laboratory Report – Total Metals

_original signed_____ ___9/14/2012___
Richard Hubbell Date
Hazardous Substances Scientist

Attachment 1

DTSCNet

Department of Toxic Substances Control

HWTS - Calif. Waste Code By Year Matrix

EPA ID: CAL000307897 **Name:** ON TARGET INDOOR SHOOTING RANGE
Entity: Generator

Calif. Code	*Description*	*Weight (in Tons)*		
		2006	**2009**	**2010**
181	OTHER INORGANIC SOLID WASTE	0.75000	0.14000	0.11250
221	WASTE OIL AND MIXED OIL		0.20000	
	TOTALS	**0.75000**	**0.34000**	**0.11250**

Attachment 2

Alloys

The main use of metallic arsenic is for alloying with lead. Lead components in car batteries are strengthened by the presence of a few percent of arsenic.[6][45] The dezincification can be strongly reduced by adding arsenic to brass a copper zinc alloy.[46] Gallium arsenide is an important semiconductor material, used in integrated circuits. Circuits made from GaAs are much faster (but also much more expensive) than those made in silicon. Unlike silicon it has a direct bandgap, and so can be used in laser diodes and LEDs to directly convert electricity into light.[6]

Military

After World War I, the United States built up a stockpile of 20,000 tonnes of lewisite ($ClCH{=}CHAsCl_2$), a chemical weapon that is a vesicant (blister agent) and lung irritant. The stockpile was neutralized with bleach and dumped into the Gulf of Mexico after the 1950s.[47] During the Vietnam War the United States used Agent Blue, a mixture of sodium cacodylate and its acid form, as one of the rainbow herbicides to deprive the Vietnamese of valuable crops.[48][49]

Other uses

- Copper acetoarsenite was used as a green pigment known under many names, including 'Paris Green' and 'Emerald Green'. It caused numerous arsenic poisonings. Scheele's Green, a copper arsenate, was used in the 19th century as a coloring agent in sweets.[50]
- Also used in bronzing[51] and pyrotechnics.
- Up to 2% of arsenic is used in lead alloys for lead shots and bullets.[52]
- Arsenic is added in small quantities to alpha-brass to make it dezincification resistant. This grade of brass is used to make plumbing fittings or other items that are in constant contact with water.[53]
- Arsenic is also used for taxonomic sample preservation.
- Until recently arsenic was used in optical glass. Modern glass manufacturers, under pressure from environmentalists, have removed it, along with lead.[54]

Biological role

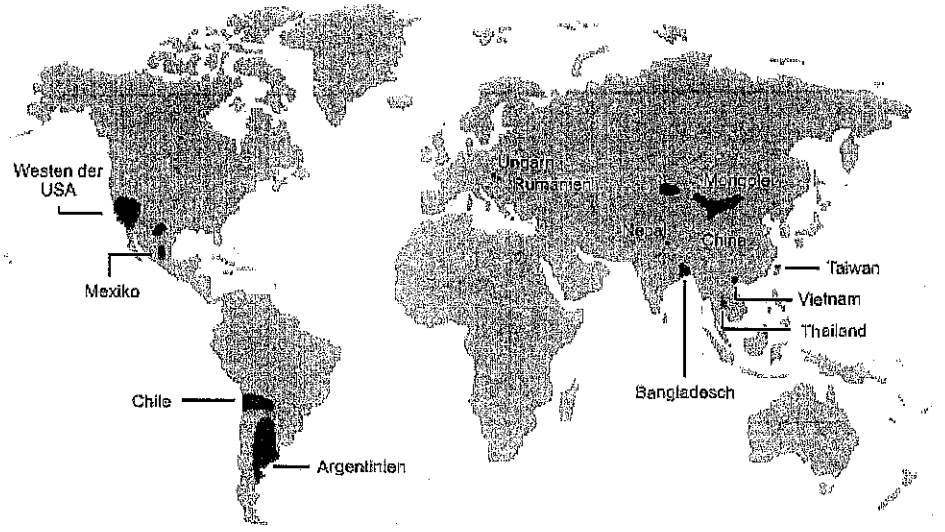
Main article: Arsenic biochemistry

Bacteria

Attachment 3

File:Weltkarte arsenrisikogebiete.gif

From Wikipedia, the free encyclopedia



No higher resolution available.
Weltkarte_arsenrisikogebiete.gif (650 × 370 pixels, file size: 11 KB, MIME type: image/gif)

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Description **Deutsch:** Arsenrisikogebiete weltweit

- Datengrundlage: "Arsenic contamination in south-east asia region: Technologies for arsenic mitigation" von M. Feroze Ahmed auf dem World Bank Group's "Water Week 2004" forum.
- Erstellt mit Gimp
- Ersteller: Thiesi

English: Arsenic risk areas worldwide

- Data source: "Arsenic contamination in south-east asia region: Technologies for arsenic mitigation" by M. Feroze Ahmed of the World Bank Group's "Water Week 2004" forum.
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File usage

The following pages on the English Wikipedia link to this file (pages on other projects are not listed):

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- Arsenic poisoning

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  - Arsenic
  - Utilisateur:Sisyph/Bac à sable

Retrieved from "http://en.wikipedia.org/wiki/File:Weltkarte_arsenrisikogebiete.gif"

Attachment 4

Photo No. 1	Date: 7/5/2011
Direction Photo Taken: South	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Rain gutter downspout NE corner of OTISR building. XRF readings:	

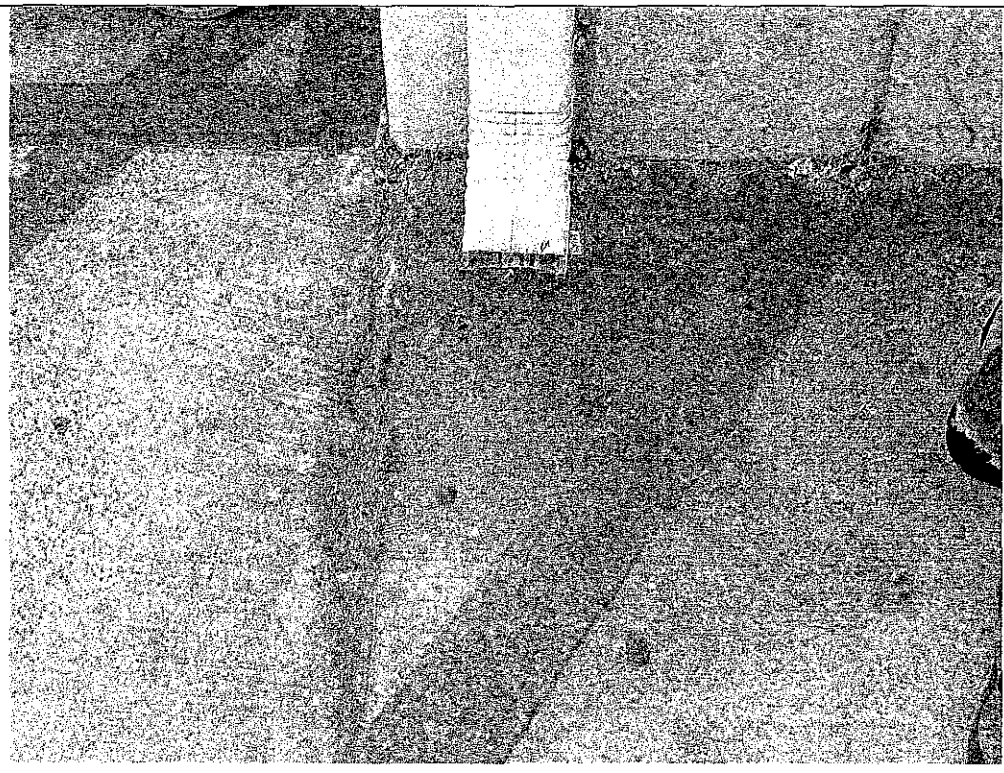


Photo No. 2	Date: 7/5/2011
Direction Photo Taken: Southeast	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Rain gutter downspout NE corner of OTISR building.	

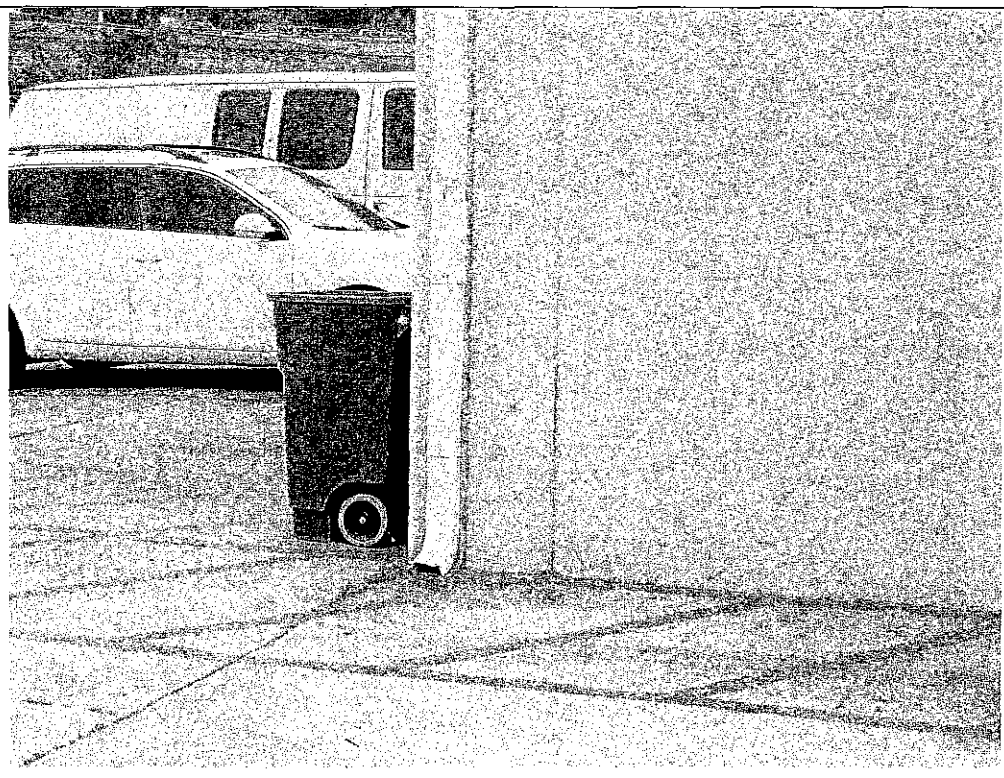


Photo No. 3	Date: 7/5/2012
Direction Photo Taken: Southwest	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Rain gutter downspout NE corner of OTISR building.	

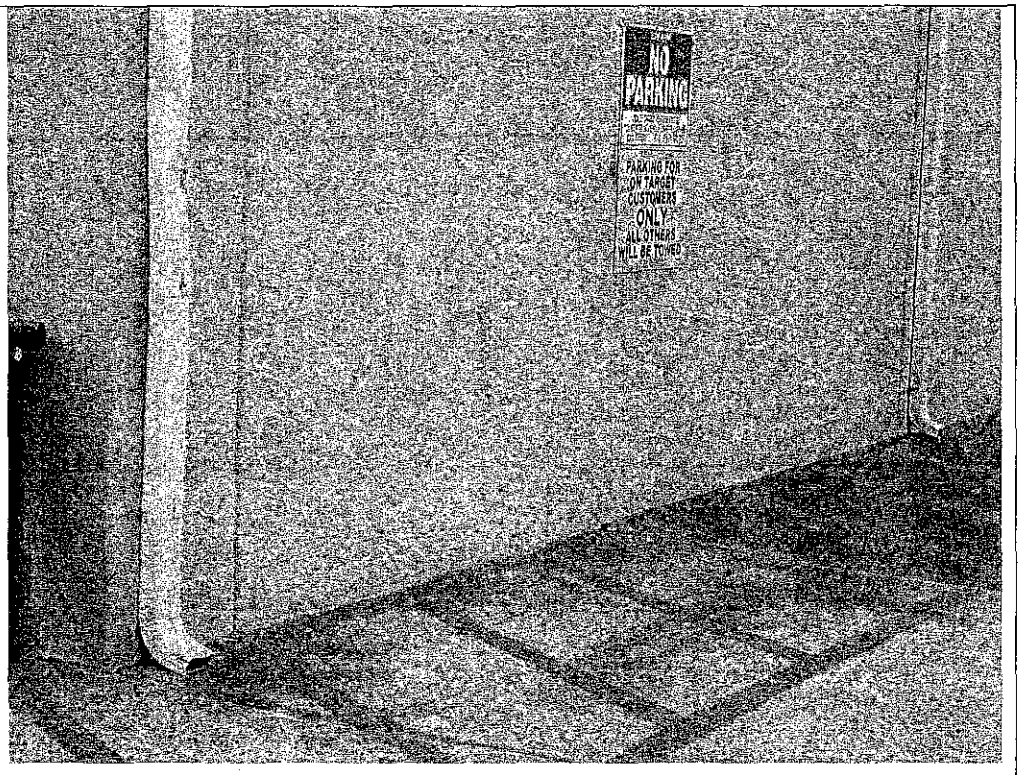


Photo No. 4	Date: 7/5/2012
Direction Photo Taken: South	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Super sack containing exhaust system filters. No hazardous waste label.	

Photo No. 5	Date: 7/5/2012
Direction Photo Taken: West	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Super sack containing lead contaminated exhaust system filters. No HW label. Sack located in parking lot behind the OTISR building	

Photo No. 6	Date: 7/5/2012
Direction Photo Taken: Northeast	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR rooftop Exhaust system.	

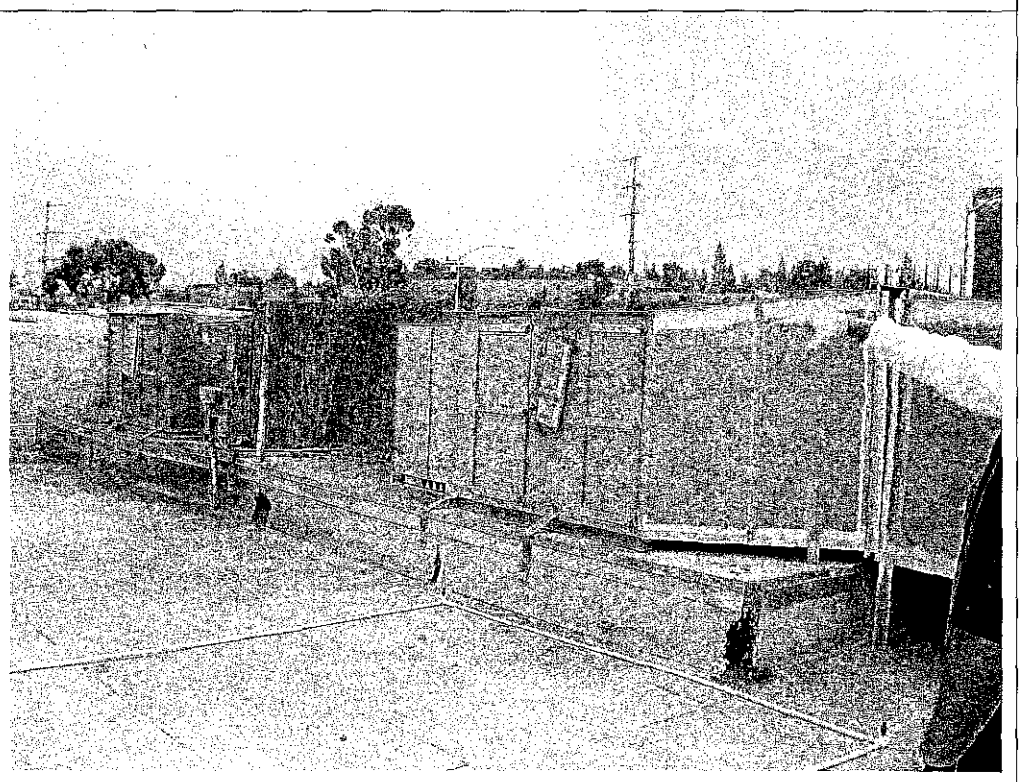


Photo No. 7	Date: 7/5/2012
Direction Photo Taken: North	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR rooftop area between ventilation system intake & exhaust. Gray staining in exhaust air flow pattern.	

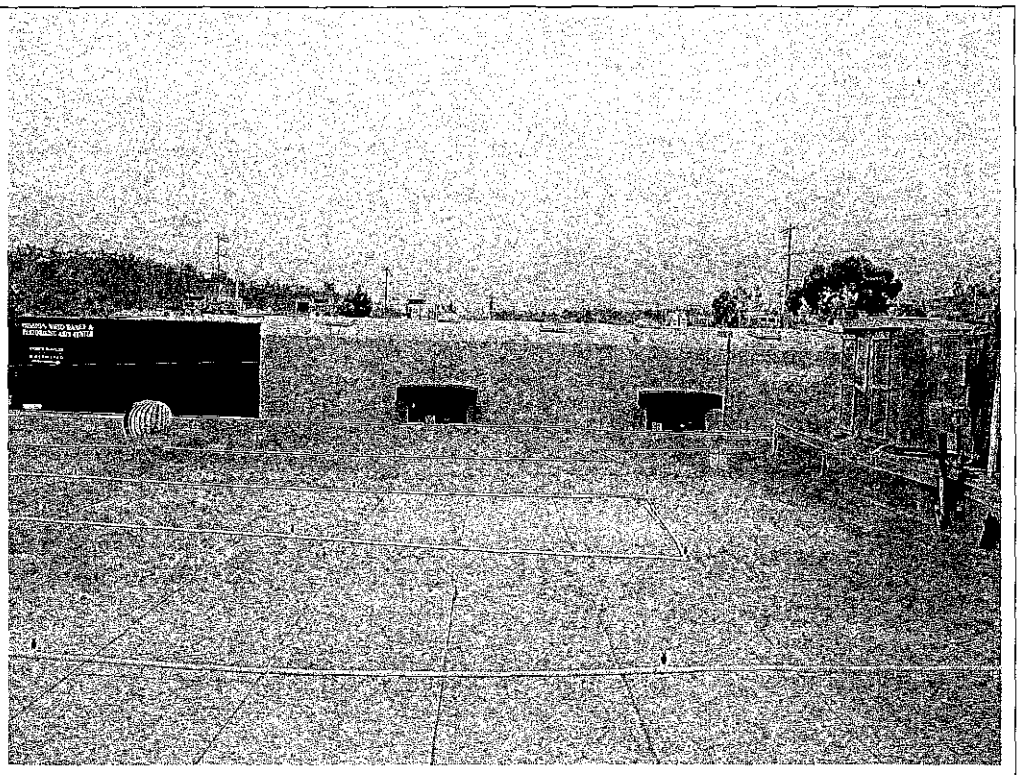


Photo No. 8	Date: 7/5/2012
Direction Photo Taken: Northwest	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR rooftop ventilation system intake.	

