7560 U-005-307.2

ENVIROCARE OF UTAH, INC., MATERIAL ACCEPTANCE PROCESS MANUAL - INCLUDES COPY OF LICENSE FROM STATE OF UTAH - (USED AS A REFERENCE IN OU3 RI/FS/PP, APPENDIX F)

ENVIROCARE
175
MANUAL

7560 DRC-03-8/89

UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
DIVISION OF RADIATION CONTROL
RADIOACTIVE MATERIAL LICENSE

Pursuant to [illegible]-3-104 of the Utah Code Annotated 1953, and the Utah Department of Environmental Quality Rules for the [illegible] of Ionizing Radiation, and in reliance of statements and representations heretofore made by the licensee designated below, a license is hereby issued authorizing such licensee to transfer, receive, possess and use the radioactive material designated below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, and orders now or hereafter in effect and to any conditions specified below.

LICENSEE		3. License Number UT 2300249 Amendment #14, in its entirety
1. Name	Envirocare of Utah, Inc.	
2. Address	46 West Broadway Suite 240 Salt Lake City, Utah 84101	4. Expiration Date February 28, 1996
		5. License Category 4-a

6. Radioactive Material (Element and Mass Number)	7. Chemical and/or Physical Form	8. Maximum Average Concentration In Waste for Disposal
A. Silver-110m	A. Volumetric bulky materials or debris	A. 5.6E+02 pCi/g
B. Americium-241	B. Volumetric bulky materials or debris	B. 2.3E+02 pCi/g
C. Americium-243	C. Volumetric bulky materials or debris	C. 1.7E+03 pCi/g
D. Beryllium-7	D. Volumetric bulky materials or debris	D. 3.8E+04 pCi/g
E. Calcium-45	E. Volumetric bulky materials or debris	E. 4.0E+08 pCi/g
F. Cadmium-109	F. Volumetric bulky materials or debris	F. 4.6E+04 pCi/g
G. Cobalt-56	G. Volumetric bulky materials or debris	G. 3.6E+02 pCi/g
H. Cobalt-57	H. Volumetric bulky materials or debris	H. 1.9E+04 pCi/g

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6. Radioactive Material (Element and Mass Number)		7. Chemical and/or Physical Form		8. Maximum Average Concentration In Waste for Disposal	
I.	Cobalt-58	I.	Volumetric bulky materials or debris	I.	1.6E+03 pCi/g
J.	Cobalt-60	J.	Volumetric bulky materials or debris	J.	3.6E+02 pCi/g
K.	Chromium-51	K.	Volumetric bulky materials or debris	K.	6.8E+04 pCi/g
L.	Cesium-134	L.	Volumetric bulky materials or debris	L.	1.2E+03 pCi/g
M.	Cesium-137	M.	Volumetric bulky materials or debris	M.	5.6E+02 pCi/g
N.	Europium-152	N.	Volumetric bulky materials or debris	N.	1.7E+03 pCi/g
O.	Europium-154	O.	Volumetric bulky materials or debris	O.	1.4E+03 pCi/g
P.	Iron-55	P.	Volumetric bulky materials or debris	P.	1.8E+06 pCi/g
Q.	Mercury-203	Q.	Volumetric bulky materials or debris	Q.	1.0E+04 pCi/g
R.	Potassium-40	R.	Volumetric bulky materials or debris	R.	1.0E+04 pCi/g
S.	Iridium-192	S.	Volumetric bulky materials or debris	S.	2.5E+03 pCi/g

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T.	Manganese-54	T.	Volumetric bulky materials or debris	T.	5.6E+03 pCi/g
U.	Niobium-94	U.	Volumetric bulky materials or debris	U.	1.6E+02 pCi/g
V.	Nickel-59	V.	Volumetric bulky materials or debris	V.	7.0E+02 pCi/g
W.	Nickel-63	W.	Volumetric bulky materials or debris	W.	2.0E+06 pCi/g
X.	Lead-210	X.	Volumetric bulky materials or debris	X.	2.3E+05 pCi/g*
Y.	Polonium-210	Y.	Volumetric bulky materials or debris	Y.	2.0E+04 pCi/g
Z.	Radium-226	Z.	Volumetric bulky materials or debris	Z.	2.0E+03 pCi/g*
AA.	Radium-228	AA.	Volumetric bulky materials or debris	AA.	1.8E+03 pCi/g
BB.	Radium-228 1 year	BB.	Volumetric bulky materials or debris	BB.	1.2E+03 pCi/g*
CC.	Radium-228 5 years	CC.	Volumetric bulky materials or debris	CC.	6.7E+02 pCi/g*
DD.	Radium-228 10 years	DD.	Volumetric bulky materials or debris	DD.	5.6E+02 pCi/g*

* Daughters are assumed to be present at same concentration in equilibrium.

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EE. Ruthenium-106	EE. Volumetric bulky materials or debris	EE. 1.9E+04 pCi/g*
FF. Antimony-124	FF. Volumetric bulky materials or debris	FF. 7.9E+02 pCi/g
GG. Antimony-125	GG. Volumetric bulky materials or debris	GG. 5.3E+03 pCi/g
HH. Tin-113	HH. Volumetric bulky materials or debris	HH. 7.3E+05 pCi/g
II. Strontium-90	II. Volumetric bulky materials or debris	II. 2.0E+04 pCi/g
JJ. Thorium-230	JJ. Volumetric bulky materials or debris	JJ. 1.5E+04 pCi/g
KK. Thorium-232	KK. Volumetric bulky materials or debris	KK. 6.8E+02 pCi/g*
LL. Uranium-234	LL. Volumetric bulky materials or debris	LL. 3.7E+04 pCi/g
MM. Uranium-235	MM. Volumetric bulky materials or debris	MM. 7.7E+02 pCi/g
NN. Uranium-236	NN. Volumetric bulky materials or debris	NN. 3.6E+04 pCi/g
OO. Uranium-238	OO. Volumetric bulky materials or debris	OO. 2.8E+04 pCi/g

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PP.	Uraniuum-natural	PP.	Volumetric bulky materials or debris	PP.	1.8E+04 pCi/g
QQ.	Uranium-depleted	QQ.	Volumetric bulky materials or debris	QQ	1.1E+05 pCi/g
RR.	Zinc-65	RR.	Volumetric bulky materials or debris	RR.	1.1E+04 pCi/g
SS.	Carbon-14	SS.	Volumetric bulky materials or debris	SS.	4.0E+05 pCi/g
TT.	Hydrogen-3	TT.	Volumetric bulky materials or debris	TT.	2.0E+07 pCi/g
UU.	Iodine-129	UU.	Volumetric bulky materials or debris	UU.	3.1E+03 pCi/g
VV.	Sodium-22	VV.	Volumetric bulky materials or debris	VV.	7.8E+02 pCi/g
WW.	Technetium-99	WW.	Volumetric bulky materials or debris	WW.	1.0E+05 pCi/g
XX.	Curium-242	XX.	Volumetric bulky materials or debris	XX.	1.4E+06 pCi/g
YY.	Curium-242	YY.	Volumetric bulky materials or debris	YY.	8.1E+03 pCi/g*
ZZ.	Curium-243	ZZ.	Volumetric bulky materials or debris	ZZ.	1.5E+03 pCi/g

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6. Radioactive Material (Element and Mass Number)	7. Chemical and/or Physical Form	8. Maximum Average Concentration In Waste for Disposal
AAA. Curium-243	AAA. Volumetric bulky materials or debris	AAA. 1.3E+03 pCi/g*
BBB. Curium-244	BBB. Volumetric bulky materials or debris	BBB. 1.0E+04 pCi/g
CCC. Curium-244	CCC. Volumetric bulky materials or debris	CCC. 7.4E+03 pCi/g*
DDD. Neptunium-237	DDD. Volumetric bulky materials or debris	DDD. 2.0E+03 pCi/g
EEE. Plutonium-238	EEE. Volumetric bulky materials or debris	EEE. 1.0E+04 pCi/g
FFF. Plutonium-238	FFF. Volumetric bulky materials or debris	FFF. 8.2E+03 pCi/g*
GGG. Plutonium-239	GGG. Volumetric bulky materials or debris	GGG. 9.9E+03 pCi/g
HHH. Plutonium-240	HHH. Volumetric bulky materials or debris	HHH. 1.0E+04 pCi/g
III. Plutonium-241	III. Volumetric bulky materials or debris	III. 3.5E+05 pCi/g
JJJ. Plutonium-241	JJJ. Volumetric bulky materials or debris	JJJ. 1.1E+03 pCi/g*
KKK. Plutonium-242	KKK. Volumetric bulky materials or debris	KKK. 1.0E+04 pCi/g

* Daughters are assumed to be present at same concentrations in equilibrium.

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9. AUTHORIZED USE

Radioactive material as bulk radioactive waste may be received, stored and disposed of by land burial. The licensee shall not accept low-level radioactive waste generated outside the region comprised of the party states to the Northwest Interstate Compact on Low-Level Radioactive Waste Management ("Compact") namely Alaska, Hawaii, Idaho, Montana, Oregon, Utah and Washington, unless the provisions of Articles IV and V of the Compact are met. Prior to receiving any such shipments, the licensee shall submit to the Utah Division of Radiation Control documentation evidencing compliance with these Compact provisions.

CONDITIONS

10. Licensed material shall be used at the licensee's facility located in Section 32 of Township 1 South and Range 11 West, Tooele County, Utah.

11. The licensee shall not possess at any time, more than 300,000 cubic yards of radioactive waste material which is not disposed of in accordance with the finished design requirements. This includes all wastes in storage or active processing.

12. Pursuant to R313-12-54(1), the licensee is granted an exemption to R313-25-9, as it relates to land ownership and assumption of ownership.

13. The maximum quantity of special nuclear material which the licensee may possess, undisposed of, at any one time shall not exceed; 350 grams of U-235, 200 grams of U-233, and 200 grams Pu, or any combination of them in accordance with the following formula.

$$\frac{(\text{Grams U-235})}{350} + \frac{(\text{Grams U-233})}{200} + \frac{(\text{Grams Pu})}{200} \leq 1$$

14. Licensed material specified in Item 6.A through 6.KKK shall not be placed in a disposal cell unless it has been determined that the concentration of radionuclides is approximately homogeneous within the physical form of the waste. This does not pertain to debris superficially contaminated with licensed materials.

15. A. The licensee may receive for treatment, storage, and disposal any radioactive waste as authorized by this license that is also determined to be hazardous as permitted by the "Hazardous Waste Plan Approvals" issued and modified by the Executive Secretary, Utah Solid and Hazardous Waste Control Board and "HWSA Permit" issued by the U.S. Environmental Protection Agency.

    B. The licensee shall dispose of these wastes in the "mixed waste" disposal embankment only.

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16. A. If a mixture of radionuclides a, b, and c are present in the waste in the concentrations C_a, C_b, and C_c and if the applicable maximum average waste concentrations from Item 8 of this license are MWC_a, MWC_b, and MWC_c respectively, then the concentration in the waste shall be limited so that the following relationship exists.

$$\frac{C_a}{MWC_a} + \frac{C_b}{MWC_b} + \frac{C_c}{MWC_c} \leq 1$$

B. If a single radionuclide is present in the waste, the maximum average concentration shall not exceed the applicable value found in Item 8 of this license.

17. Sealed sources as defined in R313-12-3(64) shall not be accepted for disposal.

18. Radioactive waste containing free liquid shall not be accepted for disposal. Such waste shall be managed in accordance with the LARW Waste Management Plan currently approved by the Executive Secretary of the Utah Radiation Control Board.

19. The licensee shall comply with the provisions of Chapter R313-18, "Notices, Instructions and Reports to Workers by Licensees or Registrants, Inspections" and Chapter R313-15, "Standards for Protection Against Radiation".

20. The licensee may transport licensed material or deliver licensed material to a carrier for transport in accordance with the provisions of R313-19-100 "Transportation".

21. Written procedures shall be maintained and available at the disposal facility for operations involving radioactive materials. The procedures shall incorporate operating instructions and appropriate safety precautions for the work. The employee training program shall include detailed review of the operating procedures applicable to the employee's assignments. The requirement for written procedures shall include establishment of procedures for conduct of the radiation safety and environmental monitoring programs, including analytical procedures and instrument calibration requirements. Written procedures and subsequent changes to the procedure shall be reviewed and approved by the Corporate Radiation Safety Officer and the Project Manager. At least annually, all procedures shall be reviewed to assure continued applicability.

22. The Corporation Radiation Safety Officer or other qualified individual designated by the Corporate Radiation Safety Officer shall perform and document weekly inspections of the facility and report any findings of non-compliance, affecting radiological safety, to the Project Manager. Items for inspection include: operating procedures, license requirements and safety practices.

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23. The licensee shall conduct contamination surveys in accordance with the following table.

ROUTINE MONITORING AND CONTAMINATION SURVEYS

Type	Location	Frequency
A. Gamma Radiation Levels	1. Perimeter of Controlled Area(s)	1. Weekly
	2. Office Area	2. Weekly
	3. Lunch/Change Area	3. Weekly
	4. Transport Vehicles	4. Upon Arrival at Site and before departure.
B. Contamination Wipes	1. Eating Area	1. Weekly
	2. Change Area	2. Weekly
	3. Office Areas	3. Weekly
	4. Railcar rollover and control shack	4. Weekly
	5. Equipment/Vehicles	5. Once before release
C. Employee/ Personnel	1. Skin & Personal clothing	1. Prior to exiting controlled area
D. Gamma Exposure	1. Administration Bldg.	1. Quarterly
	2. Security Trailer	2. Quarterly
E. Radon Concentration	1. Administration Bldg.	1. Quarterly
	2. Security Trailer	2. Quarterly

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24. The licensee shall conduct a bioassay program in accordance with letter dated July 16, 1993.

25. The use of respirators shall be controlled by a respiratory protection program in accordance with letter dated July 16, 1993, and as stipulated in R313-15-103.

26. The licensee shall calibrate air sampling equipment at intervals not to exceed six months.

27. The operational environmental monitoring program shall be conducted in accordance with revised Section 4.5.4, table 4.7, and figure 4.5 submitted in letter dated July 20, 1993.

28. A. Vehicles, containers, facilities, materials, equipment or other items for unrestricted use, except conveyances as defined in R313-19-4, used for commercial transport of radioactive waste material, shall not be released from the licensee's control if contamination exceeds the limits found in Table 28-A:

TABLE 28 - A

Nuclide[a]	Column I Average [b,c,f]	Column II Maximum [b,d,f]	Column III Removable [b,e,f]
U-nat, U-235, U-238, and associated decay products	5,000 dpm alpha/ 100 cm²	15,000 dpm alpha/ 100 cm²	1,000 dpm alpha/ 100 cm²
Transuranics, Ra-226, Ra-228, Th-230, Th-228, Pa-231, Ac-227, I-125, I-129	100 dpm/100 cm²	300 dpm/100 cm²	20 dpm/100 cm²
Th-nat, Th-232, Sr-90, Ra-223, Ra-224, U-232, I-126, I-131, I-133	1,000 dpm/100 cm²	3,000 dpm/100 cm²	200 dpm/100 cm²
Beta-gamma emitters (nuclides with decay modes other than alpha emissions or spontaneous fission) except Sr-90 and other noted above.	5,000 dpm beta, gamma/100 cm²	15,000 dpm beta-gamma/100 cm²	1,000 dpm beta-gamma/100 cm²

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a. Where surface contamination by both alpha- and beta-gamma emitting nuclides exists, the limits established for alpha- and beta-gamma emitting nuclides should apply independently.
b. As used in this table, dpm (disintegrations per minute) means the rate of emission by radioactive material as determined by correcting the counts per minute observed by an appropriate detector for background, efficiency, and geometric factors associated with the instrumentation.
c. Measurements of average contaminant should not be averaged over more than one square meter. For objects of less surface area, the average should be derived for each such object.
d. The maximum contamination level applies to an area of not more than 100 cm^2.
e. The amount of removable radioactive material per 100 cm^2 of surface area should be determined by wiping the area with dry filter or soft absorbent paper, applying moderate pressure, and assessing the amount of radioactive material on the wipe with an appropriate instrument of know efficiency. When removable contamination on objects of less surface area is determined, the pertinent levels should be reduced proportionally and the entire surface should be wiped.
f. The average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters shall not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber.

28. B. All conveyances as defined in R313-19-14 used for commercial transport of radioactive material to Envirocare will be decontaminated to the release limits set forth in the following:

TABLE 28 - B
REMOVABLE EXTERNAL RADIOACTIVE CONTAMINATION - WIPE LIMITS

Contaminant	Maximum permissible limits	Maximum permissible limits
	micro Ci/cm^2	dpm/cm^2
Beta-gamma emitting radionuclides; all radionuclides with half-lives less than ten days; natural uranium; natural thorium; uranium-235; uranium 238; thorium-232; thorium-228 and thorium-230 when contained in ores or physical concentrates.....	10^{-5}	22
All other alpha emitting radionuclides.....	10^{-6}	2.2

Each transport vehicle used for transporting radioactive materials as an exclusive use shipment... shall be surveyed with appropriate radiation detection instruments after each use. A vehicle shall not be returned to service until the average and maximum radiation levels associated with surface contamination resulting from beta-gamma emitters shall not exceed 0.2 mrad/hr at 1 cm and 1.0 mrad/hr at 1 cm, respectively, measured through not more than 7 milligrams per square centimeter of total absorber, and there is no significant removable (non-fixed) radioactive surface contamination as specified in the above Table 28-B.

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29. A quarterly report shall be prepared by the Corporate Radiation Safety Officer for the Project Manager and Company President evaluating employee exposures, effluent releases and environmental data to determine:

    A. If there are any upward trends in personnel exposures for identifiable categories of workers or types of operations or in effluent releases;

    B. If exposures and effluent might be lowered under the concept of maintaining exposures and effluent as low as reasonably achievable; and

    C. If equipment for exposure and effluent control is being properly used and maintained.

30. In accordance with R313-25-33, the licensee shall submit annual reports to the Division of Radiation Control by the end of the first calendar quarter of each year for the preceding year. The reports shall include:

    A. Specification of the quantity of each of the principal contaminants released to unrestricted areas in liquid and in airborne effluent during the preceding year.

    B. The results of the environmental monitoring program;

    C. A summary of licensee disposal unit survey and maintenance activities; and

    D. A summary of the volume, radioisotopes and their activities for materials disposed of.

31. Except as provided by this condition, the licensee shall maintain the results of sampling, analyses, surveys, and instrument calibration, reports on inspections and audits, employee training records as well as any related reviews, investigations and corrective actions, for five (5) years. The licensee shall maintain personnel exposure records in accordance with R313-15-401.

32. Operations shall be conducted by or under the supervision of Vernon E. Andrews, Corporate Radiation Safety Officer, or other individuals designated by the Corporate Radiation Safety Officer upon successful completion of the licensee's training program.

33. The licensee shall staff the operations of the facility in accordance with the revised organization chart submitted in letter dated July 16, 1993. In addition the licensee shall provide an updated organization chart within 10 days from any change.

34. The licensee staff shall meet the qualifications as described in Section 8.2 and shall have the responsibilities as described in Section 8.1.2 of the license amendment application dated September 20, 1990.

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35. The licensee shall not initiate disposal operations in newly excavated areas until the Division of Radiation Control has inspected and approved the cell/embankment liner.

36. The licensee shall provide "as built drawings" of the facility, at intervals not to exceed six (6) months. Drawings shall be submitted by February 1 and August 1 of each year. The drawings shall show conditions on the site as they existed no earlier than thirty (30) days prior to the submittal of the drawings to the Division of Radiation Control. The drawings shall be certified by a Utah Licensed Land Surveyor or Professional Engineer. Drawings submitted as, "as built drawings" will be marked as such, and will be marked in the same place on each drawing. Record drawings showing approved future designs, final or finished conditions at the site may be included in the "as built drawings", but shall be marked as "record drawings".

37. Reserved.

38. For the purpose of this license, debris is defined as any radioactive waste for disposal other than soils. Compactible debris is defined as: (A) having a gradation that will pass through a four inch (4") grizzly and; (B) as having a density greater than seventy pounds per cubic foot dry weight in accordance with ASTM D-698. Contaminated materials, other than soil, not meeting either of these criteria are defined as noncompactible debris.

39. The licensee shall place bulk radioactive materials in lifts with an uncompacted thickness not exceeding twelve inches (12").

40. In-place bulk radioactive waste shall be compacted at a moisture content up to three percent (3%) above optimum as determined by the Standard Proctor Method ASTM D-698.

41. The licensee shall compact each lift to not less than ninety percent (90%) of optimum density as determined by Standard Proctor Method ASTM D-698. Sampling points for compaction testing shall include locations immediately adjacent to debris when debris is included in the lift.

42. All debris shall be less than ten inches (10") in at least one (1) dimension, and no longer than eight feet (8') in any dimension.

43. The final twenty-four inches (24") of the radioactive waste material embankment, within the side slopes and the top surface, shall be free of debris. In addition, no debris (compactable or non-compactable) shall be placed within twenty-four inches (24") of the clay liner.

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44. A lift or any portion of a lift shall be limited to less than ten percent (10%) by volume of debris and the debris shall be uniformly distributed throughout the lift. However, noncompactible debris in the form of concrete, stone or metal may be placed in the lift up to twenty-five percent (25%) by volume, of the total lift, uniformly distributed throughout, and the debris is placed to minimize void space in the lift.

45. The licensee shall excavate the disposal cell liner, consisting of native materials, to a depth of twenty-four inches (24") and replace it with clay in uncompacted lifts not to exceed nine inches (9"). Each lift shall be compacted to not less than ninety-five percent (95%) optimum density as determined by ASTM D-698 and field permeability as specified in the currently approved Engineering Drawings.

46. The licensee shall fulfill and maintain compliance with all conditions and shall meet all requirements in the currently approved Construction QA/QC Plan and currently approved Engineering Drawings.

47. The disposal cell liner and radon barrier shall be constructed with a moisture content of zero percent (0%) to plus five percent (+5%) of optimum moisture as determined by Standard Proctor Method ASTM D-698.

48. The licensee shall compact the radon barrier to not less than 95 percent of optimum density as determined by Standard Proctor Method ASTM D-698 and a field permeability as specified in the currently approved Engineering Drawings.

49. The licensee shall record, at the time of acceptance, the date and time of day that any lift or portion of a lift has been accepted by the licensee as finished in accordance with all specifications and license conditions.

50. The licensee shall fulfill and maintain compliance with all conditions and requirements in the Waste Characterization Plan currently approved by the Division of Radiation Control.

51. The licensee shall fulfill and maintain compliance with all conditions and requirements in the LARW Waste Management Plan currently approved by the Division of Radiation Control.

52. The licensee shall utilize a manifest ("Radioactive Waste Shipment and Disposal Record," Envirocare Form E-100) containing the information required in R313-15-311(2) and (3) including:

    A. Specification of any solidification agents utilized;

    B. Waste containing more than 0.1% chelating agents by weight must be identified and the weight percentage of the chelating agent estimated. Chelating agents means amine polycarboxylic acids, hydroxyl-carboxylic acids, gluconic acids and polycarboxylic acids;

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53. The licensee shall not accept radioactive waste for storage and disposal unless the licensee has received a complete "Radioactive Waste Shipment and Disposal Record" (Form #E-100) from the shipper.

54. The licensee shall maintain copies of complete manifests or equivalent documentation until the Division of Radiation Control authorizes their disposition.

55. The licensee shall immediately notify the Division of Radiation Control or the Division's on-site representative of any waste shipment where a possible violation of applicable regulations or license conditions has been found.

56. The licensee shall require anyone who transfers radioactive waste to the facility comply with the requirements in R313-15-311(4)(a) through (h).

57. The licensee shall acknowledge receipt of the waste within one (1) week of receipt by returning a signed copy of the manifest or equivalent documentation to the shipper. The shipper to be notified is the licensee who last possessed the waste and transferred the waste to the licensee. The returned copy of the manifest or equivalent documentation shall indicate any discrepancies between materials listed on the manifest and materials received.

58. The licensee shall notify the shipper (i.e., the generator, the collector, or processor) and the Division of Radiation Control when any shipment or part of a shipment has not arrived within 60 days after the advance manifest was received.

59. The licensee shall maintain a record for each shipment of waste disposed of at the site. As a minimum, the record shall include:

    A. The date of disposal of the waste;

    B. The location of waste in the disposal site;

    C. The condition of the waste packages received;

    D. Any discrepancy between the waste listed on the shipment manifest or shipping papers and the waste received in the shipment.

