

WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

SOLID AND HAZARDOUS WASTE DIVISION

SOLID WASTE GUIDELINE #7

NATURAL GAS PROCESSING PLANT WASTES

Purpose

The purpose of this guideline is to outline acceptable sampling, laboratory testing and reporting procedures for process wastes which may be generated at natural gas processing plants and which are intended for disposal at a solid waste disposal facility. EPA's newly established regulatory levels for 25 new organic chemicals and the replacement of the Extraction Procedure Leach Test with the Toxicity Characteristic Leaching Procedure (TCLP) are also incorporated into the guideline.

Introduction

This guideline outlines sampling and testing procedures for the characterization of process wastes which are generated at natural gas production facilities and are intended for disposal at industrial and municipal solid waste management facilities. This guideline also specifies conditions under which such wastes can be disposed of at municipal solid waste disposal facilities.

The procedures outlined in this document apply to each unique process waste stream generated at a facility. These procedures are designed to adequately characterize each process waste stream for proper disposal.

This guideline does not apply to soils contaminated with gasoline, crude oil or diesel product. These types of solid wastes are covered by Solid Waste Guidelines #1 and #2.

Generators of wastes as described in this guideline should note that use of this guideline is not required as a condition to obtain approval to dispose of process wastes at a municipal or industrial solid waste management facility. An alternative plan containing information which demonstrates that a given waste stream has been adequately characterized and contains chemical concentrations below established federal regulatory limits may be acceptable in meeting the waste characterization requirements outlined in this guideline.

This guideline replaces the gas plant guideline previously issued by this Department in October of 1986.

Waste Storage

If onsite storage/treatment of wastes prior to disposal is necessary, all testing, storage and disposal procedures used during the characterization phase of a waste stream, must be replicated for the testing, storage and disposal of future wastes. The operator must submit to SHWD a description of the proposed sampling/storage plan. Contingent upon SHWD approval of the operators proposed sampling/storage plan, a permit from SHWD to store these types of wastes (as described in Chapter 6) will not be required. Wastes should be stored in such a manner that does not create a health hazard, public or private nuisance, or detriment to the environment.

Waste Characterization

It is anticipated that a wide variability in the chemical concentrations of process waste streams may be encountered. In order to address this variability in concentrations, and to allow for some flexibility in sampling and analytical testing procedures, the Department has developed an analytical protocol requiring up to three (3) successive laboratory analyses for testing of the waste stream(s) prior to disposal.

Each unique process waste stream should be sampled and analyzed at least once. It is recommended that the sample analyzed should be a three (3)-point composite (i.e. comprised of three (3) separate and individual samples) of the waste.

One sample should be prepared using the Toxic Characteristic Leaching Procedure (TCLP) and analyzed for the list of constituents identified in Appendix A. One additional sample should be prepared in accord with other established EPA protocols as outlined in SW-846 protocols and analyzed for the list of constituents identified in Appendix B. The generator may use process knowledge to eliminate analysis for any constituents (in Appendices A & B) which do not occur in the waste stream. The basis for the elimination of any constituent from the required analytical procedure shall be provided to the Department.

Wastes with 1st round TCLP extract and/or reactivity laboratory values are at least 50% below the regulatory levels identified in Appendices A and B do not require any additional characterization. Wastes whose 1st round TCLP extract and or reactivity values are within 50% of the regulatory levels should be sampled and prepared as described above during the next two successive rounds of generation, but analyzed only for those parameters that were within 50% of the regulatory levels in the first round of characterization. If concentration levels from Rounds 2 and 3 laboratory analyses are below established regulatory levels, no further characterization is required and the wastes may be disposed of as described below (Waste Disposal). In the event that concentration levels for any constituent from Rounds 2 or 3 laboratory analyses exceed established regulatory levels, the wastes may not be disposed of at a Wyoming solid waste management facility without further treatment, characterization and written Department approval.

Once a waste stream successfully completes the sampling and analysis program outlined above, there is no need to conduct additional characterization of the waste stream unless there is a basis to suspect a change has occurred in the chemical characteristics or storage/treatment practices of the wastes. Examples of possible changes which may affect the characteristic of the waste include an industrial process change, or an increase/decrease in the storage period of the waste prior to disposal. If additional characterization is subsequently performed, the analyses should be submitted to the Department for review and approval prior to disposing of the wastes at a solid waste management facility.

Wastes Authorized Prior to December 1, 1990

Representative samples of waste streams which have received interim or long-term disposal authorization from this Department prior to December 1, 1990, should be sampled once and analyzed using the TCLP for the constituents identified in Appendices A. If the generator can show through previous chemical analyses that EP TOX metals values are within one order of magnitude of the established TCLP metals Regulatory limits, and/or the Total Concentration of a given constituent is below the established TCLP regulatory limit, no additional characterization for those constituents will be required. The Department should be notified if laboratory analyses indicate any of the waste constituents exceed established regulatory concentration levels. Generators may use process knowledge to eliminate analysis for any constituents (in Appendices A & B) which do not occur in the waste stream. The basis for the elimination of any constituent from the required analytical procedure shall be provided to the Department.