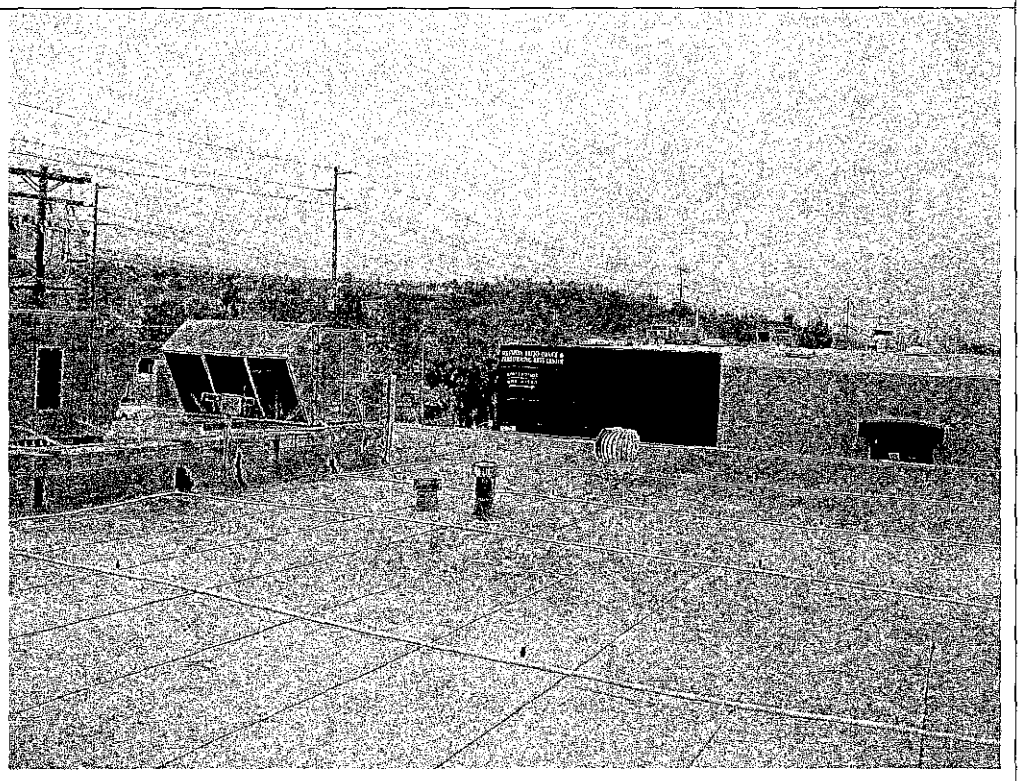


Photo No. 9	Date: 7/5/2012
Direction Photo Taken: East	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel 5 gallon plastic bucket of lead dust sweepings. Lead #3 bucket. Found on roof. Bucket cracked No HW label.	

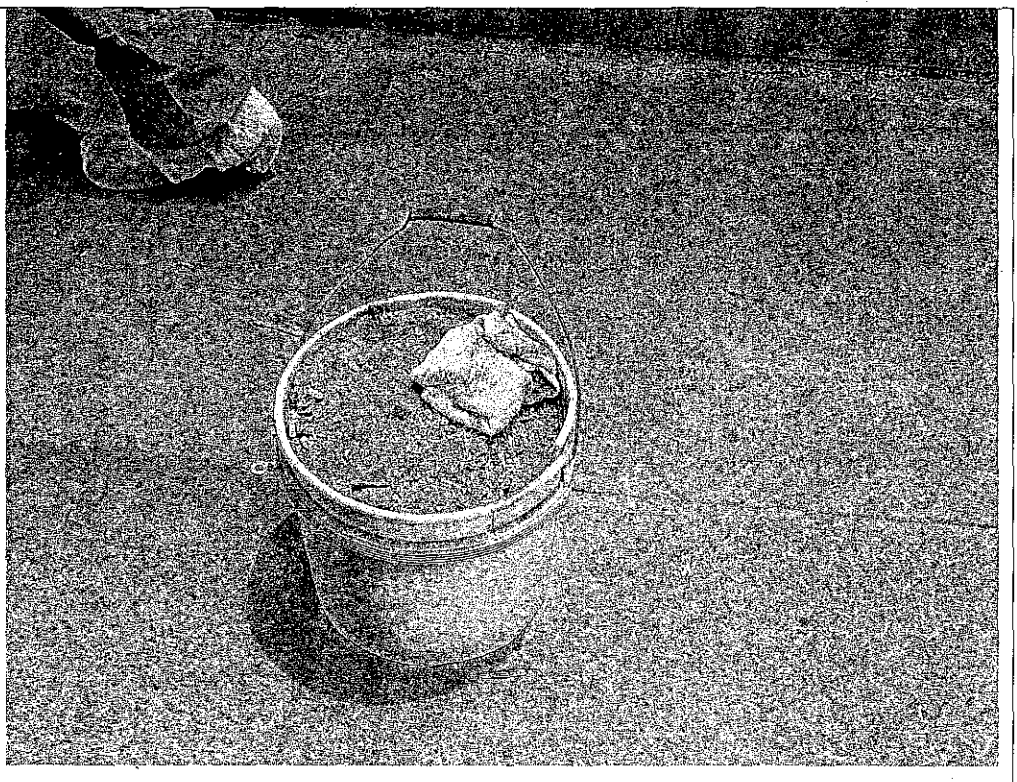


Photo No. 10	Date: 7/5/2012
Direction Photo Taken: East	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Northeast corner OTISR roof. 2 5-gallon buckets of lead sweepings. Lead#1 on left. Lead#2 on right. Buckets cracked & open.	

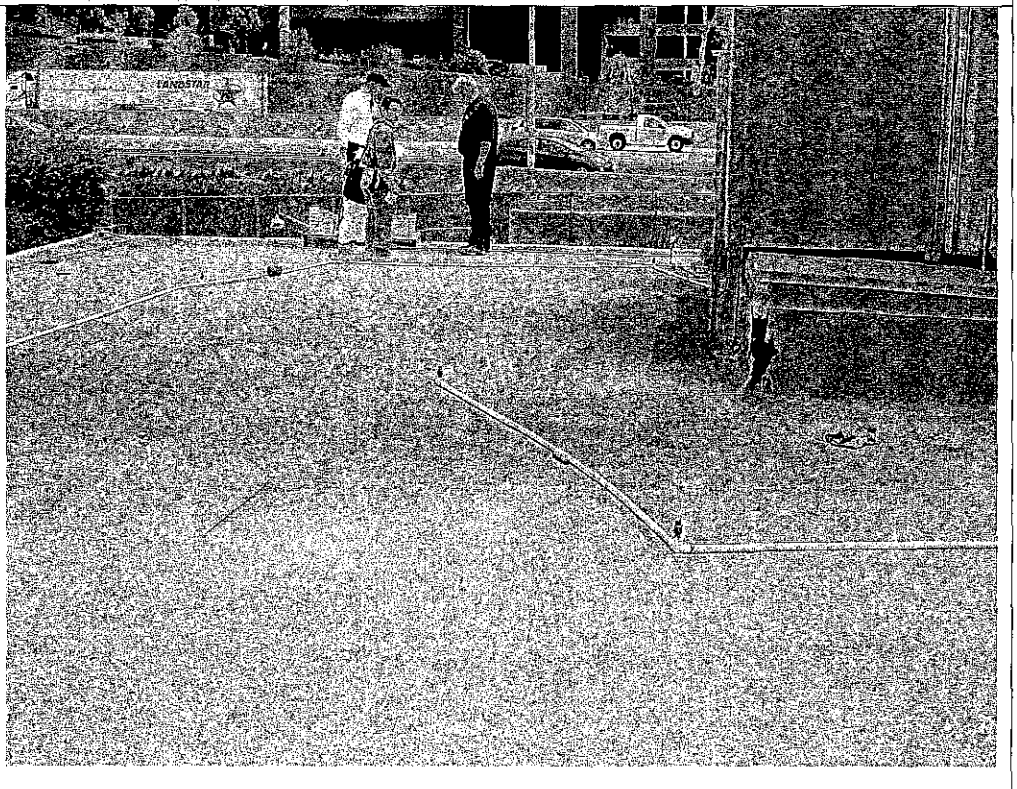


Photo No. 11	Date: 7/5/2012
Direction Photo Taken: East	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof northeast corner. Lead #1 on left. Lead #2 on right. Buckets deteriorated & open.	

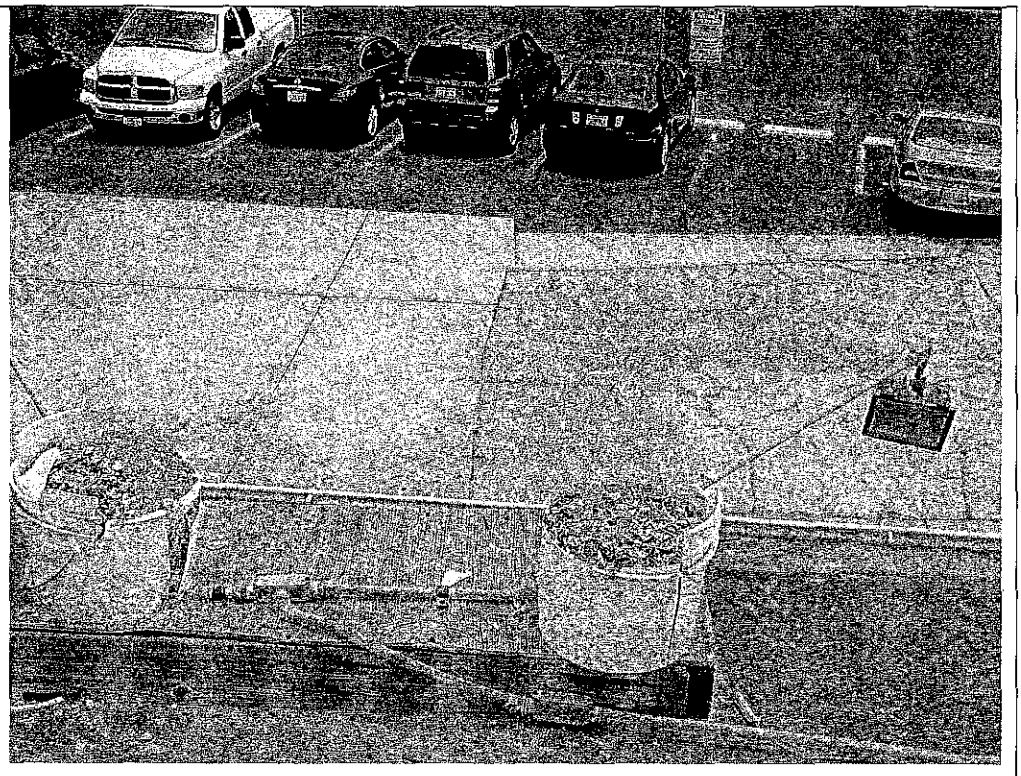


Photo No. 12	Date: 7/5/2012
Direction Photo Taken: Northeast	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof Northeast corner. Gutters leading to downspout shown in Photos #1, 2 & 3 XRF gutter readings:	

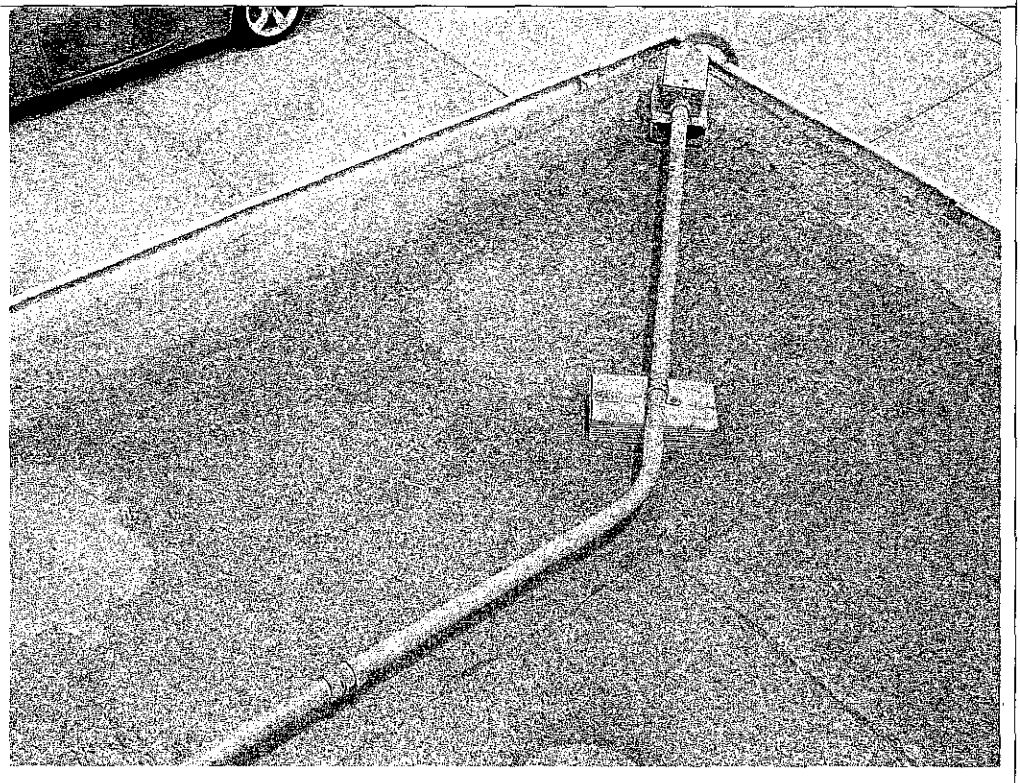


Photo No. 13	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof rain gutter XRF readings: Pb 43.2K ppm As 6999 ppm	

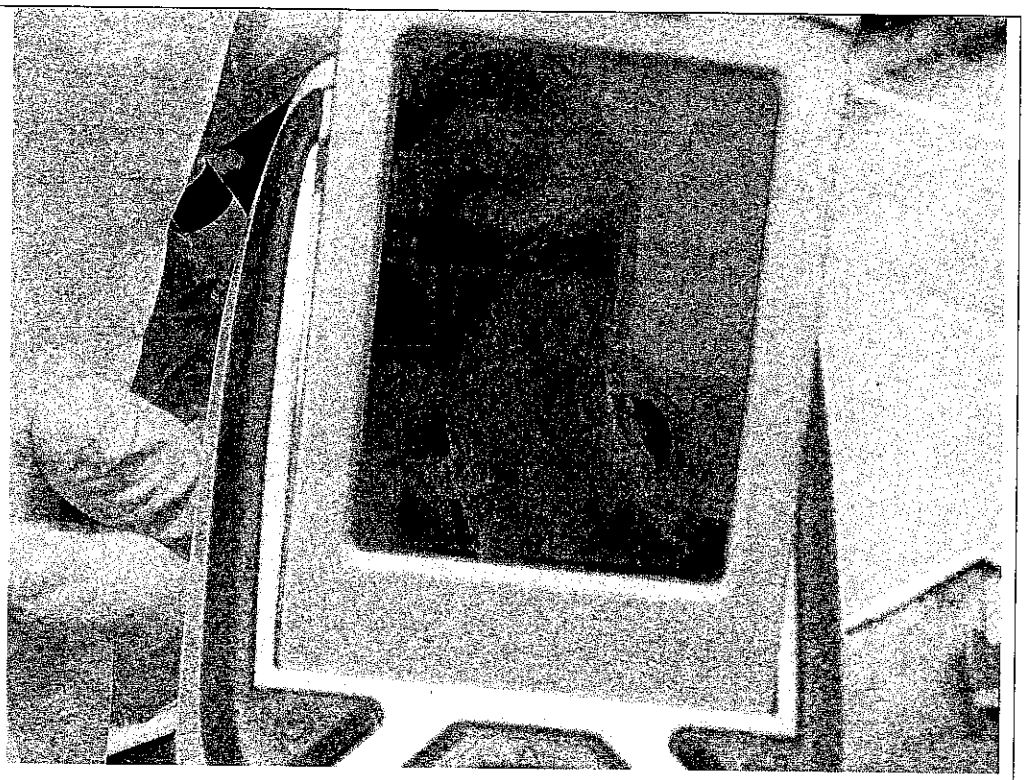


Photo No. 14	Date: 7/5/2012
Direction Photo Taken: West	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof north end. Debris on north or downhill side of roof sprinkler line.	