    E. A description of any evidence of leaking or damaged packages or radiation or contamination in excess of applicable regulatory limits; and

    F. A description of any repackaging of wastes in any shipment.

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60. In accordance with R313-25-31 the licensee shall maintain a Utah Division of Radiation Control Surety (Trust Agreement adequate to fund the decommissioning and reclamation of the grounds, equipment and facilities. The surety shall be reviewed and updated annually and a report submitted to the Utah Division of Radiation Control within 60 days after June 1st of each year. The surety arrangement shall be updated as necessary to reflect decommissioning and reclamation costs.

61. Truck, railcar, and other equipment washdown (decontamination) facilities, including evaporation ponds, shall be controlled with fences or other approved barriers to prevent intrusion.

62. All burial embankments and waste storage areas, including immediately adjacent drainage structures, shall be controlled areas, surrounded by a six foot (6') high, chain link fence. All permanent fence shall be chain link six feet (6') high, topped with three strand barbed wire, top tension wire and twisted selvedge.

63. The licensee shall fulfill and maintain compliance with all conditions and shall meet all compliance schedules stipulated in the Ground Water Discharge Permit, number UGW 450005, issued by the Executive Secretary of the Utah Water Quality Board.

64. One (1) year prior to the anticipated closure of the site, the licensee shall submit for approval a site decontamination and decommissioning plan. As part of this plan, the licensee shall demonstrate by measurements and/or modeling that concentrations of radioactive materials which may be released to the general environment, after site closure, will not result in an annual dose exceeding 25 millirems to the whole body, 75 millirems to the thyroid, and 25 millirems to any other organ of any member of the public.

65. Except as specifically provided otherwise by this license, the licensee shall possess and use radioactive materials described in Item 6, 7, and 8 of this license and conduct site operations in accordance with statements, representations, operating procedures, and disposal criteria, heretofore made by the licensee or his authorized representative in application for and subsequent to issuance of Utah Radioactive Material License No. UT 2300249 and amendments thereto.

9/10/93
Date

William J. Sinclair, Executive Secretary, Utah Radiation Control Board

7560

MATERIAL ACCEPTANCE PROCESS MANUAL

ENVIROCARE
OF UTAH

46 West Broadway, Suite 240, Salt Lake City, Utah 84101 (801) 532-1330
537-7345 (fax)

000017

✦✧✦✦ INTRODUCTION ✦✦✧✦

Dear Client:

Welcome to the services of Envirocare of Utah, Inc.

This Material Acceptance Process Manual will provide an informative resource for you as we proceed through the process of handling your material. You will find essential information in this manual concerning the acceptance process: required pre-shipment samples and analyses, necessary forms, packaging and shipping guides, an acceptance checklist, and invoicing.

Our expectation is that you will communicate this information to your company. Please distribute the information in this manual to appropriate personnel in your organization to ensure a problem-free process.

For any information or assistance you may need, contact Kurt Higgins, your Envirocare Customer Support Representative.

Thank you for your business. We look forward to serving you.

Sincerely,

Al Rafati
Director, Business Development

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ENVIROCARE OF UTAH FACT SHEET

MAIN OFFICE

Envirocare of Utah, Inc.
46 West Broadway, Suite 240
Salt Lake City, Utah 84101

Telephone (801) 532-1330
Facsimile (801) 537-7345

DISPOSAL FACILITY

Envirocare of Utah, Inc.
Tooele County
US I-80, Exit 49
Clive, Utah 84029

SCHED OFFICE

LAKESIDE PLAZA
5215 W. WILEY POST WAY
SUITE 140
SLC, UTAH

KEY CONTACTS

Customer Support Representative Kurt Higgins

Accounts Receivable Johnny Bowne
Transportation Scheduler Dianne Wygant
(801) 532-0920
0922 FAX

CLIVE SITE WORKING HOURS

Administrative Office: 8:00 a.m. through 4:00 p.m. Monday through Friday

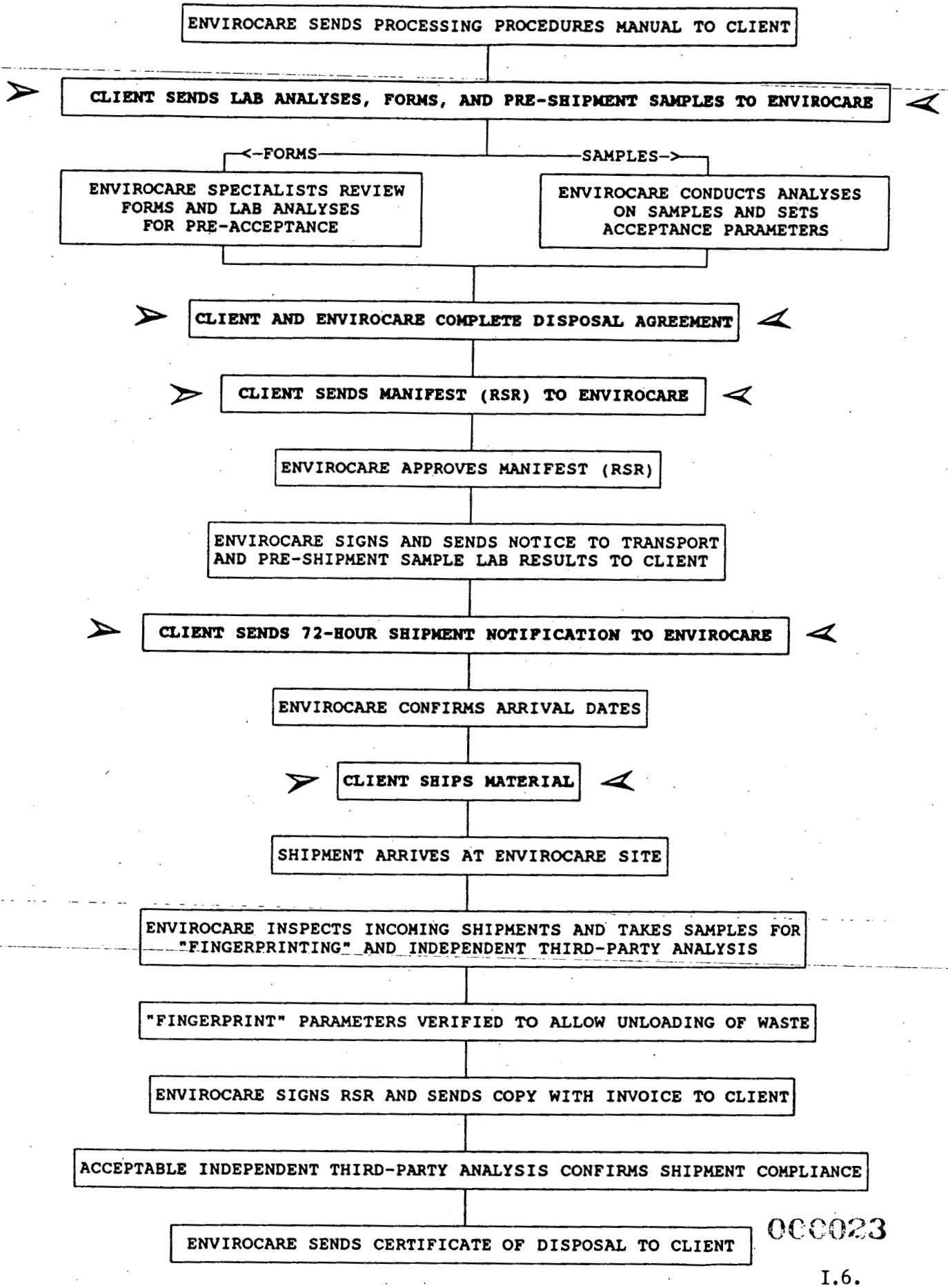
Shipments may arrive for acceptance 7:00 am. through noon.

Shipments arriving after noon (even on a scheduled day) will <u>not</u> be guaranteed acceptance that day, but will most likely be accepted the following regular work day.

OBSERVED HOLIDAYS

January 1	New Year's Day
February, 3rd Monday	President's Day
May, last Monday	Memorial Day
July 4	Independence Day
July 24	Pioneer Day
September, 1st Monday	Labor Day
November, last Thursday/Friday	Thanksgiving
December 25-31	Christmas

ACCEPTANCE AND SHIPMENT PROCESS



CUSTOMER INFORMATION

Please provide the following information and send a copy to Envirocare, **Attention Customer Support Representative**.

Envirocare should contact the following persons concerning

Contract:

_____
(Name)

_____
(Address)

_____
(Telephone) (Fax)

Packaging:

_____
(Name)

_____
(Address)

_____
(Telephone) (Fax)

Shipping: (This person must be readily available during arrival/approval stage.)

_____
(Name)

_____
(Address)

_____
(Telephone) (Fax)

Billing: (Bills will be sent to the address indicated in the contract. Copies may be sent here if different from that in the contract.)

_____
(Name)

_____
(Address, no P.O. Box)

_____
(Telephone) (Fax)

7560

CUSTOMER INFORMATION

Please provide the following information and send a copy to Envirocare, **Attention Accounts/Receivable Department**.

Contact Person for Invoicing:

_____
(Name)

_____
(Address)

_____
(Telephone) (Fax)

Billing Address (if different than that of Contact Person above):

_____
(Address)

_____
(Telephone) (Fax)

P.O. # and/or Contract # needed on invoice:

_____

Any special billing instructions?

_____

_____

_____

Method of Shipment:

☐ Rail ☐ Truck

Type of Container:

☐ Bulk

☐ Bags

☐ Boxes

☐ Drums

Liner in Container: ☐ Yes ☐ No

000025

✦✧✦✦ PRE-SHIPMENT ✦✦✧✦

ACCEPTANCE PROCESS

PRE-SHIPMENT ACCEPTANCE PROCESS
NORM/LARW MATERIAL

ANALYSES REQUIRED (UTAH CERTIFIED LAB):

(See Section "SAMPLES" concerning Utah Certified Laboratories.)

- ☐ PAINT FILTER LIQUIDS TEST
- ☐ REACTIVE HYDROGEN CYANIDE/HYDROGEN SULFIDE
- ☐ SOIL PH
- ☐ TCLP (~~8~~ 10 METALS, 32 ORGANICS)
- ☐ GAMMA SPECTROSCOPY (NATURAL & MAN-MADE ISOTOPES)
- ☐ ISOTOPIC ANALYSIS (IF NEEDED)

SAMPLES REQUIRED (SEND TO ENVIROCARE):

(See Section "SAMPLES" for complete information.)

- ☐ 5 2-POUND DIVERSE, REPRESENTATIVE SAMPLES
- ☐ 1 50-POUND REPRESENTATIVE SAMPLE

FORMS REQUIRED:

(See Section "FORMS" for forms and instructions.)

- ☐ LOW-ACTIVITY WASTE PROFILE RECORD (EC-0200)
- ☐ PHYSICAL PROPERTIES FORM (EC-0500)
- ☐ RADIOLOGICAL EVALUATION (EC-0650)
- ☐ RADIOACTIVE WASTE SHIPMENT AND DISPOSAL RECORD (RSR) (E 100)

PRE-SHIPMENT ACCEPTANCE PROCESS
MIXED WASTE

ANALYSES REQUIRED (UTAH CERTIFIED LAB):

(See Section "SAMPLES" concerning Utah Certified Laboratories.)

- ☐ PAINT FILTER LIQUIDS TEST
- ☐ REACTIVE HYDROGEN CYANIDE/HYDROGEN SULFIDE
- ☐ SOIL PH
- ☐ TCLP (8 METALS, 32 ORGANICS)
- ☐ TOX (TOTAL ORGANIC HALIDES)
- ☐ GAMMA SPECTROSCOPY (NATURAL & MAN-MADE ISOTOPES)
- ☐ ISOTOPIC ANALYSIS (IF NEEDED)

SAMPLES REQUIRED (SEND TO ENVIROCARE):

(See Section "SAMPLES" for complete information.)

- ☐ 5 2-POUND DIVERSE, REPRESENTATIVE SAMPLES
- ☐ 1 50-POUND REPRESENTATIVE SAMPLE

FORMS REQUIRED:

(See Section "FORMS" for forms and instructions.)

- ☐ MIXED WASTE PROFILE RECORD (EC-0175)
- ☐ PHYSICAL PROPERTIES FORM (EC-0500)
- ☐ RADIOLOGICAL EVALUATION (EC-0650)
- ☐ LAND DISPOSAL RESTRICTIONS (LDR) NOTICE AND/OR CERTIFICATION
- ☐ RADIOACTIVE WASTE SHIPMENT AND DISPOSAL RECORD (RSR)(E 100)
- ☐ UNIFORM HAZARDOUS WASTE MANIFEST (8700-22)
- ☐ WEIGH BILL

PRE-SHIPMENT

SAMPLES

7560

ENVIROCARE OF UTAH, INC.

PRE-SHIPMENT SAMPLE PROFILE RECORD

(EC-2000) (Rev. 10/93)

Generator Name: _____; Generator #/Waste Stream #: _____

Contractor Name: _____; Waste Stream Name: _____

Volume of Waste Material: _____; ___ LARW, ___ MW, ___ NORM; Delivery Date: _____

Original Submission: ___ Y; ___ N: Revision # ___ Date: _____

Name & Title of Person Completing Form: _____

This form is to be completed by the generator's chemical safety officer or equivalent and should accompany pre-shipment samples sent to Envirocare. Please read carefully and complete this form describing the samples sent for one waste stream. This information will be used to determine how to properly and safely manage, analyze and dispose of your samples. This form should not be enclosed in the sample containers or package but should accompany the samples, attached to the sample package, if possible. Should you have any questions while completing this form, contact Envirocare at (801) 532-1330. PRE-SHIPMENT SAMPLES CANNOT BE ANALYZED FOR THE INCOMING-SHIPMENT FINGERPRINT PARAMETERS OR OTHER ANALYSES UNLESS THIS FORM IS COMPLETED. Please mail this form with the samples to: Envirocare of Utah, Inc., Attn: Sample Control, Tooele county US I-80 Exit 49, Clive, Utah 84029.

1. CHEMICAL/SAFETY OFFICER INFORMATION

Chemical/Safety Officer _____

Title of Chemical/Safety Officer _____

Phone _____ Firm _____

2. Sample Return Address _____

_____

_____

3. SAMPLE COLLECTION

Sample Collection Contact Person _____

Title of Contact Person _____

Phone _____ Firm _____

4. Waste Stream Name _____

EPA Hazardous Waste Number(s) _____

Y N Is this a sample of Mixed Waste?

5. Indicate (Y or N) the expected or possible analytical results, characteristics or components of any sample of this waste stream below:

____ High pH	____ Low pH	____ Volatile Organics	____ Concrete	____ Alkaline Materials
____ Oxidizing Agents	____ Reducing Agents	____ Dissolved Metals	____ Organic Halides	____ Shock Sensitive Materials
____ Cyanides	____ Sulfides	____ Air Reactive	____ Free Liquids	____ Pyrophoric Materials
____ Acids	____ Caustic Materials	____ Organic Compounds	____ Inorganic Compounds	____ Water Reactive Materials
____ PCBs	____ Explosives	____ Solvents	____ Corrosives	____ Infectious Materials
____ Flash Point <60 C	____ Corrosive Materials	____ Reactive Materials	____ Manganese	____ Copper
____ Mercury	____ Others _____			

6. During analyses, our analysts will subject these samples to analytical environments including: heat, cold, stirring, shock impacts, caustics, acids (including nitric and glacial acetic), salt solutions (including potassium iodide, potassium nitrate, sodium thiosulfate, sodium sulfite), starch, iodine, and buffered pH solutions. Please list the associated hazards and safety precautions to be employed when analyzing any sample of this waste stream.

_____

_____

GENERATOR'S CERTIFICATION OF REPRESENTATIVE SAMPLES: I certify that samples representative of the waste described above are provided to Envirocare of Utah, Inc., for pre-shipment analyses.

GENERATOR'S AUTHORIZATION THAT SAMPLES MAY BE ANALYZED SAFELY: I further authorize that these samples may be safely analyzed using the precautions described in 6. above.

GENERATOR'S AUTHORIZATION AND CERTIFICATION TO RETURN SAMPLES AND PRIOR TO OR FOLLOWING ANALYSES: I hereby authorize that Envirocare of Utah, Inc., may return these samples to the address in 2. above prior to or following analysis and prior to disposal. I hereby certify that the generator and generator's applicable associates in this project understand that pre-shipment samples may be returned if wastes are not sent to Envirocare for disposal within 3 months of sample delivery.

Generator's Safety Officer's Signature _____ Title _____ Date _____

(Sign for the above certifications and authorizations.)

PRE-SHIPMENT SAMPLES

Send samples via United Parcel Post (UPS) to:

Envirocare of Utah, Inc.
Attention: Sample Control
Tooele County, US I-80, Exit 49
Clive, Utah 84029

Form EC-2000, Pre-Shipment Sample Profile Record, must accompany pre-shipment sample delivery to the Clive site.

THE FOLLOWING IS OF EXTREME IMPORTANCE!

Please send representative samples (number and quantity found on following page) that separately represent the diversity, possible extremes, and average of the waste stream(s). These samples will be analyzed for the following 10 incoming-shipment parameters:

- Solid/Soil pH
- Paint Filter Liquid Test or visual assurance
- Oxidizer/Reducer Test
- Cyanide Test
- Sulfide Test
- Photoionizer "sniffer" Test
- Pyrophoricity
- Air Reactivity
- Water Reactivity
- Shock Sensitivity

These preliminary samples will be analyzed at the Envirocare site, and the results of these analyses will be used to establish the range of tolerances for your incoming shipments. If a shipment of the waste stream arrives and the results of the analysis of that sample is beyond the pre-shipment tolerance range, the shipment may be returned. Additional characterization may be required before the waste may be accepted.

THIS ISSUE IS VERY IMPORTANT! If additional samples, analytical results, and/or written confirmation are needed to fully correct discrepancies, acceptance of waste materials may be delayed.

NOTE: YOUR SHIPMENT WILL BE CONSIDERED TO BE NON-CONFORMING WASTE IF THE RESULTS ARE NOT WITHIN THE TOLERANCES ESTABLISHED USING THESE SAMPLES AND MAY BE REJECTED!

As you proceed through your clean-up process, if you discover a type of material different than that which was sent in pre-shipment samples, contact your Envirocare Customer Support Representative concerning the possible need for additional samples of the new material to establish new acceptance parameters. This will help avoid rejected shipments of new material.

PRE-SHIPMENT SAMPLES

NUMBER AND QUANTITY REQUIRED

NORM, LARW, OR MIXED WASTE

5 2-pound diverse, representative samples

1 50-pound representative sample

UTAH CERTIFIED LABORATORIES

Contact the State of Utah Department of Health (below) to obtain a current list of Utah certified laboratories or to ask any questions concerning the current status of laboratories. The list provided may not include all certified laboratories.

State of Utah
Department of Health
Division of Laboratory Services
Bureau of Laboratory Improvement
46 North Medical Drive
Salt Lake City, Utah 84113-1105
(801) 584-8469

FORMS

7560

ENVIROCARE
OF UTAH, INC.

PRE-SHIPMENT SAMPLE PROFILE RECORD

(EC-2000) (Rev. 10/93)

Generator Name: _____; Generator #/Waste Stream #: _____

Contractor Name: _____; Waste Stream Name: _____

Volume of Waste Material: _____; ___ LARW, ___ MW, ___ NORM; Delivery Date: _____

Original Submission: ___ Y; ___ N: Revision # ___ Date: _____

Name & Title of Person Completing Form: _____

This form is to be completed by the generator's chemical safety officer or equivalent and should accompany pre-shipment samples sent to Envirocare. Please read carefully and complete this form describing the samples sent for one waste stream. This information will be used to determine how to properly and safely manage, analyze and dispose of your samples. This form should not be enclosed in the sample containers or package but should accompany the samples, attached to the sample package, if possible. Should you have any questions while completing this form, contact Envirocare at (801) 532-1330. PRE-SHIPMENT SAMPLES CANNOT BE ANALYZED FOR THE INCOMING-SHIPMENT FINGERPRINT PARAMETERS OR OTHER ANALYSES UNLESS THIS FORM IS COMPLETED. Please mail this form with the samples to: Envirocare of Utah, Inc., Attn: Sample Control, Tooele county US I-80 Exit 49, Clive, Utah 84029.

1. CHEMICAL/SAFETY OFFICER INFORMATION

Chemical/Safety Officer _____

Title of Chemical/Safety Officer _____

Phone _____ Firm _____

2. Sample Return Address _____

_____

_____

3. SAMPLE COLLECTION

Sample Collection Contact Person _____

Title of Contact Person _____

Phone _____ Firm _____

4. Waste Stream Name _____

EPA Hazardous Waste Number(s) _____

Y N Is this a sample of Mixed Waste?

5. Indicate (Y or N) the expected or possible analytical results, characteristics or components of any sample of this waste stream below:

____ High pH	____ Low pH	____ Volatile Organics	____ Concrete	____ Alkaline Materials
____ Oxidizing Agents	____ Reducing Agents	____ Dissolved Metals	____ Organic Halides	____ Shock Sensitive Materials
____ Cyanides	____ Sulfides	____ Air Reactive	____ Free Liquids	____ Pyrophoric Materials
____ Acids	____ Caustic Materials	____ Organic Compounds	____ Inorganic Compounds	____ Water Reactive Materials
____ PCBs	____ Explosives	____ Solvents	____ Corrosives	____ Infectious Materials
____ Flash Point <60 C	____ Corrosive Materials	____ Reactive Materials	____ Manganese	____ Copper
____ Mercury	____ Others _____			

6. During analyses, our analysts will subject these samples to analytical environments including: heat, cold, stirring, shock impacts, caustics, acids (including nitric and glacial acetic), salt solutions (including potassium iodide, potassium nitrate, sodium thiosulfate, sodium sulfite), starch, iodine, and buffered pH solutions. Please list the associated hazards and safety precautions to be employed when analyzing any sample of this waste stream.

_____

_____

GENERATOR'S CERTIFICATION OF REPRESENTATIVE SAMPLES: I certify that samples representative of the waste described above are provided to Envirocare of Utah, Inc., for pre-shipment analyses.

GENERATOR'S AUTHORIZATION THAT SAMPLES MAY BE ANALYZED SAFELY: I further authorize that these samples may be safely analyzed using the precautions described in 6. above.

GENERATOR'S AUTHORIZATION AND CERTIFICATION TO RETURN SAMPLES AND PRIOR TO OR FOLLOWING ANALYSES: I hereby authorize that Envirocare of Utah, Inc., may return these samples to the address in 2. above prior to or following analysis and prior to disposal. I hereby certify that the generator and generator's applicable associates in this project understand that pre-shipment samples may be returned if wastes are not sent to Envirocare for disposal within 3 months of sample delivery.

Generator's Safety Officer's Signature _____ Title _____ Date _____
(Sign for the above certifications and authorizations.)

PRE-SHIPMENT FORMS

The following forms must be completed and sent (you may fax 801-537-7345) to your Envirocare Customer Support Representative.

LOW ACTIVITY RADIOACTIVE WASTE:

RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD (RSR)(E 100)

LOW ACTIVITY WASTE PROFILE RECORD (EC-0200)
(Use for non-hazardous waste.)

PHYSICAL PROPERTIES EVALUATION (EC-0500)

RADIOLOGICAL EVALUATION FORM (EC-0650)

MIXED WASTE:

- RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD (RSR)(E 100)
- MIXED WASTE PROFILE RECORD (EC-0175)
- PHYSICAL PROPERTIES EVALUATION (EC-0500)
- RADIOLOGICAL EVALUATION FORM (EC-0650)
- UNIFORM HAZARDOUS WASTE MANIFEST (8700-22)
- LAND DISPOSAL RESTRICTIONS (LDR) NOTICE AND/OR CERTIFICATION
- WEIGH BILL

SHIPMENT FORMS

- NOTICE TO TRANSPORT (EC-1800)
- 72-HOUR SHIPMENT NOTIFICATION

☞ PLEASE NOTE:

Send the 72-Hour Shipment Notification to Envirocare
(EC-2725)
Attention: Scheduling Department
Fax: 801-532-0922

RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD

ENVIROCARE OF UTAH, INC.
46 W. Broadway, Suite 240
Salt Lake City, Utah 84101

Ph. (801) 532-1330
Fax: (801) 537-7345

(7) Page 1 of 2 Record # 147-01-0001
Use This No. On All Continuation Pages:

Rail Car/Trailer Number _____

Consigned to: ENVIROCARE OF UTAH, INC., Clive Disposal Site
Interstate 80, Exit 49, West of Salt Lake City, Utah

)
enerator Name: EXAMPLE
ddress: _____
_____
ity: _____ State: _____ Zip: _____
ontact Person: _____
hone No:(____)_____

)
ill Disposal Charges To: _____
ame _____
O. #/Contract #: _____
ddress: _____
ity: _____ State: _____ Zip: _____
hone No:(____)_____

)
gent/Broker: _____
ontact Person: _____
ddress: _____
ity: _____ State: _____ Zip: _____
hone No:(____)_____

_____
rokar's Signature Date

)
arrier: _____ Shipping Date _____
arrior EPA # (if any) _____
ddress: _____
ity: _____ State: _____ Zip _____
ontact Person: _____
hone No:(____)_____

ianifest Document Number.
Hazardous Waste Only) _____

Type of Container	Container Volume Cu. Ft.	# of Packages	Cu Ft. Per Container Type
Drums			
Over Pack.			
55			
30			
Boxes:			
1st Size:	92	5	460
2nd Size:			
3rd Size:			
Rail Cars:			
Truck/Trailer:			
Dump:			
Trailer:			
Other			
Other			
Other			
Shipment Totals		5	460

(5)

TOTAL FOR EACH CLASS # of Packages	Weight (Tons)	PROPER SHIPPING NAME & HAZARD CLASS (per 49 CFR 172.101)	DOT ID Number
		"NORM" Contaminated Solids, USDOT Exempt	No ID#
5	25.61	Radioactive Material - Low Specific Activity - LSA	UN 2912

(6)

SHIPMENT TOTALS									TOTAL SNM		
Activity In Millicuries									Isotope	Grams	No. of Cont.
No. of Containers	Volume Cu Ft	H-3*	C-14*	Tc-99*	I-129*	Ra-226	U-Nat		U-233		
		0	0	0	0	34.5			U-235		
5	460	Th-230						Total	Pu		
		15.1				64.7			Total		

* Must show 0 if not present. List additional nuclides and activities in blank spaces provided.

