

United States Department of Agriculture Office of the Assistant Secretary for Administration Policy Analysis and Coordination Center

Human Resources Management

NOV 1 8 1997

Keith Brown, Ph.D., Health Physicist U.S. Nuclear Regulatory Commission Region I 475 Allendale Road King of Prussia, Pennsylvania 19406 Safety and Health Management Division

Radiation Safety Staff 4700 River Road, Unit 91 Riverdale, MD 20737 Phone: 301-734-4945 Fax: 301-734-5050

030-04530 19-00915-03

Dear Keith:

The enclosed "Report on Site Remediation Activities," by New World Technology, describes the remediation actions and radioactive contamination surveys performed by USDA to decommission the radioactive waste burial site at the USDA National Agricultural Water Quality Laboratory in Durant, Oklahoma. Our remediation activities identified and removed residual radioactive waste from the burial site. Soil and water samples taken from the site were analyzed for radioactivity and showed no contamination levels distinguishable from background. We request that the Durant, Oklahoma, site be released for unrestricted use.

The USDA is donating this property to Southeastern Oklahoma State University. The enclosed letter from Glen Johnson, the University's President, indicates that the University is scheduled to begin renovations on the property on January 15, 1998. The USDA will transfer the property after the Nuclear Regulatory Commission releases the site for unrestricted use. Please expedite this request so that we can transfer the property to the University by January 15, 1998.

If you have any questions, please contact me on 301-734-4945.

Sincerely,

John/T. Jensen Director Radiation Safety Staff

Enclosures

cc: C. Onstad, AD SPA J. Williams, AAO SPA P. Smith, ASHM SPA A. Schipper, RSC W. Horner, RSC Location File

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NOV 20 1997

Durant USDA AG 97-001 July 1997

REPORT ON SITE REMEDIATION ACTIVITIES

FINAL REPORT

USDA NATIONAL AGRICULTURAL WATER QUALITY LABORATORY

Durant, Oklahoma

Project Number AG 97-001

Prepared Under Contract To

Department of the Army Headquarters, U.S. Army Industrial Operations Command

By

New World Technology 1236 Concannon Blvd. Livermore, CA 94550

New World Technology

USDA Durant AG 001-97

Summary

The United States Department of Agriculture (USDA) operated a research laboratory, the National Water Quality Laboratory (NWQL), in Durant Oklahoma. As a part of the facilities research mission, radioactive materials, specifically carbon-14 (C-14) and hydrogen-3 (H-3) labeled tracers were used. Also, the NWQL buried radioactive waste materials on it's campus under former 10 CFR 20.304 and 20.302 which authorized the land burial of radioactive waste by Nuclear Regulatory Commission (NRC) licensees. On January 28, 1981, the NRC determined it was inappropriate to continue generic authorizations for burial of radioactive waste and rescinded 10 CFR 20.304. The NWQL closed on September 27, 1996 and the property was transferred by the U.S. Congress to the South Eastern Oklahoma State University.

As part of the USDA's decommissioning efforts, New World Technology (NWT), under contract to the U. S. Army Industrial Operations Command (IOC), was commissioned to sample, survey, remove, package and transport waste contaminated with radioactive materials from a locker and a burial site at the south east corner of the campus. This report describes the actions taken by NWT to complete the USDA's decommissioning of the NWQT in Durant, Oklahoma.

The field work was completed, the materials were removed and transported to the Chem-Nuclear facility at Barnwell South Carolina for eventual disposal. All samples, soil and water, from the burial site indicated no detectable concentrations of Carbon 14, the isotope of concern, greater than the predetermined regulatory release limits.

All on site activities were performed under the New World Technology Radioactive Materials license as issued by the state of California, an Agreement state, under reciprocity with the U. S. Nuclear Regulatory Commission.

USDA Durant AG 001-97

Scope

New World Technology (NWT) was contracted by the U. S. Army Industrial Operations Command (IOC) to sample, survey, remove, package and transport waste contaminated with radioactive materials from a locker and a burial site at the south east corner of the campus. Carbon-14 (C-14) labeled items were removed from the burial sites at the NWQL in Durant, Oklahoma as described in the letters dated May 15, 1996 and June 11, 1996, Appendix A. Contaminated items listed in Appendix B were removed from the locker and shipped for disposal.

The C-14 contamination consisted of approximately 80 microcuries of radioactivity existing on laboratory equipment and laboratory trash. The materials were disposed of by land burial, in July of 1980, on the USDA property, as allowed under regulations in effect at that time.