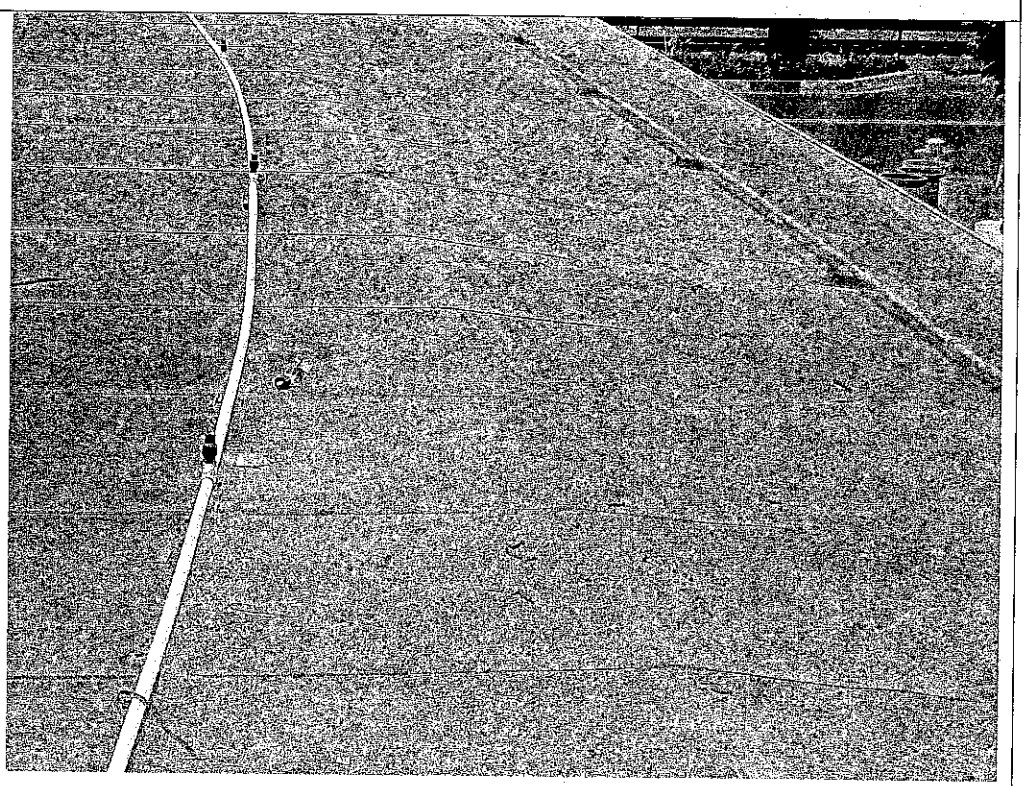


Photo No. 15	Date: 7/5/2012
Direction Photo Taken: East	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof rain gutter east side of NE corner. Debris in gutter. XRF readings: Pb 43.2K ppm As 6999 ppm	

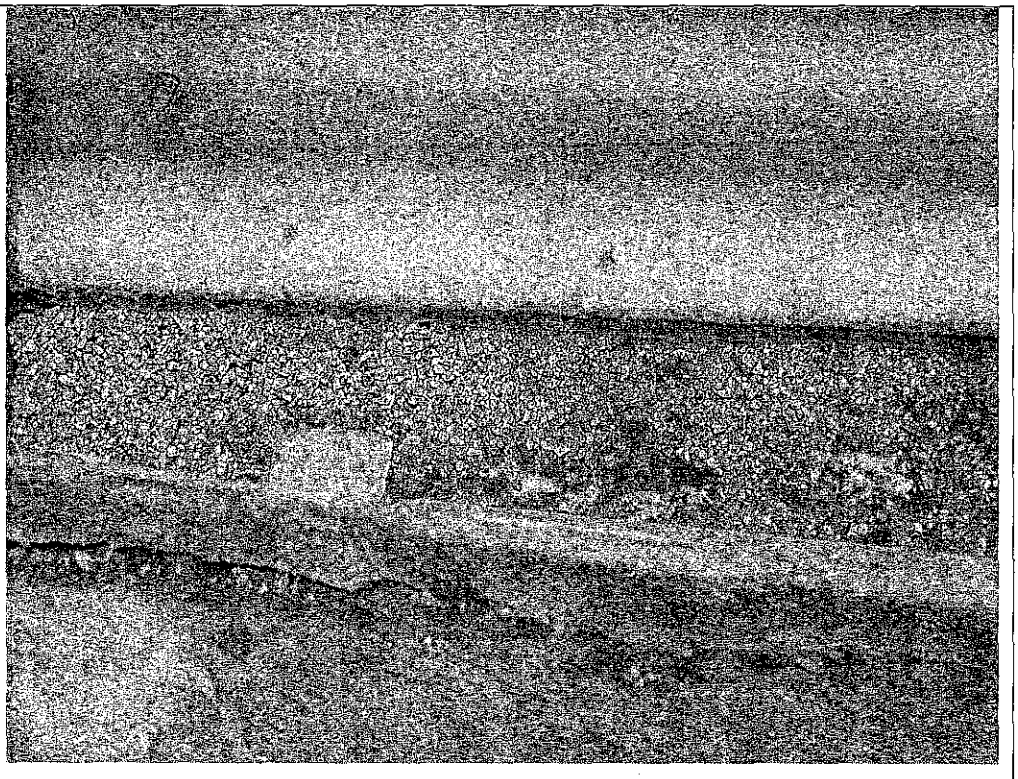


Photo No. 16	Date: 7/5/2012
Direction Photo Taken: Northeast	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Roof rain gutter northeast corner leading to downspout in Photos 1, 2 & 3	

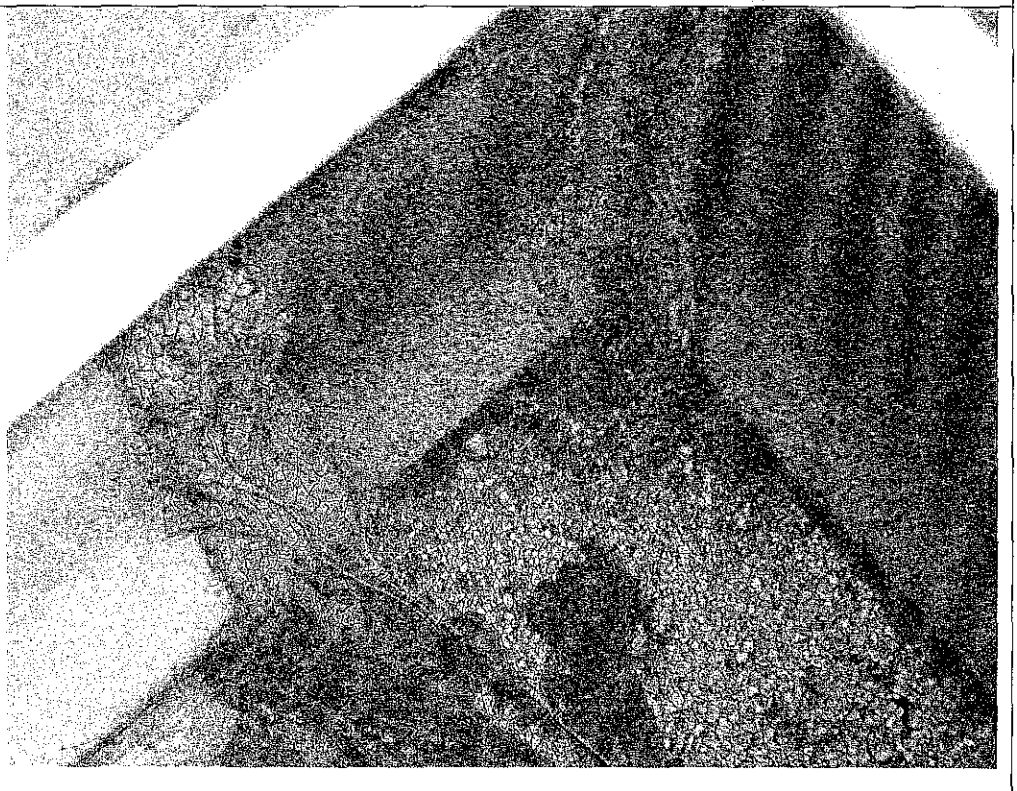


Photo No. 17	Date: 7/5/2012
Direction Photo Taken: North	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof gutter north side of NE corner.	

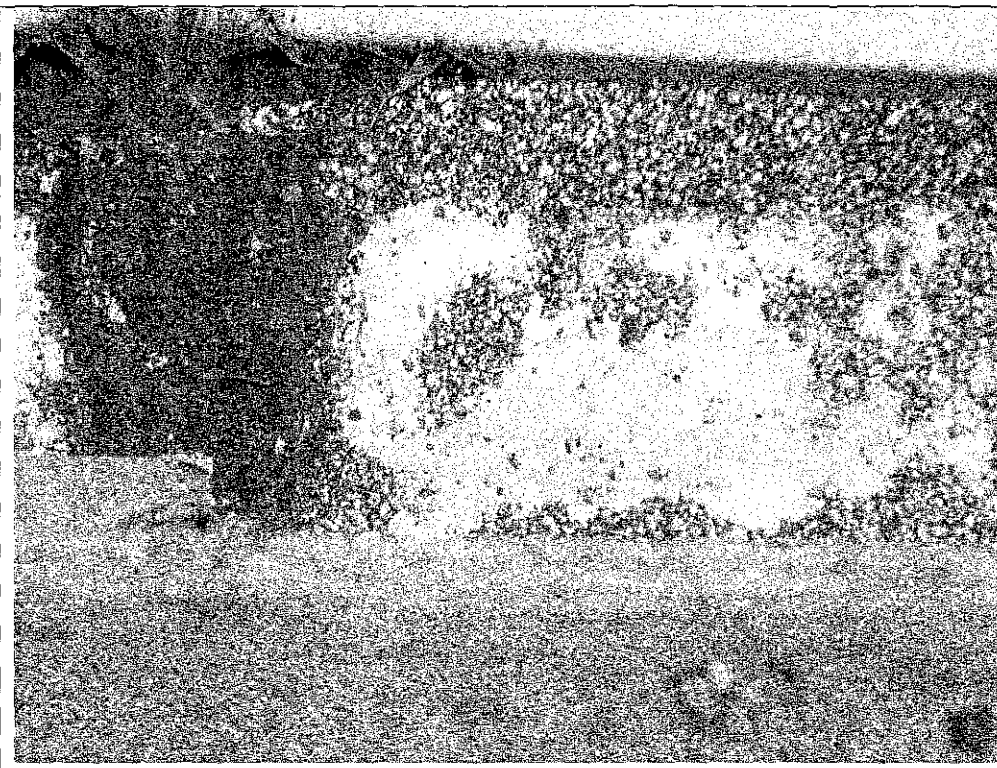


Photo No. 18	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Roof debris	

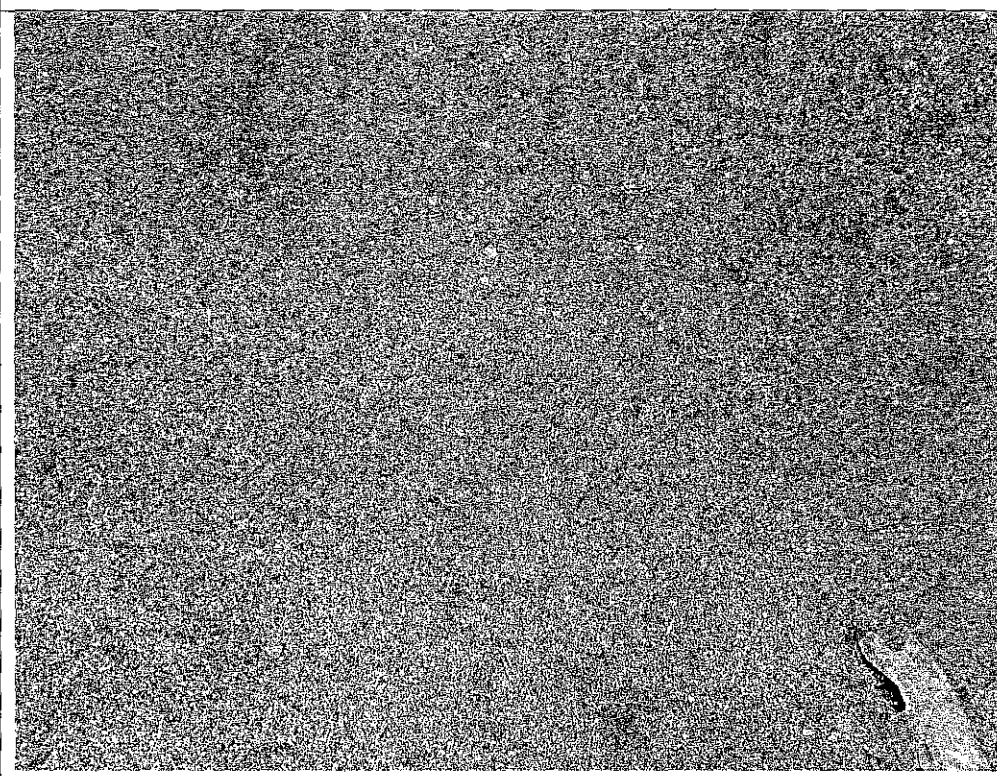


Photo No. 19	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Lead #3 bucket	

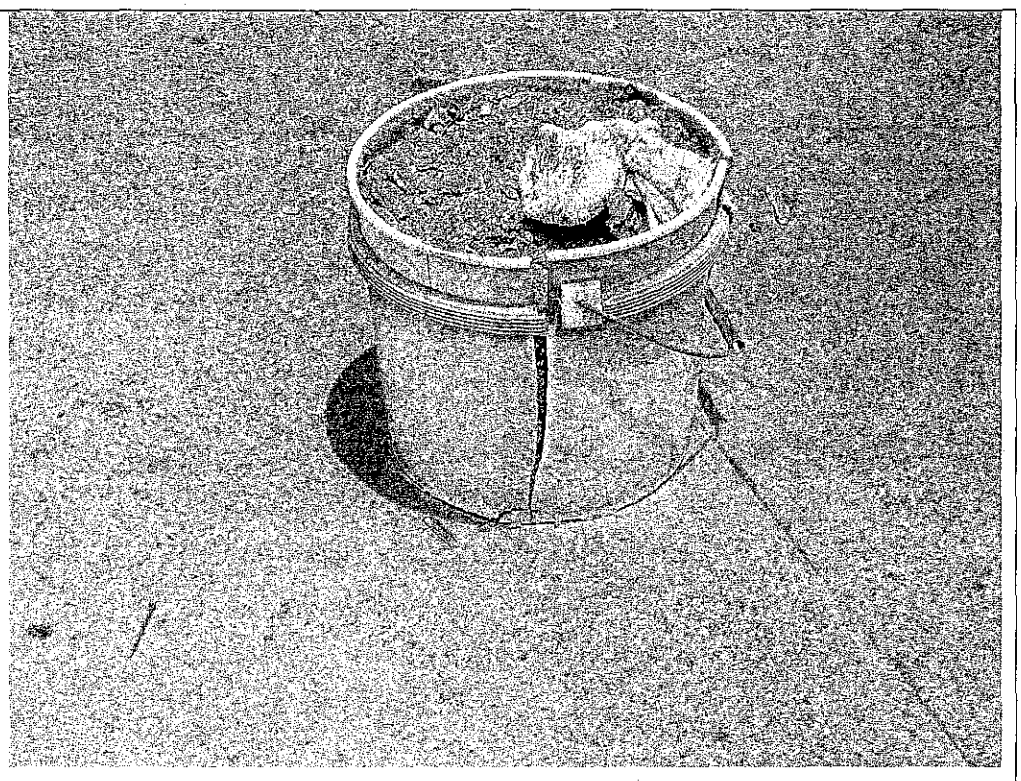


Photo No. 20	Date: 7/5/2012
Direction Photo Taken: North	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Lead debris from ventilation system exhaust.	