THIS IS TO CERTIFY THAT THE HEREIN-NAMED MATERIALS ARE PROPERLY CLASSIFIED, DESCRIBED, PACKAGED, MARKED AND LABELED, AND ARE IN PROPER CONDITION FOR TRANSPORTATION ACCORDING TO THE APPLICABLE REGULATIONS OF THE DEPARTMENT OF TRANSPORTATION, AND ARE IN COMPLIANCE WITH ALL REQUIREMENTS APPLICABLE AT THE DESIGNATED DISPOSAL SITE, AND THE REQUIREMENTS OF 10 CFR PART 61 AND PART 20.311 OR EQUIVALENT STATE REGULATIONS. IT IS FURTHER CERTIFIED THAT ALL ITEMS ON THIS RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD HAVE BEEN THOROUGHLY EXAMINED, INCLUDING DIAGRAMS, AND ALL INFORMATION SUBMITTED IS TRUE, CORRECT, AND COMPLETE.

_____
Authorized Signature of Customer Title Date

TERMS AND CONDITIONS

A. HAZARDOUS MATERIALS: Generator represents and warrants that Waste material ☐ is --OR-- ☒ is not a hazardous waste as defined in 40 CFR 261. Where the material is a hazardous waste, this shipment is also accompanied by a separate and completed hazardous waste manifest, along with the appropriate land-disposal restriction notice and/or certification as required by 40 CFR 268.1.

B. TITLE: Upon acceptance at the disposal site by Envirocare of Utah, Inc, and all appropriate regulatory authorities, title to the Waste which conforms to Generator's representations herein shall thereupon transfer from Generator and be vested in Envirocare of Utah, Inc.

C. WASTE MATERIAL: Generator represents and warranties that all data set forth in this RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD are true and correct in all respects and in accordance with all applicable governmental laws, rules, regulations and Envirocare of Utah, Inc.'s facility license.

D. INDEMNIFICATION: Generator agrees to indemnify Envirocare of Utah, Inc., its officers, employees and agents against all loses and liability whatsoever if such losses or liability results from the failure of the Waste Material to conform in all material respects to the data supplied on the RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD, or if this shipment fails to meet the standards prescribed by the Department of Transportation or any governmental agency having jurisdiction over such matters.

FOR ENVIROCARE OF UTAH USE ONLY

CHECK ALL THAT APPLY TO THIS LOAD: DESCRIBE INADEQUACIES IN COMMENTS

_____ Record Waste Description Inadequate.
_____ Contamination or Leakage Detected.
_____ Unexpected Exposure Rates Detected.
_____ Labels, Markings, etc. Inadequate.
_____ Container Integrity Inadequate.
_____ Other
_____ No Violations Detected on this Shipment.

COMMENTS:

SHIPMENT RECEIVED FOR DISPOSAL ☐
SHIPMENT REJECTED FOR DISPOSAL ☐

INSPECTOR DATE

ENVIROCARE INVOICE #: _____
ENVIROCARE INVOICE DATE: _____
ENVIROCARE CUSTOMER #: _____

DISTRIBUTION:

White, Yellow, Pink - Must accompany waste in transit.

Green-Must be mailed to and be approved by Envirocare of Utah prior to shipment, unless a copy has been sent by fax.

Gold - Customer Copy.

FORM #E 100
Rev. 7-93

IV.4.

000032

2560

GENERATOR NAME: EXAMPLE

AGENT/BROKER:

BATES:

ENVIROCARE OF UTAH, INC.
Continuation Sheet

RECORD # 0147-01-0001

PAGE 2 OF 2

Item Number (8)	Container Type (9)	Container Volume (C F) (10)	Waste Net Weight (Tons) (11)	Physical Form (12)	Waste Class (A, B, C) (13)	Solidification Agent (If Used) (14)	Waste Description (15)	Chemical Form / Chelating Agent (16)	Chelating Agent % (17)	Radionuclide(s) Present (18)	Total Activity (mCuries) (19)	Radionuclide Concentration (pCi/gram) (20)	Special Nuclear Material (grams) (21)	Source Material (Kg) (22)	Radiation Levels (mR/hr) Surface (23)	1 Meter (24)	OFFICE USE ONLY (25)	Transport Index (26)	Fissile Class (27)	D O T Label (49 CFR 172 400) (28)
1	BOX	92	5.06	SOLID	A	NA	SOIL	U OXIDES	NA	U-Nat	12.4	2700			3.0	1.0				RADIOACTIVE LSA
										Th-230	5.5	1200								
										Ra-226	5.5	1200								
2	BOX	92	5.06	SOLID	A	NA	SOIL	U OXIDES	NA	U-Nat	6.8	1500			1.2	0.3				RADIOACTIVE LSA
										Th-230	3.2	700								
										Ra-226	3.0	650								
3	BOX	92	5.25	SOLID	A	NA	SOIL	U OXIDES	NA	U-Nat	9.5	2000			2.6	1.4				RADIOACTIVE LSA
										Th-230	3.8	800								
										Ra-226	3.8	800								
4	BOX	92	5.20	SOLID	A	NA	STONE/CONCRETE	U OXIDES	NA	U-Nat	2.5	750			1.3	0.2				RADIOACTIVE LSA
										Th-230	1.4	300								
										Ra-226	1.7	350								
5	BOX	92	5.10	SOLID	A	NA	STONE/CONCRETE	U OXIDES	NA	U-Nat	2.3	500			0.8	0.1				RADIOACTIVE LSA
										Th-230	1.1	230								
										Ra-226	1.2	250								
5		460		PAGE TOTALS					TOTAL ACTIVITY		64.7			TOTAL SNM						

White, Yellow, Pink - Must accompany waste in transit. Green - Must be mailed to and approved by Envirocare of Utah prior to shipment, unless a fax copy has been sent. Gold - Customer Copy

IV.5.

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◇◇◇ INSTRUCTIONS FOR FORM E-100 ◇◇◇
RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD

Envirocare's "Radioactive Waste Shipment & Disposal Record," form E-100, serves as the manifest required by Appendix F to 10 CFR 20.1001 - 20.2401 and by Utah Radiaton Control Rules R313-15-311. This is an auditable record and must be accurately completed. Inaccurate waste descriptions, including type, volume, or weight; inaccurate measurements of external gamma exposure rates; and inaccurate calculations of total activities are typical errors which can result in rejection or delay in acceptance. Inclusion of materials not covered by your contract or not described on the manifest can result in the waste being determined to be non-conforming.

Most of the information required on Envirocare's manifest "Radioactive Waste Shipment & Disposal Record" (RSR) is self-explanatory. These instructions explain the particular requirements to satisfy the needs of Envirocare and the Utah Division of Radiation Control.

◇◇◇ INSTRUCTIONS FOR PAGE 1 OF E-100 ◇◇◇

Items 1-4 Self-explanatory

Item 5 **<u># of Packages</u>:** Enter total number of packages of each category on this manifest.

<u>Weight (Tons)</u>: Total net weight of waste (not including container weight) of each ategory on this manifest. If you wish to report weight in pounds, line out "Tons" and enter "lbs".

<u>Proper Shipping Name & Hazard Class</u>: Two commonly used names and hazard classes are provided for your convenience. If your waste is other than one of these, fill in with the proper name and class as found in 49 CFR 172.101.

<u>DOT ID Number</u>: Same as above. Use ID number from 49 CFR 172.101

Item 6 **<u>Total # of Packages/Cars, etc.</u>:** Same as Item 5

<u>Volume Cu. Ft.:</u> Total volume of <u>waste</u> on this manifest, **not rail car or truck volume.** If you wish to use Cu.Yds., line out "Ft." and enter "Yds."

<u>Activity in milliCuries:</u> Two double rows of boxes are provided. Enter the radionuclide in the top box (as has been done for H-3 through I-129) with the total activity of that nuclide in milliCuries in the box directly below. Use the total radioactivity content in milliCuries of each nuclide as shown on the continuation sheets. Put the total of all reported nuclides in the "Total" box.

IMPORTANT: Regulations require that the total activity of Tritium (H-3), Carbon-14 (C-14), Technetium-99 (Tc-99) and Iodine-129 (I-129) be listed on all manifests. Please show the total activities or "0" if not present.

Total SNM: If this shipment includes Special Nuclear Material, enter the number of grams of each category under the "Grams" heading and the number of containers on the shipment containing that category in the adjacent box under "No. of Cont."

Terms and Condition: These terms and conditions apply to all shipments. Item A requires the generator to certify to the presence or absence of hazardous material. The appropriate block must be checked.

Signature: The person authorized to sign for the Customer must sign and date the certification.

Item 7 Record #: This is a unique record number which identifies the generator, the waste stream number and the sequential number of the shipment for that waste stream. Envirocare will assign a record number series for your use. Enter rail car or trailer number.

Type of Container (Lower Left Corner): Self-explanatory. If your container, e.g., bag, is not included, write over any that are not pertinent.

Container Volume Cu. Ft.: List the average volume of waste in one of each type of container. If your volume is in Cu. Yds., line out "Ft" and insert "Yds."

# of Packages: Total number of each type of package on the manifest.

Cu. Ft. Per Container Type: Total volume of waste shipped in each type of container. This is the product of the first two columns. If volume is in Cu. Yds., line out "Ft." and enter "Yds."

Shipment Totals: Not required for first column "Container Volume Cu. Ft." Enter total of all types of packages in second column. Enter total volume of waste for all types of containers at bottom of third column "Cu. Ft. Per Container Type."

◇◇◇ INSTRUCTIONS FOR PAGE 2 OF E-100 ◇◇◇

Generator Name: Enter Generator name

Agent/Broker: Enter Agent/Broker name, if used

Bates: Leave blank

Record Number: Use Record Number from page 1

Column 8 Item Number: Numerical list, 1 - n, of individual packages on the manifest, or your unique identifying number for the container.

Column 9 **Container Type**: Enter Container description.

Column 10 **Container Volume (C.F.)**: Enter volume of waste in each container. If you use cubic yards, line out "C.F." and enter "C.Y."

Column 11 **Waste Net Weight (tons)**: Enter actual "wet" weight of waste in each container, not including container weight. If you use pounds, line out "tons" and enter "lbs."

Column 12 **Physical Form**: This should be "Solid."

Column 13 **Waste Class**: Waste class A, B or C from 10 CFR 61.55. This must be "A" or "AU."

Column 14 **Solidification Agent (If used)**: Trade name or generic description of any solidification agent used. If not used, enter "N/A."

Column 15 **Waste Description**: Enter appropriate description, such as Soil, Pond Sludge, Dewatered Resin, Construction Debris, etc.

Column 16 **Chemical Form/Chelating Agent**: Give the most prevalent chemical form, i.e., cellulose, cement, metallic oxides, etc., in the waste and chelating agent(s) (if greater than 0.1 % by weight).

Column 17 **Percent Chelating Agent by Weight**: List percentage if a chelating agent is present at more than 0.1 % by weight. If none present, enter NP. If chelating agents are less than 0.1%, enter "0."

Column 18 **Radionuclide(s) Present**: List all significant radionuclides present in the package (those present at concentrations above normal environmental levels for the area), following the concept of Envirocare's License Condition 6. For example, Ra-226 and Th-232 in equilibrium with their daughters, list only the Ra-226 or Th-232 and not the daughters. For U-238 and Ra-226, list both U-238 and Ra-226. For depleted uranium list D.U., not U-238. U-Nat and D.U. do not include daughters below U-234. Those daughters (Th-230 and Ra-226), if present must be listed separately. For shipments of waste contaminated with special nuclear materials, list U-234, U-235, and U-238 separately. Please contact the Envirocare radiation safety officer if there are any questions regarding this listing.

Column 19 **Total Activity (mCuries)**: List total activity in millicurie of each radionuclide present. For U-Nat and D.U. this must include the total activity of the U-234, U-235, and U-238 present.

Column 20 **Concentration (pCi/gram):** Show average activity concentration (pCi/g) for each radionuclide listed in each package. For U-Nat and D.U. this must include the total concentration of the U-234, U-235 and U-238 present.

Column 21 **Special Nuclear Material (grams):** Contained weight of Special Nuclear Material (grams) in each package.

Column 22 **Source Material (kg):** Contained weight of Source Material (kg) in each package.

Columns 23 and 24 **Radiation Levels (mR/h) (μR/h):** Record the maximum gamma exposure rates for each package (including background) as measured at contact and at one meter. Either mR/h or μR/h may be used. Line out the inappropriate unit.

Column 26 **Transport Index:** Enter DOT Transport Index (49 CFR 173.403(bb)) for all containers bearing "Radioactive Yellow-II" or "Radioactive Yellow-III" labels (49 CFR 173.203(d)(6)).

Column 27 **Fissile Class:** Enter Fissile Class (if appropriate) for shipments of Special Nuclear Material.

Column 28 **D.O.T. Label:** Enter D.O.T. Label as required by 49 CFR 173.444 and 49 CFR 172.400. Labels are not required for Exclusive Use shipments, but containers of Radioactive-LSA material must be so marked.

Page Totals

Column 8: Total of packages on this page

Column 10: Total volume of waste on this page

Column 11: Total weight of waste on this page

Column 19: Total activity of nuclides on this page

Column 21: Total weight of Special Nuclear Material (grams) on this page.

Disposition of Copies

Green: Must be mailed to and approved by Envirocare of Utah before shipping, unless a faxed copy has been sent for this purpose.

White, Yellow, Pink: For truck shipments, must accompany waste in transit. For rail shipments, mail or FedEx to Envirocare to arrive before the shipment arrives.

Gold: Customer copy

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DISPOSITION OF COPIES

1. FOR SCHEDULING PURPOSES, ENVIROCARE OF UTAH, INC., MUST BE NOTIFIED A MINIMUM OF THREE DAYS IN ADVANCE OF DELIVERY TO CLIVE, UTAH. THIS NOTIFICATION MUST BE IN WRITING.

2. RADIOACTIVE SHIPMENT RECORDS (RSR'S) MUST BE MAILED OR FAXED BEFORE SHIPMENT TO ENVIROCARE'S MAIN SALT LAKE CITY OFFICE, "ATTN: SCHEDULER/PLANNER." ENVIROCARE'S RADIATION SAFETY OFFICER WILL REVIEW THE RECORD FOR ACCURACY AND COMPLETION. UPON FINAL REVIEW, ENVIROCARE WILL NOTIFY THE TRANSPORTER, GENERATOR, BROKER OR ALL THREE OF SHIPMENT APPROVALS/ DISAPPROVALS.

3. ALL CORRESPONDENCE REGARDING TRANSPORTATION TO AND FROM ENVIROCARE'S CLIVE FACILITY MUST BE DIRECTED TO ENVIROCARE'S APPOINTED SCHEDULER/PLANNER.

4. FAILURE TO COMPLY WITH ENVIROCARE'S POLICIES AND PROCEDURES WILL NECESSARILY LEAD TO DELAYS AND POSSIBLE NON-ACCEPTANCE OF TRANSPORTED WASTES.

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ENVIROCARE
OF UTAH, INC.

MIXED WASTE PROFILE RECORD

(EC-0175) (Rev. 05/93)

Generator Name: _____; Generator #/Waste Stream #: _____

Contractor Name: _____; Waste Stream Name: _____

Volume of Waste Material: _____; ___ LARW, ___ MW, ___ NORM; Delivery Date: _____

Original Submission: ___ Y; ___ N: Revision # ___ Date: _____

Name & Title of Person Completing Form: _____

Please read carefully and complete this form for one waste stream. This information will be used to determine how to properly manage your waste. Should you have any questions while completing this form, contact Envirocare at (801) 532-1330. **WASTES CANNOT BE ACCEPTED AT ENVIROCARE OF UTAH UNLESS THIS FORM IS COMPLETED.** If a category does not apply, please indicate. **This form must be updated annually.**

1. GENERATOR INFORMATION

EPA ID # _____

Name of Generator _____

Mailing Address _____

_____

_____

Phone _____

Fax _____

Location of Material _____

Generator Contact _____

Title _____

Mailing Address _____

_____

Phone _____

Fax _____

2. WASTE STREAM INFORMATION

Waste Name _____

Color _____ Odor _____

Generation Rate or Total Amount _____

3. WASTE PHYSICAL PROPERTIES

_____ Liquid _____ Solid

_____ Sludge _____ Powder/Dust

4. DENSITY (Indicate dimensions)

_____ S.G. lb./ft³ lb./yd³

5. IGNITABILITY (40 CFR 262.21[a][2],[4].)

Flash Point _____ °F °C

Oxidizer(s) Y N

6. CHEMICAL COMPOSITION (List all known chemical or other constituents and circle the applicable concentration dimensions. Use attachements to complete, if necessary.)

Chemical Component	Concentration
_____	_____ % mg/kg
_____	_____ % mg/kg
_____	_____ % mg/kg
_____	_____ % mg/kg
_____	_____ % mg/kg
_____	_____ % mg/kg

Halogenated Organic (HOC) Compounds (Sum of the list of HOCs in 17.) _____ mg/kg

GENERATOR'S CERTIFICATION OF REPRESENTATIVE SAMPLES, ANALYTICAL RESULTS FROM QUALIFIED LABORATORIES, USE OF APPROVED ANALYTICAL AND SAMPLING METHODS: I certify that samples representative of the waste described in this Waste Profile Record were or shall be obtained using state- and EPA-approved sampling methods. I also certify that where necessary those representative samples were or shall be provided to Envirocare and to qualified and reputable laboratories for the analytical results reported herein.

GENERATOR'S STATEMENT AND CERTIFICATION THAT THE WASTE IS NOT PROHIBITED FROM LAND DISPOSAL: I further certify that the waste described in this record is not prohibited from land disposal in 40 CFR 268, and that the information provided on this form is complete, true and correct and is accurately supported and documented by any laboratory testing as required by Envirocare of Utah, Inc. The results of any said testing have been submitted to Envirocare of Utah, Inc.

Generator's Signature _____ Title _____ Date _____

(Sign for the above certifications. Please initial each page.)

ENVIROCARE
OF UTAH, INC.

Mixed Waste Profile Record - (EC-0175)-2

7. HAZARDOUS WASTE DETERMINATION, DESCRIPTION AND CHECKLIST. (Please complete the following checklist. Attach additional sheets if necessary):

a. _____ Briefly describe the waste in the space below. Include a description of the process in which it was generated.

b. _____ List the chemicals and materials used in or commingled with the waste.

c. _____ List all of the EPA Hazardous Waste Numbers for the waste.

d. _____ Describe all hazardous waste characteristics and listed hazardous waste constituents applicable to the waste.

e. _____ Attach the most recent analytical results which show that the waste is hazardous. Also attach any additional results describing the composition of the waste. Include results for all listed constituents and characteristics for which the waste is hazardous.

f. _____ Where the determination that the waste is hazardous is based on knowledge of the waste, describe the basis of the determination and attach all information for which the determination is based.

g. _____ Describe any applicable land-disposal prohibition extensions, exemptions, effective dates, delistings, and treatment standards or methods for the waste.

h. _____ Attach any Material Safety Data Sheets for the hazardous materials from which the waste is derived.

i. _____ Where a category on this Waste Profile Record does not apply, describe below why it does not.

EPA Hazardous Waste Number(s) _____

Description of the Waste: _____

8. HISTORY OF WASTE SINCE GENERATION. Please circle the appropriate answers. If a "Y" (yes) is circled, please describe in 7. above or on an attached sheet.

A. Y N Was this waste mixed, treated, neutralized, solidified, commingled, dried, or otherwise processed upon generation or at any time thereafter?

B. Y N Has this waste been transported or otherwise removed from the location or site where it was originally generated?

C. Y N Was this waste derived from (or is the waste a residue of) the treatment, storage, and/or disposal of hazardous waste defined by 40 CFR 261?

INITIALS _____

ENVIROCARE
OF UTAH, INC.

Mixed Waste Profile Record - (EC-0175)-3

9. LIST ALL KNOWN AND POSSIBLE CHEMICAL COMPONENTS OR HAZARDOUS WASTE CHARACTERISTICS

	(Y)	(N)		(Y)	(N)		(Y)	(N)
a. Listed HW	____	____	b. "Derived-From" HW	____	____	c. Toxic	____	____
d. Cyanides	____	____	e. Sulfides	____	____	f. Dioxins	____	____
g. Pesticides	____	____	h. Herbicides	____	____	i. PCBs	____	____
j. Explosives	____	____	k. Pyrophorics	____	____	l. Solvents	____	____
m. Organics	____	____	n. Phenolics	____	____	o. Infectious	____	____
p. Ignitable	____	____	q. Corrosive	____	____	r. Reactive	____	____
s. Antimony	____	____	t. Beryllium	____	____	u. Copper	____	____
v. Nickel	____	____	w. Thallium	____	____	x. Vanadium	____	____
y. Alcohols	____	____	z. Arsenic	____	____	aa. Barium	____	____
bb. Cadmium	____	____	cc. Chromium	____	____	dd. Lead	____	____
ee. Mercury	____	____	ff. Selenium	____	____	gg. Silver	____	____

hh. Other Known or Possible Materials or Chemicals _____

10. **REQUIRED CHEMICAL LABORATORY ANALYSIS CHECKLIST.** *Generator must submit results of analyses of samples of the waste.* Results are required from a qualified laboratory for the following analytical parameters unless nonapplicability of the analysis for the waste can be stated and justified in attached statements or in 7. above. Attach all analytical results and QA/QC documentation. **(CAUTION: PRIOR TO ARRANGING FOR LABORATORY ANALYSES, REFER TO 18 REGARDING UTAH-CERTIFIED AND EPA CLP LABORATORIES.)**

_____ A. Soil pH and Paint Filter Liquids Test, SW-846 Methods 9045 and 9095, respectively. (If the waste is a indeed a dry solid as described in 7., then the requirement for the Method 9095 may be waived by the generator.)

_____ B. Test Method (from SW-846 Chapter 7) to Determine Hydrogen Cyanide Released from Wastes.

_____ C. Test Method (from SW-846 Chapter 7) to Determine Hydrogen Sulfide Released from Wastes.

_____ D. HEAVY METALS ANALYSIS. Provide documentation of knowledge, determinations and descriptions or analytical results which address:

_____ (1) Whether the waste would pass or fail the TCLP for the eight heavy metal constituents based on the method in Appendix I of 40 CFR 268. The eight metals are listed below:

Arsenic (As)	Barium (Ba)	Cadmium (Cd)	Chromium (Cr)
Lead (Pb)	Mercury (Hg)	Selenium (Se)	Silver (Ag)

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INITIALS _____

ENVIROCARE
OF UTAH, INC.

D. HEAVY METALS ANALYSIS (continued)

_____ (2) Whether the waste meets the applicable treatment standards for metals based on the applicable standards referenced below:

(a) the concentration of the metal constituents in the waste itself as required by Table CCW, 40 CFR 268.42.

(b) the concentration of the metal constituents based on an extract of the waste as required by Table CCWE, 268.41.

_____ E. VOLATILE AND SEMI-VOLATILE ORGANIC CHEMICAL ANALYSES.

When your waste arrives at Envirocare, it may be analyzed for SW-846 Methods 8240 and 8270 and for tentatively identified chemicals. Should the result of this analysis indicate that hazardous wastes were not previously identified, your waste may be rejected and returned.