The waste was described as being disposed of in a five gallon metal container, buried in a remote corner of the facility. The materials were buried in an auger hole, covered with soils, capped with concrete and the location identified with a fence post and placard indicating the presence of the radioactive materials. The waste materials were described as being at a depth of four to six feet below ground surface. Figure 1 is a map showing the location of the disposal site on the facility grounds.

On site work was performed under the NWT Radioactive Materials License, issued by the state of California, an Agreement State, with reciprocity from the regional office of the U. S. Nuclear Regulatory Commission.

Removal Actions

A crew was mobilized to site 6 May 1997. Entry bioassay samples for the crew were obtained (urine) prior to initial site activities. The work area was posted to warn of the potential hazards, and lay down areas prepared for the removed soils, one for upper soils, with a lower potential for contamination to be present, and one for soils below three feet of ground surface.

Project specific training was conducted in conjunction with a review of the site Health and Safety plan. Training was completed 5 May 1997. All work performed was in compliance with, and under the requirements of NWTs' State of California Radioactive Materials license, specifically the sections covering field removal of radioactive materials.

A dose rate survey was performed indicating an average site exposure rate of ~ 7 microRem (ur/hr), consistent with background levels at other areas of the facility

Durant USDA AG 001-97

and expected dose rates with C-14 as the only identified radioisotope. See Figure 2.

Excavation of the soils commenced following site set up and preparation of all equipment.

Soils from the initial three feet of the excavation were removed and segregated. The remaining soils were removed in smaller lifts, again segregated, until a depth of approximately five feet at the center of the excavation was achieved. Manual excavation of soils at the center of the excavation, the suspected location of the materials, was continued. The back hoe was utilized as necessary to expand the perimeter of the excavation to maintain the appropriate slope to the exterior walls of the excavation.

At a depth of approximately 5.5 to 6 feet, the bottom of the excavation began filling with water. The source of the water appeared to be ground water and it maintained a depth of approximately 1 foot in the bottom of the excavation.

Small pieces of styrofoam appeared floating on the surface of the water. The styrofoam fragments were collected and bagged for disposal. A sample of the water was obtained for analysis.

Manual probing of the bottom of the excavation indicated that additional materials appeared to be present. Further manual removal of small quantities of soils uncovered a small styrofoam cooler containing a variety of laboratory glassware. The lid of the cooler was broken and appeared to be the source of the styrofoam fragments noted earlier.

Upon further probing, a second cooler and a black plastic trash bag containing additional laboratory glassware and petri dishes were located. All identifiable foreign items were removed from the excavation and allowed to drain. An additional water sample was obtained from the liquid drained from the materials.

Once all identifiable material was removed from the excavation and allowed to drain, the materials were temporarily placed in a 55 gallon steel drum to await preparation for shipping. The amount of liquid found in the items necessitated addition of cement to meet burial site requirements for free standing liquids. Approximately 2 feet of water was present in the bottom of the excavation when removal of the items was completed. No metal can was detected in the excavated area, however, the volume of materials which was recovered agreed closely with the anticipated volume for removal and disposal.

Durant USDA AG 001-97

Soils and Water Analysis Results

The release criteria for soils remaining was stated in the Scope of Work as 7.32 pCi/gm of C-14, as presented in U. S. NRC NUREG 1500. Seventeen samples of the excavated soils and soils remaining in the excavation were obtained. All samples were shipped via express overnight for analysis. The soils analysis results are presented in Attachment (1). No indications of residual radioactivity in either the excavated soils, those remaining in the excavation or the water samples from the excavation exceeding background levels were noted.

The soil samples were analyzed for gross beta activity by liquid scintillation counting at the NWT laboratory in Livermore, California with cross check and quality control analysis performed by Thermo Nutech Laboratory, an accredited national laboratory. The results of the cross check and quality control analysis are presented in Attachment (1).

Based on the results of the soils analysis, the excavation was back filled, barriers and postings removed and equipment and materials prepared for shipment. Demobilization of the work area was completed 7 May 1997.

Waste Preparation and Shipment

The waste materials were contained in a 55 gallon drum, Type 7A shipping container. Due to residual water present in the materials, cement was added and mixed with the materials in order to meet free standing liquids limit (no liquids are allowed to be present in the materials or container when received) of the Chem-Nuclear Consolidation Facility, the intended destination of the materials, as well as disposal site requirements.

The drum containing the materials was labeled in accordance with the specified Department of Transportation regulations for hazardous materials and manifested in preparation for shipment. Pick up of the drum was completed 7 May 1997 with shipment via common carrier. Shipment documentation is included as Attachment (2).