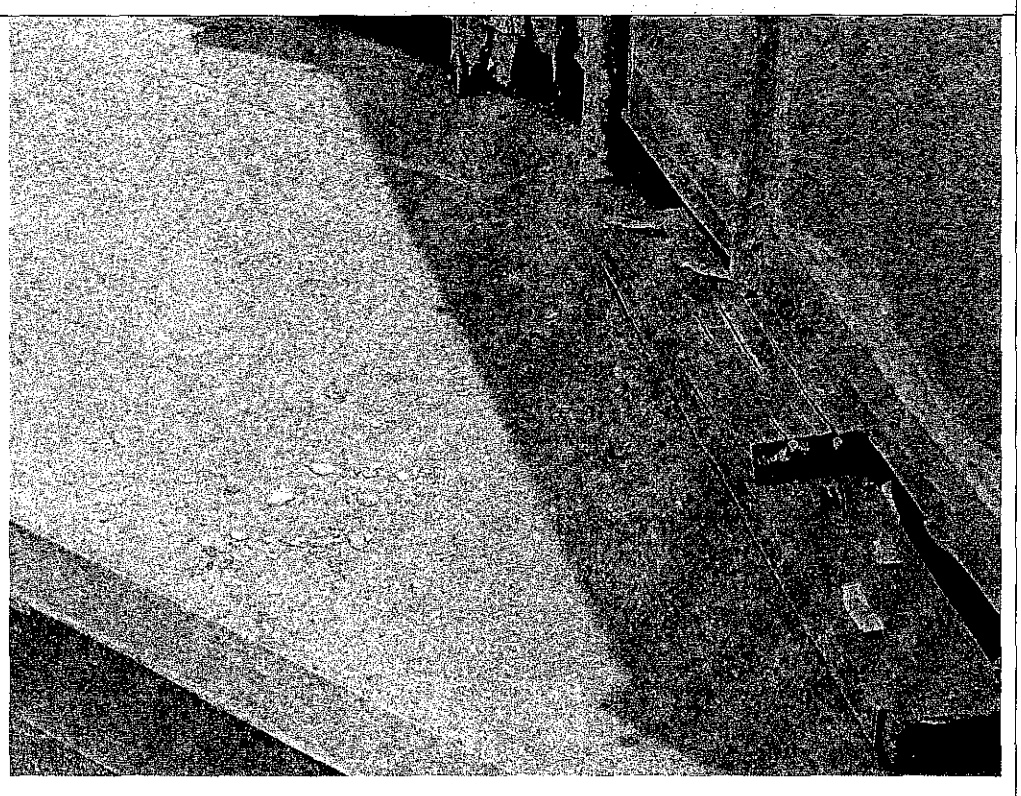


Photo No. 21	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel XRF reading near ventilation exhaust:	

Photo No. 22	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel XRF readings near ventilation exhaust: Pb 567.5K ppm As 30.9K ppm	

Photo No. 23	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel XRF readings: Pb 567.5 K ppm AS 30.9 K ppm Zn 16.7 K ppm Cu 10.3 K ppm	

Photo No. 24	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof southeast edge. XRF	

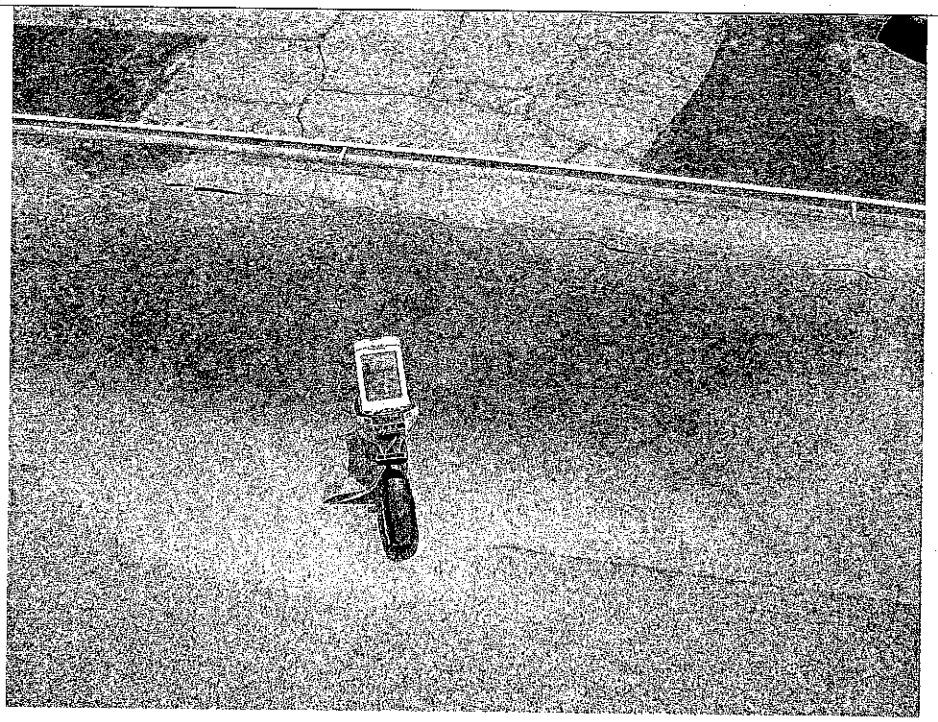


Photo No. 25	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof SW corner XRF background area for roof. XRF readings:	

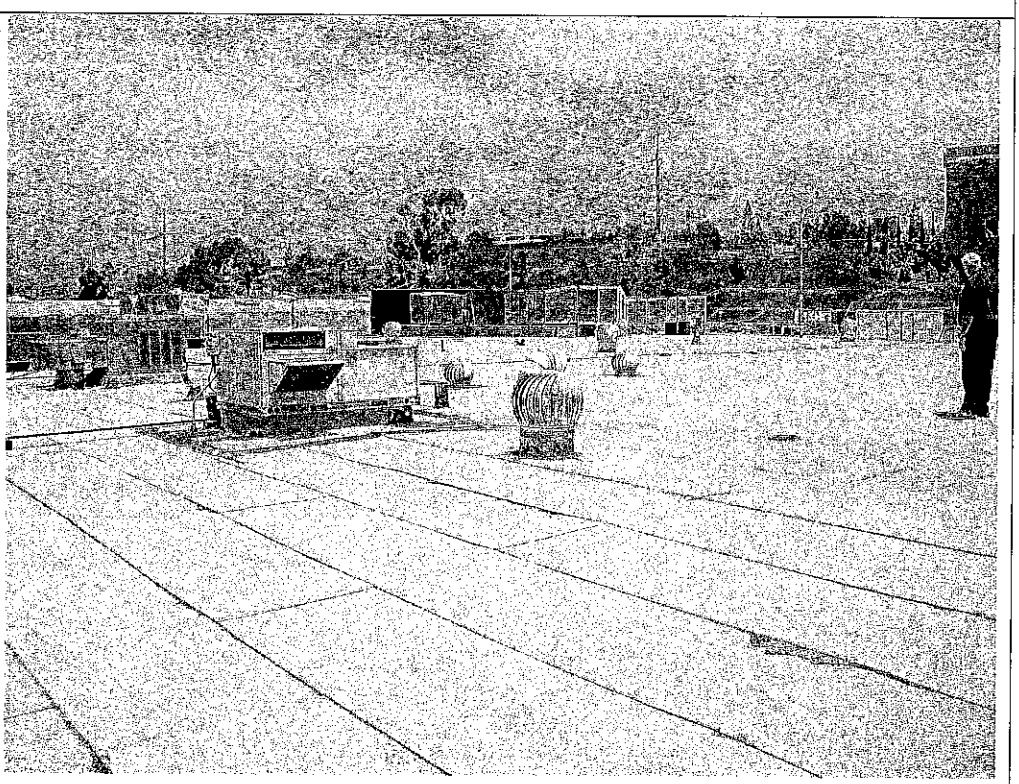
Photo No. 26	Date: 7/5/2012
Direction Photo Taken: Northeast	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Panoramic view of OTISR roof from SW corner. No gray lead staining of roof upwind of ventilation system exhaust.	

Photo No. 27	Date: 7/5/2012
Direction Photo Taken: East	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof between ventilation system intakes.	

Photo No. 28	Date: 7/5/2012
Direction Photo Taken: Northeast	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR roof between ventilation system intakes.	

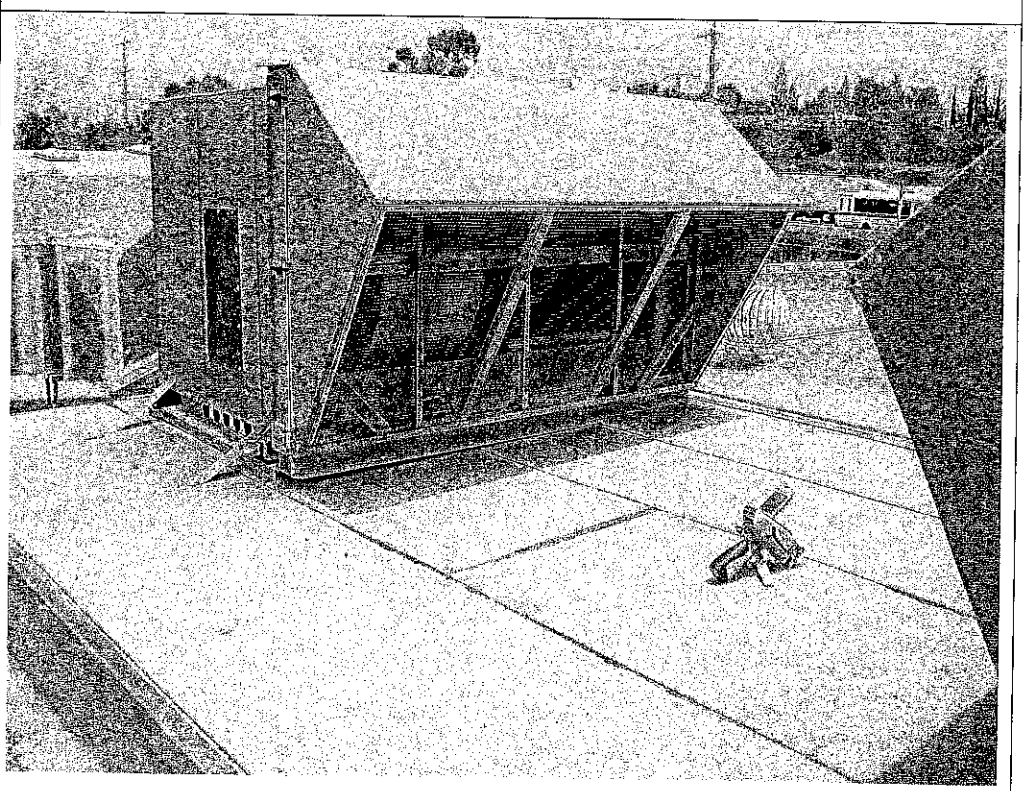


Photo No. 29	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR Shooting Bay 1	

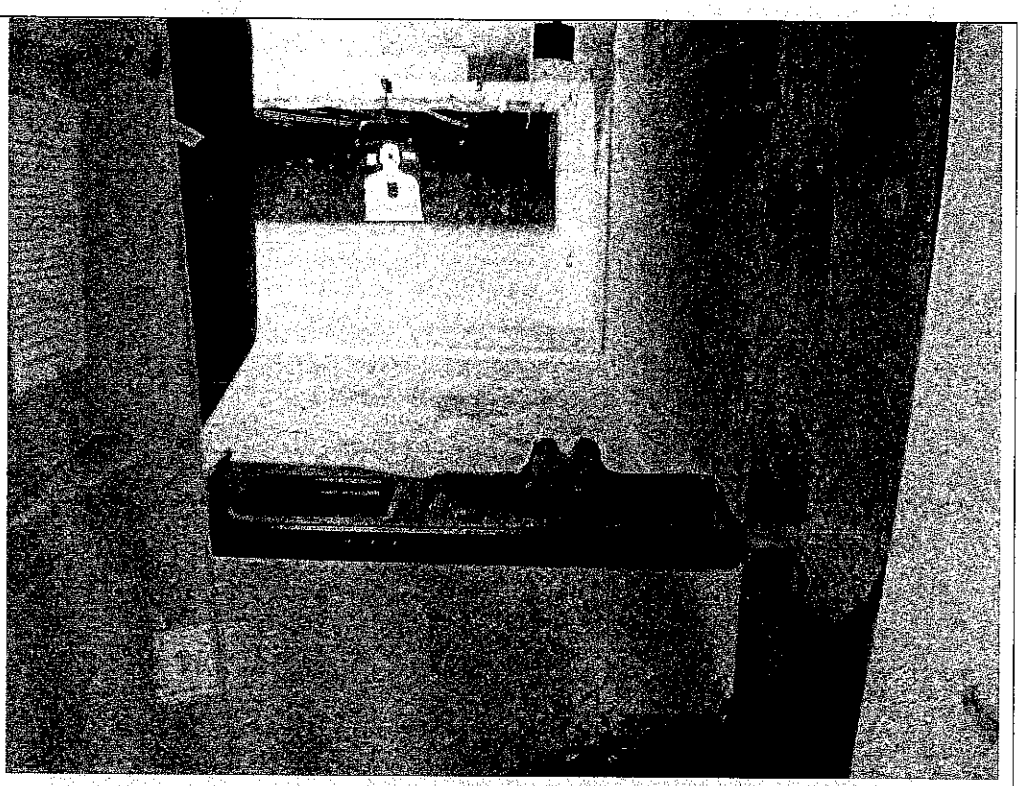


Photo No. 30	Date: 7/5/2012
Direction Photo Taken: East	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR Shredded Tire Rubber Backstop Shooting Bay 1	

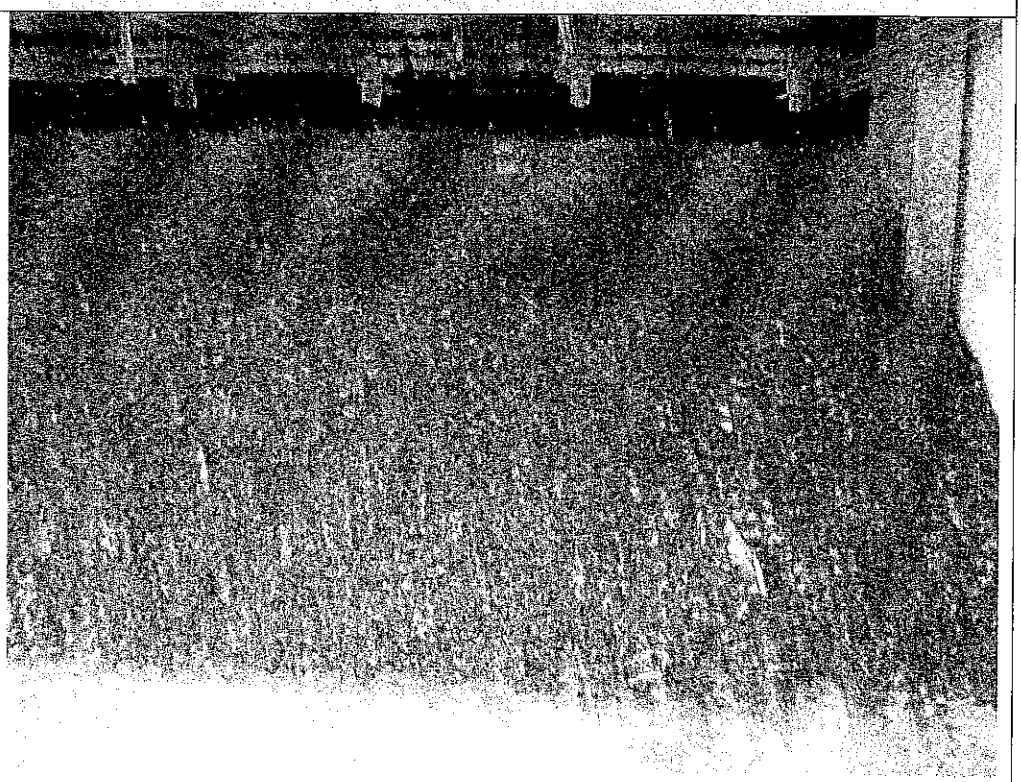


Photo No. 31	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR Shooting Bay 1 bottom	

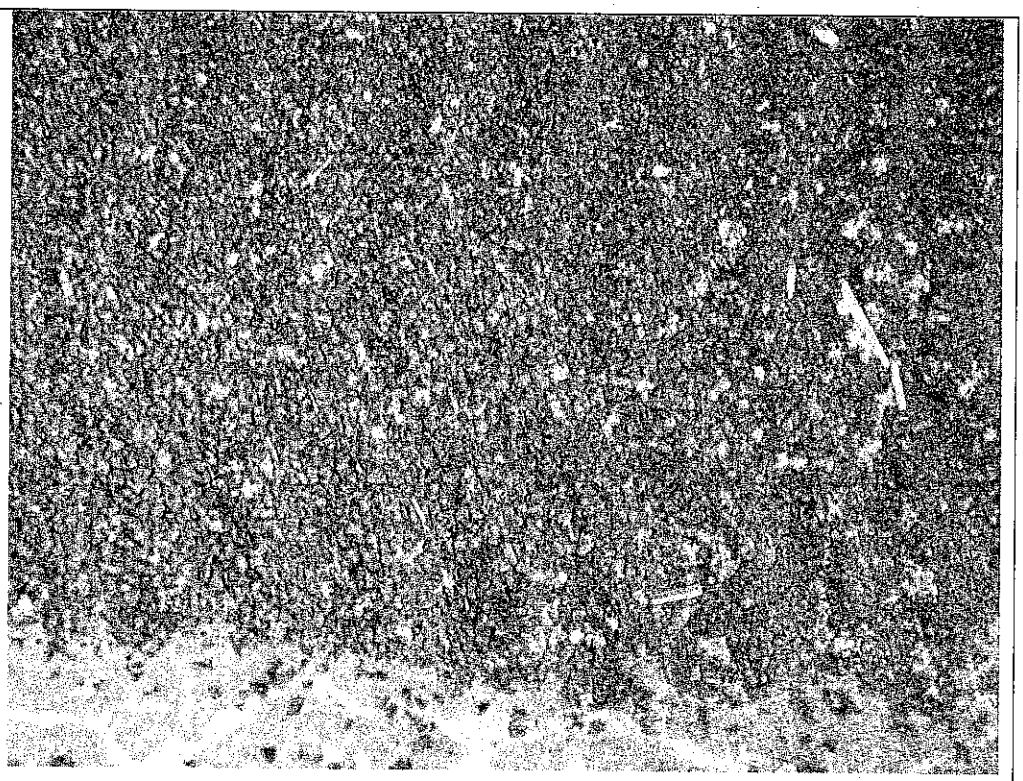


Photo No. 32	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR Shooting Bay 1 middle & top	

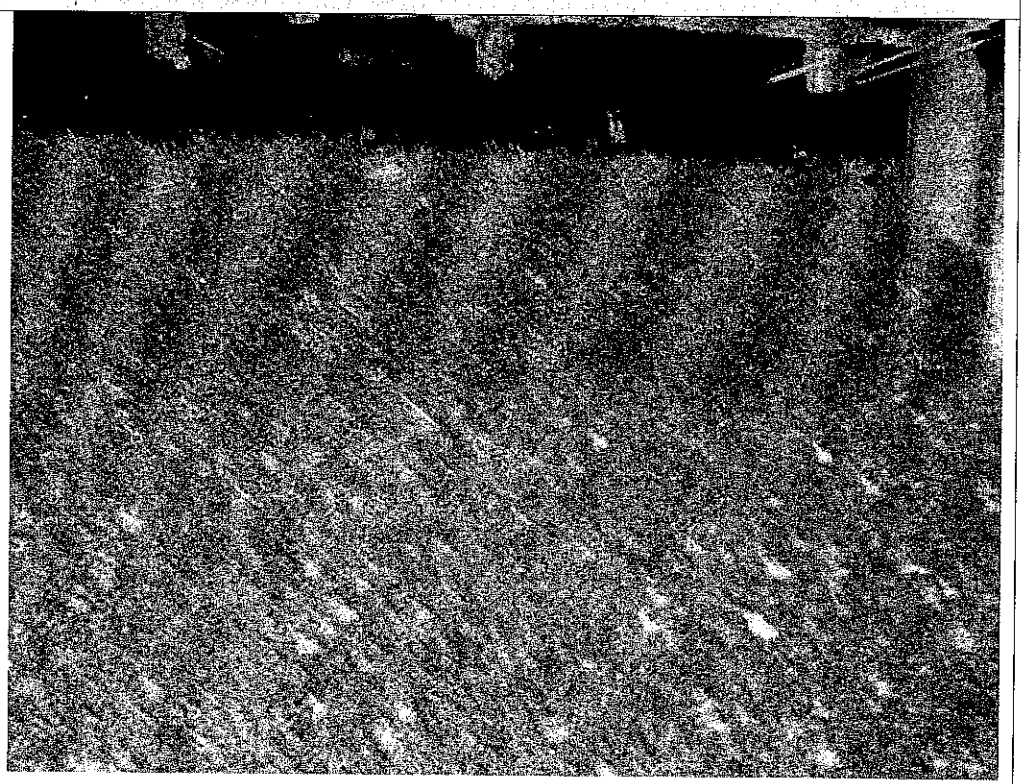


Photo No. 33	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR Shooting Bay 1 top section.	