Waste Disposal

Wastes may be disposed of in an industrial or municipal solid waste management facility WITHOUT written or verbal approval from this Department if the following conditions are met:

1. The wastes do not contain constituents in excess of the regulatory levels identified in Appendices A and B (Rounds 1, 2 and 3).
2. The generator obtains verbal or written authorization from the operator of the solid waste management facility.
3. The generator should retain records of the wastes which are disposed of. These records should be similar to the waste disposal log found in Appendix C. Copies of these records and representative laboratory analyses shall be made available by the generator to the Department upon request. The operator of the solid waste management facility should also maintain a waste disposal log similar to that found in Appendix C.
4. The waste should contain no free liquids (as defined by the Paint Filters Liquids Test-EPA Method 9095), be delivered to the landfill at ambient air temperature and covered with at least six

(6) inches of cover material as soon as it is delivered to the landfill.

Operators of solid waste management facilities have the right to deny disposal authorization of any waste. Operators also have the right to require verbal or written authorization from this Department prior to the acceptance of any waste.

Further Information

Variations in the procedures outlined above should receive prior written approval by this Department. Further information can be obtained from Solid and Hazardous Waste Division:

Casper	473-3450
Cheyenne	777-7752
Lander	332-6924

Signed,

David A. Finley
Administrator
Solid and Hazardous Waste Division

December 1, 1990
Date

Attachments

Waste Disposal Log
Appendix A "Toxic Characteristic Leaching Procedure"
Appendix B "Additional Waste Analysis"

WASTE DISPOSAL LOG

GENERATOR INFORMATION

Company Name & Location : _____

Contact Name & Phone : _____

WASTE INFORMATION

Waste Name/Description : _____

Volume (units) : _____

Date Generated : _____

Free liquids present? : YES / NO

Basis for determination? : Inspection / Paint Filter Liquids Test

Date Sampled : _____

Lab Results Attached? : YES / NO

DISPOSAL AUTHORIZATION

Name/Date of Operator : _____

Name/Date of BLM* : _____

Name/Date of DEQ/SHWD* : _____

DISPOSAL INFORMATION (filled out by operator)

Name of facility : _____

Date of delivery/disposal : _____

Location : _____

*If Applicable

I hereby certify that to the best of my knowledge, the above information is true and correct.

Signature (generator)

Date

APPENDIX A

Toxic Characteristic Leaching Procedure

<u>TCLP Constituent</u>	<u>Regulatory Level</u>
Metals, mg/l	
Arsenic*	5.0
Barium	100.0
Cadmium	1.0
Chromium	5.0
Lead*	5.0
Mercury*	0.2
Selenium	1.0
Silver*	5.0
Herbicides and Pesticides, mg/l	
Endrin*	0.02
Lindane*	0.4
Methoxychlor*	10.0
Toxaphene*	0.5
2,4-Dichlorophenoxyacetic acid (2,4-D)*	10.0
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP Silvex)*	1.0
Organochlorine Pesticides, mg/l	
Chlordane*	0.03
Heptachlor* (and its hydroxide)	0.008
Volatile Organics, mg/l	
Benzene*	0.50

Carbon tetrachloride*	0.50
Chlorobenzene*	100.0
Chloroform	6.0
1,2-Dichloroethane	0.50
1,1-Dichloroethylene	0.70
Tetrachloroethylene	0.7
Trichloroethylene*	0.5
Vinyl chloride	0.20

Semi-Volatile Organics (Base/Neutral/Acid), mg/l

m-Cresol*	200.0
o-Cresol*	200.0
p-Cresol*	200.0
1,4-Dichlorobenzene	7.5
2,4-Dinitrotoluene	0.13
Hexachlorobenzene*	0.13
Hexachloro-1,3-butadiene	0.5
Hexachloroethane*	3.0
Methyl ethyl ketone	200.0
Nitrobenzene	2.0
Pentachlorophenol*	100.0
Pyridine*	5.0
2,4,5-Trichlorophenol*	400.0
2,4,6-Trichlorophenol*	2.0

* May be used as or in conjunction with pesticides (algi-, bacti-, fungi-, herbi-, and insecti- cides)

APPENDIX B

Additional Waste Analysis

<u>Constituent</u>	<u>Regulatory Level</u>
Reactive Cyanide	250 mg HCN/kg waste
Reactive Sulfide	500 mg H ₂ S/kg waste
Flash Point*	< 140°F
pH*	2 < pH < 12.5

* Applicable only if the waste contains a liquid component when it is generated.