FIGURE 1

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BURIAL SITE LOCATION



FIGURE 2

RADIATION SURVEY REPORTS

RADIOLOGICAL SURVEY REPORT New World Technology

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REVIEWED BY: Will Brown.			<u> </u>		
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ATTACHMENT I

SOILS ANALYSIS RESULTS

Date: 10-May-97

NWT ANALYTICAL LABORATORY REPORT

Lab ID: 07-97101

1236 Concennon Blvd., Livermore CA 94550

Phone: (510) 443-7967

Fax: (518) 443-0119

			Contect:	Bill Hane	Y		Title:	NWT Project Manager		
Chent:	10C/USDA, AG 97-00	1	Analysis:	C-14 in poi	I and water					
			Connext	Semple siz	e, 100 gram	s of soil and t	or water.	<u>مار من محمد المراجع من ما</u>		
	Durant Oklahoma			Analysis	by liquid so	intillation		and the second		
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Sample	Sample	Count	Rate	BKG	Counter	Activity	Counting	Comment	BKG	Sample
#	m	Time (min)	(CPM)	(CPM)	Eff.	(DPM)*	error(+/-)		Time	(gm)
1	Soil Pile #2 (R)	50	11.36	9.37	0.67	3.0	0.3	** 0.013 pCi/g	50	100
2	Soil Pile #2 (R)	50	12.36	9.37	0.65	4.6	0.3	** 0.021 pCi/g	50	100
3	Soil Pile #2 (R)	50	11.72	9.37	0.65	3.6	0.3	** 0.016 pCi/g	50	100
4	Soil Pile #2 (R)	50	12,64	9.37	0.64	5.1	0.3	** 0.023 pCi/g	50	100
5	Soil Pile #1 (L)	50	12.22	9.37	0.61	4.7	0.3	** 0.021 pCi/g	50	100
6	Soil Pile #1 (L)	50	10.06	9.37	0.66	ND	***	< 0.7 pCi/g	50	100
7	Soil Pile #1 (L)	50	11.38	9.37	0.67	3.0	0.3	** 0.014 pCi/g	50	100
8	Soil Pile #1 (L)	50	10.78	9.37	0.66	2.2	0.3	** 0.01 pCi/g	50	100
9	(R) Bollom of Hole	50	11.56	9.37	0.66	3.3	0.3	** 0.015 pCi/g	50	100
10	(L) Bottom of Hole	<u>50</u>	10.48	9.37	0.66	1.7	0.3	** 0.008 pCi/g	50	100
11	BKG Sample (1)	50	8.90	9.37	0.67	ND	***	< 0.7 pCi/g	50	100
12	BKG Sample (2)	50	9.36	9.37	0.66	ND	***	< 0.7 pCi/g	50	100
13	BKG Sample (3)	50	9.94	9.37	0.67	ND	***	< 0.7 pCi/g	50	100
14	BKG Sample (4)	50	9.28	9.37	0.67	ND	***	< 0.7 pCi/g	50	100

08/18/97

08:37

FAX 510 .43+0118

Ø 02

NV

Date: 10-May-97

Lob ID: 07-97101

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NWT ANALYTICAL LABORATORY REPORT

1236 Concennon Blvd., Livermore CA 94550

Phone: (510) 443-7967

Fax: (510) 443-0119

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100

Cilent:	IOC/USDA, AG 97-00	1	Cuplact: Analysis:	Bill Haney C-14 in sol	y 1 and water		Title:	NWT Project Manager		
			Comment	Sample siz	e, 100 gram	s of soil and i	for weter.			
	Durant Oklaboma		•	Analysis I	by liquid sc	iotillation				
Sample	Semple	Count	Rate	BKC	Counter	Activity	Counting	Comment	BKG	Sample
*	D	Time (min)	(CPM)	(CPM)	Eff.	(DPM)*	error(+/-)		Three	(gm)
15	Bottom of Hole (PTT)	50	8.94	9.37	0.68	ND	***	< 0.7 pCi/g	50	100

ND

0.70

*ND - No activity detected above natural background **(+/-) values are at 95% confidence level *** Activity is Less than the limit of detection

50

7.80

9.37

Water Samples 2 Ea.