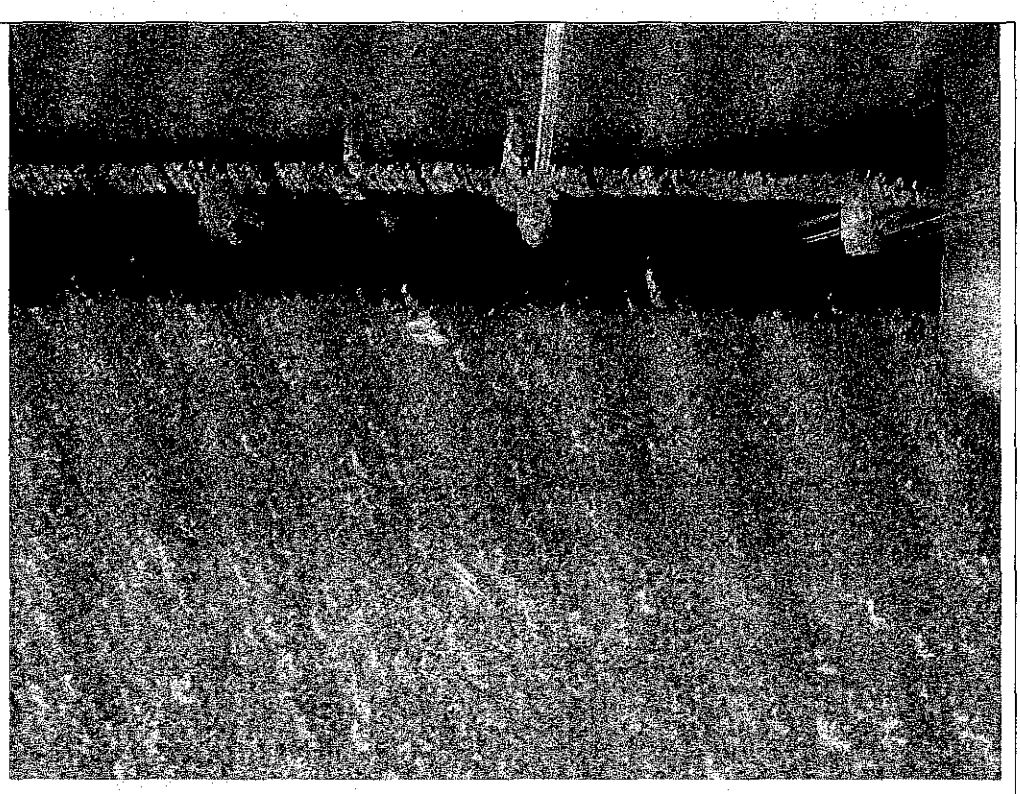


Photo No. 34	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR Shooting Bay 1 Lane 10 XRF readings:	

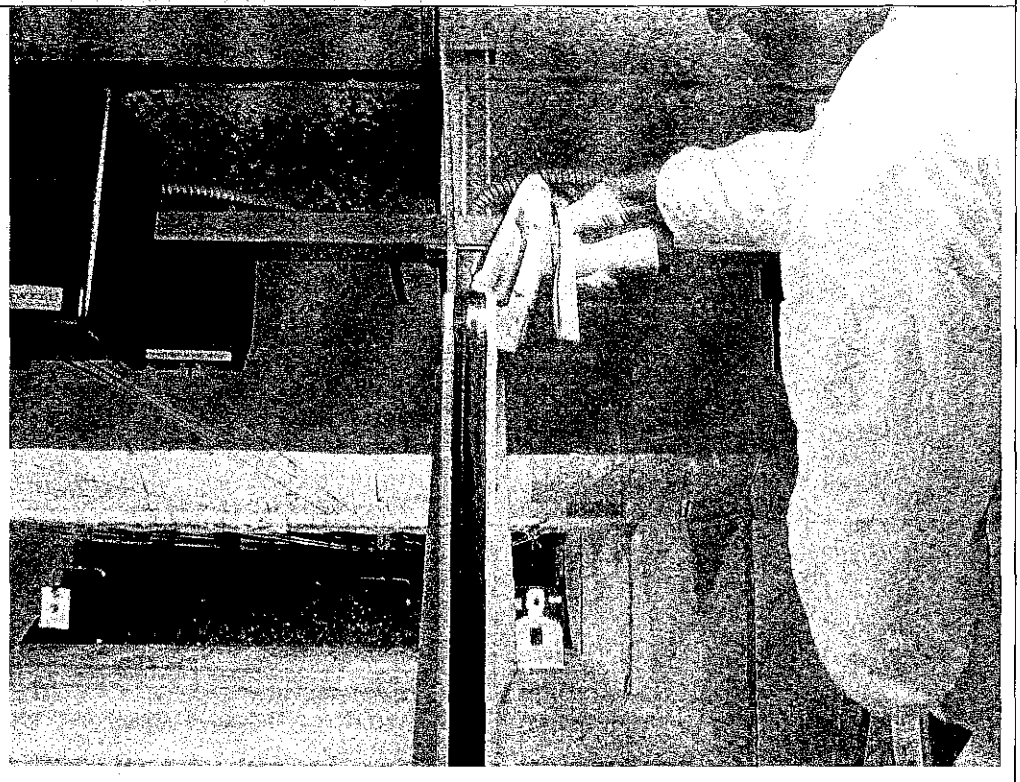


Photo No. 35	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel OTISR Shop Fresh air vent XRF readings	

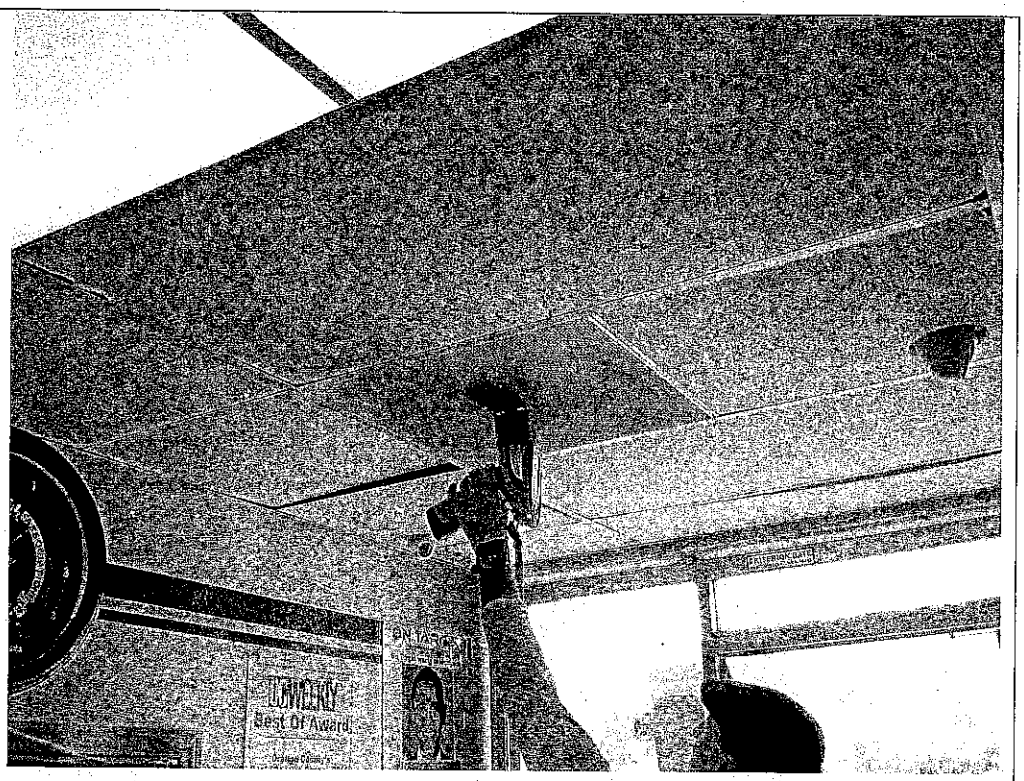


Photo No. 36	Date: 7/5/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Super Sack shown in photos 4 & 5 contents: Filters removed from ventilation system exhaust.	

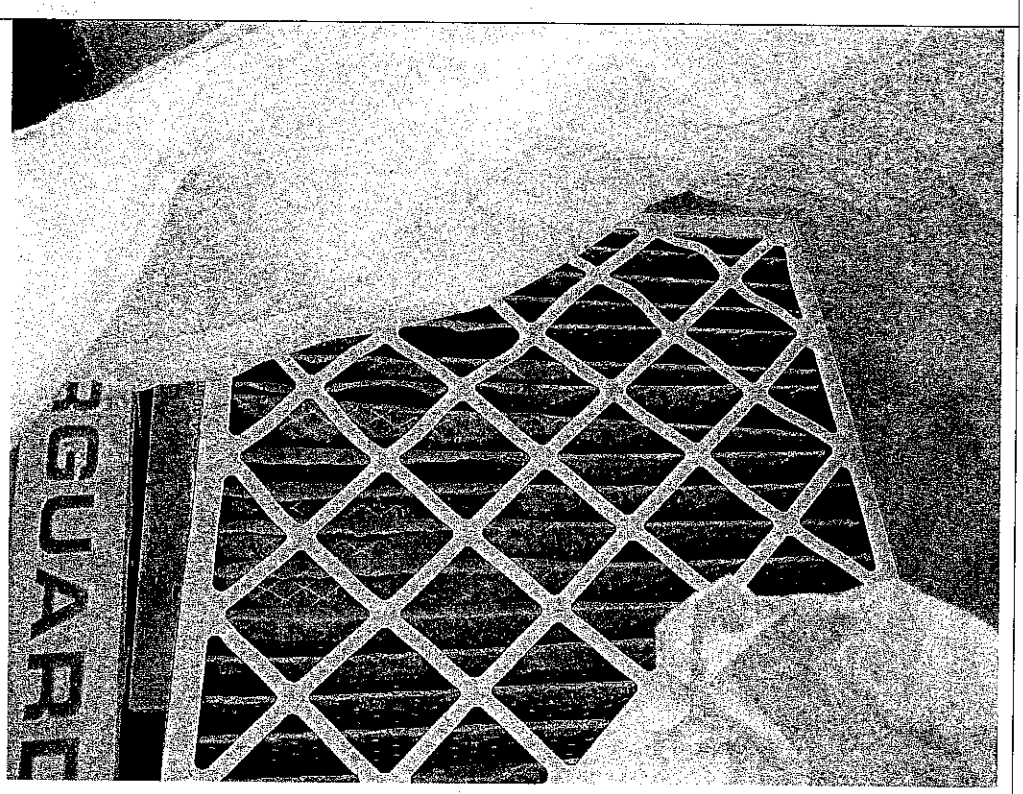


Photo No. 37	Date: 7/11/2012
Direction Photo Taken:	
Photo Description: On Target Indoor Shooting Range 27692 Camino Capistrano Laguna Niguel Samples taken from OTISR	

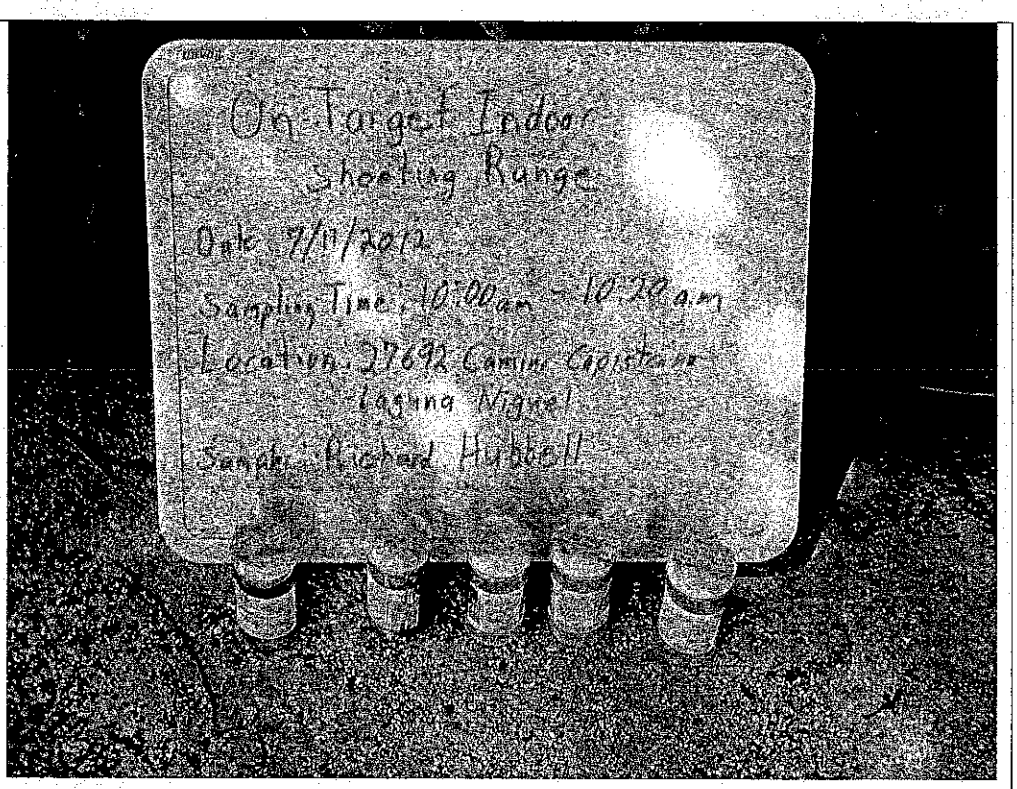


Photo No.	Date:
Direction Photo Taken:	
Photo Description:	

BLANK

Attachment 5

On Target Indoor Shooting Range XRF Survey Results for Lead and Arsenic										
Reading No.	Time	Type	Units	LOCATION	Pb	Pb Error	As	As Error	Pb TTLC 1,000 mg/kg	As TTLC 500 mg/kg
858	7/5/2012 9:43	Soil	ppm	NE corner rain gutter downspout	172,184	1,894	18,763	1,653	1,000	500
860	7/5/2012 9:46	Soil	ppm	Blacktop near rain gutter	32,509	920	< LOD	1,158	1,000	500
863	7/5/2012 10:50	Soil	ppm	Back door access Bay 1	4,863	576	< LOD	722	1,000	500
866	7/5/2012 10:52	Soil	ppm	Bay 1 acoustic ceiling tile	9,539	419	2,235	383	1,000	500
867	7/5/2012 10:54	Soil	ppm	Concrete floor behind Bay 1	54,315	919	6,990	808	1,000	500
869	7/5/2012 11:09	Soil	ppm	Roof NE corner near drain	43,192	828	6,999	737	1,000	500
870	7/5/2012 11:11	Soil	ppm	Roof NE corner rain gutter	50,237	1,100	3,462	940	1,000	500
872	7/5/2012 11:13	Soil	ppm	Roof sweepings 1	154,734	2,207	13,741	1,896	1,000	500
874	7/5/2012 11:15	Soil	ppm	Roof sweepings 2	139,948	2,375	12,243	2,040	1,000	500
875	7/5/2012 11:16	Soil	ppm	Open 5 gal bucket of range waste (Lead #1)	363,829	27,286	< LOD	33,773	1,000	500
876	7/5/2012 11:16	Soil	ppm	Open 5 gal bucket of range waste (Lead #2)	353,181	5,562	17,461	4,714	1,000	500
877	7/5/2012 11:17	Soil	ppm	Next to HVAC 1, dust on roof	402,896	4,807	35,035	4,148	1,000	500
878	7/5/2012 11:19	Soil	ppm	Next to HVAC 2, dust on roof	567,620	6,444	30,908	5,483	1,000	500
880	7/5/2012 11:22	Soil	ppm	Roof SE corner	12,716	352	< LOD	443	1,000	500
881	7/5/2012 11:27	Soil	ppm	Roof SW corner	536.33	59.15	82.02	52.46	1,000	500
882	7/5/2012 11:29	Soil	ppm	Air intake NE corner	5,600	288	994	258	1,000	500
883	7/5/2012 11:58	Soil	ppm	Shooting Bay 1, Lane 10	2,199	104	819	99	1,000	500
884	7/5/2012 12:01	Soil	ppm	Shop AC air return	895	282	< LOD	364	1,000	500

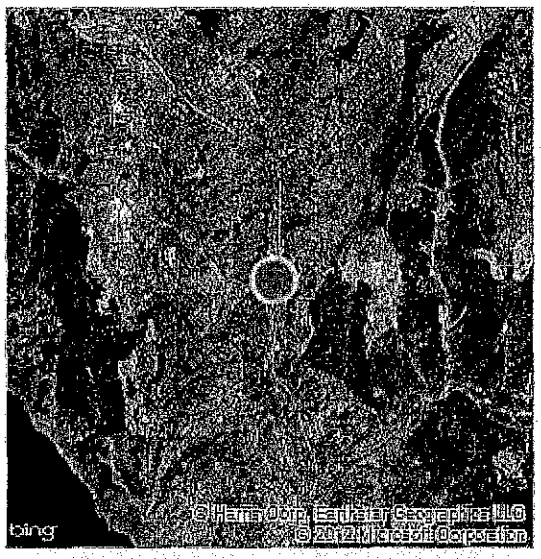
Attachment 6

bing Maps

27692 Camino Capistrano, Laguna Niguel, CA 92677

My Notes

On the go? Use **m.bing.com** to find maps, directions, businesses, and more



Bird's eye view maps can't be printed, so another map view has been substituted.