Provide documentation of knowledge, determinations and descriptions or analytical results which address:

_____ (1) Whether the waste would pass or fail the TCLP for the 32 organic chemical constituents based on the method in Appendix I of 40 CFR 268. These chemical constituents are listed below:

Benzene	1,1-Dichloroethylene	Lindane (delta-BHC)	Pyridine
Carbon Tetrachloride	2,4-Dinitrotoluene	m-Cresol	Tetrachloroethylene
Chlordane	2,4-D (2,4-Dichlorophenoxyacetic Acid)	Methoxychlor	Toxaphene
Chlorobenzene	Endrin	Methyl Ethyl Ketone	Trichloroethylene
Chloroform	Heptachlor (and hydroxide)	Nitrobenzene	2,4,5-TP (Silvex)
Cresols	Hexachlorobenzene	o-Cresol	2,4,5-Trichlorophenol
1,4-Dichlorobenzene	Hexachlorobutadiene	p-Cresol	2,4,6-Trichlorophenol
1,2-Dichloroethane	Hexachloroethane	Pentachlorophenol	Vinyl Chloride

_____ (2) Whether the waste meets the applicable treatment standards for volatile and semi-volatile constituents based on the applicable standards referenced below:

(a) the concentration of the constituents in the waste itself as required by Table CCW, 40 CFR 268.42, or

(b) the concentration of the constituents based on an extract of the waste as required by Table CCWE, 40 CFR 268.41.

_____ (3) Whether the concentration of HOC constituents based on the waste itself exceeds allowable levels. (See No. 17 for a list of HOC chemicals.) The results of an adaptation of Method 9020 (Total Organic Halides) for solids may be used to satisfy this requirement. Use acetone/hexane in a 1:1 ratio to extract TOX chemicals from the solids prior to extract analysis.

(Note: For solid-phase wastes, the greater-than-1,000-ppm HOC California List Waste Land Disposal Prohibition applies to HOC-containing wastes identified as hazardous by a characteristic property which does not involve the HOCs. Therefore, ignitable-, corrosive-, and/or reactive-only wastes containing greater-than-1,000-ppm HOCs are subject to the prohibition. The prohibition also applies to wastes that are subject to a national capacity variance.)

11. SAMPLE OF WASTE TO ENVIROCARE.

_____ **Please send 5 representative samples of your waste to Envirocare.** These samples will be used to establish the waste's incoming shipment acceptance parameter tolerances and may be analyzed for additional parameters. Send at least 1-kg. (2-lb.) for each sample in an air-tight clean glass container via UPS (United Parcel Post) to:

Envirocare of Utah, Inc.
Attn: Sample Control
Tooele County USI-80 Exit 49
Clive, Utah 84029

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INITIALS _____

ENVIROCARE
OF UTAH, INC.

Mixed Waste Profile Record - (EC-0175)-5

12. OTHER REQUIRED ANALYSES BASED ON THE RESPONSES AND RESULTS IN 9 AND 10. For the results of analyses in 10. and for some items in 9. marked "(Y)", the additional analyses or descriptions are required as noted:

	ITEM IN 9 OR 10	ADDITIONAL REQUIRED DESCRIPTIONS OR ANALYSIS
_____ A.	9a, 9b, 9c, 9l, 9m, 9n, 9y, 9hh	For the listed, derived, toxic, solvent, organic, phenolic, or alcohol-containing wastes listed to the left, additional descriptions or results of analytical methods may be required including some of the following methods: Method 8000 Gas Chromatography Method 8010 Halogenated Volatile Organics Method 8015 Nonhalogenated Volatile Organics Method 8020 Aromatic Volatile Organics Method 8030 Acrolein, Acrylonitrile, Acetonitrile Method 8040 Phenols Method 8060 Phthalate Esters Method 8080 Organochlorine Pesticides and PCBs Method 8090 Nitroaromatics and Cyclic Ketones Method 8100 Polynuclear Aromatic Hydrocarbons Method 8120 Chlorinated Hydrocarbons Method 8150 Chlorinated Herbicides
_____ B.	9f	For dioxin-related wastes, provide the results of SW-846 Method 8280 -- The Analysis of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans.
_____ C.	9g, 9h	The method in 40 CFR 268 Appendix I for the herbicides and pesticides unless the results are already provided in 10.E.(1).
_____ D.	9g, 9i	SW-846 Method 8080 – Organochlorine Pesticides and PCBs unless the results are already provided from 10.E.
_____ E.	9d, 10B	SW-846 Method 9010 or 9012 (adapted for solids as applicable) – Total and Amenable Cyanide. This method is required when 9d is checked (Y) or when the result in 10 B is greater than 20 mg/kg.

13. ANALYTICAL RESULTS FOR REQUIRED PARAMETERS:

Soil pH _____ Paint Filter Liquids Test _____ (Pass/Fail) Cyanide Released _____ mg/kg Sulfide Released _____ mg/kg

14. ANALYTICAL RESULTS FOR CHARACTERISTIC HEAVY METALS. Indicate Total Metals concentrations in mg/kg or ppm. Indicate Toxicity Characteristic Leaching Procedure (TCLP) concentrations in mg/liter.

Arsenic	_____ (Total)	_____ (TCLP)	Lead	_____ (Total)	_____ (TCLP)
Barium	_____ (Total)	_____ (TCLP)	Mercury	_____ (Total)	_____ (TCLP)
Cadmium	_____ (Total)	_____ (TCLP)	Selenium	_____ (Total)	_____ (TCLP)
Chromium	_____ (Total)	_____ (TCLP)	Silver	_____ (Total)	_____ (TCLP)

INITIALS _____

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ENVIROCARE
OF UTAH, INC.

Mixed Waste Profile Record - (EC-0175)-6

15. HAZARDOUS WASTE TREATMENT STANDARDS. List each of the waste's EPA Hazardous Waste Numbers in the description in 7 and below. Provide below additional information with respect to the waste's subcategory (e.g. low mercury subcategory), treatability group (e.g. non-wastewaters), treatment standards and concentration or technology (e.g. 5.6 mg/l arsenic in extract or INCIN [incineration]), and any applicable exemptions (e.g. exclusion for geothermal waste, 40 CFR 261.4[b)][5]; variance until May 8, 1992 for soil with treatment standard based on incineration, 40 CFR 268.35[e]). If additional space is needed, copy this page prior to completing and attach completed copies with this profile record.

EPA HW Number	Subcategory	Treatability Group	Treatment Standard(s) and Concentrations or Technology	Any Exemptions, Variances, Extensions or Exclusions (List 40 CFR reference)
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]
				[Y N]

16. GENERATOR'S RESPONSIBILITY TO DETERMINE HAZARDOUS WASTE NUMBERS AND TREATMENT STANDARDS.

a. **Generators Determine Whether a Waste is Hazardous.** The requirements of 40 CFR 262.11 state that it is the generator's responsibility to determine whether his(her) waste is hazardous. This determination must be made by the generator.

b. **Certification by Generator Must Accompany Waste Shipment(s).** As required by 40 CFR 268, all restricted wastes received at Envirocare must be accompanied by a notice and/or certification from the generator stating that the waste meets the applicable land disposal treatment standards. Envirocare will rely on the certification(s).

c. **Generator's Waste may be Sampled at the Disposal Facility by Envirocare or by Environmental Regulators.** Should the results of subsequent analysis of a waste show that the waste is hazardous for additional EPA hazardous waste numbers and corresponding treatment standards which were not identified by the generator, then the waste may be removed, refused, and may be returned to the generator pursuant to the terms of the disposal agreement.

d. **Envirocare Accepts Waste According to a Waste Analysis Plan.** Envirocare does not assume or accept any responsibility imposed on the generator by law or the disposal agreement.

INITIALS _____

ENVIROCARE
OF UTAH, INC.

Mixed Waste Profile Record - (EC-0175)-7

17. LIST OF HALOGENATED ORGANIC COMPOUNDS (HOCs) BY METHOD. The HOCs listed in 40 CFR 268 Appendix III are listed below by analyte for SW-846 Methods 8240 and 8270. The aggregate concentration for HOCs is obtained by summing the total of results from all of the following chemicals:

The following HOC analytes are already included in Method 8240, SW-846, Third Edition:

Bromodichloromethane	Chloromethane	1,2-Dichloropropane	trans-1,3-Dichloropropene
Bromomethane	2-Chloroethyl Vinyl Ether	Iodomethane	1,1,1-Trichloroethane
Carbon Tetrachloride	cis-1,3-Dichloropropene	Methylene Chloride	1,1,2-Trichloroethene
Chlorobenzene	Dibromomethane	1,1,2,2-Tetrachloroethane	Trichlorofluoromethane
Chlorodibromomethane	Dichlorodifluoromethane	Tetrachloroethene	1,2,3-Trichloropropane
Chloroethane	1,1-Dichloroethane	trans-1,2-Dichloroethane	Vinyl Chloride
Chloroform	1,2-Dichloroethane		

These additional HOCs may be analyzed using the December 1987 revision of 8240:

1,2-Dibromo-3-Chloropropane	1,2-Dibromoethane	Pentachloroethane
3-Chloropropionitrile	trans-1,4-Dichloro-2-Butene	1,1,1,2-Tetrachloroethane

The following HOC analytes are already included in Methods 8270:

Aldrin	Chlordane	3,3'-Dichlorobenzidine	Hexachlorocyclopentadiene
alpha-BHC	4-Chloroaniline	2,4-Dichlorphenol	Hexachloroethane
Aroclor-1016	4-Chloro-3-Methylphenol	2,6-Dichlorphenol	Methoxychlor
Aroclor-1221	2-Chloronaphthalene	Dieldrin	Pentachlorobenzene
Aroclor-1232	2-Chlorophenol	Endosulfan II	Pentachloronitrobenzene
Aroclor-1242	4,4'-DDD	Endosulfan I	Pentachlorophenol
Aroclor-1248	4,4'-DDE	Endrin	Pronamide
Aroclor-1254	4,4'-DDT	Endrin Aldehyde	2,3,4,6-Tetrachlorophenol
Aroclor-1260	delta-BHC	Heptachlor Epoxide	Toxaphene
beta-BHC	1,2-Dichlorobenzene	Heptachlor	1,2,4-Trichlorobenzene
Bis(2-Chloroethyl) Ether	1,3-Dichlorobenzene	Hexachlorobenzene	1,2,4,5-Tetrachlorobenzene
Bis(2-Chloroisopropyl) Ether	1,4-Dichlorobenzene	Hexachlorobutadiene	2,4,5-Trichlorophenol
			2,4,6-Trichlorophenol

These additional HOCs may be analyzed using the December 1987 revision of 8270:

Chlorobenzilate	Hexachloropropene	Kepone	Tris(2,3-Dibromopropyl) Phosphate
Hexachlorophene	Isodrin	PCBs n.o.s.	

The concentrations of the following HOCs must also be determined by adapting SW-846 Methods 8240 or 8270 or by using another SW-846 Method:

2-Chloro-1,3-Butadiene	2,4-Dichlorophenoxyacetic Acid	Pentachlorodibenzofuran	Tetrachlorodibenzofuran
Bis(2-Chloroethoxy) Ethane	Hexachlorodibenzofuran	Pentachlorodibenzo-p-dioxins	Tetrachlorodibenzo-p-dioxins
3-Chloropropene	Hexachlorodibenzo-p-dioxins	2,4,5-T	2,3,7,8-Tetrachlorodibenzo-p-dioxin
			2,4,5-TP Silvex

18. QUALIFIED ANALYTICAL DATA FOR COMPLETING THIS FORM. Generator is cautioned as follows:

a. **Utah Certified Laboratories.** During the process of appealing a notice of violation or other enforcement actions, the Utah Department of Environmental Quality will not admit laboratory data which is not from a Utah-certified laboratory. Utah certification is obtained through the Utah Bureau of Laboratory Improvement [801] 584-8400.

b. **Utah Certification is Parameter-Specific.** Laboratories are certified by parameter. One should not assume that every result from a "Utah-certified" laboratory is acceptable for a compliance appeal. A laboratory may certify for some parameters and not for others. It is a good practice to check with a laboratory to ensure parameter certification. A laboratory's certification is dynamic. A laboratory may lose certification or may not renew their certification for parameters from one compliance period to the next.

c. **Approved Sampling.** For all sampling, the analytical method's sampling procedures must be followed.

INITIALS _____

ENVIROCARE
OF UTAH, INC.

19. ___ A Pre-Shipment Sample Profile Record, form EC-2000, should be sent to Envirocare with the pre-shipment samples.

20. Additional and Updated Requirements for Form EC-0175:

A) A Total Organic Halides (TOX) result must be provided. Use SW-846 Method 9020 or 9022.

B) Results from a Utah-certified laboratory must be included unless:

- The laboratory results have been provided as part of a U.S. Environmental Protection Agency project

– OR –

- If the analyses were performed prior to discussions of disposal with Envirocare of Utah, Inc., the data may be acceptable under the following restrictions:

  - The quality control samples for the sample set were also performed on the same sample.
  - The results include acceptable ranges and must clearly show that the data was in control.
  - Quality control samples include all those required by SW-846 or other methods approved by the U.S. EPA.

21. ___ For analytical work done by Utah-certified laboratories, please provide a copy of the laboratory's current certification letter for each parameter analyzed and each method used for analyses required by this form and the Radiological Evaluation, form EC-0650.

22. ___ For other analytical work, please attach an explanation or supporting documents which demonstrate compliance with the requirements in 20B. above.

Initials _____

◇◇◇ INSTRUCTIONS FOR FORM EC-0175 ◇◇◇
MIXED WASTE PROFILE RECORD

PURPOSE: The Mixed Waste Profile Record provides certified documentation from the generator of the properties of the waste to be disposed of at Envirocare. The information you provide with this form is very important. It is used for waste management and compliance purposes and is referred to by the disposal agreement or contract. Therefore, please fill out Form EC-0175 as completely and accurately as possible.

IN COMPLETING THE FORM, IT IS VERY IMPORTANT TO PROVIDE ALL APPLICABLE EPA HAZARDOUS WASTE NUMBERS OR CODES IN ITEM NUMBER 7 ON PAGE 2 OF THE FORM. (See the instructions for Item Number 7.)

SIGNATORY REQUIREMENTS: Once Form EC-0175 has been completed, the initial or legal generator of the waste must sign the form and place his/her initials on each page of the profile. The person who signs as the generator should have overall organizational responsibility for the management of the waste. The generator must sign and initial the completed form even when the waste has been manifested and transported to a permitted storage facility at a different location.

CERTIFYING SIGNATURE: The signature of the generator at the bottom of the first page of the form is a certifying signature. Before signing the completed form, the generator should read and understand the certifications.

ITEMS NOT APPLICABLE: When an item in the form is not applicable, the generator should place N/A or a similar expression as a response. In addition, an explanation and justification of the non-applicability should be provided in Item Number 7 on page 2 of the form.

◇◇◇ INSTRUCTIONS FOR PAGE 1 OF EC-0175 ◇◇◇

Volume of Waste Material: The total amount of waste to be delivered to Envirocare should be estimated or stated as part of the waste stream information. Unless otherwise specified, the contract refers to this amount of waste as the amount of waste specified for the disposal contract, so this amount can be important.

Waste Stream Name: Each waste stream must have a separate form completed. Enter here the descriptive name of the waste steam.

Date of completion, original submission, (Y/N), Revision Number: These items help differentiate final and draft versions. Additionally, if the waste stream is to arrive at Envirocare over a period of one year or more, as a requirement of Envirocare's permit, soon after the anniversary date of the first shipment, the generator will need to update form EC-0175. The update may be a letter of update or a renewed profiling of the waste.

> **Letter of Update:** This letter is a written statement to Envirocare to the effect that the previously-submitted Mixed Waste Profile Record is still representative of the waste, that the process generating the waste has not changed, and that the Mixed Waste Profile Record is still representative of the generator's waste.
>
> **Renewed Profiling of the Waste:** A renewed profiling of the waste means that a new Mixed Waste Profile Record is completed for the waste, new analytical results are provided with the Mixed Waste Profile Record, five new pre-shipment samples are sent to the facility for analysis, and new incoming-shipment tolerances are established. Additionally, the generator must submit to Envirocare a renewed profiling in the following circumstances:
>
> 1. When the process generating the waste has changed.
> 2. When Envirocare has reason to suspect that the process generating the waste has changed.

Name, Title, and Firm of Person Completing Form: This item should reflect such information for the person providing the information for the form. This person may be a consultant. However, the generator is the one to sign and initial for form.

Item 1 **Generator Information:** This information is applicable to the initial generator of the waste and to the location that the waste was generated. The contact person for the disposal project must also be provided. If the waste will be manifested to Envirocare from another generator or if the waste has been moved from the location of initial generation, please describe the situation in Item Number 7 on page 2 of the form.

Item 2 **Waste Stream Information:** Please be as consistent as possible with the waste stream name. The waste stream name should be concise, descriptive, and recognizable to the generator. Any distinctive color or odor for the waste should be provided.

Item 3 **Waste Physical Properties:** Indicate which of the listed properties most accurately applies to the waste stream.

Item 4 **Density:** Please provide or estimate the density of the waste. Density may be provided as a result of analysis or through knowledge of the waste. Circle the appropriate dimensions. (S.G. is for specific gravity where water at 4°C is 1 g/ml.)

Item 5 **Ignitability:** Please indicate the flash point, if applicable, of the waste. Indicate whether the waste is an oxidizer as defined by 40 CFR 261.21(a)(4).

Item 6 **Chemical Composition:** Many generators know the composition of their waste through material balance knowledge, analysis, inherent composition, or otherwise. Where chemicals or constituents of the waste are known, please indicate the component and concentration. The HOC value should be provided from the result of analysis for Total Organic Halides (TOX) or from SW-846 Methods 8240 and 8270. When Methods 8240 and 8270 are used, the HOC value is the sum of the results of the compounds in Item 17.

A generator may provide estimates of composition (e.g. 98% soil and debris). Other than for the HOC value, it is not required to conduct additional analyses of the waste solely to complete this item.

Knowledge of the waste may be used or chemical composition may be addressed in the description of the waste in Item Number 7 on page 2 of the form. However, where concentrations of constituents are known, please provide this information in this item.

◇◇◇ INSTRUCTIONS FOR PAGE 2 OF EC-0175 ◇◇◇

Item 7 **Hazardous Waste Determination, Description, and Checklist:** In this item, the generator is to provide a written, comprehensive description of the waste along with explanations and justifications from other responses in the form. The generator should fully describe the waste as instructed. Use additional pages if necessary.

Items in the form determined to be non-applicable or otherwise incompletely described should be fully justified or described in Item Number 7.

A detailed visual description of the waste is to be provided in this item. When a waste arrives at Envirocare, the waste will be visually inspected and compared with this description. Shipments will be rejected when the description does not match the waste on the shipment.

For each compound detected in laboratory analyses, the generator should explain the presence of the compound and whether the EPA Waste Codes or Numbers which correspond to the compound are applicable. Any applicable exclusion or exemption for the waste should be fully explained. For example, if a waste is analyzed to

contain trace quantities of benzene, and if the generator determines the waste to have EPA Hazardous Waste Numbers or Codes other than those applicable to benzene (i.e., U019, D018, and/or F005), then the generator should provide a corresponding justification or statement as to why any of the benzene-related codes or numbers are not applicable.

******* VERY IMPORTANT ******* All applicable EPA Hazardous Waste Codes or Numbers should be listed in the space provided.

Item 8 **History of Waste Since Generation:** Wastes that have been transported or manifested from their initial generation location must be noted as such in the responses to these questions.

◇◇◇ INSTRUCTIONS FOR PAGES 3-4 OF EC-0175 ◇◇◇

Item 9 **List All Known and Possible Chemical Components or Hazardous Waste Characteristics:** This item requires the generator to perform a checklist of known or possible components of the waste. A laboratory analysis is not required for each element in this item. However, an appropriate level of research should be done to determine whether the element in question is associated with this waste. The research should include file reviews, operational reviews, reviews of analytical results, and interviews of individuals who have operated associated processes. Where known or possible association or composition with regard to these elements (a-gg) can be made, the response should be checked under the "Y" column, and an explanation of this indication should be made as part of the description in Item Number 7 on page 2 of the form.

If, as a result of this exercise, additional known or possible chemical components are identified, those should be noted in hh. and described in Item Number 7.

Item 10 **Required Chemical Laboratory Analysis Checklist:** Sample results from Utah-certified laboratories are required for the waste and should be submitted to address the elements identified in this item.

All analytical results should be submitted with the completed form. Where a parameter or class of analysis does not apply, an indication of non-applicability should be made with a corresponding justification in Item Number 7 on page 2.

In general, data from Utah-certified laboratories must be provided.

Please note that, in most instances, analytical results for 10A, 10B, 10C, and at least one of the remaining elements in this item are required.

Item 11 **Sample of Waste to Envirocare:** For the 5 representative samples, please send 5 samples that separately represent the diversity, possible extremes, and average of the waste stream, i.e., if the waste contains concrete, wood, and plastic, send separate samples of each. These samples will be analyzed for the 10 incoming-shipment parameters for which samples of the incoming-shipments of this waste will be analyzed.

Results of the on-site analyses of these 5 preliminary samples will be used to establish the range of tolerances for the results of analyses of samples from the incoming shipments. Therefore, if a shipment of the waste stream arrives and the results of an analysis of that sample is beyond this range, the shipment may be rejected or an additional waste profile record form EC-0175 may be required to be completed before the waste may be accepted. THIS ISSUE IS VERY IMPORTANT since the delay required to fully correct the problem may take weeks and may necessitate a return of the shipment to the shipper.

◇◇◇ INSTRUCTIONS FOR PAGE 5 OF EC-0175 ◇◇◇

Item 12 **Other Required Analyses Based on the Responses and Results in 9 and 10:** This item is dynamic with the responses in 9 and 10. Where a "Y" answer or a positive indication of the presence of the identified items in 9 or 10 are provided, additional analyses will be needed to fully evaluate the waste.

Item 12A addresses the presence or association of non-specific organic compounds in the waste. The additional requirements in those cases are to provide analytical results to address the question of which EPA Hazardous Waste Number or Codes may be applicable to the waste.

Item 12B addresses the presence or association of dioxins in the waste. Results of analytical method SW-846 8280 are needed to enable a full evaluation of the waste for acceptance at Envirocare.

Items 12C and 12D addresses the presence or association of the waste with PCB's pesticides and/or herbicides. Additional analytical results or explanations are needed to address this issue.

Item 12E addresses the presence or association of the waste with cyanides. A total and amenable cyanide analytical result is required when 9d is checked "Y" or when the result in 10 B is greater than 20 mg/kg.

Item 13 **Analytical Results for Required Parameters:** The generator should provide the results of the corresponding required analyses in the appropriate spaces.

Item 14 **Analytical Results for Characteristic Heavy Metals:** The generator should provide the results of total or TCLP heavy metals analyses in the appropriate spaces.

◇◇◇ **INSTRUCTIONS FOR PAGE 6 OF EC-0175** ◇◇◇

Item 15 **Hazardous Waste Treatment Standards:** For each EPA Hazardous Waste Number or Code listed in Item Number 7 on page 2, provide the subcategory, treatability group, treatment standard, and applicable exemptions, extensions, and/or variances. Most of this information for corresponding waste codes can be obtained from the tables and text of 40 CFR 268.40 through 268.43.

SUBCATEGORIES. Some EPA Hazardous Waste Numbers or Codes have subcategories. Many do not. If the waste does not fit into one of the subcategories, then a subcategory is not applicable. The subcategory is usually listed in parentheses in either the Waste-Code column or the Waste-descriptions-and/or-treatment-subcategory column in the tables in 40 CFR 268.41 through 268.43. A good example of an EPA Hazardous Waste Number or Code is D009, TCLP for mercury. There are many subcategories of this code -- low mercury subcategory from Table CCWE in 40 CFR 268.41; high mercury subcategory from Table 2, 40 CFR 268.42; elemental mercury contaminated with radioactive materials category from Table 3, 40 CFR 268.42; hydraulic oil contaminated with Mercury Radioactive Materials Subcategory.

TREATABILITY GROUPS. There are two main treatability groups: wastewaters and nonwastewaters.

> Wastewaters are wastes that contain less than 1% by weight total organic carbon (TOC) and less than 1% by weight total suspended solids (TSS) with some exceptions listed in 40 CFR 268.2(f).

TREATMENT STANDARDS. The treatment standards for an EPA Hazardous Waste Number or Code are found by looking on the tables for the corresponding codes, subcategories and treatability groups in the tables in 40 CFR 268.41 through 268.43. These standards should be listed in the treatment standards column.