Reviewed: Anald K. Wadswath Title: Health Physics Program Manager Date: 5/11/97

< 0.7 pCi/g

Inifials:

08/18/97 11:55 FAX 51° 443+0119 NEW WORLD TECHNO -- Bill Haney 05-18-9/ 10:09AM FROM THE NUTLUE KICE. TO 44:00119 -- 002/CUZ

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Thermo NUtech

ANALYSIS RESULTS

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Received Date <u>06/11/97</u>	MALTIN KATER

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L(R) SOIL	#151-001 De	/11/97 Carbon 14	-2.2 & 0.45	1.2
9 (R) BOTTOM OF HOLE	¥151-063 04	1/11/97 Carbon 14	-1.9 g D.66	1.1
10(L) BOTTON OF BOLR	F151-003 D4	11/37 Carbon 14	-2.0 2 0.64	1.1

Carellies by <u>notice ille</u> Report Date <u>96/13/87</u> Page 1

ATTACHMENT 2

SHIPPING DOCUMENTATION

RECEIVED WELL 0 1997

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6. Concrete Tank or Liner	18. Other. Describe in Item 8,		-			7. Heche	nical Film	36 Sealed S	Source/Device	43. Activated M	vernij Starial	11	K Air Filtration Filters	11"	(encapeu/atio	n) islaam n) islaam	13, or		
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FORM 541 (10-90)

DOT SHIPPING PAPER 2 of 3

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FORM 642		BARNWELL WAS	TE MANAGEMEN	IT FACILITY	1		WASTE COLL	CTOR PRO						12	HANIFEST NU	MBER	
	UNIFORM LOW-LEVEL RADIOACTIVE WASTE MANIFEST				NAME New World Teel					SHIPPERU	SE ONLY				- A8 17-401		
[-			S.C. RADIOACTIV	E WASTE TRANS	PORT PERMIT NUM	ER									
	MANIFERT BIDEX AND REG	IONAL COMPACT TABULAT			3102-01-07									1			
	List all original "PROCESS before "COLLECTI	ED WASTE" generato ED WASTE" generato	rs (If any) s.		SHAPPING DATE				-						PAGE 1	OF 1 PAG	5(3)
4. SC TRANSPORT PERMIT NUMBER	5. Generator name And telephone number	4. GENERATOR FACLITY ADDRESS	SA. WASTE DESCRIPTION (NOMENCLATURE)	7. PRB (OR) (OR)	POCESSED WASTE MATERIAL) DUUME	A MUNETET MANEERED UNDER WHETE MATERIALD ARCEVED	B. WASTE CODE P = PROCESSED C = COLLECTED	10. ORIGINATING COMPACT REGION	A 1	ICURCE	E. Shak	AS	CTIVITY	O. V		E WEICHT	F. MAXIMUM PACKAGE REDUCTION LEVEL
+117-4+47-	UE Department of Agricellure	4766 River RD. Unit of		7.44		ABCENT			0.000	(17)			(mC4)	(m3)		M	
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POT SHUPING PAPER 30F3

EMERGENCY RESPONSE INFORMATION

Page 1 of 1 Figure 4.6-A EMERGENCY RESPONSE GUIDE 161

New World Tochnology	Tom Dias (510) 443-7967					
shipping Date: 5-8-97	Manifest No.:	AG-97-001				
Proper Shipping Name	Hazard Class	ID Number				
Radioactive Material, excepted package-empty package, or empty packaging	7	UN2910				
Radioactive Material, excepted package, articles manufactured from depleted Ura	nium 7	UN2910				
Radioactive Material, excepted package, articles manufactured natural Thorium	7	UN2910				
Radioactive Material, excepted package, articles manufactured natural Uranium	7	UN2910				
Radioactive Material, excepted package-iastruments or articles	7	UN2910				
Radioactive Material, excepted package-limited quantity of material	7	UN2910				
US DOT EXEMPT	-					

POTENTIAL HAZARDS

Radiation presents minimal risk to transport workers, emergency response personnel, and the public during transportation accidents. Packaging durability is related to potential hazards of material.

- Low-level radioactive material; very low radiation hazard to people. .Some radioactive materials cannot be detected by commonly available instruments.
- Quantity of material presents low radiation hazard if released from package during accident.
- Packages do not have RADIOACTIVE I, II or III labels. Some may have EMPTY labels or may have the word "RADIOACTIVE" is the package marking.
- If any radioactive contamination occurs, it will be extremely low level.

FIRE OR EXPLOSION

HEALTH

Some of these materials may burn, but none of them ignites readily. Radioactivity does not change flammability or other properties of the materials.

PUBLIC SAFETY

- Call Torn Dias (510) 443-7967. IF NO ANSWER, THEN CALL CHEMTREC AT 1-800-424-9300 FOR EMERGENCY INSTRUCTIONS.
 - Priorities for rescue, life-saving, first-aid, and control of fire and other hazards are higher than the priority for measuring radiation levels.
- Radiation authority must be notified of accident conditions, and is usually responsible for radiological decisions.
- Isolate spill or leak area immediately for at least 25 to 50 meters (80 to 160 feet) in all directions.
- Stay upwind. «Keep unauthorized persoanel away.
- Detain or isolate uninjured persons or equipment suspected to be contaminated; delay decontamination and cleanup until instructions are received from Radiation Authority.