Attachment 7

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
1449 W. Temple Street, Los Angeles, CA 90026
Telephone: (213) 977-7928

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

LABORATORY REPORT -- TOTAL METALS

Authorization No. : 12SC0005
ECL No.: AW00078-AW00082

Page 1 of 11

Sampling Location: On Target Indoor Shooting Range
Address: 27692 Camino Capistrano, Laguna Niguel, CA 92677

Requestor's Name: Richard Hubbell
Address: 5796 Corporate Ave, Cypress, CA 90630

Table of Contents

	Page Number
Case Narrative	2
Analytical Reports	3 - 6
Authorization Form	7
Sample Analysis Request	8
Sample Receipt and Photos	9-11

The results listed within this report pertain only to the samples tested in the laboratory. These results have been reviewed for technical correctness and completeness. This report was reviewed and approved for release.

Report Reviewed by:
Mario Vinoya, Staff Chemist
Date 8/8/12

Report Approved by:
Mui Sam, Ph.D., Section Chief
Date 8/8/12

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
1449 W. Temple Street, Los Angeles, CA 90026
Telephone: (213) 977-7928

LABORATORY REPORT -- TOTAL METALS

Authorization No. : 12SC0005 **Priority:** 2
ECL No.: AW00078-AW00082 **Page:** 2 of 11

1. Sampling Location: On Target Indoor Shooting Range
   Address: 27692 Camino Capistrano, Laguna Niguel, CA 92677
2. Requestor Name: Richard Hubbell
   Address: 5796 Corporate Ave, Cypress, CA 90630
3. Sample (s) History:

Date Collected:	7/11/2012		
Date Received:	7/19/2012		
Date Sieved:	7/20-24/2012	Method:	SOP 740-S
Date Extracted/Digested:	7/26/2012	Method:	EPA 3050 B
Date Analyzed:	8/1/2012	Method:	EPA 6010 C

Date data package was completed: 8/8/2012

Case narrative:

1. Initial calibration and continuing calibration criteria were met? ☑ Yes ☐ No
2. Initial and Continuing Calibration blank criteria were met? ☐ Yes ☑ No
3. QC parameters were within control limits? ☐ Yes ☑ No
4. Sample holding time was met? ☑ Yes ☐ No

Comments:

If any of the above answer is "NO" please explain in details.

Total Metals scan was done on particles less than 100 µm. [7] Initial Calibration blank was reading slightly high for Copper (Cu), but still below reporting limit [3] Matrix Spike (MS) and Matrix spike Duplicate (MSD) recoveries for Copper (Cu) and Lead (Pb)) were outside control limits. Post digestion spike analysis and Serial Dilution confirmed matrix effects. Antimony (Sb), Barium (Ba), Copper (Cu) and Lead (Pb) were reported from diluted samples because of their high concentration in samples.

Sample Prepared by:
Anna Toma
Anna Toma, Chemist
Date 8/8/2012

Sample Analyzed by:
Anna Toma
Anna Toma, Chemist
Date 8/8/2012

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
1449 W. Temple Street, Los Angeles, CA 90026

LABORATORY REPORT -- TOTAL METALS

Authorization No. : 12SC0005 **Priority:** 2
ECL No.: AW00078-AW00082 **Page:** 3 of 11

Reference Method: EPA SW-846; EPA 6010 C
Analytical Procedure: Samples are digested with 2.5 ml HNO3 and 10 ml of HCl in hot block, filtered, washed with hot 5 ml HCl and 10 ml DI water. Filter is redigested with 5 ml HCL and filtered again.Digests are cooled and made to final volume with deionized water. Metals analysis of the digests is by ICP/AES.

ECL NO.	AW00078	AW00079	AW00080	AW00081	AW00082	Method Blank	Reporting Limit (not corrected for dilution)	TTLC Limit
Requestor's No	OTISR#1	OTISR#2	OTISR#3	OTISR#4	OTISR#5			
Digestion Date	7/26/2012	7/26/2012	7/26/2012	7/26/2012	7/26/2012	7/26/2012		
Analysis Date	8/1/2012	8/1/2012	8/1/2012	8/1/2012	8/1/2012	8/1/2012		
Dilution Factor	250	200	200	200	200	100		
Matrix Type	solid	solid	solid	solid	solid	Aqueous		
Units	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/L		mg/kg
Antimony-Sb*	**14260**	**19650**	**15350**	**17005**	**24890**	ND	0.20	500
Arsenic-As	**707.8**	319.0	279.4	334.4	**762.9**	ND	0.20	500
Barium-Ba	3375	**36420***	124.9	80.15	4925	ND	0.20	10000
Beryllium-Be	ND	ND	ND	ND	ND	ND	0.04	75
Cadmium-Cd	ND	ND	ND	ND	ND	ND	0.20	100
Chromium-Cr	ND	75.75	ND	ND	ND	ND	0.20	2500
Cobalt-Co	ND	ND	ND	ND	ND	ND	0.20	8000
Copper-Cu*	**19840**	**48040**	**3966**	**3739**	**8346**	ND	0.20	2500
Lead-Pb*	**304500**	**309800**	**313100**	**280700**	**259500**	ND	0.20	1000
Molybdenum-Mo	57.75	ND	ND	ND	92.67	ND	0.20	3500
Nickel-Ni	ND	122.9	ND	ND	ND	ND	0.20	2000
Silver-Ag	ND	ND	ND	39.12	39.49	ND	0.20	500
Selenium-Se	ND	ND	ND	ND	ND	ND	0.20	100
Thallium-Tl	ND	ND	ND	ND	ND	ND	0.20	700
Vanadium-V	ND	ND	ND	ND	ND	ND	0.20	2400
Zinc-Zn	2943	**5579**	422.7	332.7	746.8	ND	0.20	5000
% Particle size <100µm	**8.70**	**8.72**	**3.00**	**4.51**	**45.78**			

Quantitation Limit = Reporting Limit x Dilution Factor

* Antimony (Sb), Barium (Ba) of AW0079, Copper (Cu) and Lead (Pb) were reported from from higher dilutions due to their high concentration in the samples.

Qualifiers:

ND	**Not detected < Quantitation Limit**
J	Estimated value
B	Analyte found in method blank (MB)
B1	Analyte found in MB. Analyte conc. in the sample is greater than 10X the conc. found in MB
M	MS/MSD % Recovery below control limits
M2	MS/MSD % Recovery above control Limits
R	% RPD exceeded Control Limits
H	Holding Time exceeded

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
1449 W. Temple Street, Los Angeles, CA 90026

DEPARTMENT OF TOXIC SUBSTANCES CONTROL

LABORATORY QUALITY CONTROL REPORT -- TOTAL METALS

Authorization No. : 12SC0005
ECL No.: AW00078-AW00082

Priority: 2
Page: 4 of 11

Quality Control Parameter	LABORATORY CONTROL SAMPLE							
Digestion Date	7/26/2012							
Analysis Date	8/1/2012							
Matrix Type	Aqueous							
	LCS			LCSD		RPD	Control Limits	
	Spike Added	Amount Recovered	Recovery	Amount Recovered	Recovery		Recovery	RPD
Units	mg/L	mg/L	%	mg/L	%	%	%	%
Antimony-Sb	10.0	9.753	98%	9.570	96%	1.89%	75-125	0-20
Arsenic-As	10.0	10.66	107%	10.06	101%	5.79%	75-125	0-20
Barium-Ba	10.0	10.09	101%	9.985	100%	1.05%	75-125	0-20
Beryllium-Be	10.0	10.20	102%	10.46	105%	2.52%	75-125	0-20
Cadmium-Cd	10.0	9.708	97%	9.214	92%	5.22%	75-125	0-20
Chromium-Cr	10.0	10.17	102%	10.17	102%	0.00%	75-125	0-20
Cobalt-Co	10.0	10.46	105%	10.36	104%	0.96%	75-125	0-20
Copper-Cu	10.0	11.63	116%	11.45	115%	1.56%	75-125	0-20
Lead-Pb	10.0	10.20	102%	9.997	100%	2.01%	75-125	0-20
Molybdenum-Mo	10.0	10.27	103%	10.29	103%	0.19%	75-125	0-20
Nickel-Ni	10.0	10.30	103%	10.23	102%	0.68%	75-125	0-20
Silver-Ag	10.0	10.06	101%	9.959	100%	1.01%	75-125	0-20
Selenium-Se	10.0	10.05	101%	9.970	100%	0.80%	75-125	0-20
Thallium-Tl	10.0	9.606	96%	9.500	95%	1.11%	75-125	0-20
Vanadium-V	10.0	9.881	99%	9.815	98%	0.67%	75-125	0-20
Zinc-Zn	10.0	10.76	108%	10.55	106%	1.97%	75-125	0-20

Quality Control Parameter	SAMPLE REPLICATE ANALYSIS			
Digestion Date	7/26/2012			
Analysis Date	8/1/2012			
Matrix Type	Solid			
	ECL No.:	AW00082		Control
	A	B	RPD or RSD	Limits
Units	mg/kg	mg/kg	%	%
Antimony-Sb	24888	25179	1.16%	0-20
Arsenic-As	762.9	715.2	6.45%	0-20
Barium-Ba	4925	4537	8.19%	0-20
Beryllium-Be	ND	ND	ND	0-20
Cadmium-Cd	ND	ND	ND	0-20
Chromium-Cr	ND	ND	ND	0-20
Cobalt-Co	ND	ND	ND	0-20
Copper-Cu	8346	8203	1.73%	0-20
Lead-Pb	259531	256715	1.09%	0-20
Molybdenum-Mo	92.67	86.18	7.25%	0-20
Nickel-Ni	ND	ND	ND	0-20
Silver-Ag	39.49	ND	NC	0-20
Selenium-Se	ND	ND	ND	0-20
Thallium-Tl	ND	ND	ND	0-20
Vanadium-V	ND	ND	ND	0-20
Zinc-Zn	746.8	698.6	6.68%	0-20

Note:
ND = Not Detected < Quantitation Limit
Quantitation Limit =
Lowest Calibration Standard x Dilution Factor

% RPD for Silver (Ag) could not be calculated because concentration of analyte in AW0082 B was below quantitation limit.
NC=Not Calculated

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
1449 W. Temple Street, Los Angeles, CA 90026

LABORATORY QUALITY CONTROL REPORT -- TOTAL METALS

Authorization No. : 12SC0005
ECL No.: AW00078-AW00082

Priority: 2
Page: 5 of 11

Quality Control Parameter	Matrix Spike/Matrix Spike Duplicate								
Digestion Date	7/26/2012								
Analysis Date	8/1/2012								
Matrix Type	SOLID								
	ECL No.AW00078		Matrix Spike		Matrix Spike Duplicate		MS/MSD RPD	Control Limits	
	Sample Unspiked	Spike Added	Amount Recovered	Recovery	Amount Recovered	Recovery		Recovery	RPD
Units	mg/kg	mg/kg	mg/kg	%	mg/kg	%	%	%	%
Antimony-Sb	14263	1000	15424	116%	15216	95%	1%	75-125	0-20
Arsenic-As	707.8	1000	1673	97%	1638	93%	2%	75-125	0-20
Barium-Ba	3375	1000	4624.5	125%	4568	119%	1%	75-125	0-20
Beryllium-Be	ND	1000	994.0	99%	989.5	99%	0%	75-125	0-20
Cadmium-Cd	ND	1000	938.5	94%	896.4	90%	5%	75-125	0-20
Chromium-Cr	ND	1000	1007	101%	984.2	98%	2%	75-125	0-20
Cobalt-Co	ND	1000	1022	102%	996.3	100%	3%	75-125	0-20
Copper-Cu	19835	1000	20377	**54%**	20342	**51%**	0%	75-125	0-20
Lead-Pb	304500	1000	410573	**10607%**	421690	**11719%**	3%	75-125	0-20
Molybdenum-Mo	57.75	1000	1049	99%	1020	96%	3%	75-125	0-20
Nickel-Ni	ND	1000	998.1	100%	972.3	97%	3%	75-125	0-20
Silver-Ag	ND	1000	1014	101%	982.7	98%	3%	75-125	0-20
Selenium-Se	ND	1000	978.0	98%	967.3	97%	1%	75-125	0-20
Thallium-Tl	ND	1000	960.5	96%	909.2	91%	5%	75-125	0-20
Vanadium-V	ND	1000	963.4	96%	951.3	95%	1%	75-125	0-20
Zinc-Zn	2943	1000	3875	93%	3809	87%	2%	75-125	0-20

Notes: % Recoveries for Copper (Cu) and Lead (Pb)) were outside of control limits.

ND = Not Detected<Quantitation Limit

Quantitation Limit = Lowest Calibration Standard x dilution factor

R = % RPD exceeded control limits

California Environmental Protection Agency
Department of Toxic Substances Control
Environmental Chemistry Laboratory
DEPARTMENT OF TOXIC SUBSTANCES CONTROL 49 W. Temple Street, Los Angeles, CA 90026 Telephone: (213) 977-7928

LABORATORY QUALITY CONTROL REPORT – TOTAL METALS

Authorization No.: 12SC0005 **Priority:** 2
ECL No.: AW00078-AW00082 **Page:** 6 of 11

Quality Control Parameter	Post Digestion Spike				Control Limits	Serial Dilution @ 5x			Control Limits
Digestion Date	7/26/2012					7/26/2012			
Analysis Date	8/1/2012					8/1/2012			
Matrix Type	liquid					liquid			
	ECL No.	AW00078				ECL No.	AW00078		
	Sample Unspiked	Spike Added	Amount Recovered	Recovery	Recovery	Sample	Dilution	RPD	RPD
Units	mg/kg	mg/kg	mg/kg	%	%	mg/kg	mg/kg	%	%
Antimony-Sb									
Arsenic-As									
Barium-Ba									
Beryllium-Be									
Cadmium-Cd									
Chromium-Cr									
Cobalt-Co									
Copper-Cu	19835	125000	138375	95%	80-120				
Lead-Pb	304500	125000	399000	76%	80-120	304500	307625	1.0%	0-10
Molybdenum-Mo									
Nickel-Ni									
Silver-Ag									
Selenium-Se									
Thallium-Tl									
Vanadium-V									
Zinc-Zn									

Notes: Lead (Pb) failed post digestion spike analysis, but serial dilution analysis was within criteria, indicating matrix effects on the analyte.

ND = Not Detected<Quantitation Limit
R = % RPD exceeded control limits

Quantitation Limit = Lowest Calibration Standard x dilution factor

State of California
California Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory 7
SUPPLEMENTAL ☐
(Check if Supplemental Requested)

AUTHORIZATION REQUEST FORM (ARF)

PART A : (By Requestor - PLEASE PRINT)

*Unit chief's signature required: (for Rush or TAT Level = 1)

Turnaround Time (TAT): *Rush ☐ *Level 1 ☐ 2 ☑ 3 ☐

Requestor's Name: Richard Hubbell Email: rhubbell @dtsc.ca.gov Phone (714) 816-1879
Region: 4 Unit: Enforcement Fax (714) 484-5869
Back-up Requestor: Roger Kjutz Phone (714) 484-5410
Site Name: On Target

PART B: Analytical Requests (By Requestor) (Lab uses default methods listed below. Please specify all other requests.)