EXEMPTIONS, VARIANCES, EXTENSIONS, OR EXCLUSIONS. Where there are such exemptions to the requirement of a treatment standard for disposal, please list the applicable exemption.

Item 16 **Generator's Responsibility to Determine Hazardous Waste Numbers and Treatment Standards:** These are important reminders which should be read and understood by the generator.

Please note that a MANIFEST AND A CERTIFICATION OR NOTICE must accompany the waste shipments (see 40 CFR 268.7[a]). Failure to provide both the completed manifest and certification or notice may result in the rejection of the waste upon arrival at the Envirocare facility.

GGG **INSTRUCTIONS FOR PAGE 7 OF EC-0175** GGG

Item 17 **List of Halogenated Organic Compounds (HOCs) by Method:** Envirocare's permit requires that an analysis of the waste for Total Organic Halides (TOX) or SW-846 Methods 8270 and 8240 be performed prior to shipment. Please submit TOX results with form EC-0175. The generator should provide information in Item Number 6 as to the concentration of HOC's in the waste as a result of the TOX test or the 8240 and 8270 tests. The list provided in Item Number 17 is the list of applicable HOC's. If a waste has a high level of organic halides, the generator may be required to test the waste for the presence of the chemicals listed in Item Number 17 using additional methods.

Item 18 **Utah-Certified and EPA CLP Laboratories:** Item Number 18 provides a reminder and caution to the generator as to the issue of certified laboratories. Please read and understand these items.

GGG **INSTRUCTIONS FOR PAGE 8 OF EC-0175** GGG

Item 19, 20, 21, & 22: Self Explanatory.

7560

ENVIROCARE
OF UTAH, INC.

LOW-ACTIVITY RADIOACTIVE WASTE PROFILE RECORD

(EC-0200)

(Rev. 09/93)

Generator Name: _____; Generator #/Waste Stream #: _____

Contractor Name: _____; Waste Stream Name: _____

Volume of Waste Material: _____; ___ LARW, ___ MW, ___ NORM; Delivery Date: _____

Original Submission? ___ Y; ___ N: Revision # ___ Date: _____

Name & Title of Person Completing Form: _____; Date: _____

Generators of solid waste are required to determine whether their wastes are hazardous waste as defined by 40 CFR 261. Please complete a copy of this form for each waste to provide the information on which this determination is based. Should you have any questions while completing this form, contact Envirocare at (801) 532-1330. **WASTES CANNOT BE ACCEPTED AT ENVIROCARE OF UTAH UNLESS THIS FORM IS COMPLETED.** If a category does not apply, please indicate.

1. GENERATOR INFORMATION

EPA ID # _____

Name of Generator _____

Generator Contact _____

Title _____

Mailing Address _____

_____

_____

Phone _____

Fax _____

Location of Material _____

_____

Contact Person _____

Title _____

Mailing Address _____

_____

Phone _____

Fax _____

2. WASTE STREAM INFORMATION

Color _____ Odor _____

3. WASTE PHYSICAL PROPERTIES

_____ Liquid _____ Solid

_____ Sludge _____ Powder/Dust

4. DENSITY (Indicate dimensions)

_____ S.G. lb./ft^3 Kg/m^3

5. IGNITABILITY (40 CFR 262.21[a][2],[4].)

Flash Point _____ °F °C

Oxidizer(s) Y N

6. CHEMICAL COMPOSITION (List known chemical or other constituents and circle the applicable concentration dimensions.)

Chemical Component	Concentration
_____	_____ % ppm
_____	_____ % ppm
_____	_____ % ppm
_____	_____ % ppm
_____	_____ % ppm
_____	_____ % ppm

GENERATOR'S CERTIFICATION OF NON-HAZARDOUS WASTE: As the generator of this waste, I certify to Envirocare of Utah, Inc., that the information provided on this form is complete, true and correct, and is accurately supported and documented by any laboratory testing, as required by Envirocare of Utah, Inc. The results of any said testing have been submitted to Envirocare of Utah, Inc. I further certify and warrant to Envirocare of Utah, Inc., that the waste represented on this form is not a hazardous waste as defined by 40 CFR 261.

Generator's Signature _____ Title _____ Date _____

(Sign for the above certification. Please initial each page.)

ENVIROCARE
OF UTAH, INC.

Low-Activity Radioactive Waste Profile Record - EC-0200-2

7. **DESCRIPTION OF WASTE:** (Briefly describe the waste. Include a description of the process in which it was generated. List the chemicals and materials used in or commingled with the waste. List any associated EPA Hazardous Waste Numbers and all of the applicable exclusions, delistings or exemptions. Attach any product information or Material Safety Data Sheets for the products from which the waste is derived.)

_____

_____

_____

_____

EPA Hazardous Waste Number(s) _____

8. **TOXICITY CHARACTERISTIC FOR HEAVY METALS AND ORGANIC CHEMICALS.** (Indicate Toxicity Characteristic [TCLP] concentrations in mg/liter in the extract.)

TCLP Metals:				TCLP Organic Chemicals (Detected)			
Arsenic	_____	Lead	_____	_____	_____	_____	_____
Barium	_____	Mercury	_____	_____	_____	_____	_____
Cadmium	_____	Selenium	_____	_____	_____	_____	_____
Chromium	_____	Silver	_____	_____	_____	_____	_____
Copper	_____	Zinc	_____	_____	_____	_____	_____

9. **OTHER POSSIBLE CHEMICAL COMPONENTS/CHARACTERISTICS**

	(Y)	(N)		(Y)	(N)		(Y)	(N)
Cyanides	____	____	Sulfides	____	____	Dioxins	____	____
Pesticides	____	____	Herbicides	____	____	PCBs	____	____
Explosives	____	____	Pyrophorics	____	____	Solvents	____	____
Organics	____	____	Phenolics	____	____	Infectious	____	____
Ignitable	____	____	Corrosive	____	____	Reactive	____	____
Antimony	____	____	Beryllium	____	____	Copper	____	____
Nickel	____	____	Strontium	____	____	Thallium	____	____
Vanadium	____	____	Zinc	____	____	Alcohols	____	____
*TCLP Volatiles	____	____	**TCLP Organics	____	____	***TCLP Semi-volatiles	____	____

*TCLP Volatiles include benzene, carbon tetrachloride, chlorobenzene, chloroform, 1,2-dichloroethane, 1,1-dichloroethylene, methyl ethyl ketone, tetrachloroethylene, trichloroethylene, vinyl chloride.

**TCLP Organics include 2,4-D, heptachlor hydroxide, pyridine, 2,4,5-TP (Silvex).

***TCLP Semi-volatiles include chlordane, o-cresol, m-cresol, p-cresol, cresol, 1,4-dichlorobenzene, 2,4-dinitrotoluene, Endrin, heptachlor, hexachlorobenzene, hexachlorobutadiene, hexachloroethane, lindane, methoxychlor, nitrobenzene, pentachlorophenol, toxaphene, 2,4,5-trichlorophenol, 2,4,6-trichlorophenol.

(**NOTE:** ATTACH RESULTS FROM LABORATORY ANALYSES, MATERIAL SAFETY DATA SHEETS, ALL OTHER ADDITIONAL INFORMATION AND CONTINUATIONS OF ABOVE DESCRIPTIONS.)

Initials _____

ENVIROCARE
OF UTAH, INC.

Low-Activity Radioactive Waste Profile Record - EC-0200-3

WASTE HISTORY. Please circle the appropriate answer. If yes, please describe in 7. above.

10. Y N Was this waste mixed, treated, neutralized, solidified, commingled, dried, or otherwise processed upon generation or at any time thereafter?

11. Y N Has this waste been transported or otherwise removed from the location or site where it was originally generated?

12. Y N Was this waste derived from (or is the waste a residue of) the treatment, storage, and/or disposal of hazardous waste defined by 40 CFR 261?

SAMPLES OF WASTE TO ENVIROCARE

13. _____ **Please send 5 representative samples of your waste to Envirocare.** These samples will used to establish the waste's incoming shipment acceptance parameter tolerances and may be analyzed for additional parameters. Send at least 1-kg. (2-lb.) for each sample in an air-tight clean glass container via United Parcel Post (UPS) to:

Envirocare of Utah, Inc.
Attn: Sample Control
Tooele County USI-80 Exit 49
Clive, Utah 84029

14. **CHEMICAL LABORATORY ANALYSES.** The generator is cautioned as follows:

a. Utah Certified Laboratories. If a Utah-certified laboratory is not used, the analytical laboratory must hold a current certification from the generator's state or must meet the requirements of the generator's state for chemical or radiological laboratories insofar as such official certifications are given. During the process of appealing a notice of violation or other enforcement actions, the Utah Department of Environmental Quality will not admit laboratory data which is not from a Utah-certified laboratory. Utah certification is obtained from the Utah Bureau of Lab Improvement [801] 584-8400.

b. Utah Certification is Parameter-Specific. Laboratories are certified by parameter. One should not assume that every result from a "Utah-certified" laboratory is acceptable for a compliance appeal. A laboratory may certify for some parameters and not for others. It is a good practice to check with a laboratory to ensure parameter certification. A laboratory's certification is dynamic. A laboratory may lose certification or may not renew their certification for parameters from one period to the next.

c. Approved Sampling. For all sampling, the analytical method's sampling procedures must be followed.

d. Generators Determine Whether a Waste is Hazardous. The requirements of 40 CFR 262.11 state that it is the generator's responsibility to determine whether their waste is hazardous.

e. Generator's Waste may be Sampled at the Disposal Facility by Envirocare or by Environmental Regulators. Should the results of subsequent analysis of a waste show that the waste is hazardous for additional EPA hazardous waste numbers and corresponding treatment standards which were not identified by the generator, then the waste may be removed, refused, and may be returned to the generator pursuant to the terms of the disposal agreement.

f. Envirocare Accepts Waste According to a Waste Characterization Plan. Envirocare does not assume or accept any responsibility imposed on the generator by law or the disposal agreement.

15. **REQUIRED LABORATORY WASTE ANALYSES AND CHECKLIST.** Generator must submit results of analyses of samples of the waste. Results are required from a qualified laboratory for the following analytical parameters unless nonapplicability of the analysis for the waste can be stated and justified in attached statements or in 7. above. Attach all analytical results and QA/QC documentation. **(CAUTION: PRIOR TO ARRANGING FOR LABORATORY ANALYSES, REFER TO 14 REGARDING UTAH-CERTIFIED LABORATORIES.)**

_____ A. Toxicity Characteristic Leaching Procedure (TCLP) from 40 CFR 268 Appendix I for 8 metals and 32 organic analysis. Also, TCLP results for copper (Cu) and zinc (Zn).

_____ B. Soil pH and Paint Filter Liquids Test, SW-846 Methods 9045 and 9095, respectively.

_____ C. Test Method (from SW-846 Chapter 7) to Determine Hydrogen Cyanide Released from Wastes.

_____ D. Test Method (from SW-846 Chapter 7) to Determine Hydrogen Sulfide Released from Wastes.

_____ E. Other analyses may be required after Envirocare has reviewed this document. These may include results of other SW-846 analytical methods.

Initials _____

ENVIROCARE OF UTAH, INC.

Low-Activity Radioactive Waste Profile Record - EC-0200-4

16. ____ A Pre-Shipment Sample Profile Record, form EC-2000, should be sent to Envirocare with the pre-shipment samples.

17. Laboratory Certification Information. Please indicate below which of the following categories applies to your laboratory data. (Certifications are based on applicable RCRA requirements.)

____ GENERATOR'S STATE CERTIFICATION. The laboratory holds a current certification from the generator's State insofar as such official certifications are given, or

____ GENERATOR'S STATE LABORATORY REQUIREMENTS. The laboratory meets the requirements of the generator's State for chemical or radiological laboratories, or

____ UTAH CERTIFIED. The laboratory holds a current certification for the applicable chemical or radiologic parameters from the Utah Department of Health insofar as such official certifications are given.

Briefly describe the generator state's requirements for analytical information used to make or defend hazardous waste determinations per 40 CFR 262.11, especially in terms of whether the requirements are parameter specific, method specific, or involve CLP or other QA data packages. Utah-certified laboratories are certified by both parameter and method.

_____

_____

_____

_____

18. For analytical work done by laboratories which are not Utah-certified, please provide the following information:

State HW/RCRA Lab Program Contact Person	Generator's State	Telephone Number
Lab Contact Person	Laboratory's State	Telephone Number

19. ____ For analytical work done by Utah-certified laboratories, please provide a copy of the laboratory's current certification letter for each parameter analyzed and each method used for analyses required by this form and form EC-0650.

Remarks: _____

_____

_____

_____

Initials _____

◇◇◇ INSTRUCTIONS FOR FORM EC-0200 ◇◇◇
LOW ACTIVITY WASTE PROFILE RECORD

PURPOSE: The Low Activity Waste Profile Record provides certified documentation from the generator of the properties of the waste to be disposed of at Envirocare. This information is very important -- not only for waste management purposes, but also for compliance with the waste analysis plans in Envirocare's licenses and permits and for references in the disposal agreement or contract.

Please fill out Form EC-0200 as completely and accurately as possible. IN COMPLETING THE FORM, IT IS VERY IMPORTANT THAT ALL APPLICABLE ASPECTS OF THE WASTE ARE DESCRIBED IN TERMS OF WHETHER THE WASTE MAY BE A HAZARDOUS WASTE AS DEFINED BY 40 CFR 261. (See the instructions for Item Number 7.)

SIGNATORY REQUIREMENTS: After completion of Form EC-0200, the generator of the waste must sign and initial the form in the spaces provided.

The person who signs the form should have signature approval for the organization and should have overall responsibility for the management of the waste. Although the generator may enlist the help of brokers or consultants, it is the generator who must sign and initial the completed form -- even if the waste has since been transported to a permitted storage facility at a different location. The purpose of initialing each page of the form is to document that the generator has reviewed the requirements of the form and the responses provided for completion.

CERTIFYING SIGNATURE: The signature of the generator at the bottom of the first page of the form corresponds to the form and to the certifications preceding the signature. Before signing the completed form, the generator should read and understand these certifications.

ITEMS NOT APPLICABLE: When an item in the form is not applicable, the generator should place N/A or a similar expression as a response. Additionally, for items not applicable, an explanation of the non-applicability should be provided or justified in the description in Item Number 7 on page 2 of the form.

◇◇◇ INSTRUCTIONS FOR PAGE 1 OF EC-0200 ◇◇◇

Volume of Waste Material: The total amount of waste to be delivered to Envirocare should be estimated or stated as part of the waste stream information. Unless otherwise specified, the contract refers to this amount of waste as the amount of waste specified for the disposal contract, so this amount can be important.

Waste Stream Name: Each waste stream must have a separate form completed. Enter here the descriptive name of the waste steam.

Date of Completion, Original Submission, (Y/N), Revision Number: These items help differentiate final and draft versions.

Name, Title, and Firm of Person Completing Form: This item should reflect such information for the person providing the information for the form. This person may be a consultant. However, the generator is the one to sign and initial the form.

Item 1 Generator Information: This information is applicable to the initial generator of the waste and to the location that the waste was generated. Where the generator is not the person completing the form, a contact person for the generator must be provided. If the waste has been moved from the location of generation, the waste's current location must also be provided in the description in Item Number 7 on page 2 of the form.

Item 2 Waste Stream Information: This item provides Envirocare with general information about the waste. The name of the waste provided in this space should be the name which will be used to refer to the waste in conversations and correspondence between Envirocare and the generator or others. The name should be as concise as possible, descriptive of the waste, and recognizable to the generator. Envirocare will be using this waste name to refer to this waste. General information as to the waste's color and any distinctive odors should also be provided, where applicable.

Item 3 Waste Physical Properties: Place an "X" or otherwise indicate which of these categories most accurately describes the waste stream.

Item 4 Density: Please provide the value or an estimate for the density of the waste. This value may be provided as a result of analysis or through knowledge of the waste. Also, circle the appropriate dimensions. (S.G. is for specific gravity where water at 4°C is 1 g/ml.)

Item 5 Ignitability: Please indicate the flash point, if applicable, of the waste. Also indicate whether the waste is an oxidizer as defined by 40 CFR 261.21(a)(4).

Item 6 Chemical Composition: Many generators know the composition of their waste through material balance knowledge, analysis, inherent composition, or otherwise. Where chemicals or constituents of the waste are known, please indicate the component and its concentration.

This space is also appropriate for estimates of composition (e.g. 98% soil and debris). It is not required to conduct additional analyses of the waste solely to complete this item.

Knowledge of the waste may be used or chemical composition may be addressed in the description of the waste in Item Number 7 on

page 2 of the form. However, where concentrations of constituents are known, please provide this information in this item.

◇◇◇ **INSTRUCTIONS FOR PAGE 2 OF EC-0200** ◇◇◇

ITEM 7 **Description of the Waste:** In this item, the generator is to provide a comprehensive description of the waste along with explanations and justifications of other responses provided in the form. The generator should fully describe the waste as instructed.

Additionally, any other items in the form determined to be non-applicable or otherwise incompletely described should be fully justified or described in Item Number 7. Many of the items in the form direct that additional descriptions be provided in Item Number 7, including an explanation of any item marked "Y" in Items 10, 11, or 12, and any item without a corresponding laboratory analysis in Item 15.

A detailed visual description of the waste is to be provided in this item so that any portion of the waste stream in a shipment which is visually inspected at Envirocare's site during the required incoming-shipment procedures may have a corresponding description reflected in this item. If such description is not provided, the shipment may be rejected.

Often, a generator will need to use additional space or will need to attach additional material, lists, Material Safety Data Sheets (MSDS), analytical results, etc., to provide this comprehensive description of the waste and its history.

Where the results of analyses provided with the form indicate the possibility of any EPA Hazardous Waste Codes or Numbers, the generator should explain why the Codes or Numbers are or are not applicable. Where the regulations provide an exclusion or exemption for the waste, the generator should explain that the exclusion or exemption is applicable to the waste and cite the regulation.

***** **VERY IMPORTANT** ***** Any applicable EPA Hazardous Waste Codes or Numbers should be listed in the space provided. Should the waste contain any additional hazardous constituents or chemicals beyond those for which the generator has determined that EPA Hazardous Waste Numbers or Codes are applicable, please provide or attach a justification or a determination as to the generator's decision that such numbers or codes are not applicable. For example, if a waste is analyzed to contain trace quantities of benzene, and if the generator determines the waste to have EPA Hazardous Waste Numbers or Codes other than those applicable to benzene (i.e., U019, D018, and/or F005), then the generator should provide a corresponding justification or statement as to why any of the benzene-related codes or numbers are not applicable.

Therefore, a discussion should be provided which addresses all hazardous waste constituents including their concentrations, how they became a constituent in the waste, their use elsewhere in the generator's operations, whether and why the generator determines to categorize (or not categorize) any corresponding EPA Hazardous Waste Number or Code for the constituent.

Item 8 **Analytical Results for Characteristic Heavy Metals and Organic Chemicals:** The generator should provide the results of TCLP heavy metals analyses in the appropriate spaces. For the organic TCLP parameters, list the organic (volatile, semi-volatile, herbicide, pesticide) TCLP parameters which were analyzed to be above the detection limit along with the concentration.

Item 9 **Other Possible Chemical Components or Hazardous Waste Characteristics:** This item requires the generator to perform a checklist of known or possible components of the waste. Although a laboratory analysis is not required for each element in this item, the person completing this item should complete an appropriate level of research to determine whether the element in question is associated (commingled, mixed, contaminated, derived from, wasted to, or otherwise) with this waste.

While completing this item, file reviews of operations associated with the waste, review of analytical results of samples of the waste, and interviews of individuals who have managed those operations, analyses, or the generation of this waste should be made. Where known or possible association or composition with regard to these elements can be made, the response should be checked under the "Y" column and an explanation of this indication should be made as part of the description in Item Number 7 on page 2 of the form.

If, as a result of this exercise, additional known or possible chemical components are identified, those should be noted and described in Item Number 7.

◇◇◇ INSTRUCTIONS FOR PAGE 3 OF EC-0200 ◇◇◇

Items 10, 11, and 12 **History of Waste Since Generation:** The completion of these items helps Envirocare to better determine and understand the waste and its history. It is very important that wastes that have been transported or manifested from their initial generation location be noted as such in the responses to these questions. These questions will help to determine the extent of the applicable EPA Hazardous Waste Codes or Numbers for the waste.

THE FOLLOWING ITEM IS OF EXTREME IMPORTANCE!:

ITEM 13 **SAMPLE OF WASTE TO ENVIROCARE:** For the 5 representative samples, please send samples that separately represent the diversity, possible extremes, and average of the waste stream,

i.e., if the waste contains concrete. wood, and plastic, send separate examples of each. These samples will be analyzed for the 10 incoming-shipment parameters for which samples of the incoming-shipments of this waste will be analyzed. The 10 incoming-shipment parameters are the following:

Solid/Soil pH	Photoionizer "sniffer" Test
Paint Filter Liquid Test or visual assurance	Pyrophoricity
Oxidizer/Reducer Test	Air Reactivity
Cyanide Test	Water Reactivity
Sulfide Test	Shock Sensitivity

Results of the on-site analyses of the preliminary samples will be used to establish the range of tolerances for the results of analyses of samples from the incoming shipments. Therefore, if a shipment of the waste stream arrives and the results of an analysis of that sample is beyond this range, the shipment may be rejected or an additional Low-Activity Waste Profile Record form EC-0200 may be required to be completed before the waste may be accepted. THIS ISSUE IS VERY IMPORTANT since the delay required to obtain samples and analytical results to fully correct the problem may take weeks and may necessitate a return of the shipment to the shipper.

NOTE: YOUR SHIPMENT MAY BE REJECTED AND CONSIDERED TO BE NON-CONFORMING WASTE IF THE RESULTS ARE NOT WITHIN THE TOLERANCES ESTABLISHED USING THESE SAMPLES!

Item 14 **Chemical Laboratory Analyses:** Item 14 provides a reminder and caution to the generator as to the issue of certified laboratories. Please read and understand these items.

Utah-certified laboratories should be used where possible. For non-Utah-certified laboratories, the laboratory must hold a current certification from the generator's state or must meet the requirements of the generator's state for chemical or radiological laboratories insofar as such official certifications are given. For non-Utah-certified laboratories, please provide documentation of the laboratory's certification circumstances.

Item 15 **Required Chemical Laboratory Analysis Checklist:** Sample results for a full TCLP analysis (metals, organics, volatiles, semi-volatiles, herbicides and pesticides -- D004 through D043) of the waste must be submitted to complete this form.

8 METALS (D004-D011): D004 Arsenic (As), D005 Barium (Ba), D006 Cadmium (Cd), D007 Chromium (Cr), D008 Lead (Pb), D009 Mercury (Hg), D010 Selenium (Se), and D011 Silver (Ag)

Report the results of the TCLP heavy metals in Item 8.

32 ORGANICS (D012 - D043) May be generally categorized as follows (some categories overlap, others may fit another category than listed below or in the list following Item 9 of the form):

HERBICIDES AND PESTICIDES: (D012 - D017, D020, AND D031)

D012 Endrin
D013 Lindane
D014 Methoxychlor
D015 Toxaphene
D016 2,4-D (2,4-Dichlorophenoxyacetic acid)
D017 2,4,5-TP (2,4,5-Trichlorophenoxypropionic acid)
D020 Chlordane
D031 Heptachlor (and its epoxide)

VOLATILES: (D018, D019, D021, D022, D027, D028, D029, D033, D035, D038, D039, D040, D043)

D018 Benzene
D019 Carbon Tetrachloride
D021 Chlorobenzene
D022 Chloroform
D027 1,4-Dichlorobenzene
D028 1,2-Dichloroethane
D029 1,1-Dichloroethylene
D033 Hexachlorobutadiene
D035 Methyl Ethyl Ketone
D038 Pyridine
D039 Tetrachloroethylene
D040 Trichloroethylene
D043 Vinyl Chloride

SEMI-VOLATILES: (D023, D024, D025, D026, D030, D032, D033, D034, D036, D037, D038, D041, D042)

D023 o-Cresol
D024 m-Cresol
D025 p-Cresol
D026 Cresols
D030 2,4-Dinitrotoluene
D032 Hexachlorobenzene
D033 Hexachlorobutadiene
D034 Hexachloroethane
D036 Nitrobenzene
D037 Pentachlorophenol
D038 Pyridine
D041 2,4,5-Trichlorophenol
D042 2,4,6-Trichlorophenol

Report the results of any of the above 32 TCLP organics that are detected in Item 8. Provide the name of the organic chemical and its TCLP concentration in mg/L.