PROTECTIVE CLOTHING

Portive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

EVACUATION

- Large Spill
- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions.

EMERGENCY RESPONSE

FIRE

- Presence of radioactive material will not change effectiveness of fire control techniques. . . Move containers form fire area you can do it without risk.
- Do not move damaged packages; move undamaged containers out of fire zone.
- Small fires
- Dry chemicals, CO2, Water spray or regular foam.

Large fires

Water spray, fog (flooding amounts).

SPILL OR LEAK

- Do not touch damaged packages or spilled material.
- Liquid Spills
- Cover with sand, earth or other non-combustible absorbent material. · Cover powder spill with plastic sheet or trap to minimize spreading.

FIRST AID

- Medical problems take priority over radiological concerna.
- Do not delay care and transport of a seriously injured person.
- •Use first aid treatment according to the degree of the injury. Apply antificial respiration if victim is not breatlying.
- Administer oxygen if breathing is difficult.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Injured persons who contacted released material may be a minor contamination problem to contacted persons, equipment and facilities.
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

The above information is intended to satisfy the requirements of 49 CFR part 172.600, 172.602 & 172.604.

NEF-71-002 AG 97-001

PAGE I OF I FIGURE 4.6-B -REVISION 2, 12/30/96

NWT EMERGENCY PROCEDURES

New World Technology 1236 Concannon Blvd. Livermore CA 94550 (510) 443-7967 ** 24 Hour Emergency Contact Thomas J. Dias (510) 443-7967

EMERGENCY PROCEDURE TO BE FOLLOWED BY VEHICLE DRIVER IN THE EVENT OF AN ACCIDENT:

- 1. Perform lifesaving rescue and emergency first aid. Delay other first aid care until victims can be removed from the vicinity of any potentially hazardous material. Notify receiving medical facilities of possible contamination or radiation exposure of the injured.
- 2. Establish a control zone. The perimeter of this zone will be determined by the accident scene conditions. If there is no release of radioactive material, a distance of 20 feet is required. If the containers are breached and dispersal is a potential increase the control zone as large as possible.
 - A. Limit time near radioactive shipping packages as much as possible.
 - B. Cover spilled radioactive material with plastic sheeting or tarps to prevent or limit dispersal.
 - C. Avoid direct contact with radioactive material. Utilize protective clothing and utilize anything available for remote handling.
- 3. Detain personnel in the immediate area and items with possible contamination until they can be monitored for radioactive contamination
- 4. If there is a fire, advise individuals and emergency responders that everyone should move upwind, Use respirators if you need to enter the area. Inform the Fire Department that the truck is carrying radioactive materials.
- 5. The following persons are to be notified in the sequence shown below:
 - A. Thomas J. Dias, Director of Brokerage Operations, Livermore, CA
 Day: (510) 443-7967
 Night: (510) 581-3244

•	• •
Pager:	(510) 247-3516

B. Additional 24 Hour Emergency Contact: Don Wadsworth, Livermore, CA Day: (510) 443-7967
Night: (510) 443-7982 °

1.19.11.	$(J10) + J^{-1}/02$	
Pager:	(800) 759-7243	Pin # 2014702

- C. Notify the state and local emergency responders by dialing 911 in the event the emergency contacts above can not be reached or if there is a serious threat to life or property.
- D. For general information on the chemicals identified in the accident call CHEMTREC at (800) 424-9300.

PAGE 1 OF 1 FIGURE 4.6-D REVISION 2, 12/30/96

NWT

SHIPPERS NOTICE FOR EXCEPTED RADIOACTIVE MATERIALS

Consigned By:	Consigned To:
NOT à PURMI OK	CHEM-NUCLEAR CONSOUDATION FACALITY
	BARNWELL SC 29812
Attention: W. S. BAEL	Attention: CLIFF BOWERS

CHECK APPLICABLE NOTICE

"This package conforms to the conditions and limitations specified in 49 CFR 173.421 for radioactive material, excepted package - limited quantity of material, UN2910".

"This package conforms to the conditions and limitations specified in 49 CFR 173.424 for radioactive material, excepted package-instruments and articles, UN 2910."

"This package conforms to the conditions and limitations specified in 49 CFR 173.428 for radioactive material, excepted package-empty packaging, UN2910".

"This package conforms to the conditions and limitations specified in 49 CFR 173.426 for radioactive material, excepted package-articles manufactured from natural or depleted uranium, or natural thorium, UN2910".