Inorganic Analysis	Number of Samples/Type Solid	Liquid	Water	Other
% Dry Solids (ECL730-S)				
Acidity (305-1)				
Alkalinity (310-1)				
Anions by IC (9056)				
Chromium VI(Cr^{6+}) by Colorimetric (7196A)				
Chromium VI(Cr^{6+}) in Water by IC (7199)				
Cyanides for Wastes,Leachates (9010B)				
Hardness (130-2)				
Mercury(Hg) in Solids and Liquid (7473)				
Mercury(Hg) in (Semi)Solid Waste (7471A)				
Mercury(Hg) in Liquid Waste (7470A)				
Metals Screening by XRF				
Metals Scan (6010B, for As,Ba,Cu,Pb, etc)	5		SC	
Metals Scan (for Drinking water, 6020A)				
OrganoLead in Waste (ECL938-M)				
Particle Size (ECL740-S)				
Perchlorate for Soil,Sludge (ECL855-M)				
Perchlorate for Water (314-0)				
pH (9040B, 9045C)				
Total Dissolved Solids (160-1)				
WET(ECL910-S) ☐ Only if necessary ☐ Do it regardless				
(others, type in)				

Organic Analysis	Number of Samples/Type Solid	Liquid	Water	Other
GRO (Gasoline, 8015B)				
DRO(Diesel) only (ECL816-M)				
Motor Oil only (ECL816-M)				
DRO(Diesel) & Motor Oil (ECL816-M)				
EthyleneGlycol (ECL772-M)				
PBDEs (ECL750-M)				
PCBs (8082)				
Pesticides - Chlorinated (8081A)				
Pesticides - Organophosphate (8141A)				
1,4-Dioxane (ECL830-S)				
GC/MS Semivolatiles (8270C)				
Volatiles (8260B)				
HPLC Carbonyl Compounds (8315A)				
Explosives (8330)				
PAHs (8310)				
Dioxins/Furans by HRGC/HRMS (ECL880-M)				
Flash Point (1020A)				
Hexan				
TXO-Total Halogens in Oil (ECL792-S)				
(others, type in)				
(others, type in)				
(others, type in)				

TCLP Analysis**		Solid	Liquid	Water	Other
Metals	☑ Only if necessary ☐ Do it regardless	5		SC	
Mercury	☐ Only if necessary ☐ Do it regardless				
Volatiles	☐ Only if necessary ☐ Do it regardless				
Semivolatiles	☐ Only if necessary ☐ Do it regardless				
(others, type in)	reactivity, explosive	1			

Other Analysis	Solid	Liquid	Water	Other
Fish Bioassay (Title 22)				
Congener PCBs (ECL-CG-PCB)				
Congener PBDEs (ECL-CG-PBDE)				
(others,type in)				
(others, type in)				

Analysis Objective: Waste Characterization

Special Instructions or Comments (For Example: Detection Limit, Sample Preparation, Extraction..., etc.):
Sieve analysis for metals fine particulates

Expected Sample Arrival Date: 07/12 and 16/12 (mm/dd/yy)

PART C : (By SMO - ECL)

ARF's Revision No. ____
Authorization Number (AN): 12 SC 0005 E-ERP Initials: ____ Date: ____

Lab to Receive Sample(s): Southern California Lab, 1449 W. Temple St. Rm. 105, Los Angeles, CA 90026, Barbara Bush (213) 482-9744

ARF's Revision No. ____
Initials: ____ Date: ____

Sample Management Officer (SMO): [signature]

☐ Check box if cancelled
Initials: ____ Date: ____

Today's Date: 7/17/12 (mm/dd/yy) Expiration Date: 7/27/12 (mm/dd/yy)

If Sample(s) Directed to Contract Lab, Please Specify:
Reason:
ECL Contract Lab Manager Notification (for Rush or TAT Level =1):
ECL Personnel Confirmed: ____

Turnaround Time (TAT): * Rush for public health and safety or emergency, *Level 1 = 15 days, 2 = 30 days, 3 = 45 days.
**TCLP : If time permits and sample matrix type is appropriate, lab may analyze or screen the sample(s) first to determine if TCLP is needed.
Reference: ECL User's Manual.

ECL01 (REV 01/11)

State of California
California Environmental Protection Agency

Department of Toxic Substances Control
Environmental Chemistry Laboratory

ENVIRONMENTAL CHEMISTRY LABORATORY SAMPLE ANALYSIS REQUEST	1. Authorization Number 12SC0005EERP	ECL No.: AW00078 To AW00082	2. Page 1 of 1

3. Requestor: (to Receive Results) a. Name: Richard Hubbell
b. Address: 5796 Corporate Ave. (street number)
Cypress, CA 90630 (city, state, zip)
c. Phone: (714) 816-1979 (area code first) d. Fax: (714) 484-5369 (area code first)
e. Email: Richard.Hubbell @dtsc.ca.gov

4. Project Name (if applicable): On Target Indoor Shooting Range

5. TAT Level: 2

6. Sampling Information: a. Date/Time Sampled: 07/11/12 (mm/dd/yy) 10:00 AM (#:## AM/PM)
b. Location: EPA ID No. CAL000307897
Site: On Target Indoor Shooting Range
Address: 27692 Camino Capistrano (street number)
Laguna Niguel, CA, 92677 (city, state, zip)
GPS-Lat: GPS-Long:
GPS-Alt: GPS-Depth:

7. Codes (select from drop down list or fill in if applicable)
a. Unit E&ERP-Enforcement(Cypress)
b. INDEX 6630
c. PCA 36322
d. MPC 212
e. SITE 551292
f. County 30--Orange

8. Samples:

	a. ID	b. Collector's No.	c. ECL No.	d. Matrix	e. Container Size	f. Number of containers	g. Preservative / Field Information
1	OTISR#1		AW00078	Solid	4 oz	1	Behind Bay 2
2	OTISR#2		AW00079	Solid	4 oz clear glass jar	1	Floor sweepings, reactive
3	OTISR#3		AW00080	Solid	4 oz clear glass jar	1	Lead #1
4	OTISR#4		AW00081	Solid	4 oz clear glass jar	1	Lead #2
5	OTISR#5		AW00082	Solid	4 oz clear glass jar	1	Lead #3
6							
7							
8							
9							

9. Analysis Requested: Enter sample IDs and sample ID ranges separated by commas. For example, 1-3, 5-7, 9

a. Inorganic Analysis	Sample(s) ID	b. Organic Analysis	Sample(s) ID
Metals Scan (ICP-AES, 6010B or 6010C)	OTISR#1		
Metals Scan (ICP-AES, 6010B or 6010C)	OTISR#2		
Metals Scan (ICP-AES, 6010B or 6010C)	OTISR#3		
Metals Scan (ICP-AES, 6010B or 6010C)	OTISR#4		
Metals Scan (ICP-AES, 6010B or 6010C)	OTISR#5		
Other Metals:			
c. TCLP Analysis		d. Other Analysis	

e. Comments for Multiphasic Samples/Analysis Priority:

10. Analysis Objective: Waste Classification

11. Detection Limit Requirements: (Check ECL User's Manual to assure default DL is sufficient.)

FIELD

12. Supplemental Requests: Enter sample IDs as described in Item 9

Desired Analysis	Sample(s) ID

Initials
Date

ECL

13. ECL Lab Remarks: Particle size was done on all 5 samples. A.T. 7/24/2012

LAB

14. Chain of Custody:

	Name	Title	Signature	Inclusive Dates of Custody		
a.	Richard Hubbell	HSS	Richard Hubbell	7/11/2012	to	7/19/2012
b.	Barbara Bush	Lab Tech	Barbara Bush	7/15/12	to	
c.					to	
d.					to	
e.					to	
f.					to	
g.					to	

COC

ENVIRONMENTAL CHEMISTRY LABORATORY - LOS ANGELES
1449 W. TEMPLE STREET
LOS ANGELES, CA 90026
(213) 977-7928

REVISION NO. 1, FEB 2012

SAMPLE RECEIPT

AUTHORIZATION NO. 125C0005 DATE RECEIVED 7/19/12

ECL SAMPLE NO(s). AW00078-82 RECORDED BY B Bush

CUSTODY SEALS [X] PRESENT [ ] ABSENT [ ] BROKEN

Circle (All) Partial All Partial On _____ Lab No.

SAMPLE CONDITION

1. [X] Acceptable
2. [ ] Sample container received damaged
3. [ ] Sample received in improper container
4. [ ] Insufficient sample volume/weight for analysis
5. [ ] Sample container not labeled or illegibly labeled
6. [ ] Discrepancies between the ARF and the SAR
7. [ ] Sample Analysis Request form not received with the sample(s)
8. [ ] Sample Analysis Request form not completed
9. [ ] Chain of custody not complete
10. [ ] Sample received without proper preservation
11. [ ] No information on sample preservation
12. [ ] Other (Specify) _____

CORRECTIVE ACTION TAKEN

- [ ] None
- [ ] Sample analysis on hold for more info.
- [ ] Inform sample collector of problem
- [ ] Sample analyzed as received
- [ ] Other (Specify) _____

To Project Managers - Be AWARE!

- [ ] Samples were not deliver to LAB promptly after collection. Sample holding times may not be met.
- [ ] Samples were not properly packed causing breakage and leakage.
- [ ] LAB was not informed of your special requests or special sample container (e.g., EnCore samplers).

In order for the Lab to handle your analyses efficiently, please avoid these problems from happening again.

	Date	CONTACTS MADE: FAXES, PHONE CALLS, E-MAILS, ETC.	Initial
1.			
2			
3			
4			

A400082
A400081

WESTCOTT

AW00080

AZ00079

WESTCOTT

AZ00078

WESTCOTT

Matthew Rodriquez
Secretary for
Environmental Protection

Department of Toxic Substances Control

Deborah O. Raphael, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

MEMORANDUM

TO: Rich Hubbell
Hazardous Substances Scientist
Enforcement and Emergency Response Program (EERP)

FROM: David T. Matsumoto, M.S., CIH / CSP DTM
Associate Industrial Hygienist
Health and Safety Program (HSP)

DATE: December 27, 2012

SUBJECT: On Target Indoor Shooting Range
27692 Camino Capistrano, Laguna Niguel, CA 92677
Inspection and Sampling
PCA Code: 36322 Site Number: 551292 Work Phase: 48

BACKGROUND

The Health and Safety Program (HSP), Region #4, provided industrial hygiene and field safety support for the Enforcement and Emergency Response Program (EERP), Region #4, during a field visit to conduct a facility inspection and potential sampling activities at On Target Indoor Shooting Range, 27692 Camino Capistrano, Laguna Niguel. Planned sampling and field activities were in response to a complaint by a former employee alleging operations resulting in the release of lead and other metals from the facility. The objective of the inspection was to conduct a preliminary assessment of the operations and to determine the presence and release of potentially elevated levels of hazardous substances (primarily lead and other metals) from the facility. Air monitoring and air sampling support was provided for field staff during the field visit. As the name suggests, On Target Indoor Shooting Range is an indoor, live ammunition shooting range.

DTSC PERSONNEL PRESENT

1. Rich Hubbell, Hazardous Substances Scientist (HSS), Enforcement and Emergency Response Program, Cypress
2. Roger Kintz, Supervising Hazardous Substances Scientist II (HSS II), Enforcement and Emergency Response Program, Cypress
3. David Matsumoto, Associate Industrial Hygienist, Health and Safety Program, Cypress

Printed on Recycled Paper

SITE VISIT

The purpose of the HSP site visit conducted on Thursday, July 5, 2012, was to provide industrial hygiene and field safety support as well as real time air monitoring and personal air sampling for DTSC field personnel during the initial walk through assessment and for sampling activities. This included predominantly breathing zone and area monitoring and sampling during all field activities.

Prior to entry onto the facility, the HSP representative, David Matsumoto, obtained background readings (see Tables I - IV) for gamma radiation and total particulates, utilizing a Ludlum 19 and a Data RAM, respectively. In addition, background readings for lower explosive limits (LEL), oxygen (O_2), carbon monoxide (CO), hydrogen sulfide (H_2S) and total ionizables present (TIP) were taken with an MSA Sirius photoionization / electrochemical sensor / combustible gas detector. Background levels and meteorological data were obtained west of the facility across the street and in the facility parking lot.

DTSC personnel arrived on site at approximately 1055 hours. Upon the arrival of the facility owner, Mr. Gregg Bouslog, an opening conference was conducted with DTSC staff Roger Kintz, Supervising HSS II, Rich Hubbell, HSS and Mr. Matsumoto. The purpose and intent of the visit, specific areas to be inspected and documents to be reviewed were disclosed and limited consent was granted for a walk through of the facility to the extent that it was deemed safe to do so, without significantly impacting business operations.

Air monitoring for total particulates, CO, O_2, H_2S, LEL and total ionizables was conducted in all accessible areas. Readings were taken above visible, open and accessible areas, potential spill or release areas, in and around accessible areas of tanks, containers and vessels, as well as at distances of approximately four to five feet above the ground surface, representative of the breathing zone as applicable. air samples for particulates in the breathing zone, to be analyzed for lead and arsenic, were also taken. In addition, all accessible areas were screened for gamma radiation. Specific locations and readings are indicated in Tables I - IV.

Personal protective equipment utilized by the DTSC team was Level D consisting of impact resistant safety glasses, American National Standards Institute (ANSI) approved compression resistant boots and hard hat, nitrile surgical gloves 9as needed), Tyvek coveralls (KleenGuard) and boot covers.

Based on the findings of the walk through inspection, bulk sampling was scheduled for Wednesday, July 11, 2012.

At approximately 0840 hours, prior to entry onto the facility on Wednesday, July 11, 2012, Mr. Matsumoto, obtained background readings (see Tables I - IV) for total particulates and meteorological data from a location west of the facility across the street, and later, in the facility parking lot. In anticipation of elevated temperatures, baseline biological (heart rate) monitoring was also obtained prior to field sampling activities (see Tables V). Air monitoring for total particulates, was conducted during sampling activities, particularly in the breathing zone (see Table IV). Personal air samples were also collected to be analyzed for lead and arsenic (see Appendix A).

Personal protective equipment utilized by the DTSC team was Level C consisting of impact resistant safety glasses, American National Standards Institute (ANSI) approved compression resistant boots and hard hat, nitrile surgical gloves, Tyvek coveralls (KleenGuard), boot covers and a half-face, MSA 200LS dual cartridge, air-purifying respirator with P-100 cartridges.

METHODS AND INSTRUMENTATION

MIE *personalDataRAM*™ model pDR-1000AN - The MIE *personalDataRAM*™ (for Data-logging Real-time Aerosols) is designed to measure the concentration of airborne particulate matter (liquid or solid), providing direct and continuous readout. The *personalDataRAM*™ is a high sensitivity nephelometric (i.e. photometric) monitor whose light scattering sensing configuration has been optimized for the measurement of the respirable fraction of airborne dust, smoke, fumes and mists in industrial and other indoor environments. The model pDR-1000AN samples the air surrounding the monitor passively (i.e., without a pump); air accesses the sensing chamber of the instrument freely by means of convection, diffusion, and adventitious air motion. It has a concentration measurement range from 0.001 to 400 mg/m^3 and the instrument is zeroed prior to each field visit.

Ludlum Model 19 Micro R – The Ludlum is intended to quantify low-level gamma radiation utilizing an internally mounted 1" X 1" NaI (T1) scintillator crystal to offer an optimum performance in counting low-level gamma radiation. The crystal creates light pulses as gamma radiation passes through the crystal. Below the crystal, a photomultiplier tube amplifies and measures the light pulses which are translated into micro Roentgen per hour (μR/hr). There are five scales from which the operator may select the appropriate range in the 1 – 5000 micro R/hr spectrum.

MSA Sirius - The MSA Sirius is a combination photoionization (PID) and multi-gas detector. PID's operate by using ultraviolet light (UV) to ionize (remove electrons) constituents present within the sample air stream. Components in the sample are ionized producing an instrument response if the ionization potential (IP) of the constituent is equal to or less than the ionizing energy of the UV lamp being utilized. The UV light produces an ion pair for each molecule of contaminant ionized and these free electrons produce a current directly proportional to the number of ions produced. This current is then amplified, detected and displayed on the meter. The instrument utilized was equipped with a 10.6 e.v. lamp and was calibrated with 100 part per million isobutylene gas. Readings are interpreted as units relative to the calibration gas [relative response units (RRUs)].

The multi-gas detector is equipped with lower explosive limit (LEL), oxygen (O_2), hydrogen sulfide (H_2S) and carbon monoxide (CO) sensors. The LEL sensor operates on a heat-of-reaction principle where the ambient air to be monitored diffuses through a sintered metal disc into the sensor. Here, combustible gases are ignited catalytically by a heated detector element.

Oxygen required for combustion is taken from the ambient air. The heat generated by the combustion during this process is transferred to the detector element, resulting in a change in the resistance of the detector element. This change is proportional to the concentration of the combustible gases.

In addition to the catalytically active detector element, the sensor also includes an inactive compensator element which is also heated from the combustion process. Both elements form the components of a Wheatstone bridge circuit. Thermal influences from the environment such as air temperature, humidity and the thermal conductivity of the ambient air being monitored affect both elements identically. This results in an almost complete compensation of these influences on the measuring signal. The voltage measured at the sensor is then amplified by the instrument's electronics and is displayed in % LEL.

Oxygen and toxic gases are detected via electrochemical sensors. All electrochemical sensors function according to a similar principle; an acid electrolyte contains a working electrode (anode), a counter electrode and a reference electrode. A potentiostat provides for a constant voltage

between the working electrode and the reference electrode. The voltage is selected so that the H_2S or CO contained in the ambient air is oxidized at the anode. The current that flows through the sensor is proportional to the gas concentration respectively.