Where a parameter or class of analysis does not apply, an indication of non-applicability should be made with a corresponding justification in Item Number 7 on page 2. However, it should be noted that, in most instances, analytical results for 15A, 15B, 15C, and 15D are required. Where such analyses are not available or applicable, a waiver approval from the Utah Board of Water Quality is required prior to acceptance of the waste by Envirocare.

All analytical results should be submitted with the completed form.

Please read the caution which addresses Utah-certified laboratories in Item Number 14. There are additional quality-assurance package requirements for data from other-than-Utah-certified laboratories.

Please address all items by attaching analytical results or by providing an appropriate justification for non-applicability in Item Number 7 on page 2.

Item 16, 17, 18, & 19: Please complete these items as indicated on Form EC-0200.

ENVIROCARE
OF UTAH, INC.

PHYSICAL PROPERTIES RECORD

(EC-0500) (Rev. 09/93)

Generator Name: _____; Generator #/Waste Stream #: _____

Contractor Name: _____; Waste Stream Name: _____

Volume of Waste Material: _____; ___ LARW, ___ MW, ___ NORM; Delivery Date: _____

Original Submission? ___ Y; ___ N: Revision # ___ Date: _____

Name & Title of Person Completing Form: _____; Date: _____

In order to comply with Envirocare's radioactive material disposal license #2300249 issued by the Utah Bureau of Radiation Control, Envirocare requires generators to provide the following physical properties information. Should you have any questions while completing this form, contact Envirocare's Vice President of Operations at (801) 532-1330. **WASTE CANNOT BE ACCEPTED AT ENVIROCARE OF UTAH UNLESS THIS FORM IS COMPLETE AND A SAMPLE OF THE WASTE SUBMITTED.**

1. GENERATOR INFORMATION

EPA ID # _____

Name of Generator _____

Mailing Address _____

_____

Phone _____

Fax _____

Location of Material _____

Generator Contact _____

Title _____

Mailing Address _____

_____

Phone _____

Fax _____

2. MOISTURE CONTENT

Optimum Moisture Content: _____ %

(Use Std Proctor Method ASTM D-698)

Average Moisture Content: _____ %

Moisture Content Range: _____ %

3. SAMPLE OF WASTE.

Please send a 50 pound sample of material to Envirocare of Utah, Inc.

_____ Sample has been sent

4. GENERAL CHARACTERISTICS (% of each)

_____ Soil _____ Building Debris

_____ Rubble _____ Pipe Scale

_____ Tailings _____ Process Waste

_____ Concrete _____ Plastic/Resin

5. GRADATION OF MATERIAL

(Please indicate the percentage of the material that would pass through the following sizes of screen.)

12" _____ %

4" _____ %

1" _____ %

1/4" _____ %

1/40" _____ %

1/200" _____ %

6. TRANSPORTATION MODES

(Please indicate the option[s] for delivery to the site. Check all that apply.)

___ Highway ___ Railroad

___ B-12 Boxes ___ B-25 Boxes

___ Bulk Shipment ___ Gondola

___ 55-Gal. Drums ___ Bags of the waste

___ Other _____ (Specify)

7. DESCRIPTION OF WASTE

(Please describe the waste in the space below with respect to its physical composition and characteristics. Note any items of concern.)

GENERATOR'S CERTIFICATION OF WASTE: As the generator of this waste, I certify to Envirocare of Utah, Inc., that the information provided on this form is complete, true and correct, and is accurately supported and documented by any laboratory testing, as required by Envirocare of Utah, Inc. The results of any said testing have been submitted to Envirocare of Utah, Inc.

Signature for above certification _____ DATE _____

ENVIROCARE
OF UTAH, INC.

RADIOLOGICAL EVALUATION

(EC-0650) (Rev. 09/93)

Generator Name: _____; Generator #/Waste Stream #: _____

Contractor Name: _____; Waste Stream Name: _____

Volume of Waste Material: _____; ___ LARW, ___ MW, ___ NORM; Delivery Date: _____

Original Submission? __ Y; ___ N; Revision # ___ Date: _____

Name & Title of Person Completing Form: _____; Date: _____

In order to comply with Envirocare's NORM license #2300249 issued by the State Of Utah Department of Environmental Quality, Division of Radiation Control, Envirocare requires generators to provide the following radiological information. Should you have any questions while completing this form, contact Envirocare's Radiation Safety Officer at (801) 532-1330. **WASTE CANNOT BE ACCEPTED AT ENVIROCARE OF UTAH UNLESS THIS FORM IS COMPLETED AND A LABORATORY ANALYSIS IS SUBMITTED.**

1. GENERATOR INFORMATION

EPA ID # _____

NAME OF GENERATOR _____

MAILING ADDRESS _____

_____

_____

PHONE _____

FAX _____

LOCATION OF MATERIAL _____

GENERATOR CONTACT _____

TITLE _____

MAILING ADDRESS _____

_____

PHONE _____

FAX _____

3. WASTE STREAM INFORMATION For each radioactive isotope associated with the waste, please list the following information (use additional copies of this form if necessary.)

	ISOTOPES	CONCENTRATION (pCi/g)
a.		
b.		
c.		
d.		
e.		
f.		
g.		
h.		
i.		
j.		
k.		

2. ADDITIONAL REMARKS OR DESCRIPTIONS. _____

_____

4. Y N **LICENSED MATERIAL** Is the waste material listed or included on an active Nuclear Regulatory Commission or Agreement State license? (Please circle)

(If Yes) **TYPE OF LICENSE:** Source____ Special Nuclear Material____ By-Product____ NORM____

LICENSING AGENCY:_____

5. Y N **LABORATORY CERTIFICATION:** Was a Utah-certified or EPA contract laboratory progrgam (CLP) laboratory used for the analysis of the above waste material?

GENERATOR'S CERTIFICATION OF WASTE: As generator of this waste, I certify to Envirocare of Utah, Inc. that the information provided on this form is complete, true and correct and is accurately supported and documented by laboratory testing. The results of the testing have been submitted to Envirocare of Utah, Inc.

Generator's Signature for certification _____ Date _____

◇◇◇ INSTRUCTIONS FOR FORM EC-0650 ◇◇◇
RADIOLOGICAL EVALUATION

Volume of Waste Material: The total amount of waste to be delivered to Envirocare should be estimated or stated as part of the waste stream information. Unless otherwise specified, the contract refers to this amount of waste as the amount of waste specified for the disposal contract, so this amount can be important.

Waste Stream Name: Each waste stream must have a separate form completed. Enter here the descriptive name of the waste steam.

Date of Completion, Original Submission, (Y/N), Revision Number: These items help differentiate final and draft versions.

Name, Title, and Firm of Person Completing Form: This item should reflect such information for the person providing the information for the form. This person may be a consultant. However, the generator is the one to sign and initial for form.

Item 1 **Generator Information:** This information pertains to the original generator of the waste and to the location where the waste was generated. Where the generator is not the person completing the form, a contact person for the generator must be provided.

Item 2 **Additional Remarks or Descriptions:** Use as necessary.

Item 3 **Waste Stream Information:** Each waste stream requires, as a minimum, gamma spectral analysis which **must be** evaluated for **all naturally occurring and all manmade radionuclides.** The analytical results provided in conjunction with this form **must** include laboratory results and a statement that the gamma spectrum was analyzed as required. **If this evidence is not provided, Envirocare will require that the sample(s) be re-analyzed.**

If the waste stream is known or suspected to contain radionuclides which cannot be readily quantitated by gamma spectral analysis--for example, Sr-90 or Th-232--,it must also be analyzed by radiochemical analysis for the radionuclides expected.

Envirocare's license permits acceptance of several radionuclides in equilibrium with their daughter products. For Th-232, Ra-226, and Ru-106 it is not necessary to report the concentrations of their daughters. If Ra-228 is present in equilibrium with its daughters, they need not be reported; however, if the daughters are not in equilibrium with the Ra-228 and the concentration limits for freshly separated Ra-228 or at 1 or 5 years is to be used, the daughter concentrations determined from gamma spectroscopy must also be listed so that an age determination can be made.

Uranium is acceptable, at appropriate concentrations, in several forms. If the waste is known to contain natural uranium (U-Nat) it should be analyzed by an appropriate method - such as fluorometry - and reported accordingly. Natural uranium should be analyzed and reported only as U-Nat - not as U-234, U-235 and U-238. However, the activity reported for U-Nat must include the total of the contained U-234, U-235 an U-238 activities. A total uranium analysis may be performed and converted to activity by the relationship: 1 μg U = 0.677 pCi. Depleted uranium must be reported as the total uranium activity concentration (U-234 + U-235 + U-238) as DU or U-Dep. Because DU contains some of all the original uranium isotopes, the analysis must reflect the total activity of the three nuclides and requires alpha spectrometric analysis to establish the relative activities of the three isotopes.

If you have any questions, please contact Envirocare prior to sample analysis.

Item 4 **Licensed Material:** Indicate if the material is currently under a license by any agency. If so, show the type of license (some States also license NORM material) and the licensing agency.

Item 5 **Results Provided:** A copy of the original analytical laboratory results **must** accompany this form for Envirocare's evaluation. Please make sure that the analytical laboratory understands this requirement and the requirement to show that the gamma spectral analysis was evaluated for all naturally-occurring and all man-made nuclides.

Generator's Certification of Waste: This form must be signed by the generator, testifying to the completeness and accuracy of information provided.

7560

Please print or type. (Form designed for use on elite (12-pitch) typewriter.)

Form Approved OMB No. 2050-0039 Expires 9-30-92

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. | Manifest Document No.

2. Page 1 of

Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address

4. Generator's Phone ( )

A. State Manifest Document Number

B. State Generator's ID

5. Transporter 1 Company Name | 6. US EPA ID Number

C. State Transporter's ID

D. Transporter's Phone

7. Transporter 2 Company Name | 8. US EPA ID Number

E. State Transporter's ID

F. Transporter's Phone

9. Designated Facility Name and Site Address | 10. US EPA ID Number

G. State Facility's ID

H. Facility's Phone

GENERATOR

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	HM	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. Waste No.
a.						
b.						
c.						
d.						

J. Additional Descriptions for Materials Listed Above

K. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

16. **GENERATOR'S CERTIFICATION:** I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.

If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; **OR**, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.

Printed/Typed Name | Signature | Month Day Year

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name | Signature | Month Day Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.

Printed/Typed Name | Signature | Month Day Year

✧✧✧ INSTRUCTIONS FOR FORM 8700-22 ✧✧✧
UNIFORM HAZARDOUS WASTE MANIFEST

These instructions are provided for the generator as a guide to completing the Uniform Hazardous Waste Manifest (manifest) to accompany shipments of mixed waste to Envirocare. The generator must follow the manifest requirements in 40 CFR 262 Subpart B and the recordkeeping requirements in 40 CFR 262 Subpart D.

Each manifest item listed below must be completed by the generator. In addition to properly completing the manifest, the generator should properly package, label, mark, and placard the shipment in accordance with 40 CFR 262.30-33 and 40 CFR 49 Parts 172, 173, 178 and 179.

Item 1 **Generator's US EPA ID Number and Manifest Document Number:** Enter your (the generator's) U.S. EPA twelve-digit identification number in the first twelve spaces of Item Number 1 of the manifest. Enter your unique five-digit number assigned to this manifest (e.g. 94001).

A generator who has not received an EPA identification number may obtain one by applying to the EPA administrator or to your state's RCRA program director using EPA form 8700-12 or a state form. Form 8700-12 may be obtained by calling the EPA RCRA Hotline 1-800-424-9346 and following their instructions for obtaining the form.

The Manifest Document Number originates with the generator. The Manifest Document Number is used to keep track of shipments from the generator and may be any five-digit number. A generator may want to use numbers which identify the number of manifests sent each year by using the first two digits to indicate the year. For example, in 1994, the generator may use 94001 for the first shipment, 94002 for the second, and so on.

Item 2 **Page 1 of ___:** Enter the total number of pages to complete this manifest.

Since it is unusual for a generator to send Envirocare more than 4 waste streams on one shipment, this number often is 1. If more than 4 waste streams are to come on a shipment, the generator must use a continuation sheet. The generator may purchase continuation sheets from Labelmaster 1-800-621-5808. Continuation sheets are EPA Form 8700-22A. If continuation sheets are used, the number to be entered in Item Number 2 is the first page plus the number of manifest continuation sheets.

Item 3 **Generator's Name and Mailing Address:** Enter the name and mailing address of the generator. The address should be the location that will manage the manifest forms that Envirocare signs and returns to the generator.

Item 4 **Generator's Phone Number:** Enter a telephone number where an authorized agent of the generator may be reached in the event of an emergency or to answer questions about the waste upon its arrival at Envirocare.

The generator should have an authorized agent available during the time that the waste arrives and is inspected, sampled, and analyzed at Envirocare. This authorized agent must be familiar with the wastes being sent to Envirocare. The agent's availability at the time of arrival and inspection will help Envirocare answer questions regarding the waste at the time it is undergoing the incoming acceptance procedures at Envirocare. The agent may help avoid a shipment being rejected due to a misunderstanding or discrepancy.

Item 5 **Transporter 1 Company Name:** Enter the company name of the first transporter who will transport the waste.

Item D **Transporter's Phone:** Enter the telephone number for the transporter identified in Item Number 5.

Item 6 **US EPA ID Number:** Enter the U.S. EPA twelve-digit identification number of the transporter identified in Item Number 5.

Item 7 **Transporter 2 Company Name:** If applicable, enter the company name of the second transporter who will transport the waste.

If more than two transporters are used to transport the waste, use Continuation Sheets (EPA Form 8700-22A) and list the transporters in the order they will be transporting the waste. The generator may purchase continuation sheets from Labelmaster 1-800-621-5808.

Item F **Transporter's Phone:** If applicable, enter the telephone number for the transporter identified in Item Number 7.

Item 8 **US EPA ID Number:** If applicable, enter the U.S. EPA twelve-digit identification number of the transporter identified in Item Number 7.

If more than two transporters are used, enter each additional transporter's company name and U.S. EPA twelve-digit identification number in items 24-27 on the Continuation Sheet (EPA Form 8700-22A). Each Continuation Sheet has space to record two additional transporters. Every transporter used between the generator and the designated facility must be listed.

Item 9 **Designated Facility Name and Site Address:** Complete Item 9 as follows for Envirocare:

ENVIROCARE OF UTAH, INC.
SOUTH CLIVE FACILITY
TOOELE COUNTY, US I-80 EXIT 49
CLIVE, UTAH 84029

Item 10 **US EPA ID Number:** Enter Envirocare's EPA ID Number. Envirocare's U.S. EPA twelve-digit identification number is: UTD982598898.

Item H **Facility's Phone:** Enter Envirocare's facility telephone number. Envirocare's South Clive Facility telephone number is: (801) 521-9619.

Item 11 (a through d, for up to 4 waste streams) **U.S. DOT Description (Including Proper Shipping Name, Hazard Class and ID Number):** Enter the U.S. Dept. of Transportation Proper Shipping Name, Hazard Class, and ID Number (UN or NA) for each waste (a-d, space for 4 waste streams, as needed) as identified in 49 CFR 171 through 177. If the shipment includes a reportable quantity of a hazardous substance, type "RQ" in the box provided. If additional space is needed for waste descriptions, enter the additional descriptions in Item 28 on the Continuation Sheets (EPA Form 8700-22A).

Use only DOT proper shipping names, hazard classes, and DOT ID Numbers. The generator may obtain a copy of 49 CFR 171 through 177 from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402, (202) 783-3238. Proper shipping names, hazard classes and DOT ID Numbers (UN [United Nations]/NA [North America]) are also available from other sources -- for example, A Driver's Pocket Guide to HAZARDOUS MATERIALS may be purchased from J.J. Keller & Associates, Inc., (414) 722-2848, and other supply outlets carry the CFR's.

Item 12 (a through d) **Containers, (No. and Type):** Under "No.", enter the number of containers corresponding to each waste listed in 11a-11d. Under "Type", enter the appropriate abbreviation from Table I (below) for the type of container.

Table I -- Types of Containers

DM = Metal drums or barrels
DF = Fiberboard or plastic drums or barrels
DT = Dump truck
CM = Metal boxes, cartons, cases (including roll-offs)
BA = Plastic bags

If the generator is contemplating packaging in containers not listed in Table I (above), please contact Envirocare at (801) 532-1330.

Item 13 (a through d) **Total Quantity:** Enter the total quantity of waste described on each line.

Item 14 (a through d) **Unit (Wt/Vol):** Enter the appropriate abbreviation from Table II (below) for the unit of measure corresponding to the total quantity in Item Number 13.

Table II -- Units of Measure

P = Pounds (lbs)
T = Tons (2,000 lbs)
Y = Cubic yards
K = Kilograms (kg)
M = Metric tons (1,000 kg)
N = Cubic meters

Item I (a through d) **Waste No.:** Enter the four-digit EPA Hazardous Waste Number(s) corresponding to the waste described in 11a-11d. Include all EPA Hazardous Waste Numbers for the wastes known to be present.

Item J **Additional Descriptions for Materials Listed Above:** For each waste stream in 11a-11d, enter the corresponding number (e.g. 11a) and place the name the generator uses to identify the waste on Form EC-0175. If the DOT shipping description in 11a-11d contains "n.o.s." or another general term, the hazardous waste constituent(s) must be provided in Item J for each such waste. The specific gravity of a waste is assumed to be 1.00 unless otherwise indicated in Item J.

The generator may also use this space to provide any additional descriptions of the waste.

Item 15 **Special Handling Instructions and Additional Information:** Generators may use this space to indicate special transportation, treatment, storage, disposal, handling, or Bill of Lading information.

Item 16 **Generator's Certification:** The generator must read, sign (by hand) and date the certification statement.

NOTE: IF A MODE *OTHER THAN* HIGHWAY IS USED, THE WORD "highway" SHOULD BE LINED OUT AND THE APPROPRIATE MODE WRITTEN IN THE SPACE TO THE RIGHT OF "~~highway~~".

NOTE: IF ANOTHER MODE *IN ADDITION TO* HIGHWAY IS USED, ENTER THE ADDITIONAL MODE (e.g. "and rail") IN THE SPACE TO THE RIGHT OF "~~highway~~".

Generators may preprint the words "On behalf of" in the signature block or may handwrite this statement in the signature block prior to signing the generator certifications.

NOTE: All of the above information *except* the handwritten signature required in Item Number 16 may be preprinted.

LAND DISPOSAL RESTRICTIONS

SHIPMENT NOTICE AND CERTIFICATION

Category 1:

In accordance with 40 CFR 268.7(a)(2), _____
(generator's name)
hereby provides notice that the manifested waste on this shipment has been determined by the generator to be a waste that may be land disposed without further treatment for the applicable treatment standards.

EPA Hazardous Waste Number(s): _

Treatment Standards: _____

_____

Date the Treatment Standard is applicable: _

Manifest Number: _

Waste Analysis Data:

_____ _____
Generator's Certification Signature Date

CERTIFICATION

I certify under penalty of law that I personally examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in 40 CFR Part 268 Subpart D and all applicable prohibitions set forth in 40 CFR 268.32 or RCRA section 3004(d). I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

LAND DISPOSAL RESTRICTIONS

SHIPMENT NOTICE OF NON-PROHIBITED WASTE

Category 2:

In accordance with 40 CFR 268.7(a)(3), _____
(generator's name)
hereby provides notice that the manifested waste on this shipment has been determined by the generator to be a waste that is not prohibited from land disposal for the following reasons:

_____

_____

Treatment standards will be applicable beginning _

The manifested waste on this shipment has been determined by the generator to be a waste that may be land disposed before the above date without further treatment.

EPA Hazardous Waste Number(s): _

Treatment Standards: _____

_____

Manifest Number: _

Waste Analysis Data:

_____ _____
Generator's Signature Date

◇◇◇ INSTRUCTIONS FOR ◇◇◇ LAND DISPOSAL RESTRICTIONS (LDR) CERTIFICATIONS AND/OR NOTICES

Envirocare may accept mixed waste for storage and disposal when that waste falls into one of the following two categories:

CATEGORY 1: The waste meets the treatment standards or where there are no established treatment standards for disposal.

CATEGORY 2: The waste does not meet the treatment standards, but the waste is subject to an extension, exemption, variance, or other vehicle which allows land disposal of the waste.

In accordance with 40 CFR 268, with each shipment of waste, the generator is required to provide a notice and/or a certification which accompanies the shipment.

CATEGORY 1. The generator requirements of 40 CFR 268.7(a)(2) state that for each shipment, the generator must provide a notice and a certification stating that the waste meets the applicable treatment standards without further treatment. The notice and certification should include but not be limited to the following information:

- EPA Hazardous Waste Number(s)
- Treatment Standards (see 40 CFR 268.7[a][2][i][B])
- Manifest Number associated with the shipment of waste
- Waste Analysis Data
- A <u>signed</u> certification stating what is in 40 CFR 268.7(a)(2)(ii)

CATEGORY 2. The generator requirements of 40 CFR 268.7(a)(3) state that, for each shipment, the generator must provide a notice stating that the waste is not prohibited from land disposal.

The generator is referred to 40 CFR 268.7(a) for the information required in notices and certifications. Examples of a notice and certification forms for Categories 1 and 2 are attached.

NOTICE TO TRANSPORT
ENVIROCARE OF UTAH, INC.
(EC-1800)

Envirocare has reviewed completed forms EC-0200, EC-0650 and EC-0500. Based on our review of the information and certifications provided in those forms, Envirocare hereby issues notice that the following waste may be scheduled for transport and delivery to the Envirocare South Clive facility.

_____ _____
GENERATOR NAME DATE

_____
CONTRACTOR NAME

_____
GENERATOR RECORD # (GENERATOR NUMBER-WASTE STREAM NUMBER)

_____ ____ LARW _ MW
WASTE STREAM NAME

_____ _____
VOLUME OF MATERIAL DELIVERY DATE

_____ _____
Signature Date

NOTICE: Transport and delivery of the material are to be done in accordance with a signed Disposal Agreement. Approved Radioactive Waste Shipment and Disposal Record forms (RSR's) must accompany the shipment(s). Upon arrival at the facility, the shipment will be made subject to incoming-shipment procedures and may be accepted or rejected by Envirocare for management at the facility.

YOUR WASTE MUST NOT CONTAIN FREE LIQUIDS OR PYROPHORIC, SHOCK-SENSITIVE, AIR-REACTIVE, OR WATER-REACTIVE MATERIALS, AND MUST CONFORM WITH THE FOLLOWING INCOMING SHIPMENT PARAMETER TOLERANCES:

Solid pH	Ox/Red Test	Cyanide Test	"Sniffer"	Sulfide Test

The above ranges have been established for your waste using the pre-shipment samples you sent.

DO NOT SHIP MATERIAL WHICH EXCEEDS ANY OF THE ABOVE TOLERANCES.

Should a sample of an incoming shipment be analyzed to be outside of these tolerances, your shipment will be rejected and only accepted following additional testing of the material and statements from the generator.

August 19, 1993

72-HOUR SHIPMENT NOTIFICATION
ENVIROCARE OF UTAH, INC.
(EC-2725)

GENERATOR _____

CUSTOMER ID # _____

AUTHORIZED CO. AGENT _____

REQUESTED DATE OF DELIVERY _____

PLEASE SCHEDULE YOUR FACILITY TO ACCEPT THE FOLLOWING SHIPMENTS FOR DISPOSAL ON THE ABOVE DATE. IT IS UNDERSTOOD THAT ALL SHIPMENTS MUST ARRIVE BEFORE 12 NOON ON THE GIVEN SCHEDULED DAY.

CUSTOMER RECORD #	RAIL CAR #	TRUCK TRAILER #	SPECIAL HANDLING, PACKAGING, ETC.

_____ AUTHORIZED COMPANY AGENT/BROKER

_____ CURRENT DATE

Fax: Attention Scheduling Department
801-532-0922

◇◇◇ INSTRUCTIONS FOR FORM EC-2725 ◇◇◇
72-HOUR SHIPMENT NOTIFICATION

This is your master copy of the "72-Hour Shipment Notification" (EC-2725). Make copies as the need arises.

A completed copy of this form must be sent to Envirocare, "Attention: Scheduling Department," to set an arrival and acceptance date for each day's shipment. We recommend you fax this notice (fax # 801-532-0922) as soon as possible so that scheduling will be able to accommodate your needs.

Please note that even though Envirocare may receive the "72-Hour Shipment Notification" form, we will <u>not necessarily</u> be able to accept your shipment on the day proposed. <u>Our scheduling department will confirm with you a scheduled day for your shipment's arrival and acceptance.</u>

Failure to comply with this shipment notification process may incur unnecessary demurrage charges as well as the costs for additional personnel to handle late-scheduled arrivals.

7560

PACKAGING

000084 v.1.