Shipment Date: , 5-9-47	Shipment Number: Sch 0115-97
Signature: Mille Brether.	Manifest Number: AG - 97-001
Title: BRAKEL	
Package numbers applicable to this certifica	tion: I

-29-

Form RH. SOUTH CA	ROLINA DEPARTMENT	F HEALTH AND ENVIRONMENTAL CONTROL
(5/80) Radioact	dve Waste Shipment Certific	ation Form
General Instructions and In	formation: This is a two part	form to be used by shippers and
carriers of radioactive wast	e. The certifications contained	d herein satisfy the requirements of
Section 13-7-150, of Act N	o. 499 of 1980, the South Car	rolina Radioactive Waste Transportation
and Disposal Act. This cert	tification along with a copy of	f the prior notification form shall
shipper is to complete his n	ortion of the form and present	within the Soule of South Carolina. Inc
shipping documents. Upon	receipt, the carrier shall com	niete bis portion of the form. Upon
delivery of the shipment to	the consignee, a copy of this	certification form, and a copy of the
Prior Notification and Mani	fest form with the consignee.	acknowledgement, shall be returned to
the Department.		
Part I:	Shipper's Certificate of Com	pliance
HOUS ARMY Industrial	Dografions Command	2. Supplem identification No.
Attn: AMSIO-DMW/ Keilu	Crooks	3. Transport Permit No.
Rock Island, IL. 61: USD	A Durant, OK	0137-00-97-E
In compliance with Act No.	499 of 1980, the South Caro	lina Radioactive Wsate Transportation and
Disposal Act, I hereby certi	fy on behalf of the above-nam	ned shipper to the South Carolina Depart-
ment of Health and Environ	mental Control that the above	-named shipper has complied with all pro-
visions of Act No. 499 of 19	180, and all applicable laws a	nd administrative rules and regulations,
ooti State and Federal, rega	roing the packaging, transpor	tation, storage, disposal and delivery
within 48 hours of the time	of departure and that no item	toacuve waste has been inspected to f non-compliance with applicable
laws, rules or regulations w	re found	of ton-contribution with applicable
	AD 104110.	
Date <u>5-8-97</u>		
		a la R
Willie Bremer B	roker, Agent for US Army,IC	C (MAN DARING
Typed Name and Title of A	gent of Shipper	Signature
Typed Name and Title of A	gent of Shipper	Signature
Typed Name and Title of Ag	cent of Shipper art II: Carrier's Certification	Signature 2. Shipment Identification No.
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SHIPPER INVENTORY, INSPECTION, AND SURVEY FORM

SHIPMENT NO. A.G. 97-001	PAGE NO. 1 OF	
DRUM NO	CONTAINER WEIGHT	
RADIATION LEVEL ON CONTAINER SURFACE	(mR/hr)N/A¥	
RADIATION LEVEL AT ONE METER (mR/hr)	MA ¥	
RADIOACTIVE CONTAMINATION LEVEL ON CO	ONTAINER SURFACE (dpm/100 cm ²)	MA K
TYPE OF CONTAINER LABELS	/AA	

NO.	NOMEN	STOCK NUMBER	QTY	ISOTOPE	ACTIVITY PER ITEM (mCi/ TBq) -	TOTAL ACTIVITY (mCi/F Bq).	
1	Exhund y	lass, plastic, laburre, (and PPE)	1	C-14	0.080	0.080	
2	Labuare	contaminatal w/ C-14	(C-14	0.004	0.004	
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INSTRU	UMENT TYPE _	NA *	CALIBRA	TION DATE	MA *		
INSPEC	TED BY	Harton	DATE LOA	DED	MARNI- 0	1May 97	

As installation Radiation Safety Officer or designee, I certify, based on direct observation or performance, that the listed inventory is accurate and correct to the best of my knowledge, and that no free standing liquids or hazardous materials (such as lead) are accurate

lead) are present. for OS May 97 Date 1 au \sim Signature * See shipping manifest and NWT records.

FedEx. USA Airbill 📖 1799381776	21 25 15230618 SCORY
Image: Second Stress Print Provided Account Number 1824-0424-1 Jate 5-8-97 Sender's FedEx Account Number 1824-0424-1 Jane 5-8-97 Sender's FedEx Account Number 7967 Jane WILLIE ISREMER FOL ACG-97001 Phone 15107443-7980 Jane MIRLD TECHNICLOGY DeputPoor/Suite/Room Jane 1236 CONCANNON BLXD	Express Package Service Packages under 150 lbs. FedEx Priority Overnight FedEx Standard Overnight Inter business entername FedEx Government Overnight FedEx Government Overnight FedEx First Overnight Service Packages over 150 lbs. One event feel Solar overnight FedEx Overnight Feight FedEx Casy Freight FedEx Casy Freight
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ATTACHMENT 3