SKC Airchek 2000 Pump – The SKC Airchek 2000 pump is an advanced programmable sampling pump that combines lightweight compact design, computer-compatible circuitry and an internal flow sensor. Accuracy for timing is 1 minute per month at 25 degrees centigrade and +/- 3% for flowrate. It is calibrated utilizing an SKC DryCal DC-Lite calibrator which is an ultra compact, field portable primary air flow meter. The DC-Lite uses a patented near-frictionless piston technology and photo optic sensors to obtain volumetric flow rates quickly and accurately.

NIOSH (National Institute for Occupational Safety and Health) Manual of Analytical Methods (NMAM) #7082, Lead – Air sampling and analysis for elemental lead and lead compounds was conducted in conformance with NIOSH Method #7082. This method is applicable for the determination of employee exposures in work place environments and has been developed or adapted by NIOSH or its partners and have been evaluated according to established experimental protocols and performance criteria. Cassette air filters were utilized for sample collection appropriate for Method #7082.

OSHA (Occupational Safety and Health Administration) Method #ID-105, Inorganic Arsenic – Air sampling and analysis for inorganic arsenic was conducted in conformance with OSHA Method #ID-105. This method is applicable for the determination of employee exposures in work place environments and has been developed or adapted by OSHA or its partners and have been evaluated according to established experimental protocols and performance criteria. Cassette mixed cellulose filters were utilized for sample collection appropriate for OSHA Method #ID-105.

RESULTS

Air monitoring results for particulates, gamma radiation, total ionizables present (TIP), lower explosive limit (LEL), oxygen (O_2), carbon monoxide (CO), hydrogen sulfide (H_2S) and total particulates are presented in Tables I - IV. All readings for exposure to TIP (action level = 5 relative response units), LEL (action level =10 %), O_2 (action level <19.5 or >23.0 %), CO (action level = 12.5 ppm), H_2S (action level = 5 ppm) and total particulates (action level = as close as possible to background) were consistent with or below the action level in the breathing zone.

Level C consisting of Tyvek coveralls (KleenGuard), ANSI approved impact resistant safety glasses, nitrile surgical gloves, American National Standards Institute (ANSI) approved compression resistant boots and a half-face, MSA 200LS dual cartridge, air-purifying respirator with P-100 cartridges was donned by the DTSC sampling team during sampling activities. P-100 cartridges are high efficiency particulate air (HEPA) filters, capable of filtering 99.97 percent of monodisperse particulates up to 0.3 microns in diameter.

The calculated eight hour time weighted average (TWA) exposure of 1.6 ug/m^3 (micrograms per meter cubed) for the walk through of July 5, 2012 and 01. ug/m^3 for the sampling activities on July 11, 2012, are significantly lower than the permissible level of 50 ug/m^3 for exposure to lead. Likewise, 0.12 ug/m^3 and 0.004 ug/m^3 for the same activities are significantly lower than the permissible level of 10 ug/m^3 for exposure to arsenic.

CONCLUSIONS / RECOMMENDATIONS

The HSP participation in the industrial hygiene, field safety, air monitoring and air sampling support operations performed on July 5 and 11, 2012 occurred without incident. All readings and/or calculations for exposure to gamma radiation, TIP, LEL, O_2, CO, H_2S and total particulates (lead and arsenic) were consistent with background or below DTSC action levels in the breathing zone. No documented exposures or injuries were reported by DTSC personnel during the completion of field operations for the On Target Indoor Shooting Range, 27692 Camino Capistrano, Laguna Niguel.

Thank you for the opportunity to participate in the field activities and to provide industrial hygiene and field safety assistance. HSP is available to discuss the specific comments, recommendations and approach. Should questions arise regarding this report and/or related issues, please contact David T. Matsumoto at (714) 484-5404.

PEER REVIEW BY: Kathleen S. Wahl

Kathleen Yokota - Wahl, CIH
Senior Industrial Hygienist

cc: Site File
HSP

TABLES

TABLE I

METEOROLOGICAL DATA 07/05/12

Time	Location	Temperature	Relative Humidity	Aver. Wind Speed	Max. Wind Speed	Wind Direction
10:50 AM	West of Facility Along Camino Capistrano - Background	66.1° F	80%	1.0 MPH	3.4 MPH	Slight From East
01:45 PM	Facility Parking Lot	65.0° F	79%	5.7 MPH	2.8 MPH	Slight From East

TABLE II

IONIZING RADIATION DATA 07/05/12

Time	Location	Ludlum 19 (uR/Hr)	Comments
10:46 AM	West of Facility Along Camino Capistrano – Background	12	#56743
11:03 AM	Facility Parking Lot	10	#56743
12:09 PM	Maintenance Area; Rear Backstop Area	10	#56743
12:28 PM	Roof Top at Access Point	7	#56743
01:19 PM	In Firing Range Area to Bay #1	10	#56743

TABLE III

MSA SIRIUS DATA 07/05/12

Time	Location	LEL %	O2 %	CO (ppm)	H2S (ppm)	TIP (RRU)
10:50 AM	West of Facility Along Camino Capistrano - Background	0	20.8	0	0	0
11:03 AM	Facility Parking Lot	0	20.8	0	0	0
12:09 PM	Maintenance Area; Rear Backstop Area	0	20.8	0	0	0
12:28 PM	Roof Top at Access Point	0	20.6	0	0	0
01:19 PM	In Firing Range Area to Bay #1	0	20.6	0	0	0

TABLE IV

DATARAM DATA 07/05/12

Time	Location	Real Time Concentration (mg/m³)	TWA Concentration (mg/m³)	Comments
10:45 – 10:50 AM	West of Facility Along Camino Capistrano - Background	0.017 – 0.022	0.018	#5443
11:05 AM	Facility Parking Lot	0.022	0.023	#5443
11:08 AM	Facility Parking Lot	0.025 – 0.032	0.023	#5443
11:09 AM	Rain Gutter Drain Spout – Breathing Zone, Kintz	0.025	0.023	#5443
11:17 AM	Retail Area	0.017 – 0.024	0.023	#5443
12:06 PM	Briefing Room	0.022 – 0.026	0.023	#5443
12:09 PM	Prior to Entry into Maintenance Areas	0.022 – 0.023	0.023	#5443
12:09 PM	Maintenance Area; Rear Backstop Area	0.034 – 0.054	-	#5443
12:11 PM	Maintenance Area; Rear Backstop Area	0.059 – 0.067	0.023	#5443
12:12 PM	Maintenance Area; Rear Backstop Area	0.017 – 0.032	0.023	#5443
12:14 PM	Maintenance Area; Rear Backstop Area; Breathing Zone – Kintz and Hubell	0.022 – 0.024	-	#5443
12:16 PM	Outside of Maintenance Area; Rear Backstop Area	0.016 – 0.018	0.023	#5443
12:17 PM	Outside of Maintenance Area; Rear Backstop Area	0.023 – 0.067	0.023	#5443
12:22 PM	XRF Sample #6; Breathing Zone	0.025 – 0.048	0.023	#5443
12:28 PM	Roof Top at Access Point	0.017 – 0.023	0.023	#5443

* Highest Instantaneous Readings During Activity
** Time Weighted Average (TWA)

TABLE IV (CONTINUED)

DATARAM DATA 07/05/12

Time	Location	Real Time Concentration (mg/m³)	TWA** Concentration (mg/m³)	Comments
12:29 PM	Roof Top - Survey	0.011 – 0.013	0.022	#5443
12:34 PM	Roof Top - Survey	0.008– 0.014	0.022	#5443
12:37 PM	Roof Top XRF Reading, Breathing Zone, Kintz	0.012	0.022	#5443
12:39 PM	Rain Gutter - Roof Top, Breathing Zone, Kintz	0.009 – 0.011	0.021	#5443
12:47 PM	Roof Top by Air Handler, Breathing Zone, Kintz	0.006 – 0.011	0.020	#5443
12:51 PM	Roof Top - Edge, Breathing Zone, Kintz	0.002 – 0.009	-	#5443
12:57 PM	Roof Top by Air Handler Intake, Breathing Zone, Kintz	0.007 – 0.015	0.020	#5443
01:19 PM	In Firing Range Area to Bay #1	0.013 – 0.019	-	#5443
01:19 PM	In Firing Range Area to Bay #1	0.026 – 0.034	0.019	#5443
01:19 PM	In Firing Range Area in Bay #1	0.015 – 0.016	0.019	#5443
01:22 PM	In Firing Range Area in Bay #1	0.006 – 0.014	0.019	#5443
01:23 PM	In Front Firing Range Area in Bay #1; Breathing Zone	0.003 – 0.004	-	#5443
01:26 PM	Above Firing Range Area, Breathing Zone, Kintz	0.007 – 0.009	0.018	#5443
01:27 PM	In Firing Range Area	0.019 – 0.022	0.018	#5443
01:29 PM	Front Entry Area	0.014 – 0.016	0.018	#5443
01:45 PM	End	-	0.017	#5443

* Highest Instantaneous Readings During Activity
** Time Weighted Average (TWA)

TABLE I

METEOROLOGICAL DATA 07/11/12

Time	Location	Temperature	Relative Humidity	Ave. Wind Speed	Max. Wind Speed	Wind Direction
08:43 AM	West of Facility Along Camino Capistrano - Background	76.0° F	65%	2.6 MPH	0.7 MPH	Slight From North
10:00 AM	Parking Lot Staging Area	78.0° F	57%	2.0 MPH	0.9 MPH	Slight From North

TABLE II

IONIZING RADIATION DATA 07/11/12

Time	Location	Ludlum 19 (uR/Hr)	Comments
N/A	N/A	N/A	N/A

TABLE III

MSA SIRIUS DATA 07/11/12

Time	Location	LEL %	O $_2$ %	CO (ppm)	H_2S (ppm)	TIP (RRU)
N/A	N/A	N/A	N/A	N/A	N/A	N/A

TABLE IV

DATARAM DATA 07/11/12

Time	Location	Real Time Concentration (mg/m³)	TWA Concentration (mg/m³)	Comments
08:40 – 08:43 AM	West of Facility Along Camino Capistrano - Background	0.051	0.058	#5443
09:45 AM	Facility Parking Lot, Staging Area	0.028 – 0.030	0.037	#5443
09:55 AM	Facility Parking Lot, Staging Area	0.029 – 0.031	0.031	#5443
10:01 AM	Maintenance Area; Rear Backstop Area, Sampling	0.029 – 0.060	0.038	#5443
10:12 AM	Maintenance Area; Rear Backstop Area, Sampling	0.049 – 0.060	0.036	#5443
10:13 AM	Maintenance Area; Rear Backstop Area, Sampling	0.084 – 0.157	0.038	#5443
10:19 AM	Maintenance Area; Rear Backstop Area, 1 Foot Above Bucket	0.020 - 0.270	0.037	#5443
10:21 AM	Maintenance Area; Rear Backstop Area, 1 Foot Above Bucket	0.028 - 0.031	0.036	#5443
10:24 AM	Opening Bucket, Breathing Zone, Hubbell	0.023 - 0.028	0.036	#5443
10.25 AM	Opened Bucket	0.020 – 0.051	0.035	#5443
10.27 AM	Opened Bucket	0.018 – 0.027	0.035	#5443
10.31 AM	Lead Bucket #1	0.016 – 0.079	0.034	#5443
10:34 PM	Lead Bucket #2	0.014 – 0.021	0.033	#5443
10:44 PM	Parking Lot	0.012 – 0.015	0.030	#5443
10:47 PM	End	0.022 – 0.023	0.030	#5443

* Highest Instantaneous Readings During Activity
** Time Weighted Average (TWA)

TABLE V

BIOLOGICAL MONITORING DATA 07/11/12

Time	Personnel	Beats Per Minute	Comments
09:45 AM	Rich Hubbell	80	At Rest
09:45 AM	David Matsumoto	92	At Rest
10:47 AM	Rich Hubbell	108	End
10:45 AM	David Matsumoto	118	End

APPENDIX A

	07/05/12	07/05/12	07/11/12	07/11/12
Personnel	Rich Hubbell	David Matsumoto	Rich Hubbell	David Matsumoto
Pump Serial No.	03747	03739	03747	03739
Sample No.	**WT-1**	**WT-2**	**S-1**	**S-2**
Start Time	12:04 PM	12:05 PM	10:04 AM	10:04 AM
End Time	01:35 PM	01:36 PM	10:39 AM	10:39 AM
Duration of Sample	90 Minutes	89 Minutes	34 Minutes	34 Minutes
Initial Calibration	3.012 L/min.	3.008 L/min.	2.993 L/min.	3.013 L/min.
End Calibration	2.998 L/min.	3.009 L/min.	2.950 L/min.	3.0 L/min.
NIOSH Method	7082/OSHA ID 105	7082/OSHA ID 105	7082/OSHA ID 105	7082/OSHA ID 105
Flow Rate	3.009 L/min.	3.009 L/min.	2.998 L/min.	2.998 L/min.
Volume	269.8 L	267.8 L	100.3 L	102.0 L
Filter	Air/MCE	Air/MCE	Air/MCE	Air/MCE
Total (mg) Lead	< 0.002	< 0.002	< 0.002	<0.0039
Concentration (mg/m^3)	< 0.0074	< 0.0074	< 0.020	< 0.039
Cal OSHA PEL (mg/m^3)	0.05	0.05	0.05	0.05
Total (mg) Arsenic	<0.00015	<0.00015	<0.00015	<0.00015
Concentration (mg/m^3)	< 0.00056	< 0.00056	< 0.0015	< 0.0015
Cal OSHA PEL (mg/m^3)	0.01	0.01	0.01	0.01

SUBMITTAL FORM/*Laboratory Services*

151915

PAGE ___ OF ___

TURNAROUND TIME: STD. X 48 HR. ___ 24 HR. ___ <8 HR. ___ WKND ___ OTHER: ___

RELINQUISHED BY D. Matsumoto

TIME / DATE 07/11/12 2:05PM

CLIENT Dept. of Toxic Substances (DTSC)

DATE OF SHIPMENT 07/11/12 CARRIER Fed Ex

ADDRESS 5796 Corporate Ave. Cypress, CA 90630

CLIENT P.O. NO.

CLIENT JOB/PROJECT ID NO(S).

TELEPHONE 714.484.5404

CONTACT David Matsumoto

PACKAGE SHIPPED FROM

RESULTS REQUESTED VIA VERBAL ☐ FAX ☐ E-MAIL ☒ E-MAIL David.Matsumoto@dtsc.ca.

(NOTE: Complete written reports will follow all analyses, in addition to any prior transmitted verbal, fax or e-mail results) FAX NO. 714-484-5302

DATE/TIME OF SAMPLE COLLECTION 07/05/12 - 07/11/12

SAMPLE PRESERVATIVES N/A HOLDING TIMES N/A

NO. OF SAMPLES SENT 6 SAMPLER'S NAME D. Matsumoto (SIGNATURE) / David Matsumoto (PRINTED)

TYPE: ☐ WATER ☐ WASTE WATER ☐ SOIL ☒ FILTER ☐ SORBENT TUBE ☐ IMPINGER ☐ OTHER

(FOR EMS ONLY) EMS Sample No.	CLIENT SAMPLE NO.	DESCRIPTION/LOCATION/ANALYSIS		VOLUME TIME WEIGHT
151915-1	WT-1	Walk Through Inspection	Lead*/Arsenic	269.8L
	WT-2	Walk Through Inspection	Lead*/Arsenic	267.8L
	S-1	Sampling	Lead*/Arsenic	100.3L
	S-2	Sampling	Lead*/Arsenic	102.0L
	B-1	Blanks Field	—	—
6	B-2	Blanks Field	—	—

*(Lead by AA, spectro, Flame) $8.00/Sample

15 lines

(SF 6/07)

FOR EMS ONLY

Laboratory No. 151915

Received By [illegible] Time 930 AM

Date of Package Delivery 07.12.12

Shipping Bill Retained: YES ☒ NONE ☐

Condition of Package on Receipt OK

Condition of Custody Seal Intact

(NOTE: If the package has sustained substantial damage or the custody seal is broken, stop and contact the project manager and the shipper.)

No. of Samples 6

Chain-of-Custody Signature [illegible]

Date of Acceptance into Sample Bank 07.12.12

Misc. Info.

Disposition of Samples EMS

Laboratory Report

Sample Info

Date of Analysis:	7/17/2012
Lab ID:	151915
Client:	DTSC
Date Received:	7/12/2012
Project Number:	NA
Analyte:	Pb
Matrix:	AIR FILTER
Method:	NIOSH 7082,ISSUE 2
Comments:	

Reporting Limit (ug):	2
Method blank (ug):	<2

Sample Results

Sample Name	*Air Volume (L)*	*Pb Weight (ug)*	*Pb Concentration (ug/m^3)*
WT-1	**270**	**< 2**	**< 7.4**
WT-2	**268**	**< 2**	**< 7.5**
S-1	**100**	**< 2**	**< 20**
S-2	**102**	**3.9**	**39**
B-1	**Blank**	**< 2**	**N/A**
B-2	**Blank**	**< 2**	**N/A**

Chemist: Fish

Chemistry Report

Date of Analysis:	7/17/2012
Lab Number:	151915
Client:	DTSC
Date Received:	7/12/2012
Project Number:	NA
Analyte:	As
Matrix:	MCE Filter
Method:	OSHA ID 105
Comment:	
Reporting Limit (µg):	0.15
Blank (µg):	<0.15

Sample ID	Air Volum (liter) As	Weight (µg)	Concentration (µg/m³)
WT-1	270	< 0.15	0.56
WT-2	268	< 0.15	0.56
S-1	100	< 0.15	1.5
S-2	102	< 0.15	1.5
B-1	Blank	< 0.15	NA
B-2	Blank	< 0.15	NA

Results are corrected for the field blank or EMS blank if the analyte is detected in the blank.
NA: Not Applicable
µg: microgram

Chemist