PACKAGING REQUIREMENTS

Envirocare is required to inspect each shipment arriving at its Clive, Utah, disposal facility for compliance with a number of provisions in its Radioactive Materials License. Acceptance of non-compliant waste shipments can result in violations and possible civil penalties for Envirocare.

A shipment which is not in compliance upon arrival can be returned to the generator for correction. It is imperative that the following items be met:

All shipments reaching Envirocare must meet DOT packaging requirements for Low Specific Activity (LSA) shipments (49 CFR 173.425 [Included in Appendix]), whether they are "radioactive materials" (DOT defined, see following page "Placarding") or not.

BULK SHIPMENTS

1. Bulk shipments must be covered. The top must be completely enclosed with no open areas along the sides or openings in the top.

2. Bulk shipments (rail cars, trucks, trailers or other conveyances used for bulk shipments) must also be tightly sealed to prevent waste or liquids from leaking out. Shipments containing free liquids will be rejected.

CONTAINERS

1. All containers must meet the standard of a "Strong, Tight Container." (49 CFR 173.24 [Included in Appendix])

2. Containers must be properly sealed to prevent load movements from "pumping" dust-laden air out of the container.

3. Containers must be clean. They must not have any waste material, or other material which can be mistaken for waste material, on the outside surfaces.

4. Containers in a shipment must be loaded and braced securely to prevent shifting and damage during transport.

5. Although desirable, containerized rail shipments need not be enclosed or covered.

6. Specification containers (49 CFR 173.425 [Included in Appendix]) are not required for exclusive use container shipments.

7. Do <u>not</u> modify containers, e.g., added vents or drain plugs.

8. Do not have unnecessary container closure, e.g., welding of clips or barrel rings.

9. Overpack containers only when necessary, e.g., potential for leaking, deteriorating, etc.

ADDITIONAL

1. Drums <u>must</u> be on pallets.

2. Pallets must be strong enough to withstand collapse during transit.

3. Do not stack barrels.

4. Truck or railcar beds must be free of all loose material -- waste or other material.

5. Tarps must extend over the top and down the sides far enough to prevent access to the load, wind blowing through the load, or precipitation reaching the load.

6. Bottom dump rail cars are not permitted.

7. Do not use moving-van type trailers.

PLACARDING

The Department of Transportation (DOT) defines Radioactive Material as material which has a total radioactivity concentration of 2,000 pCi/g, including all radionuclides in any decay chain which are present, but not listed. For example, Radium-226 at 250 pCi/g will have sufficient daughter product activity to reach 2,000 pCi/g total. Thorium-232 at 190 pCi/g in equilibrium with its daughter products will also provide a total radioactivity of 2,000 pCi/g, as will natural uranium at 1,000 pCi/g due to the presence of the Protactinium-234m and Thorium-234 daughters of Uranium-238.

All bulk shipments or containerized shipments with at least one container meeting the DOT definition of "radioactive material" must be placarded [49 CFR 173.425 and 49 CFR 172, Subpart F. (included in Appendix)]. Individual containers of "radioactive material" must be stenciled or marked "Radioactive-LSA" and must be marked "Class A." Shipments or containers not meeting the definition of "radioactive material" <u>must not be</u> so marked or placarded. A shipment containing a reportable quantity (RQ) of radioactivity may be, but is not required to be, manifested as an "Environmentally hazardous substance, solid, n.o.s." and placarded Class 9, with an ID number of UN3077.

You may also want to contact the Department of Transportation to request additional information and/or documents.

✦✧✦✦ SHIPPING ✦✦✧✦

SHIPPING REQUIREMENTS

Envirocare is required to inspect each shipment arriving at its Clive, Utah, disposal facility for compliance with a number of provisions in its Radioactive Materials License. Acceptance of non-compliant waste shipments can result in violations and possible civil penalties for Envirocare.

A shipment which is not in compliance upon arrival can be returned to the generator for correction. It is imperative that the following items be met:

All shipments reaching Envirocare must meet DOT packaging requirements for Low Specific Activity (LSA) shipments (49 CFR 173.425 [Included in Appendix]), whether they are "radioactive materials" (DOT defined, see following page "Placarding") or not.

Mixed Waste Shipments: The weight of incoming truck shipments must be within a specified range of the loaded weight at the point of departure. It is mandatory that a Weigh Bill accompany each truck shipment to verify this information and to avoid shipment rejection.

BULK SHIPMENTS

1. Bulk shipments must be covered. The top must be completely enclosed with no open areas along the sides or openings in the top.

2. Bulk shipments (rail cars, trucks, trailers or other conveyances used for bulk shipments) must also be tightly sealed to prevent waste or liquids from leaking out. Shipments containing free liquids will be rejected.

CONTAINERS

1. All containers must meet the standard of a "Strong, Tight Container." (49 CFR 173.24 [Included in Appendix])

2. Containers must be properly sealed to prevent load movements from "pumping" dust-laden air out of the container.

3. Containers must be clean. They must not have any waste material, or other material which can be mistaken for waste material, on the outside surfaces.

4. Containers in a shipment must be loaded and braced securely to prevent shifting and damage during transport.

5. Although desirable, containerized rail shipments need not be enclosed or covered.

6. Specification containers (49 CFR 173.425 [Included in Appendix]) are not required for exclusive use container shipments.

7. Do <u>not</u> modify containers, e.g., added vents or drain plugs.

8. Do not have unnecessary container closure, e.g., welding of clips or barrel rings.

9. Overpack containers only when necessary, e.g., potential for leaking, deteriorating, etc.

ADDITIONAL

1. Drums <u>must</u> be on pallets.

2. Pallets must be strong enough to withstand collapse during transit.

3. Do not stack barrels.

4. Truck or railcar beds must be free of all loose material -- waste or otherwise.

5. Tarps must extend over the top and down the sides far enough to prevent access to the load, wind blowing through the load, or precipitation reaching the load.

6. Bottom dump rail cars are not permitted.

7. Do not use moving-van type trailers.

PLACARDING

The Department of Transportation (DOT) defines Radioactive Material as material which has a total radioactivity concentration of 2,000 pCi/g, including all radionuclides in any decay chain which are present, but not listed. For example, Radium-226 at 250 pCi/g will have sufficient daughter product activity to reach 2,000 pCi/g total. Thorium-232 at 190 pCi/g in equilibrium with its daughter products will also provide a total radioactivity of 2,000 pCi/g, as will natural uranium at 1,000 pCi/g due to the presence of the Protactinium-234m and Thorium-234 daughters of Uranium-238.

All bulk shipments or containerized shipments with at least one container meeting the DOT definition of "radioactive material" must be placarded (49 CFR 173.425 and 49 CFR 172, Subpart F.

[Included in Appendix]). Individual containers of "radioactive material" must be stenciled or marked "Radioactive-LSA" and must be marked "Class A." Shipments or containers not meeting the definition of "radioactive material" must not be so marked or placarded. A shipment containing a reportable quantity (RQ) of radioactivity may be, but is not required to be, manifested as an "Environmentally hazardous substance, solid, n.o.s." and placarded Class 9, with an ID number of UN3077.

You may also want to contact the Department of Transportation to request additional information and/or documents.

72-HOUR SHIPMENT NOTIFICATION

A completed copy of the "72-Hour Shipment Notification" (EC-2725) (your master copy is found in Section "FORMS") must be sent to Envirocare, "Attention: Scheduling Department," to set an arrival and acceptance date for each day's shipment. We recommend you fax this notice (fax # 801-532-0922) as soon as you know your schedule so that scheduling on our end will be able to accommodate your needs.

Please note that even though Envirocare may receive the "72-Hour Shipment Notification" form, we will <u>not necessarily</u> be able to accept your shipment on the day proposed. <u>Our scheduling department will confirm with you a scheduled day for your shipment's arrival and acceptance.</u>

Failure to comply with this shipment notification process may incur unnecessary demurrage charges as well as wages and salaries for additional personal to handle late-scheduled arrivals.

COPIES OF THE FOLLOWING PAGES IN THE SHIPPING SECTION MUST BE PROVIDED FOR TRUCK DRIVERS WHO MAY BE DELIVERING MATERIAL TO THE ENVIROCARE FACILITY TO PROVIDE FOR SMOOTH ACCEPTANCE OF YOUR SHIPMENT.

PLEASE REFER TO THE INFORMATION IN THESE PAGES AND RETAIN THE ORIGINALS IN THIS MANUAL.

PAPERWORK REQUIREMENTS FOR TRUCK DRIVERS

Truck drivers delivering waste material to the Envirocare facility at Clive **must** have the following paperwork with them:

FOR ALL MATERIAL:

RADIOACTIVE WASTE SHIPMENT & DISPOSAL RECORD (RSR)

BILL OF LADING

ADDITIONAL FOR MIXED WASTE MATERIAL:

HAZARDOUS WASTE MANIFEST

LAND DISPOSAL RESTRICTIONS (LDR) CERTIFICATION AND/OR NOTICE

WEIGH BILL

NOTICE TO DRIVERS AND DISPATCHERS

THE FOLLOWING SITUATIONS CAUSE DELAYS AND/OR REJECTIONS AND SHOULD BE AVOIDED.

1. No 72-Hour Shipment Notification arrival from shipper to Envirocare
2. Incorrect or missing paperwork
3. Weather conditions (excessive rain, etc.)
4. Not arriving before noon
5. Afternoon, holiday, or weekend arrivals
6. Drums not on pallets
7. Poor packaging, faulty containers

NOTE:

1. Make sure that the Tractor Trailer Number is written on the Bill of Lading and the Manifest (RSR).
2. Even without extra delays, it may take up to 4 hours or more for the shipment to be checked in; inspected; sampled; evaluated; and, if accepted, unloaded.
3. For fastest unloading, arrive early in the morning. Our receiving personnel begin at 7:00 am. We receive until noon.
4. Shipments are generally unloaded on a first-come-first-serve basis. There are, however, particular circumstances which require us to consider various factors and change the sequence.

HELPFUL HINTS:

There are no eating facilities within 50 miles of the site. You may want to pack a lunch.

Don't forget to get your paperwork before leaving the site. The Incoming Acceptance Coordinator will have this for you when you leave.

CLIVE SITE WORKING HOURS

CLIVE SITE WORKING HOURS

Administrative Office: 8:00 a.m. through 4:30 p.m. Monday through Friday

Shipments may arrive for acceptance 7:00 am. through noon.

Shipments arriving after noon (even on a scheduled day) will not be guaranteed acceptance that day, but will most likely be accepted the following regular work day.

OBSERVED HOLIDAYS

January 1	New Year's Day
February, 3rd Monday	President's Day
May, last Monday	Memorial Day
July 4	Independence Day
July 24	Pioneer Day
September, 1st Monday	Labor Day
November, last Thursday/Friday	Thanksgiving
December 25-31	Christmas

Non-problem shipments will be given priority in acceptance processing over problem shipments. Problem shipments may thus result in unexpected, cost-to-you delays. To avoid such delays, check carefully the checklists for "Acceptance Process," in "Pre-Shipment" section and the potential problem areas in the "Acceptance Checklist" section. Also, consult with your Envirocare Customer Support Representative with any questions you may have.

If you have questions concerning your arrival at the site, contact the site directly at (801) 521-9619.

SITE REGULATIONS
TRUCK DRIVERS
SR - 3

REQUIREMENTS

1. All truck drivers shall be trained by Envirocare of Utah staff prior to working in restricted areas.

2. Access to Envirocare's restricted areas will be permitted only with an Envirocare of Utah Visitor Badge.

3. Truck drivers may leave their cab while in the restricted area to perform duties necessary to their job. They shall remain in the vicinity of the vehicle while out of the cab. Before being permitted to exit the restricted area, they will be thoroughly checked for radioactive contamination.

4. No eating, drinking, or use of tobacco will be allowed in restricted areas.

5. All vehicles shall be inspected before exiting the restricted areas.

Violations to the above listed requirements shall be determined by Envirocare safety personnel. The truck drivers shall be assessed penalties for all violations in accordance with the following schedule. If a violation is noted by a representative of Envirocare, the problem will be communicated to the violator and the company which the truck driver represents. If the problem persists, Envirocare safety personnel will prepare a written order to correct the problem. A fee of $100.00 (One Hundred Dollars) shall be assessed each time a written notice of violation is submitted. The fee shall be added to the company's bill (which the individual represents), or Envirocare will have the amount deducted from the company's next pay request.

I _____ have read and fully understand
(Print name)

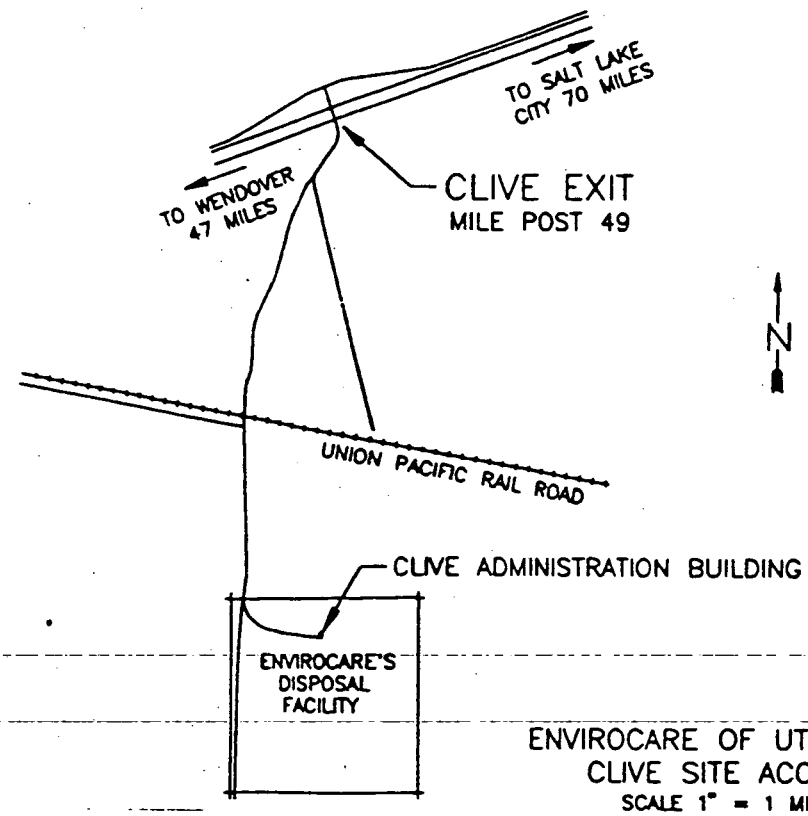
the above statement.

_____ _____ _____
(Signature) (Date) (Carrier)

HIGHWAY ACCESS TO ENVIROCARE OF UTAH CLIVE, UTAH, DISPOSAL FACILITY

ENVIROCARE'S CLIVE FACILITY IS ACCESSIBLE BY INTERSTATE HIGHWAY I-80. THE FACILITY IS LOCATED APPROXIMATELY 70 MILES WEST OF SALT LAKE CITY, UTAH, AND 49 MILES EAST OF WENDOVER, NEVADA, ALONG I-80.

ENVIROCARE'S FACILITY IS REACHED BY TAKING EXIT 49, CLIVE, FROM EITHER THE EAST OR WEST. THE FACILITY IS APPROXIMATELY 3 MILES SOUTH OF THE HIGHWAY ALONG AN IMPROVED GRAVELED ROAD. FOLLOW ENVIROCARE'S SIGNS TO OUR ADMINISTRATION BUILDING.



ENVIROCARE OF UTAH, INC.
CLIVE SITE ACCESS
SCALE 1" = 1 MILE

✦✧✦✦ ACCEPTANCE CHECKLIST ✦✦✧✦

ACCEPTANCE CHECKLIST

Shipments arriving at our Clive, Utah, facility on occasion meet with delays and/or rejections resulting from oversight or ignoring of critical regulations. Such delays or rejections can result in increased cost to you. When a shipment that is not in compliance arrives at the Clive facility, Envirocare may impose a penalty of up to $5,000 plus expenses whether the shipment is accepted or not. **This section is designed to assist you in ensuring that your shipments are accepted at our facility.** The following checklist of items addresses those situations which most frequently result in costly delays or rejections:

- ☐ **Free liquids are not acceptable.** Free liquids may result from loading of frozen waste or waste mixed with snow and ice. Free liquids may also result from loading waste which exceeds Envirocare's moisture requirements. Settling and compaction during transit can result in free liquids on top of the waste. This is not acceptable. Free liquids can result from precipitation entering through a defective top. Free liquids from any source are not acceptable.

- ☐ **Manifests [(RSR)(E 100)] must be completed accurately** (as required by Appendix F to 10 CFR 20.1001 - 20.2401.) Instructions for completing the manifest are provided to all generators. Inaccurate waste descriptions, including type, volume, or weight, can result in rejection or delay. Inclusion of materials not covered by contract or not described on the manifest can result in the waste being determined to be non-conforming.

  The following items need specific attention for any discrepancies:

  - Container count
  - Vehicle description
  - Container description
  - Appearance description
  - Weights

It is important that a quality control program be in place to assure that all conditions of Envirocare's license and all federal and state regulations are met in regards to the preparation of both manifest and shipments. Envirocare will assist in identifying those conditions and regulations upon request.

ACCEPTANCE LIST (CONTINUED)

- ☐ **Incoming shipment material must be within tolerance parameters.** Pre-shipment samples are sent to Envirocare for analysis to establish parameters which must then be met by incoming shipment material. Any analysis of samples taken of incoming material which exceeds the pre-set tolerance parameters may be rejected.

- ☐ **Paperwork must be complete, accurate, and at the right place.** Check carefully the list of forms (provided for you in section "FORMS") required for the particular type of waste you are sending Also check the list of paperwork (listed in section "SHIPMENT") a truck driver must have upon arrival at our Clive facility

- ☐ **Packaging requirements must be strictly adhered to.** Review the section "PACKAGING" for a complete description.

- ☐ **Envirocare must be able to reach the appropriate contact person you designated in the "Customer Information" sheet during arrival and acceptance time.**

- ☐ **Envirocare must receive a response in writing in a timely manner when it is requested.**

- ☐ **Proper labels are essential.**

✦✧✦✦ INVOICING ✦✦✧✦

INVOICING

Our intent for each of our customers is to provide efficient service and to assist you in keeping your costs to a minimum. You may find the following items useful to these ends.

We recommend that the person releasing payment review the section in the contract concerning due dates, interest assessments, and any other pertinent payment terms. Do not hesitate to ask any questions that may arise.

Please complete and send the questionnaire "Customer Information; Attention Accounts/Receivable Department" found in the introductory section of this manual.

BY WAY OF REMINDER:

Payments are due at the Envirocare office net 30 days from the invoice date.

There is an 18% interest per annum on all delinquent payments in addition to possible additional associated late charges.

Envirocare will charge for all costs associated with correcting unacceptable shipments or providing any unusual labor associated with a shipment at the rate of $87.50 per hour. In addition, Envirocare will charge (at a percentage rate negotiated in the contract) for any fines assessed in association with any unacceptable aspects of a shipment.

Assessment of winter period charges will begin on December 1 and run through March 1 of the next year unless otherwise stated in the negotiated contract.

✦✧✦✦ APPENDIX ✦✦✧✦

Subpart F—Placarding

§ 172.500 Applicability of placarding requirements.

(a) Each person who offers for transportation or transports any hazardous material subject to this subchapter shall comply with the applicable placarding requirements of this subpart.

(b) This subpart does not apply to—

(1) Infectious substances;

(2) Hazardous materials classed as ORM-D;

(3) Hazardous materials authorized by this subchapter to be offered for transportation as Limited Quantities when identified as such on shipping papers in accordance with § 172.203(b);

(4) Hazardous materials which are packaged as small quantities under the provisions of § 173.4 of this subchapter; and

(5) Combustible liquids in non-bulk packagings.

[Amdt. 172-123, 55 FR 52599, Dec. 21, 1990]

§ 172.502 Prohibited and permissive placarding.

(a) *Prohibited placarding.* Except as provided in paragraph (b) of this section, no person may affix or display on a packaging, freight container, unit load device, motor vehicle or rail car—

(1) Any placard described in this subpart unless—

(i) The material being offered or transported is a hazardous material;

(ii) The placard represents a hazard of the hazardous material being offered or transported; and

(iii) Any placarding conforms to the requirements of this subpart.

(2) Any sign or other device that, by its color, design, shape or content, could be confused with any placard prescribed in this subpart.

(b) *Exceptions.* (1) The restrictions in paragraph (a) of this section do not apply to a bulk packaging, freight container, unit load device, transport vehicle or rail car which is placarded in conformance with the TDG Regulations, the IMDG Code or the UN Recommendations.

(2) The restrictions of paragraph (a) of this section do not apply to the display of an identification number on a white square-on-point configuration in accordance with § 172.336(b) of this part.

(c) *Permissive placarding.* Placards may be displayed for a hazardous material, even when not required, if the placarding otherwise conforms to the requirements of this subpart.

[Amdt. 172-123, 55 FR 52599, Dec. 21, 1990, as amended at 56 FR 66259, Dec. 20, 1991]

§ 172.503 Identification number display on placards.

For procedures and limitations pertaining to the display of identification numbers on placards, see § 172.334.

[Amdt. 172-58, 45 FR 34701, May 22, 1980]

§ 172.504 General placarding requirements.

(a) *General.* Except as otherwise provided in this subchapter, each bulk packaging, freight container, unit load device, transport vehicle or rail car containing any quantity of a hazardous material must be placarded on each side and each end with the type of placards specified in Tables 1 and 2 of this section and in accordance with other placarding requirements of this subpart, including the specifications for the placards named in the tables and described in detail in §§ 172.519 through 172.560.

(b) *DANGEROUS placard.* A freight container, unit load device, transport vehicle or rail car which contains non-bulk packagings with two or more categories of hazardous materials that require different placards specified in Table 2 may be placarded with DANGEROUS placards instead of the separate placarding specified for each of the materials in Table 2. However, when 2,268 kg (5,000 pounds) or more of one category of material is loaded therein at one loading facility, the placard specified in Table 2 of paragraph (e) of this section for that category must be applied.

(c) *Exception for less than 454 kg (1,001 pounds).* Except for transport vehicles and freight containers subject to § 172.505, bulk packagings, or transportation by aircraft or vessel, placards for hazardous materials covered by Table 2 are not required on—

(1) A transport vehicle or freight container which contains less than 454 kg (1001 pounds) aggregate gross weight of hazardous materials covered by Table 2 of paragraph (e) of this section; or

(2) A rail car loaded with transport vehicles or freight containers, none of which is required to be placarded.

The exceptions provided in paragraph (c) of this section do not prohibit the display of placards in the manner prescribed in this subpart, if not otherwise prohibited (see § 172.502), on transport vehicles or freight containers which are not required to be placarded.

(d) *Exception for empty non-bulk packages.* A non-bulk packaging that contains only the residue of a hazardous material covered by Table 2 of paragraph (e) of this section need not be included in determining placarding requirements.

(e) *Placarding tables.* Placards are specified for hazardous materials in accordance with the following tables:

TABLE 1

Category of material (Hazard class or division number and additional description, as appropriate)	Placard name	Placard design section reference (§)
1.1	EXPLOSIVES 1.1	172.522
1.2	EXPLOSIVES 1.2	172.522
1.3	EXPLOSIVES 1.3	172.522
2.3	POISON GAS	172.540
4.3	DANGEROUS WHEN WET	172.548
6.1 (PG I, inhalation hazard only)	POISON	172.554
7 (Radioactive Yellow III label only)	RADIOACTIVE [1]	172.556

[1] RADIOACTIVE placard also required for exclusive use shipments of low specific activity material in accordance with § 173.425 (b) or (c) of this subchapter

TABLE 2

Category of material (Hazard class or division number and additional description, as appropriate)	Placard name	Placard design section reference (§)
1.4	EXPLOSIVES 1.4	172.523
1.5	EXPLOSIVES 1.5	172.524
1.6	EXPLOSIVES 1.6	172.525
2.1	FLAMMABLE GAS	172.532
2.2	NON-FLAMMABLE GAS	172.528
3	FLAMMABLE	172.542
Combustible liquid	COMBUSTIBLE	172.544
4.1	FLAMMABLE SOLID	172.546
4.2	SPONTANEOUSLY COMBUSTIBLE	172.547
5.1	OXIDIZER	172.550
5.2	ORGANIC PEROXIDE	172.552
6.1 (PG I or II, other than PG I inhalation hazard)	POISON	172.554
6.1 (PG III)	KEEP AWAY FROM FOOD	172.553
6.2	(None)	
8	CORROSIVE	172.558
9	CLASS 9	172.560
ORM-D	(None)	

(f) *Additional placarding exceptions.* (1) An EXPLOSIVES 1.2 placard is not required for Division 1.2 explosives on a transport vehicle, rail car, freight container or unit load device which contains Division 1.1 explosives, and is placarded with EXPLOSIVES 1.1 placards, as required.