NRC RECIPROCITY ACKNOWLEDGEMENT

RECEIVED APR 2 2 1997

UNITED STATES

REGION IV

611 RYAN PLAZA DRIVE, SUITE 400 ARLINGTON, TEXAS 76011-8064

April 18, 1997

New World Technology ATTN: Thomas J. Dias 1236 Concannon Blvd. Livermore, California 94550

SUBJECT: NRC FORM 241

This acknowledges receipt of NRC Form 241 dated April 15, 1997, and the \$1100.00 application fee, submitted by New World Technology to the NRC Region IV office to report proposed activities in NRC jurisdiction under the authority of the general license pursuant to 10 CFR 150.20. Revisions, as defined below, to the information submitted on the current NRC Form 241 will require a \$200 fee.

Revisions to the initial NRC Form 241 will occur whenever you propose to add locations of work, to use different radioactive material, or to perform additional work activities in NRC jurisdiction.

Clarification and deletion of specific locations or work sites, work site contacts, or dates of work are not considered revisions and, therefore, will not require the \$200 fee. Changes in the equipment to be used will not require the \$200 fee if there is no change in the activity to be conducted or the radioactive material to be used.

Your agreement state license is recognized as valid for the proposed use of licensed material at USDA, National Agriculture Water Quality Lab, Duran, Oklahoma, from May 5-9, 1997.

Please find enclosed an NRC signature copy of your NRC Form 241. We appreciate your cooperation. If you have questions concerning this letter or other aspects of working in NRC jurisdiction under reciprocity, please contact me at (817) 860-8217 or Ms. Billie Gruszynski at (817) 860-8120.

Sincerely,

Christi Hernandez, Radiation Specialist Nuclear Materials Licensing Branch

Enclosure(s): NRC Form 241 signature copy NRC Form 3

cc w/copy of NRC Form 241 and Materials License: Oklahoma Radiation Control Program Director

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NRC FORM 241	U. S. NUCLEAR REGULATORY COMM	ISSION	Estima	tel burden per response to o	EXPIRES: ECOT
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1236 Concannon Blv	/d.		The	omas J. Dias	
Livermore, CA 945	550		4 TELS	PHONE NUMBER	7 FACELARE ENAMELER
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I, THE UNDERSIGNED, HEREBY CI a. All information is this report	ERTRY THAT:				
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APPENDIX A

CORRESPONDENCE

JUL-09-97 WED 10:43 P. 05 /97 15:22 2301 2-11-1995 11:55M 5050 HKN SHWN ROO 07/08/97 TEM USDA ARS NAWCL 4059245307 ricultural Scuthern Plains Area د ا بېبې . Acricultural United States Department of Research Service Agriculture USDA-ARS National Agricultural Water Appendix A Quality Laboratory

June 11, 1996

-SUBJECT: "C Material Buried at Durant.

TO: Lori Thomas

FROM: Robert D. Williams (C)

In response to your request of May 28, 1996 the only information available as to burial site in Durant, CK is as follows.

1. Attached is a copy of the blueprint of the Durant property; the approximate location of the burial site is marked.

The burial site is on laboratory property at 801 Wilson Street, Durant, OK 74701. There is no road, walk or other public access to the site. The laboratory property is surrounded with a 6-foot chain link fence topped with three to four strands of barbed wire. All gates are locked, except the delivery driveway which is gated and locked after business hours. There is no gate or access near the site.

P.O. Box 1430 Durant, OK 74702

Within the property boundaries there is no direct access to the site. The site is approximately 450 feet from the nearest building, straight line distance, and is isolated from all laboratory activities.

2. I have reviewed all records covering the use of radiological materials at the location and can not find a report specifically relating to the burial site.

According to Dr. Menzel's notes the burial of the material was suggested by Howard Roberts, who was apparently the Radiological Safety Officer out of the Beltsville area at the time. I do know that only 80 µCi of "C was buried in July 1980. No other materials have been included. (All other information is covered in my May 15, 1996 memo.)

3. All historical radiological records have been given to Gary Heathman. He now has all the records relating to

the radiological activity of the Durant location.

The above information should answer most of the question you had concerning the burial site. I am sorry that I was unable to find the radiological report to your office concerning the site. I have the reports covering the period before and after the burial. Would it be possible that specific information as to the site was sent to the Beltsville area at the time? I have exhausted all possibilities here. Please let me know if I can be of further help.