(2) A FLAMMABLE placard may be used in place of a COMBUSTIBLE placard on—

(i) A cargo tank or portable tank.

(ii) A compartmented tank car which contains both flammable and combustible liquids.

(3) A NON-FLAMMABLE GAS placard is not required on a transport vehicle which contains non-flammable gas if the transport vehicle also contains flammable gas or oxygen and it is placarded with FLAMMABLE GAS or OXYGEN placards, as required.

(4) An EXPLOSIVES 1.3, 1.4, 1.5, 1.6 or OXIDIZER placard is not required for Division 1.3, 1.4, 1.5, 1.6 or 5.1 materials on a freight container, unit load device, transport vehicle or rail car which also contains Division 1.1 or 1.2 explosives and is placarded with EXPLOSIVES 1.1 or 1.2 placards, as required.

(5) For transportation by transport vehicle or rail car only, an OXIDIZER placard is not required for Division 5.1 materials on a transport vehicle, rail car or freight container which also contains Division 1.5 explosives and is placarded with EXPLOSIVES 1.5 placards, as required.

(6) The EXPLOSIVE 1.4 placard is not required for those Division 1.4 Compatibility Group S (1.4S) materials that are not required to be labeled 1.4S.

(7) For domestic transportation of oxygen, compressed or oxygen, refrigerated liquid, the OXYGEN placard in § 172.530 of this subpart may be used in place of a NON-FLAMMABLE GAS placard.

(8) Except for a material classed as a combustible liquid that also meets the definition of a Class 9 material, a COMBUSTIBLE placard is not required for a material classed as a combustible liquid when transported in a non-bulk packaging. For a material in a non-bulk packaging classed as a combustible liquid that also meets the definition of a Class 9 material, the CLASS 9 placard may be substituted for the COMBUSTIBLE placard.

(g) For shipments of Class 1 (explosive) materials by aircraft or vessel, the applicable compatibility group letter must be displayed on the placards required by this section.

[Amdt. 172-123, 55 FR 52600, Dec. 21, 1990, as amended at 56 FR 66260, Dec. 20, 1991]

§ 172.505 Placarding for subsidiary hazards.

(a) Each transport vehicle, portable tank, freight container or unit load device that contains a poisonous material subject to the "Poison— Inhalation Hazard" shipping description of § 172.203(m)(3) shall be placarded with POISON or POISON GAS placards, as appropriate, on each side and each end, if not so placarded under § 172.504.

(b) In addition to the RADIOACTIVE placard which may be required by § 172.504(e) of this subpart, each transport vehicle, portable tank or freight container that contains 454 kg (1001 pounds) or more gross weight of fissile or low specific activity uranium hexafluoride shall be placarded with a CORROSIVE placard on each side and each end.

(c) Each transport vehicle, portable tank, freight container or unit load device that contains a material which has a subsidiary hazard of being dangerous when wet, as defined in § 173.124 of this subchapter, shall be placarded with DANGEROUS WHEN WET placards, on each side and each end, in addition to the placards required by § 172.504.

(d) Hazardous materials that possess secondary hazards may exhibit subsidiary placards that correspond to the placards described in this part, even when not required by this part (see also § 172.519(b)(4) of this subpart).

[Amdt. 172-123, 55 FR 52601, Dec. 21, 1990, as amended at 56 FR 66260, Dec. 20, 1991]

§ 172.506 Providing and affixing placards: Highway.

(a) Each person offering a motor carrier a hazardous material for transportation by highway shall provide to the motor carrier the required placards for the material being offered prior to or at the same time the material is offered for transportation, unless the carrier's motor vehicle is already placarded for the material as required by this subpart.

(1) No motor carrier may transport a hazardous material in a motor vehicle, unless the placards required for the hazardous material are affixed thereto as required by this subpart.

(2) [Reserved]

(b) [Reserved]

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40679, Sept. 20, 1976]

§ 172.512 Freight containers and aircraft unit load devices.

(a) *Capacity of 640 cubic feet or more.* Each person who offers for transportation, and each person who loads and transports, a hazardous material in a freight container or aircraft unit load device having a capacity of 640 cubic feet or more shall affix to the freight container or aircraft unit load device the placards specified for the material in accordance with § 172.504. However:

(1) The placarding exception provided in § 172.504(c) applies to motor vehicles transporting freight containers and aircraft unit load devices.

(2) The placarding exception provided in § 172.504(c) applies to each freight container and aircraft unit load device being transported for delivery to a consignee immediately following an air or water shipment, and.

(3) Placarding is not required on a freight container or aircraft unit load device if it is only transported by air and is identified as containing a hazardous material in the manner provided in part 5, chapter 2, section 2.7, of the ICAO Technical Instructions.

(b) *Capacity less than 18 m³ (640 cubic feet).* Each person who offers for transportation by air, and each person who loads and transports by air, a hazardous material in a freight container or aircraft unit load device having a capacity of less than 18 m³ (640 cubic feet) shall affix one placard of the type specified by paragraph (a) of this section unless the freight container or aircraft unit load device:

(1) Is labeled in accordance with subpart E of this part, including § 172.406(e);

(2) Contains radioactive materials requiring the Radioactive Yellow III label and is placarded with one Radioactive placard and is labeled in accordance with subpart E of this part, including § 172.406(e); or,

(3) Is identified as containing a hazardous material in the manner provided in part 5, chapter 2, section 2.7, of the ICAO Technical Instructions.

When hazardous materials are offered for transportation, not involving air transportation, in a freight container having a capacity of less than 640 cubic feet the freight container need not be placarded. However, if not placarded it must be labeled in accordance with subpart E of this part.

(c) Notwithstanding paragraphs (a) and (b) of this section, packages containing hazardous materials, other than ORM-D, offered for transportation by air in freight containers are subject to the inspection requirements of § 175.30 of this chapter.

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, app. A to part 1)

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-29A, 41 FR 40680, Sept. 20, 1976; Amdt. 172-87, 48 FR 53712, Nov. 29, 1983; 48 FR 55469, Dec. 13, 1983; Amdt. 172-103, 51 FR 5971, Feb. 18, 1986; Amdt. 172-111, 52 FR 36671, Sept. 30, 1987; Amdt. 172-123, 55 FR 52601, Dec. 21, 1990]

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§ 172.514 Bulk packagings other than tank cars.

(a) Except as provided in paragraph (c) of this section, each person who offers for transportation a bulk packaging, other than a tank car, which contains a hazardous material, shall affix the placards specified for the material in §§ 172.504 and 172.505.

(b) Each bulk packaging, other than a tank car, that is required to be placarded when it contains a hazardous material, must remain placarded when it is emptied, unless it is—

(1) Sufficiently cleaned of residue and purged of vapors to remove any potential hazard; or

(2) Refilled, with a material requiring different placards or no placards, to such an extent that any residue remaining in the packaging is no longer hazardous.

(c) Exceptions. The following packagings may be placarded on only two opposite sides or, alternatively, may be labeled instead of placarded in accordance with subpart E of this part:

(1) A portable tank having a capacity of less than 3,785 L (1000 gallons);

(2) A DOT 106 or 110 multi-unit tank car tank;

(3) A bulk packaging other than a portable tank, cargo tank, or tank car (e.g., a bulk bag or box) with a volumetric capacity of less than 18 m^3 (640 cubic feet).

[Amdt. 172-123, 55 FR 52601, Dec. 21, 1990]

§ 172.516 Visibility and display of placards.

(a) Each placard on a motor vehicle and each placard on a rail car must be readily visible from the direction it faces except from the direction of another motor vehicle or rail car to which the motor vehicle or rail car is coupled. This requirement may be met by the placards displayed on the freight containers or portable tanks loaded on a motor vehicle or rail car.

(b) The required placarding of the front of a motor vehicle may be on the front of a truck-tractor instead of or in addition to the placarding on the front of the cargo body to which a truck-tractor is attached.

(c) Each placard on a transport vehicle, bulk packaging, freight container or aircraft unit load device must—

(1) Be securely attached or affixed thereto or placed in a holder thereon. (See appendix C to this part.);

(2) Be located clear of appurtenances and devices such as ladders, pipes, doors, and tarpaulins;

(3) So far as practicable, be located so that dirt or water is not directed to it from the wheels of the transport vehicle;

(4) Be located away from any marking (such as advertising) that could substantially reduce its effectiveness, and in any case at least 3 inches (76.0 mm.) away from such marking;

(5) Have the words or identification number (when authorized) printed on it displayed horizontally, reading from left to right.

(6) Be maintained by the carrier in a condition so that the format, legibility, color, and visibility of the placard will not be substantially reduced due to damage, deterioration, or obscurement by dirt or other matter.

(7) Be affixed to a background of contrasting color, or must have a dotted or solid line outer border which contrasts with the background color.

(d) Recommended specifications for a placard holder are set forth in appendix C of this part. Except for a placard holder similar to that contained in appendix C to this part, the means used to attach a placard may not obscure any part of its surface other than the borders.

(e) A placard or placard holder may be hinged provided the required format, color, and legibility of the placard are maintained.

[Amdt. 172-29, 41 FR 15996, Apr. 15, 1976, as amended by Amdt. 172-101, 45 FR 74668, Nov. 10, 1980; Amdt. 172-123, 55 FR 52601, Dec. 21, 1990]

§ 172.519 General specifications for placards.

(a) *Strength and durability.* Placards must conform to the following:

(1) A placard may be made of any plastic, metal or other material capable of withstanding, without deterioration or a substantial reduction in effectiveness, a 30-day exposure to open weather conditions.

(2) A placard made of tagboard must be at least equal to that designated commercially as white tagboard. Tagboard must have a weight of at least 80 kg (176 pounds) per ream of 610 by 910 mm (24 by 36-inch) sheets, waterproofing materials included. In addition, each placard made of tagboard must be able to pass a 414 kPa (60 p.s.i.) Mullen test.

(3) Reflective or retroreflective materials may be used on a placard if the prescribed colors, strength and durability are maintained.

(b) *Design.* (1) Except as provided in § 172.332 of this part, each placard must be as described in this subpart, and except for size and color, the printing, inner border and symbol must be as shown in §§ 172.521 through 172.558 of this subpart, as appropriate.

(2) The dotted line border shown on each placard is not part of the placard specification. However, a dotted or solid line outer border may be used when needed to indicate the full size of a placard that is part of a larger format or is on a background of a noncontrasting color.

(3) For other than Class 7, text indicating a hazard (for example, "FLAMMABLE") is not required.

(4) For a placard corresponding to the primary hazard class of a material, the hazard class or division number must be displayed in the lower corner of the placard. However, no hazard class or division number may be displayed on a placard corresponding to a subsidiary hazard of the material.

(c) *Size.* (1) Each placard prescribed in this subpart must measure at least 273 mm (10.8 inches) on each side and must have a solid line inner border approximately 12.7 mm (0.5 inches) from each edge.

(2) Except as otherwise provided in this subpart, the hazard class or division number, as appropriate, must be shown in numerals measuring at least 41 mm (1.6 inches) in height.

(3) Except as otherwise provided in this subpart, when text indicating a hazard is displayed on a placard, the printing must be in letters measuring at least 41 mm (1.6 inches) in height.

(d) *Color.* (1) The background color, symbol, text, numerals and inner border on a placard must be as specified in §§ 172.521 through 172.560 of this subpart, as appropriate.

(2) Black and any color on a placard must be able to withstand, without substantial change—

(i) A 72-hour fadeometer test (for a description of equipment designed for this purpose, see ASTM G 23-69 or ASTM G 26-70); and

(ii) A 30-day exposure to open weather.

(3) Upon visual examination, a color on a placard must fall within the color tolerances displayed on the appropriate Hazardous Materials Label and Placard Color Tolerance Chart (see § 172.407(d)(4)).

(4) The placard color must extend to the inner border and may extend to the edge of the placard in the area designated on each placard except the color on the CORROSIVE and RADIOACTIVE placards (black and yellow, respectively) must extend only to the inner border.

(e) *Form identification.* A placard may contain form identification information, including the name of its maker, provided that information is printed outside of the solid line inner border in no larger than 10-point type.

(f) *Exceptions.* For a shipment under the provisions of §§ 171.11, 171.12 or § 171.12a of this subchapter, a placard conforming to specifications in the ICAO Technical Instructions, the IMDG Code, or the TDG Regulations, respectively, may be used in place of a corresponding placard which conforms to the requirements of this subpart.

[Amdt. 172-123, 55 FR 52601, Dec. 21, 1990, as amended at 56 FR 66260, Dec. 20, 1991]

000106

§ 172.556 RADIOACTIVE placard.

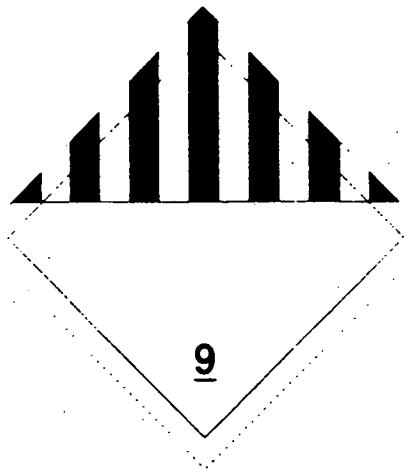
(a) Except for size and color, the RADIOACTIVE placard must be as follows:

(b) In addition to complying with § 172.519, the background color on the RADIOACTIVE placard must be white in the lower portion with a yellow triangle in the upper portion. The base of the yellow triangle must be 29 mm ± 5mm (1.1 inches ±z0.2 inches) above the placard horizontal center line. The symbol, text, class number and inner border must be black.

[Amdt. 172-123, 56 FR 66264, Dec. 20, 1991]

§ 172.560 CLASS 9 placard.

(a) Except for size and color the CLASS 9 (miscellaneous hazardous materials) placard must be as follows:



(b) In addition to complying with § 172.519, the background on the CLASS 9 placard must be white with seven black vertical stripes on the top half. The black vertical stripes must be spaced so that, visually, they appear equal in width to the six white spaces between them. The lower half of the placard must be white with the class number 9 underlined and centered at the bottom.

[Amdt. 172-123, 56 FR 66264, Dec. 20, 1991]

§ 173.24 General requirements for packagings and packages.

(a) Applicability. Except as otherwise provided in this subchapter, the provisions of this section apply to—

(1) Bulk and non-bulk packagings;

(2) New packagings and packagings which are reused; and

(3) Specification and non-specification packagings.

(b) Each package used for the shipment of hazardous materials under this subchapter shall be designed, constructed, maintained, filled, its contents so limited, and closed, so that under conditions normally incident to transportation—

(1) Except as otherwise provided in this subchapter, there will be no identifiable (without the use of instruments) release of hazardous materials to the environment;

(2) The effectiveness of the package will not be substantially reduced; for example, impact resistance, strength, packaging compatibility, etc. must be maintained for the minimum and maximum temperatures encountered during transportation;

(3) There will be no mixture of gases or vapors in the package which could, through any credible spontaneous increase of heat or pressure, significantly reduce the effectiveness of the packaging.

(c) Authorized packagings. A packaging is authorized for a hazardous material only if—

(1) The packaging is prescribed or permitted for the hazardous material in a packaging section specified for that material in Column 8 of the § 172.101 Table and conforms to applicable requirements in the special provisions of Column 7 of the § 172.101 Table and, for specification packagings (including U.N. standard packagings), the specification requirements in parts 178 and 179 of this subchapter; or

(2) The packaging is permitted under, and conforms to, provisions contained in §§ 171.11, 171.12, 171.12a, 173.3, 173.4, 173.5, 173.7, 173.27, or 176.11 of this subchapter.

(d) DOT specification and U.N. standard packagings. For DOT specification packagings (including U.N. standard packagings), conformance to the applicable specifications in parts 178 and 179 of this subchapter is required in all details. For performance-oriented packagings covered by subpart L of part 178 of this subchapter, each packaging must be capable of meeting the performance test requirements specified in subpart M of part 178 of this subchapter for the applicable packing group shown in Column 5 of the § 172.101 Table.

(e) Compatibility. (1) Even though certain packagings are specified in this part, it is, nevertheless, the responsibility of the person offering a hazardous material for transportation to ensure that such packagings are compatible with their lading. This particular applies to corrosivity, permeability, softening, premature aging and embrittlement.

(2) Packaging materials and contents must be such that there will be no significant chemical or galvanic reaction between the materials and contents of the package.

(3) Plastic packagings and receptacles. (i) Plastic used in packagings and receptacles must be of a type compatible with the lading and may not be permeable to an extent that a hazardous condition is likely to occur during transportation, handling or refilling.

(ii) Each plastic packaging or receptacle which is used for liquid hazardous materials must be capable of withstanding without failure the procedure specified in appendix B of this part ("Procedure for Testing Chemical Compatibility and Rate of Permeation in Plastic Packagings and Receptacles"). The procedure specified in appendix B of this part must be performed on each plastic packaging or receptacle used for Packing Group I materials. The maximum rate of permeation of hazardous lading through or into the plastic packaging or receptacles may not exceed 0.5 percent for materials meeting the definition of a Division 6.1 material according to § 173.132 and 2.0 percent for other hazardous materials, when subjected to a temperature no lower than—

(A) 18 °C (64 °F) for 180 days in accordance with Test Method 1 in appendix B of this part;

(B) 50 °C (122 °F) for 28 days in accordance with Test Method 2 in appendix B of this part; or

(C) 60 °C (140 °F) for 14 days in accordance with Test Method 3 in appendix B of this part.

(iii) Alternative procedures or rates of permeation are permitted if they yield a level of safety equivalent to or greater than that provided by paragraph (e)(3)(ii) of this section and are specifically approved by the Associate Administrator for Hazardous Materials Safety.

(4) Mixed contents. Hazardous materials may not be packed or mixed together in the same outer packaging with other hazardous or nonhazardous materials if such materials are capable of reacting dangerously with each other and causing—

(i) Combustion or dangerous evolution of heat;

(ii) Evolution of flammable or poisonous gases; or

(iii) Formation of unstable or corrosive materials.

(5) Packagings used for solids, which may become liquid at temperatures likely to be encountered during transportation, must be capable of containing the hazardous material in the liquid state.

(f) Closures. (1) Closures on packagings shall be so designed and closed that under conditions (including the effects of temperature and vibration) normally incident to transportation—

(i) Except as provided in paragraph (g) of this section, there is no identifiable release of hazardous materials to the environment from the opening to which the closure is applied; and

(ii) The closure is secure and leakproof.

(2) Except as otherwise provided in this subchapter, a closure (including gaskets or other closure components, if any) used on a specification packaging must conform to all applicable requirements of the specification.

(g) Venting. Venting of packagings, to reduce internal pressure which may develop by the evolution of gas from the contents, is permitted only when—

(1) Transportation by aircraft is not involved;

(2) Except as otherwise provided in this subchapter, the evolved gases are not poisonous, likely to create a flammable mixture with air or be an asphyxiant under normal conditions of transportation;

(3) The packaging is designed so as to preclude an unintentional release of hazardous materials from the receptacle; and

(4) For shipments in bulk packagings, venting is authorized for the specific hazardous material by a special provision in the § 172.101 Table or by the applicable bulk packaging specification in part 178 of this subchapter.

(h) Outage and filling limits—(1) *General.* When filling packagings and receptacles for liquids, sufficient ullage (outage) must be left to ensure that neither leakage nor permanent distortion of the packaging or receptacle will occur as a result of an expansion of the liquid caused by temperatures likely to be encountered during transportation. Requirements for outage and filling limits for non-bulk and bulk packagings are specified in §§ 173.24a(d) and 173.24b(a), respectively.

(2) *Compressed gases and cryogenic liquids.* Filling limits for compressed gases and cryogenic liquids are specified in §§ 173.301 through 173.306 for cylinders and §§ 173.314 through 173.319 for bulk packagings.

(i) Air transportation. Packages offered or intended for transportation by aircraft must conform to the general requirements for transportation by aircraft in § 173.27, except as provided in § 171.11 of this subchapter.

000103

§ 173.425 Transport requirements for low specific activity (LSA) radioactive materials.

In addition to other applicable requirements specified in this subchapter, low specific activity (LSA) materials shall be transported in accordance with paragraph (a) of this section, or if transported as exclusive-use may be transported in accordance with paragraph (b) or (c) of this section.

(a) DOT Specification 7A (§ 178.350 of this subchapter) Type A package. The requirements of § 173.412 (a), (b), (d), and (n) do not apply.

(b) Packaged shipments of LSA material consigned as exclusive use shall either be in accordance with paragraph (a) of this section or shall comply with the following in which case they are excepted from specification packaging, marking and labeling:

(1) Materials must be packaged in strong, tight packages so that there will be no leakage of radioactive material under conditions normally incident to transportation.

(2) Packages must not have any significant removable surface contamination (see § 173.443).

(3) External radiation levels must comply with § 173.441.

(4) Shipments must be loaded by consignor and unloaded by consignee from the conveyance or freight contained in which originally loaded.

(5) There must be no loose radioactive material in the conveyance.

(6) Shipment must be braced so as to prevent shifting of lading under conditions normally incident to transportation.

(7) Except for shipments of unconcentrated uranium or thorium ores, the transport vehicle must be placarded with the placards prescribed in accordance with subpart F of part 172 of this subchapter, as appropriate.

(8) The exterior of each package must be stenciled or otherwise marked "Radioactive—LSA". Packages, with a capacity of 110 gallons or less, that contain a hazardous substance, must be stenciled or otherwise marked with the letters "RQ" in association with the above description.

(9) Specific instructions for maintenance of exclusive use shipment controls must be provided by the shipper to the carrier. Such instructions must be included with the shipping paper information.

(10) Transportation by aircraft is prohibited.

(c) Unpackaged (bulk) shipments of LSA materials shall be transported only in exclusive use closed transport vehicles and shall comply with the following:

(1) Authorized materials are limited to the following:

(i) Uranium or thorium ores and physical or chemical concentrates of those ores.

(ii) Uranium metal or natural thorium metal, or alloys of these materials.

(iii) Materials of low radioactive concentration, if the average estimated radioactivity concentration does not exceed 0.001 millicurie per gram and the contribution from materials with an A_2 value (see § 173.435) of less than 0.05 curie does not exceed one percent of the total radioactivity.

(iv) Objects of nonradioactive material externally contaminated with radioactive material, if the radioactive material is not readily dispersible and the surface contamination, when averaged over one square meter, does not exceed 0.0001 millicurie per square centimeter of radionuclides for which the A_2 value is less than 0.05 or 0.001 millicurie per square centimeter of other radionuclides. Such objects must be suitably wrapped or enclosed.

(2) Bulk liquids must be transported in the following: (i) Specification 103CW, 111A60W7 (§§ 179.200, 179.201, 179.202 of this subchapter) tank cars. Bottom openings in tanks prohibited.

(ii) Specification MC 310, MC 311, MC 312, or MC 331 (§ 178.343 or § 178.337 of this subchapter) cargo tanks. Authorized only where the radioactivity concentration does not exceed 10 percent of the specified low specific activity levels (see § 173.403(n)). The requirements of § 173.412(n) do not apply to these cargo tanks. Bottom fittings and valves are not authorized. Trailer-on-flat-car service is not authorized.

(3) External radiation levels must comply with § 173.441(b).

(4) Shipments must be loaded by the consignor, and unloaded by the consignee from the conveyance or freight container in which originally loaded.

(5) Except for shipments of unconcentrated uranium or thorium ores, the transport vehicle must be placarded with the placards prescribed in subpart F of part 172 of this subchapter, as appropriate.

(6) There must be no leakage of radioactive materials from the vehicle.

(7) Specific instructions for maintenance of exclusive use shipment controls must be provided by the shipper to the carrier. Such instructions must be included with the shipping paper information.

(8) Transportation by aircraft is prohibited.

(d) Except for transportation by aircraft, low specific activity material that conforms with the provisions specified in 10 CFR 20.306 is excepted from all requirements of this subchapter pertaining to radio-active materials when offered for transportation for disposal or recovery. A material which meets the definition of another hazard class is subject to the provisions of this subchapter relating to that hazard class.

(The information collection requirements contained in paragraph (b)(9) were approved by the Office of Management and Budget under control number 2137-0536. The information collection requirements contained in paragraph (c)(7) were approved by the Office of Management and Budget under control number 2137-0534)

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, app. A to part 1)

[Amdt. 173-162, 48 FR 10226, Mar. 10, 1983, as amended by Amdt. 173-162, 48 FR 31218, July 7, 1983; Amdt. 173-178, 49 FR 38134, Sept. 27, 1984; Amdt. 173-188, 50 FR 23813, June 6, 1985; Amdt. 172-119, 54 FR 39506, Sept. 26, 1989]