.cc' P.A. Smith G.C. Heathman

35

JUL-09-97 WED 10:44 P. 07 HRM SHMD RSS ωπυδίστυ 4 5050 **T**301 07/08/97 15:24 2-11-1955 11:57PM - FRCM USDA ARS NAWCL 4059245307 ĩ, . • -----Acricultural . Southern Plains Area United States Department of Research Acriculture Sarvice USDA-ARS National Agricultural Water Quality Laboratory P.O. Box 1430 Durant; OK 74702

May 15, 1996

SUBJECT: "C Material Buried at Durant.

TO: Lori Thomas

FROM: Robert D. Williams

In our phone conversation last week you asked for further information as to the "C material buried at the Durant location. The information below was sent to Philip Smith, our Area Safety and Health Hanager located at College Station, TX. I vaguely recall another point you asked me to check on for you, but I can not find my notes on our call. Please let me know if there is some thing else I can do for you.

_ 4 T.

The only information I can find on the buried "C is that it was approximately 80 µCi of solid waste (sediment from some microcosms) left over from an experiment using some labeled sugars. The burial date was July 1980. The burial site is in the back, south-east corner of the grounds. (The site is remote from all activity at the location, and area is fenced in such a way it is not easily accessible to visitors.) As best as I can make out the material was buried at a four-foot depth, on an upslope position, covered with soil, and the hole capped with cement and a metal fence post with a metal plaque stating the material, activity and burial date. The material is in a metal container, approximately five gallons in size. The size of the hole was no more than one foot square.

Dr. Ron Menzel was in charge of the material and he has left me his files as to the disposal of all the radioactive materials up to the point that Gary Heathman took over as the location's Radiological Officer. According to Dr. Menzel's notes the burial of the material was suggested by Howard Roberts and that at the time up to 100 mCi of "C could be buried at a time, with 12 burials per year allowed. Dr. Menzel is still in Durant if we need to check with him further. **APPENDIX B**

CORRESPONDENCE

JUL-09-97 WED 10:45

Appendix B

To:Dave Horton, Industrial Operations CommandFax #:309-782-2988Re:Radwaste DisposalDate:April 14, 1997Pages:2

As we discussed on the phone, attached is a list of radwaste items we'd like to have disposed from a locker at our Durant, Oklahuma facility. The RW labels are unique identifying tags on the individual items. Our former location radiation protection officer. Gary Heathman, estimates that they would easily fit in the bottom third of a 55 gallon barrel, and that they would take even less space if the glassware were broken.

Based upon my conversations with you and Tom Dias, what I would like to investigate is Tom taking the locker materials in the same barrel as the buried materials when he visits Durant on May 5. Two questions:

1. Is this doable? I assume the answer is YES based upon our conversations.

2. How much extra cost will there be for the disposal of these materials?

When you gin up a price, please fax it to me at 409-260-9344. If you have any detailed questions about the materials in the locker, feel free to call Gary at 405-224-7393.

From the depic of ...

Phil Smith Area Safety & Health Manager USOA ARS SPA 7607 Examark, Suite 200 College Station, Turas 778-10

> 403-250-9449 Fuc 409-250-63-44

FACSIMILE

JUL-09-97 WED 10:45

RW-4	ICN shipping tube which was labeled "Caution Radiozctive Material"
	1. Empty vial - inside paper stated D-glucose, C-14, 500 uCi
	 Empty vial - inside paper stated D-glucosamine hydrochloride, C-14, 100 uCi, 7/9/75
	 Empty viai - inside paper stated D-glucose (UL) 1-phosphete, C-14, 50 uCi, 7/9/75
RW-5	Flask labeled "Caution Radioactive Material", amino acid mix, 2 uCi/ml
RW-7	Flask labeled "Caution Radioactive Material" 2-C-14 NaAc 4.8 uCi/mmole, 2.0 uCi/ml
RW-9	Flask 50 ml labeled C-14
RW-35	1 stainless steel can labeled with "Caurion Radioactive Material" tape
RW-36	1 200 mi glass flask labeled D- <u>a</u> lucose 2.5 uCi/ml (in can) "Caution Radioactive Material" tape
RW-37	1 plastic 1 pint container (in con)

TABLE 1: Materials in Durant, Oklahoma locker. All are empty. The labels reflect original contents.

.

TABLE 2: Results of contamination survey of materials in Table 1. Survey performed by USDA Radiation Safety Staff

Swipe Location	Counting Position	CP14 CF	'M • BKG	Net DPM / 100 sq cm	isctop
ZRW4	ĩ	736	\$ 76	697	C-14
JAW5	2	253	293	430	н.з
#RW7	3	202	142	147	C-14
#RW9	4	299	239	247	C-14
#RW35	5	795	/35	1079	H-3
#RW36	6	379	319	488	H-3
#RV/37	7	259	199	292	H-3